FOCUSED TRAFFIC ANALYSIS

For

The Otay Crossings Commerce Park
(Revised TM 5405 RPL 7R)

Prepared For: The County of San Diego

Submitted To:
Kearny PCCP Otay 311, LLC
530 B Street, Suite 1800
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Prepared By:
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Date Signed: 1/16/2013

Revised January 16, 2013
January 7, 2013
November 7, 2012
August 16, 2012

D&A Ref. No.: 120502

SDC PDS RCVD 02-13-13
TM5405R

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

January 16, 2012

Mr. John Bragg
Kearny PCCP Otay 311, LLC
530 B Street, Suite 1800
San Diego, CA 92101

D&A Ref. No: 120502

Subject: Focused Traffic Impact Study for the Revised Otay Crossings Commerce Park TM 5405 RPL 7R located on 311.5 Acres at the Southeast Corner of Otay Mesa Road and Alta Road in the Otay Mesa Area of San Diego County.

Dear Mr. Bragg:

Darnell & Associates, Inc. (D&A) has revised our November 7, 2012 Preliminary Traffic Analysis of the changes in impacts of the development of the approved TM 5405 RPL 7R. The recent changes by Caltrans regarding the alignment of SR-11 through the project site and increase in land requied for the New Port of Entry, has required a reduction in developable land and reconfiguration of the projects units.

We have prepared this Revised Focused Traffic Analysis to identify any changes in the projects mitigation measures and conditions of approval. The Focused Traffic Impact Study has been prepared to identify revised mitigation measures without and with the extension of SR-905 to Enrico Fermi Drive. The report also provides alternative analysis with SR-11 extended to Siempre Viva Road. Table 9 identifies the key mitigation measures without the SR-905 extension and Table 17 identifies the revised mitigation measures with the SR-905 extension to Enrico Fermi Drive and Tables 21 and 22 identifies the revised measures with SR-11 extended to Siempre Viva Road.

Therefore the project can be approved with conditions to allow the project to proceed with or without the SR-905 extension to Enrico Fermi Drive and with SR-11 extended to Siempre Viva Road.

If you have any questions, please feel free to contact this office.

Sincerely,

Darnell & Associates, Inc.

REGISTERED PROFESSIONAL ENGINEER
BILL E. DARNELL
No. 22338
CIVIL
STATE OF CALIFORNIA

Bill E Darnell

Bill E Darnell, P.E.
Firm Principal
RCE 22338

Date Signed 1/16/2013

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TRAFFIC IMPACT STUDY

FOR

THE OTAY CROSSINGS COMMERCE PARK (TM 5405 RPL 7R)

IN THE COUNTY OF SAN DIEGO

Submitted To:

KEARNY PCCP OTAY 311, LLC
530 B Street, Suite 1800
San Diego, CA 92101

Prepared by:

DARNELL & ASSOCIATES, INC
2870 Fourth Avenue, Suite A
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January 16, 2013

120502_OtayCrossingsCommercePark Rpt 4 (JAN 16 2013).doc

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- March 14, 2011 Memorandum for Fair Share Percentages for Airway Road at Sanya and Siempre Viva Road at Michael Faraday

INTRODUCTION

The approved Otay Crossing Commerence Park Project TM 5405 presented in Figure 1 will be impacted by the construction of the SR-11 and the new Port of Entry to Mexico. To accommodate the SR-11 and the new Port of Entry the applicant has revised the project tract map. Similar to the approved project the tract map has been broken down into five units. Unit 3 accommodates the alignment of SR-11 and Unit 5 contains the land for the future Port of Entry Border Crossing and Open Space.

To accommodate the SR-11 and the new Port of Entry Border Crossing, Stevens Cresto Engineering, Inc. has revised the approved Tentative Tract Map 5405. Figure 2 presents the revised Tract 5405 RPL 7R Map. The reconfiguration of the development of the project units will change the amount of traffic to/from each unit of development and development and additional land required for the SR-11 and new Port of Entry will result in a reduction of traffic to/from the project.

The recent opening of the SR-905 connection with the SR-805 satisfy 's the approved projects mitigation requirements to delay recordation of final maps until Caltrans opens SR-905 1A and 1B that provide the SR-905 freeway connection to SR-805 and reduces traffic on the interim SR-905. With the opening of SR-905 to SR-805 the impacts of the proposed revised project can be focused on Otay Mesa Road east of the SR-125.

In addition to the project accommodating Caltrans changes to SR-11 and the new Port of Entry Border Crossing, Caltrans is proceeding with design and construction of the extension of SR-905 to provide an at-grade intersection with Enrico Fermi Drive. The schedule for this funded improvement calls for construction to be started in December 2013 with it opening to traffic between June 2015 and December 2015.

The following sections of this Focused Traffic Analysis provide an update of traffic conditions and project mitigation with the SR-905 1A open to Britannia Boulevard. Also the focused traffic study will address the change in project direct impacts based on two alternative access scenarios:

- SR-905 extended to an at grade intersection with Enrico Fermi Drive
- SR-11 constucted from SR-905 to Siempre Viva with Units 1-5.

EXISTING CONDITIONS

Figure 3 presents existing daily and peak hourly traffic on the existing circulation system with SR-905 extended from the Otay Mesa Port of Entry to Britannia Boulevard. The traffic volumes presented in Figure 3 represent conditions in 2011. The volumes on Figure 3 have been used for this focused traffic analysis.

PROJECT TRAFFIC

The first step in the focused traffic study is to generate project traffic and compare it to the approved project. With the truck parking the revised project will generate 1,548 fewer daily, 239 fewer AM Peak and 267 fewer PM Peak hour trips. Tables 1 and 2 present the daily and peak hourly to be generated by the approved TM 5405 and the revised TM 5405 RPL 7R project. Table 1 presents the approved project trip generation by unit. Review of Table 1 shows the approved project will generate 21,279 daily vehicles with truck parking and 18,768 daily vehicles without truck parking within the SR-11 (Unit 3) and the New Port of Entry (Unit 5).

Table 2 shows that the revised TM 5405 RPL 7R project will generate 19,731daily vehicles with truck parking and 16,764 daily vehicles without truck parking in the SR-11 (Unit 3) and the New Port of Entry land (Unit 5).

Table 3 was then prepared comparing project traffic of the approved project to the revised TM 5405 RPL 7R project. Review of Table 3 shows that the revised project will generate fewer 2,004 daily and 280 fewer AM peak and 302 fewer PM peak vehicle trips without truck parking within the (Unit 3) and the New Port of Entry (Unit 5).

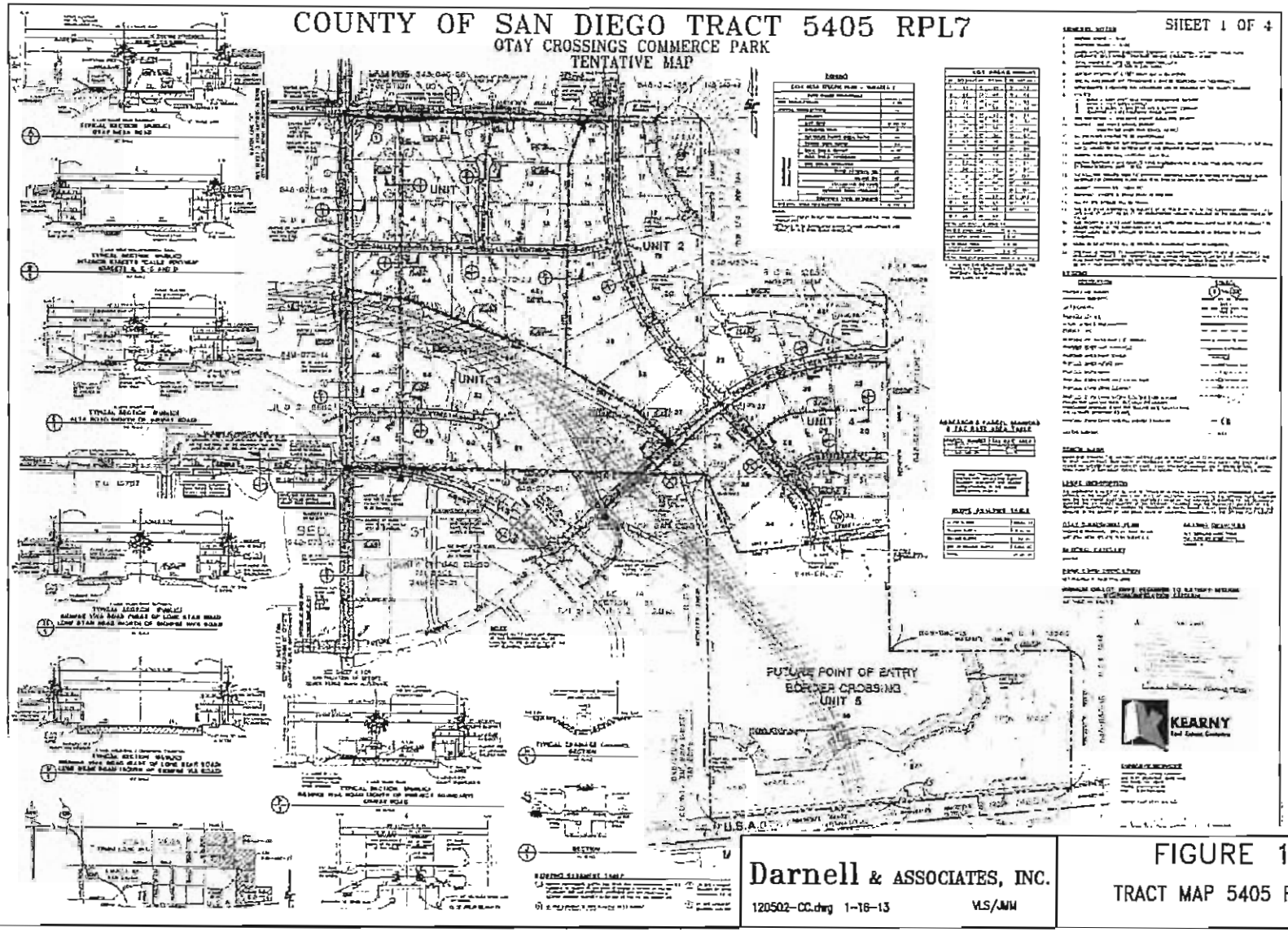

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FIGURE 1

TRACT MAP 5405 RPL7

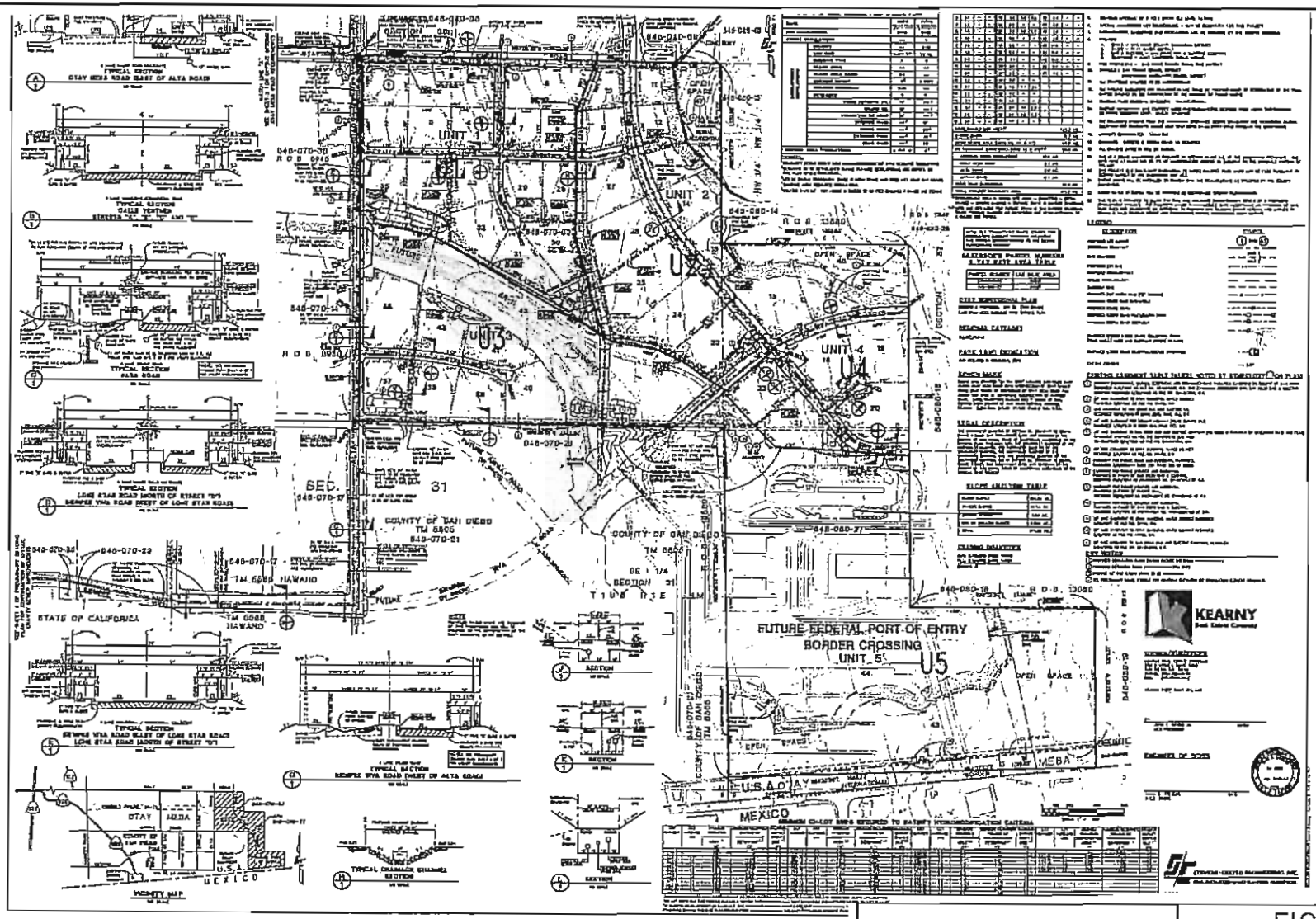

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FIGURE 2

PROPOSED

TRACT MAP 5405 RPL7R

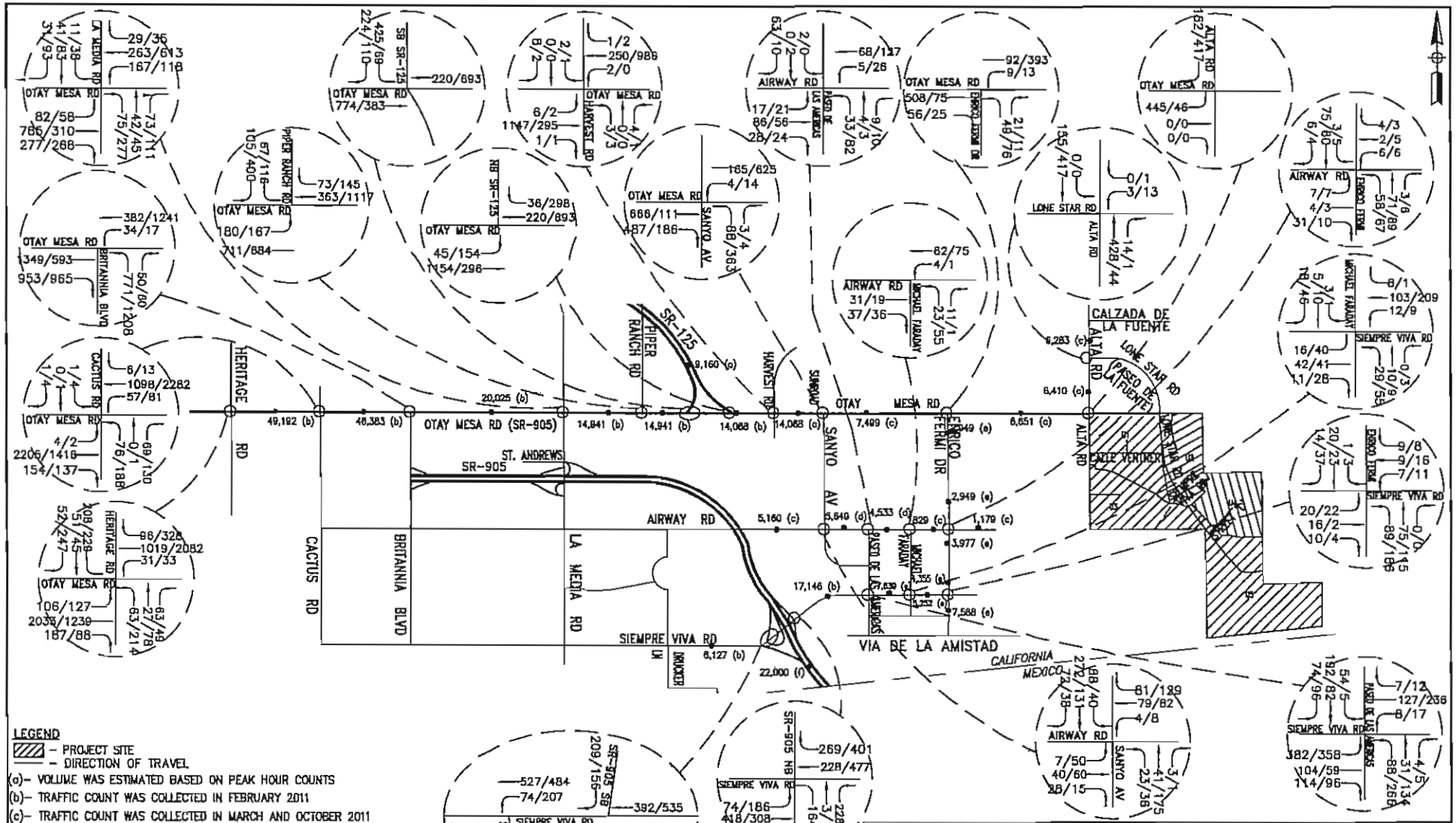

FIGURE 3
(EXISTING 2011 CONDITIONS)
DAILY AND PEAK HOUR TRAFFIC VOLUMES
WITHOUT SR-905 CONNECTED TO ENRICO FERMI

Table 1 – Trip Generation Rates & Calculations Summary-APPROVED PROJECT

Trip Generation Rates

Land Use	Daily	AM Peak Hour Total – % of Daily	AM Peak Hour %In	AM Peak Hour %Out	PM Peak Hour Total – % of Daily	PM Peak Hour %In	PM Peak Hour %Out
Technology Business Park[1]	120 trips/Acre	14%	80%	20%	15%	30%	70%
Truck Parking[2]	30 trips/Acre	9%	40%	60%	8%	50%	50%

Trip Generation Calculations Summary

Land Use	Total No Of Units	Daily	AM Peak Hour Total	AM Peak Hour In	AM Peak Hour Out	PM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out
Unit 1								
Technology Business Park	51.6AC	6,192	867	694	173	929	279	650
Total Unit 1	**51.6 AC**	**6,192**	**867**	**694**	**173**	**929**	**279**	**650**
Unit 2								
Technology Business Park	49.1 AC	5,892	825	660	165	884	265	619
Sub Total Unit 2	**49.1 AC**	**5,892**	**825**	**660**	**165**	**884**	**265**	**619**
Total Units 1-2	**100.7 AC**	**12,084**	**1,692**	**1,354**	**338**	**1,813**	**544**	**1,269**
Unit 3								
Technology Business Park	22.1 AC	2,652	371	297	74	398	119	279
Truck Parking	23.7 AC	711	64	26	38	57	29	28
Sub Total Unit 3	**45.8 AC**	**3,363**	**435**	**323**	**112**	**455**	**148**	**307**
Total Units 1-3	**146.5 AC**	**15,447**	**2,127**	**1,677**	**450**	**2,268**	**692**	**1,576**
Unit 4								
Technology Business Park	33.6 AC	4,032	564	451	113	605	182	423
Truck Parking	0.9 AC	27	2	1	1	2	1	1
Sub Total Unit 4	**34.5 AC**	**4,059**	**566**	**452**	**114**	**607**	**183**	**424**
Total Units 1-4	**181.0 AC**	**19,506**	**2,693**	**2,129**	**564**	**2,875**	**875**	**2,000**
Unit 5								
Truck Parking	59.1 AC	1,773	160	64	96	142	71	71
Sub Total Unit 5	**59.1 AC**	**1,773**	**160**	**64**	**96**	**142**	**71**	**71**
Total Units 1-5	**240.1 AC**	**21,279**	**2,853**	**2,193**	**660**	**3,017**	**946**	**2,071**
w/o Truck Parking Total Units 1-4	**156.4 AC**	**18,768**	**2,627**	**2,102**	**525**	**2,816**	**845**	**1,971**

[1] SANDAG Rates,
[2] City of San Diego Rates for the Otay Mesa Region,
AC = Acres

Table 2 – Trip Generation Rates & Calculations Summary- Revised Project

Trip Generation Rates

Land Use	Daily	AM Peak Hour Total – % of Daily	AM Peak Hour %In	AM Peak Hour %Out	PM Peak Hour Total – % of Daily	PM Peak Hour %In	PM Peak Hour %Out
Technology Business Park[1]	120 trips/Acre	14%	80%	20%	15%	30%	70%
Truck Parking[2]	30 trips/Acre	9%	40%	60%	8%	50%	50%

Trip Generation Calculations Summary

Land Use	Total No Of Units	Daily	AM Peak Hour Total	AM Peak Hour In	AM Peak Hour Out	PM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out
Unit 1								
Teehnology Business Park	51.3 AC	6,156	862	690	172	925	279	646
Total Unit 1	**51.3 AC**	**6,156**	862	690	172	925	279	646
Unit 2								
Technology Business Park	32.8 AC	3,936	551	441	110	590	177	413
Sub Total Unit 2	**32.8 AC**	**3,936**	**551**	**441**	**110**	**590**	**177**	**413**
Total Units 1-2	**84.0 AC**	**10,092**	**1,413**	**1,131**	**282**	**1,513**	**456**	**1,059**
Unit 3								
Technology Business Park	23.5 AC	2,820	395	316	79	423	127	296
Truck Parking	27.8 AC	834	75	30	45	66	33	33
Sub Total Unit 3	**23.0/27.8**	**3,648**	**470**	**346**	**124**	**489**	**160**	**329**
Total Units 1-3	**107.6/27.8 AC**	**13,746**	**1,883**	**1,427**	**406**	**2,002**	**616**	**1,388**
Unit 1& 3								
Technology Business Park	74.8 AC	8,976	1,257	1,006	251	1,348	406	942
Truck Parking	27.8 AC	834	75	30	45	66	33	33
Sub Total Unit 1&3	**74.8/27.8 AC**	**9,810**	**1,332**	**1,036**	**296**	**1,414**	**439**	**970**
Unit 4 & 5								
Technology Business Park	32.1 AC	3,852	539	431	108	578	173	405
Truck Parking (Unit 5)	71.1	2,133	192	77	115	170	85	85
Sub Total Unit 4 & 5	**103.3/71.7 AC**	**5,985**	**731**	**508**	**223**	**748**	**258**	**490**
Total Units 1-5	**139.4/98.9 AC**	**19,731**	**2,614**	**1,983**	**629**	**2,750**	**874**	**1,878**
W/O Truck Parking	139.4 AC	16,764	2,347	1,876	469	2,514	756	1,760
Total Units 1-5	**139.4/99.0 AC**	**16,764**	**2,347**	**1,876**	**469**	**2,514**	**756**	**1,760**

[1] SANDAG Rates,
[2] City of San Diego Rates for the Otay Mesa Region,
[3] Industrial / Truck Parking Acres,
AC = Acres

Table 3 – Trip Generation Rates Comparison of Approved Project to Proposed Project							
Trip Generation Rates							
		AM Peak Hour			PM Peak Hour		
Condition	Daily	Total – of Daily	In	Out	Total – of Daily	In	Out
Unit 1							
Approved	6,192	867	694	173	929	279	650
Revised Project	6,156	862	690	172	925	279	646
Net Reduction	(36)	(5)	(4)	(1)	(4)	(0)	(4)
Units 1-2							
Approved	12,084	1,692	1,354	338	1,813	544	1,269
Revised Project	10,092	1,413	1,131	282	1,513	456	1,059
Net Reduction	(1,992)	279	(223)	(56)	(390)	(88)	(210)
Units 1-3							
Approved	15,447	2,127	1,677	450	2,268	692	1,576
Revised Project	13,746	1,883	1,477	406	2,002	616	1,388
Net Reduction	(1,741)	(244)	(200)	(44)	(266)	(76)	(188)
Units 1-4							
Approved	19,506	2,693	2,129	564	2,875	875	2,000
Revised Project	17,598	2,614	1,908	514	2,580	789	1,793
Net Reduction	(1,908)	(271)	(221)	(50)	(295)	(86)	(207)
Units 1-5							
Approved	21,279	2,853	2,193	660	3,017	946	2,071
Revised Project	19,731	2,614	1983	629	2,750	874	1,878
Net Reduction	(1,548)	(239)	(300)	(31)	(267)	(72)	(193)
Units 1-5 W/O Truck Parking							
Approved	18,768	2,627	2,102	525	2,816	845	1,971
Revised Project	16,764	2,347	1,876	469	2,514	756	1,760
Net Reduction	(2,004)	(280)	(230)	(56)	(302)	(89)	(211)
( )= Negative Number							

PROJECT TRAFFIC

Project traffic presented on Table 2 was distributed to the surrounding street system based on existing roadways and with SR-905 constructed to Britannia Blvd for the following development Phases:

- Phase 1-Unit 1;
- Phase 2-Units 1 and 2;
- Phase 3-Units 1 and 3;
- Phase 4-Units 1 thru 4; and
- Phase 5-Units 1 thru 5

Figure 4, 6, 8 and 10 present project daily and peak hourly traffic volumes. Project traffic for each of the above development conditions was then added to the existing 2011 traffic conditions presented in Figure 3 Figures 5, 7, 9 and 11 presents the existing plus project traffic volumes for the project development conditions listed above. It is also oted that secondary access for Units 4 and 5 have been changed to eliminate improvement of Airway Road from Alta Road to Enrico Fermi and add the extenstion of Alta Road to Siempre Viva and construction of Siempre Viva Road to Enrico Fermi. The traffic volumes presented in Figures 5, 6, 8 and 11 will be analyzed to determined project direct impacts.

DIRECT IMPACT ANALYSIS WITH SR-905

The analysis of the revised project direct impacts has been focused on the following roadways east of SR-905.

- Otay Mesa Road;
- Alta Road;
- Airway Road;
- Siempre Viva Road;
- Sanyo Avenue; and
- Enrico Fermi Drive.

Roadway Segment

Utilizing the existing plus project traffic presented on Figures 5, 7, 9, and 11 the direct impacts of the project can be identified. The traffic volumes for each phase of the project was analyzed and the results are presented on Tables 4 thru 8.

Review of Tables 4 thru 8; identify that the project has impacts on the following roadway segments:

Otay Mesa Road:

- Sanyo Avenue to Enrico Fermi Drive;
- Enrico Fermi Drive to Alta Road;
- Alta Road to Lone Star Road;

Alta Road:

- Otay Mesa Road to Airway Road;
- Airway to Siempre Viva Road;

Siempre Viva Road:

- Alta Road to Enrico Fermi Drive

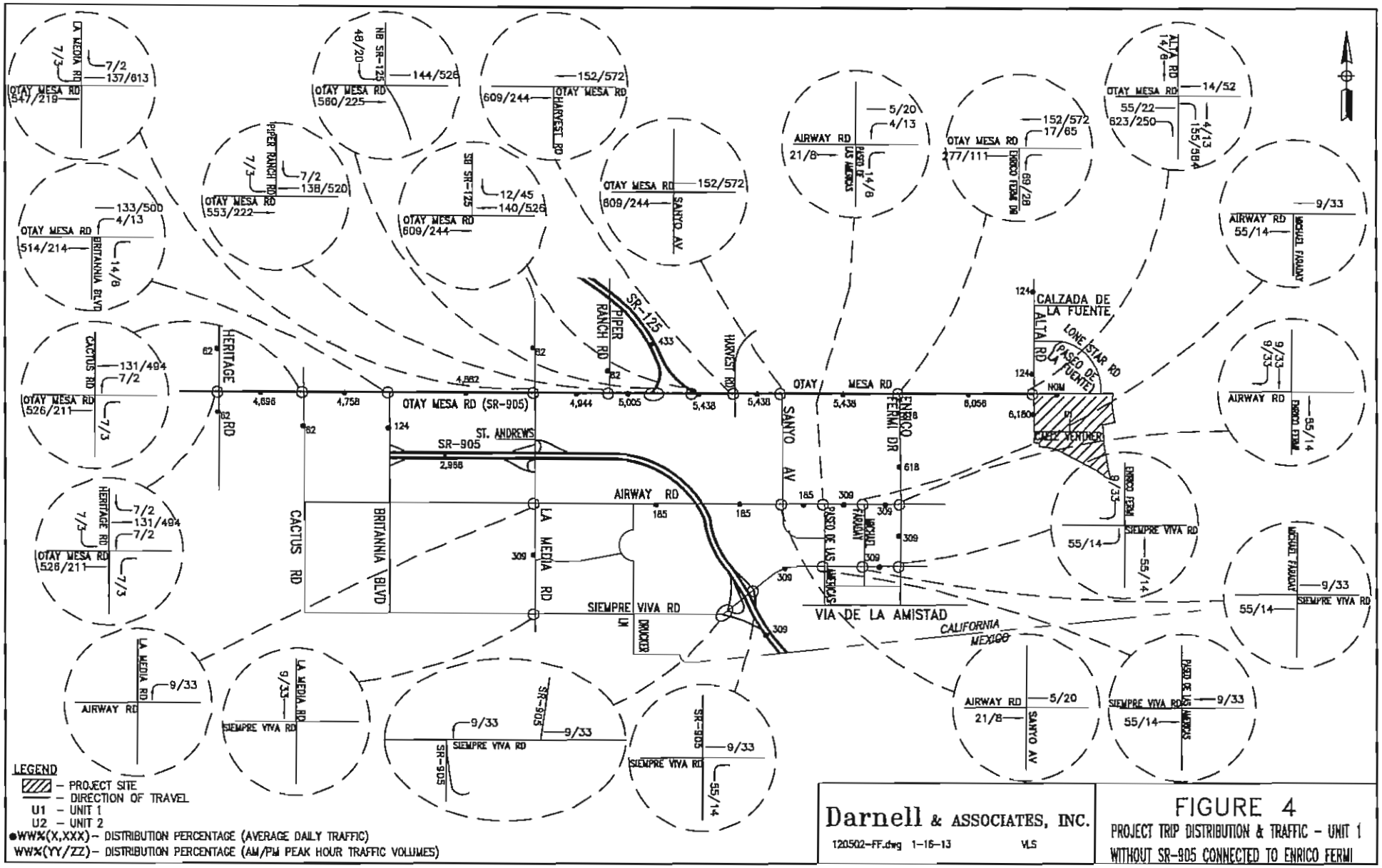

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FIGURE 4

PROJECT TRIP DISTRIBUTION & TRAFFIC - UNIT 1

WITHOUT SR-905 CONNECTED TO ENRICO FERMI

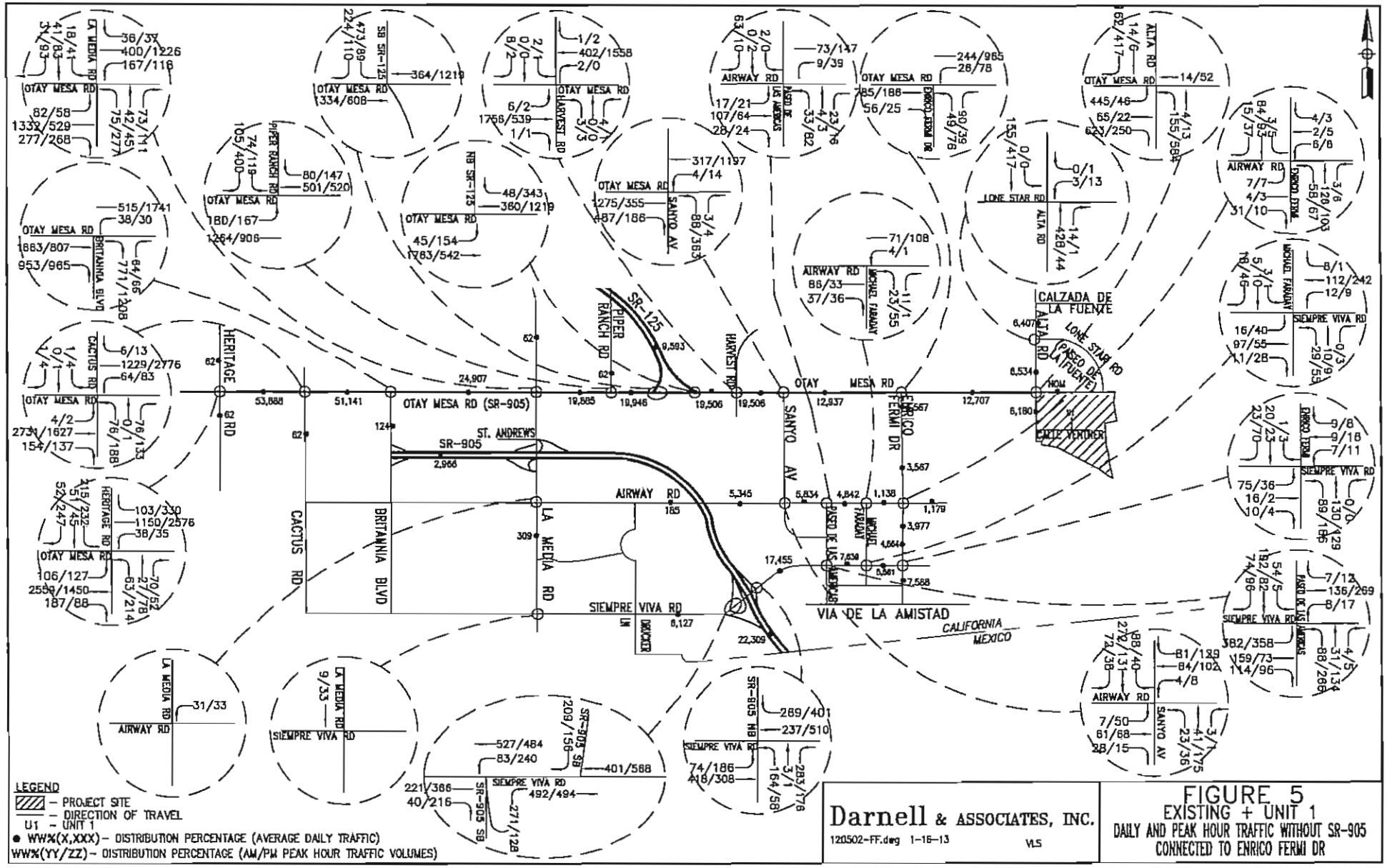

FIGURE 5
EXISTING + UNIT 1
DAILY AND PEAK HOUR TRAFFIC WITHOUT SR-905 CONNECTED TO ENRICO FERMI DR

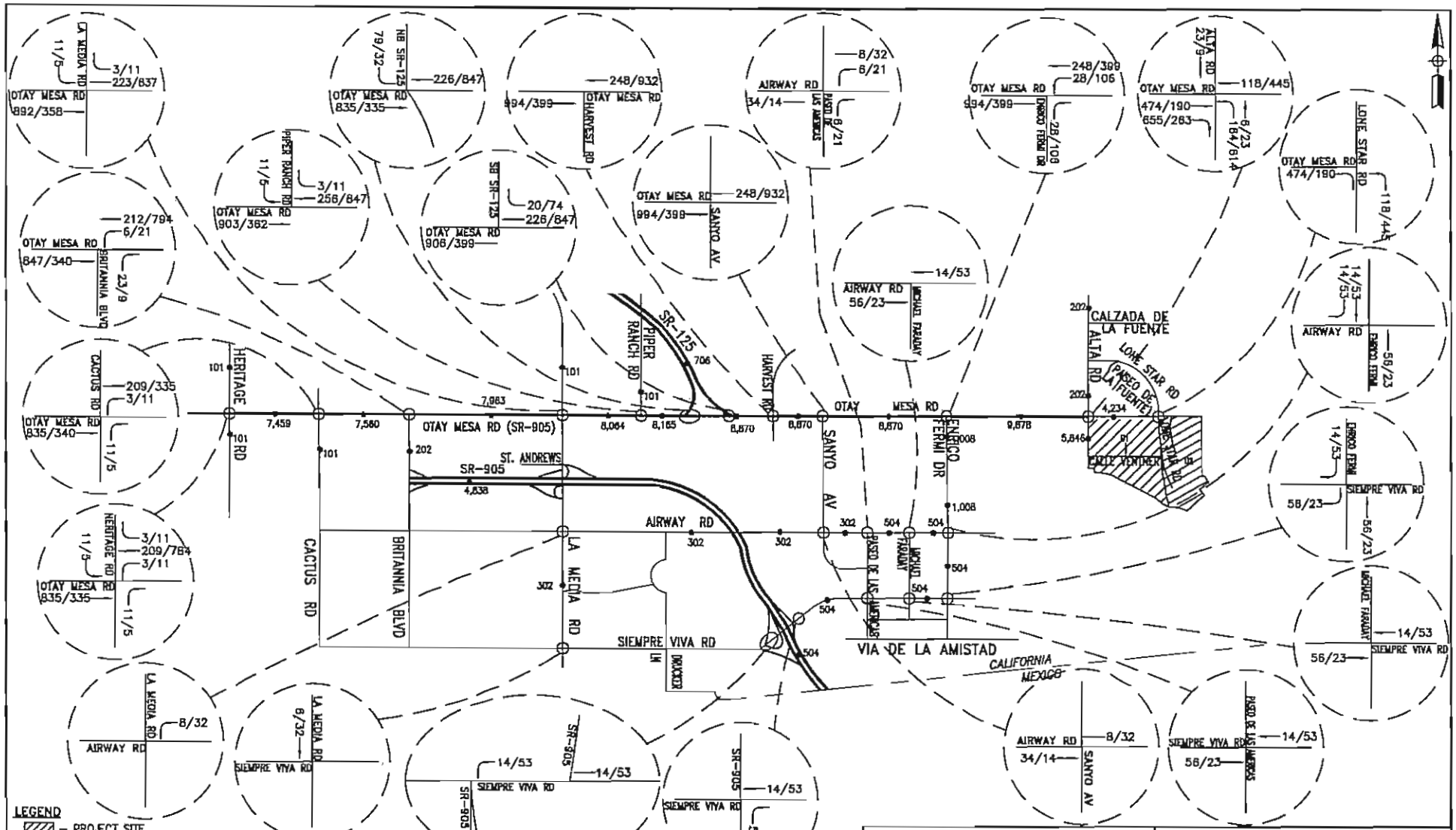

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FIGURE 6

PROJECT TRIP DISTRIBUTION & TRAFFIC – UNITS 1-2
WITHOUT SR-905 CONNECTED TO ENRICO FERMI

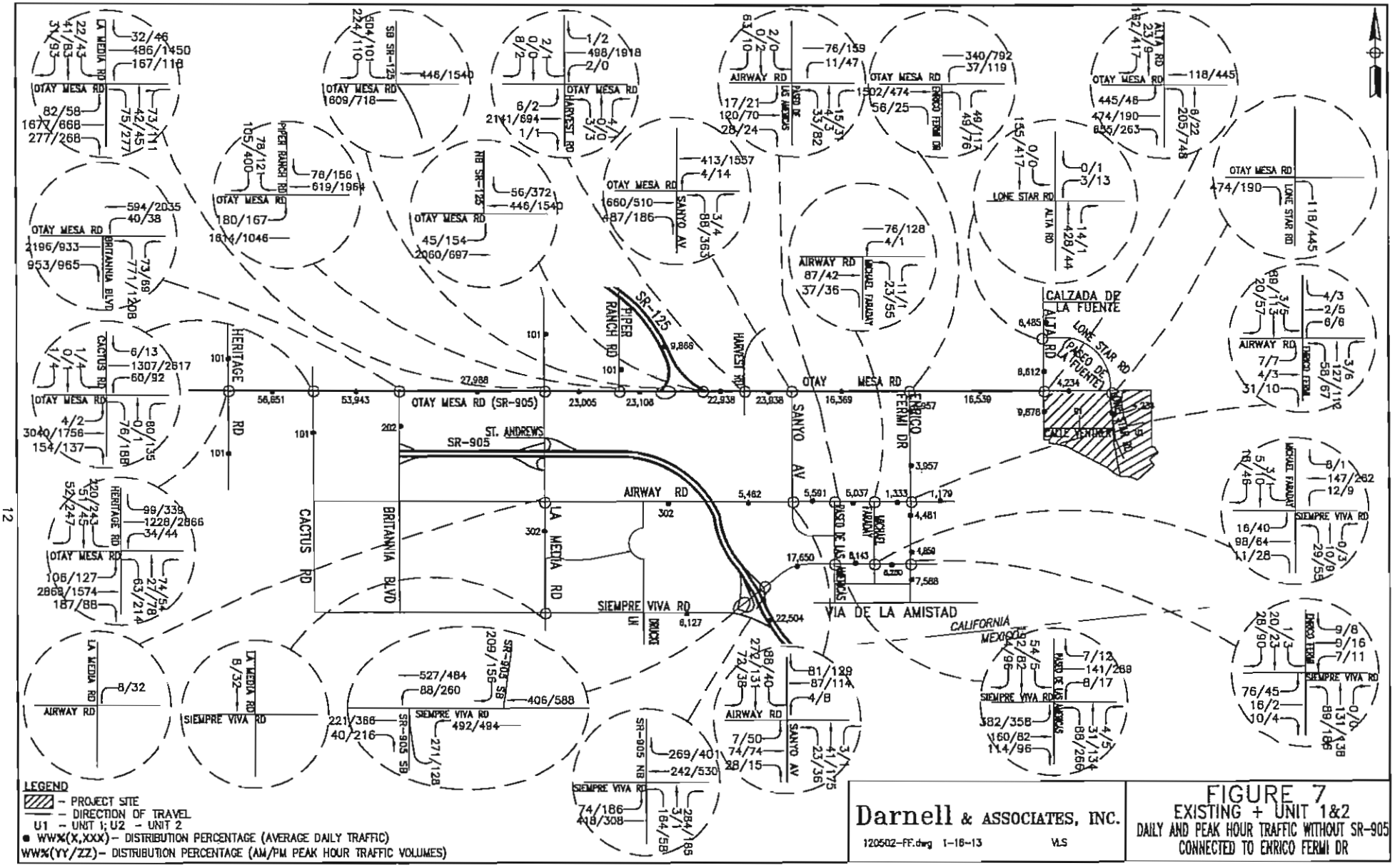

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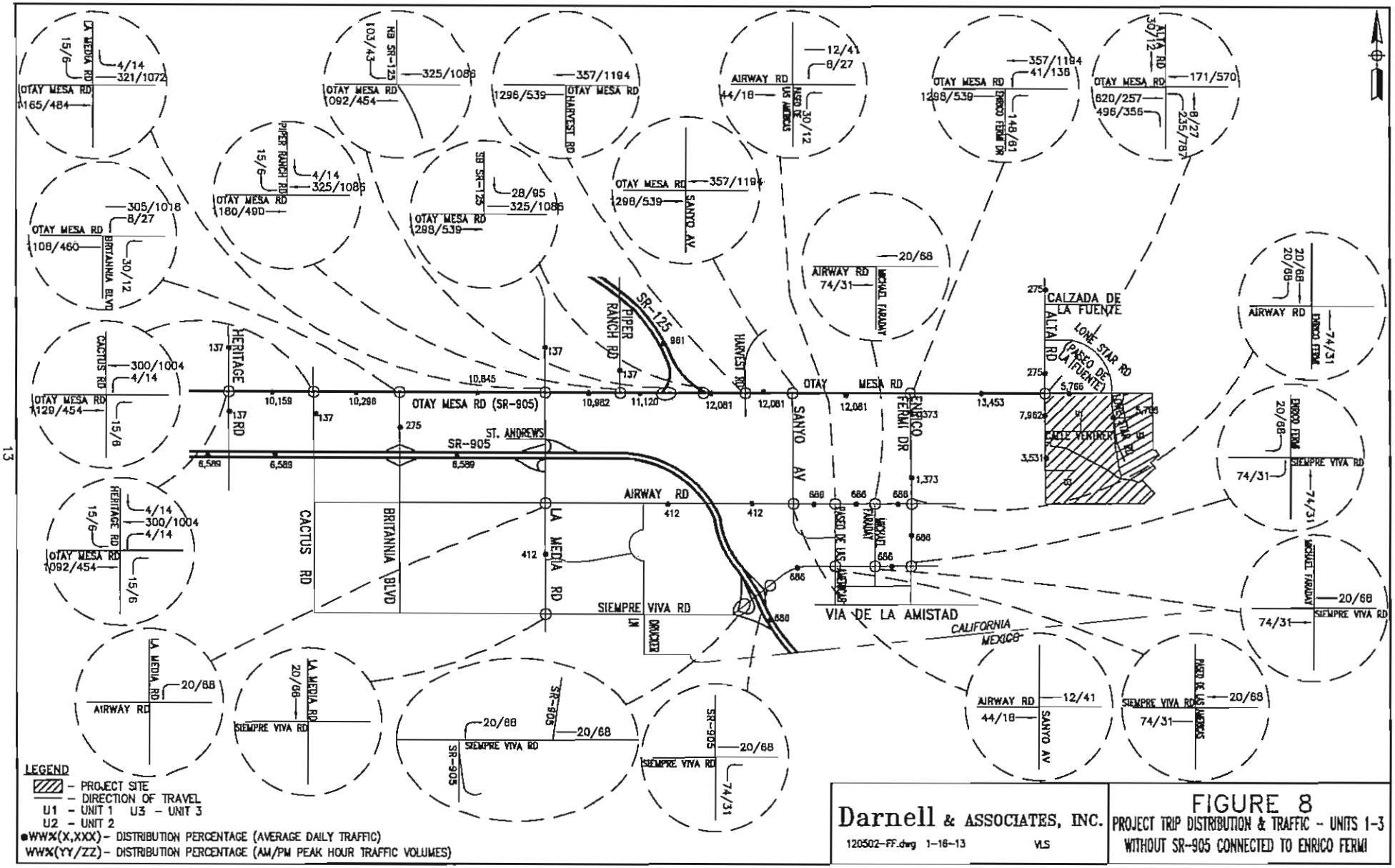
FIGURE 7
EXISTING + UNIT 1&2
DAILY AND PEAK HOUR TRAFFIC WITHOUT SR-905 CONNECTED TO ENRICO FERMI DR



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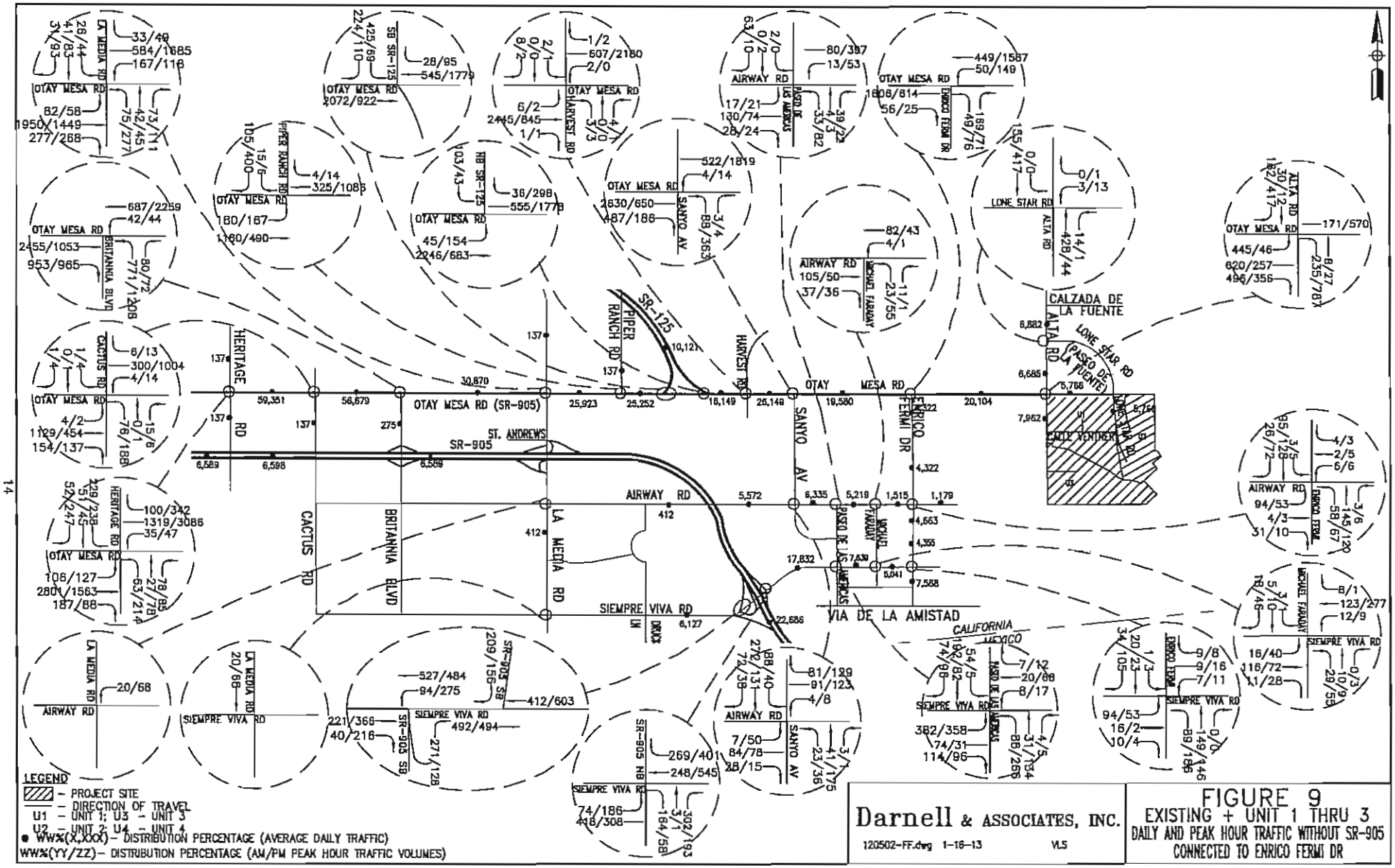
120502-FF.dwg 1-16-13 VLS

FIGURE 8

PROJECT TRIP DISTRIBUTION & TRAFFIC - UNITS 1-3

WITHOUT SR-905 CONNECTED TO ENRICO FERMI



Darnell & ASSOCIATES, INC.

120502-FF.dwg 1-16-13 VLS

FIGURE 9
EXISTING + UNIT 1 THRU 3
DAILY AND PEAK HOUR TRAFFIC WITHOUT SR-905 CONNECTED TO ENRICO FERMI DR

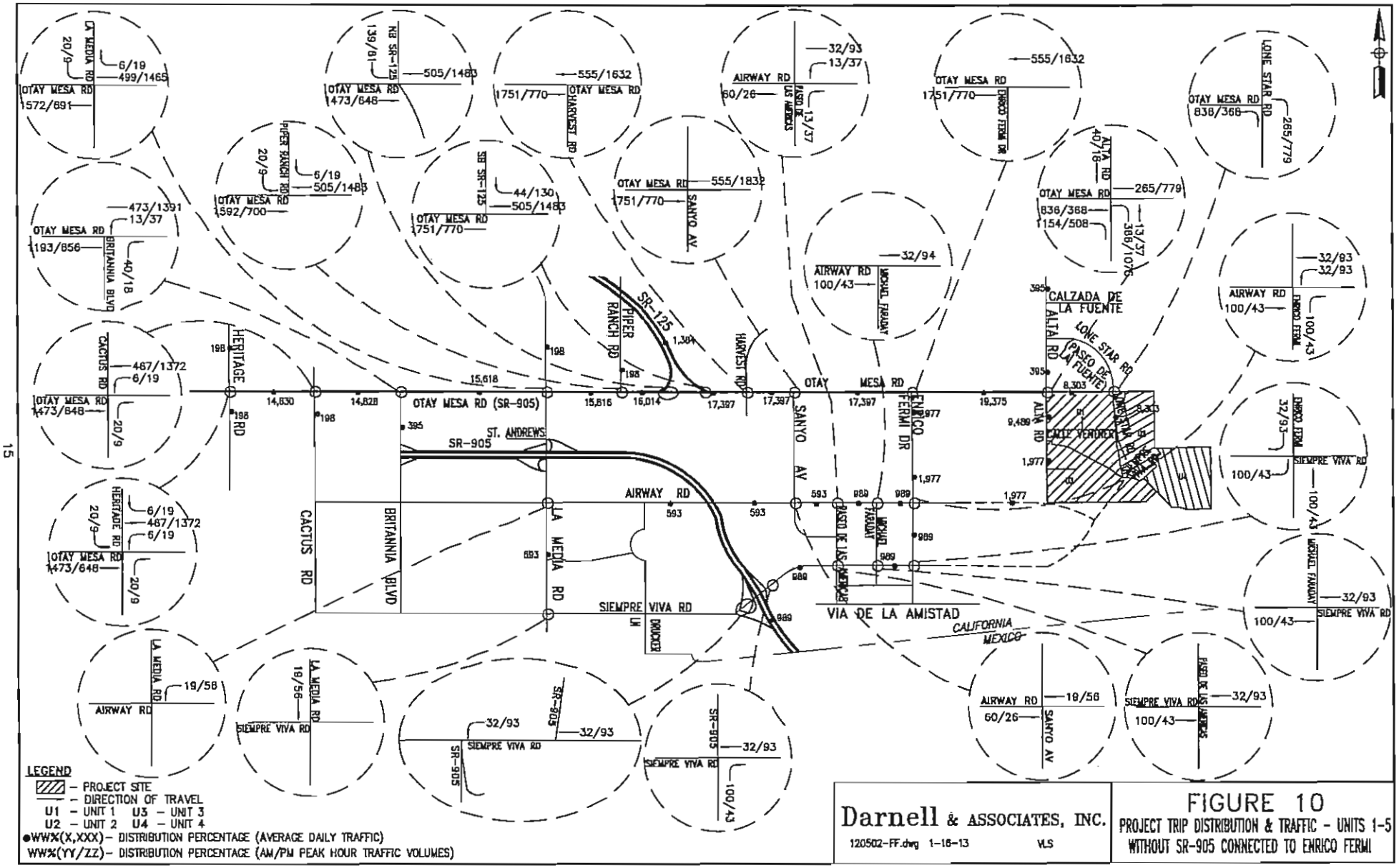
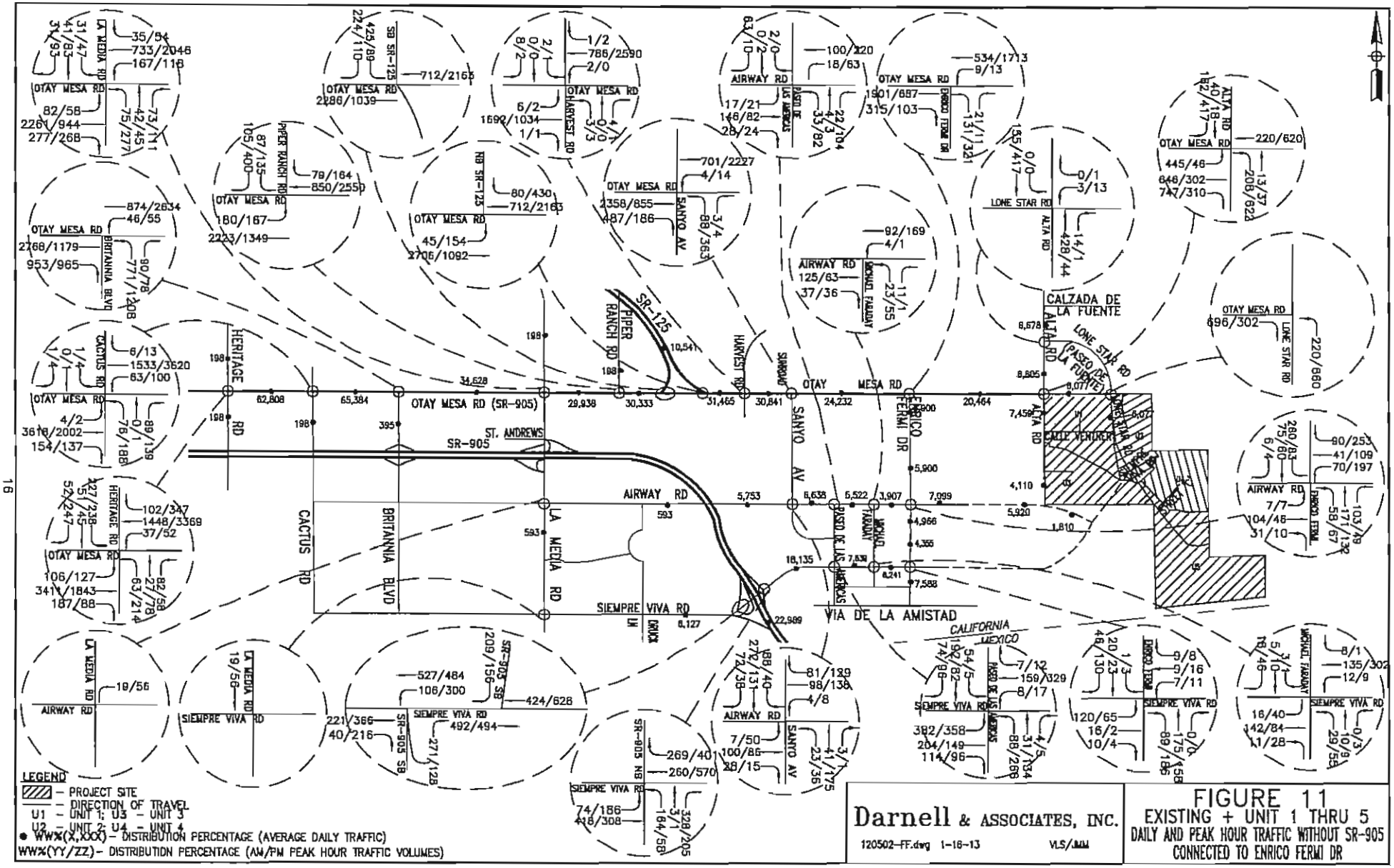


FIGURE 10
PROJECT TRIP DISTRIBUTION & TRAFFIC - UNITS 1-5
WITHOUT SR-905 CONNECTED TO ENRICO FERMI



Darnell & ASSOCIATES, INC.

120502-FF.dwg 1-16-13 VLS/MM

FIGURE 11

EXISTING + UNIT 1 THRU 5

DAILY AND PEAK HOUR TRAFFIC WITHOUT SR-905 CONNECTED TO ENRICO FERMI DR

Table 4 – Existing + Unit 1 Roadway Segment Daily LOS Summary Without SR-905 Extended to Enrico Fermi Drive

Roadway Segment	Jurisdiction	Class	Capacity (LOS E)	Existing 2011			Proj. Tr	Existing + Unit 1					
				ADT	V/C	LOS	ADT	ADT	V/C	LOS	ΔV/C	Sig	MIT/LOS
Otay Mesa Rd (Old Otay Mesa Rd)													
SR-125 to Harvest Rd	**County**/City/Caltrans	5M(a)	47,000	14,068	0.299	A	5,438	19,506	0.415	A	0.116	NO	
Harvest Rd to Sanyo Av	**County**/City/Caltrans	4M	37,000	14,068	0.380	A	5,438	19506	0.527	B	0.147	NO	
Sanyo Av to Enrico Fermi Dr	**County**/City	LC	16,200	7,499	0.463	D	5,438	12,937	0.799	B	0.336	YES	*/D
Enrico Fermi Dr to Alta Rd	County	LC	16,200	6,651	0.411	C	6,056	12,707	0.784	E	0.374	YES	*/D
Alta Rd to Lone Star Rd	County	LC	16,200	-	-	-	NOM	NOM	-	A	-	NO	***/A(a)
Alta Road													
Otay Mesa to Airway Rd	County	LC	16,200	-	-	-	6,180	6,180	0.381	A	0.381	NO	
Airway Road													
SR-905 to Sanyo Av (c)	City	TC	15,000	5,160	0.344	B	185	5,345	0.356	B	0.012	NO	
Sanyo Av to Paseo de las Americas	City	4M	40,000	5,649	0.141	A	185	5,834	0.146	A	0.005	NO	
Paseo de las Americas to Michael Faraday Dr	**County**/City	4M	37,000	4,533	0.123	A	309	4,842	0.131	A	0.008	NO	
Michael Faraday Dr to Enrico Fermi Dr	**County**/City	LC	16,200	2,918	0.180	A	309	3,227	0.199	A	0.019	NO	
Enrico Fermi Dr to Airway Pl	County	4C	34,200	1,179	0.034	A	0	1,179	0.034	A	0.000	NO	
Siempre Viva Road													
SR-905 NB to Paseo de las Americas	City	6P	60,000	17,146	0.286	A	309	17,455	0.291	A	0.005	NO	
Paseo de las Americas to Michael Faraday Dr	City	4C	30,000	7,639	0.255	A	309	8,348	0.278	A	0.024	NO	
Michael Faraday Dr to Enrico Fermi Dr	City	4C	30,000	5,525	0.184	A	309	5,834	0.194	A	0.010	NO	
Sanyo Avenue													
Otay Mesa Rd to Airway Rd	City	4C	30,000	7,022	0.234	A	0	7,022	0.234	A	0.000	NO	
Enrico Fermi Drive													
Otay Mesa Rd to Airway Rd	County	TC	19,000	2,949	0.155	A	618	3,567	0.188	A	0.033	NO	
Airway Rd to Siempre Viva Rd	City	4M	40,000	4,355	0.109	A	309	4,664	0.117	A	0.008	NO	

City = Capacity of city segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of county segments is based on the upper limits of LOS E per the County of San Diego; SBX = South Bay Expressway; **Bold** = Jurisdiction which capacity is based on; ADT= Average Daily Traffic; LOS= Level of Service; V/C = Volume-to LOS E Capacity Ratio; Fwy = Freeway; 6P = 6-Lane Prime Arterial;

5M = 5-Lane Major Arterial; 4M = 4-Lane Major Arterial; 4C = 4-Lane Collector; 2C= 2-Lane Collector with no fronting property; LC = Light Collector; TC = Town Collector

***Restripe to Town Collector, *** Construct ½ width of 4M to provide 2 lanes**

(a) = Improvements required to comply with County Centerline Ordinance requirements.

Table 5 – Existing + Units 1&2 Roadway Segment Daily LOS Summary Without SR-905 Extended to Enrico Fermi Drive

Roadway Segment	Jurisdiction	Class	Capacity (LOS E)	Existing 2011			Proj. Tr	Existing + Unit 1 & 2					
				ADT	V/C	LOS	ADT	ADT	V/C	LOS	ΔV/C	Sig	MIT/LOS
Otay Mesa Rd (Old Otay Mesa Rd)													
SR-125 to Harvest Rd	**County**/City/Caltrans	5M(a)	47,000	9,219	0.196	A	8,870	22,938	0.488		0.292	NO	
Harvest Rd to Sanyo Av	**County**/City/Caltrans	4M	37,000	14,068	0.380	A	8,870	23,938	0.647		0.267	NO	
Sanyo Av to Enrico Fermi Dr	**County**/City	LC	16,200	7,499	0.463	D	8,870	16,369	1.010		0.548	YES	**/B
Enrico Fermi Dr to Alta Rd	County	LC	16,200	6,651	0.411	C	9,878	13,539	0.836		0.425	YES	**/A
Alta Rd to Lone Star Rd	County	LC	16,200	-	-	-	4,234	4,234	0.261		0.261	NO	***/C(a)
Alta Road													
Otay Mesa to Airway Rd	County	LC	16,200	-	-	-	5,848	5,848	0.361	D	0.610	NO	***/C(a)
Airway Road													
SR-905 to Sanyo Av (c)	City	TC	15,000	5,160	0.344	B	314	5,474	0.365	B	0.021	NO	
Sanyo Av to Paseo de las Americas	City	4M	40,000	5,649	0.141	A	314	5,963	0.149	A	0.008	NO	
Paseo de las Americas to Michael Faraday Dr	**County**/City	4M	37,000	4,533	0.123	A	524	5,057	0.137	A	0.014	NO	
Michael Faraday Dr to Enrico Fermi Dr	**County**/City	LC	16,200	2,918	0.180	A	524	3,442	0.212	A	0.032	NO	
Enrico Fermi Dr to Airway Pl	County	4C	34,200	1,179	0.034	A	0	1,179	0.034	A	0.000	NO	
Siempre Viva Road													
SR-905 NB to Paseo de las Americas	City	6P	60,000	17,146	0.286	A	524	17,670	0.295	A	0.009	NO	
Paseo de las Americas to Michael Faraday Dr	City	4C	30,000	7,639	0.255	A	524	81,163	2.705	A	2.451	NO	
Michael Faraday Dr to Enrico Fermi Dr	City	4C	30,000	5,525	0.184	A	524	6,049	0.202	A	0.017	NO	
Sanyo Avenue													
Otay Mesa Rd to Airway Rd	City	4C	30,000	7,022	0.234	A	0	7,022	0.234	A	0.000	NO	
Enrico Fermi Drive													
Otay Mesa Rd to Airway Rd	County	TC	19,000	2,949	0.155	A	1,048	3,997	0.210	A	0.055	NO	
Airway Rd to Siempre Viva Rd	City	4M	40,000	4,355	0.109	A	524	4,879	0.122	A	0.013	NO	

City = Capacity of city segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of county segments is based on the upper limits of LOS E per the County of San Diego;

SBX = South Bay Expressway; **Bold** = Jurisdiction which capacity is based on; ADT= Average Daily Traffic; LOS= Level of Service; V/C = Volume-to LOS E Capacity Ratio; Fwy = Freeway; 6P = 6-Lane Prime Arterial;

5M = 5-Lane Major Arterial; 4M = 4-Lane Major Arterial; 4C = 4-Lane Collector; 2C= 2-Lane Collector with no fronting property; LC = Light Collector; TC = Town Collector

**** Widen To a 4-lane Collector Road Standards, *** Construct ½ width of 4M to provide 2 lanes, (a) = Improvements required to comply with County Centerline Ordinance requirements.**

Table 6 – Existing + Units 1 & 3 Roadway Segment Daily LOS Summary Without SR-905 Extended to Enrico Fermi Drive

Roadway Segment	Jurisdiction	Class	Capacity (LOS E)	Existing 2011			Proj. Tr	Existing + Unit 1 & 3					
				ADT	V/C	LOS	ADT	ADT	V/C	LOS	ΔV/C	Sig	MIT/LOS
Otay Mesa Rd (Old Otay Mesa Rd)													
SR-125 to Harvest Rd	**County**/City/Caltrans	5M(a)	47,000	14,068	0.299	A	8,649	22,717	0.483	B	0.184	NO	
Harvest Rd to Sanyo Av	**County**/City/Caltrans	4M	37,000	14,068	0.380	A	8,649	22,717	0.61	B	0.234	NO	
Sanyo Av to Enrico Fermi Dr	**County**/City	LC	16,200	7,499	0.463	D	8,649	16,148	0.997	E	0.534	YES	**/B
Enrico Fermi Dr to Alta Rd	County	LC	16,200	6,651	0.411	C	9,631	16,282	1.005	F	0.595	YES	**/B
Alta Rd to Lone Star Rd	County	LC	16,200	-	-	-	4,127	4,127	0.255	C	0.255	NO	
Alta Road													
Otay Mesa to Airway Rd	County	LC	16,200	-	-	-	5,700	5,700	0.352	C	0.352	NO	***/C (a)
Airway Road													
SR-905 to Sanyo Av	City	TC	15,000	5,160	0.344	A	424	5,584	0.372	A	0.028	NO	
Sanyo Av to Paseo de las Americas	City	4M	40,000	5,649	0.141	A	424	6,073	0.152	A	0.011	NO	
Paseo de las Americas to Michael Faraday Dr	**County**/City	4M	37,000	4,533	0.123	A	706	5,239	0.142	A	0.019	NO	
Michael Faraday Dr to Enrico Fermi Dr	**County**/City	LC	16,200	2,918	0.180	A	706	3,624	0.224	A	0.044	NO	
Enrico Fermi Dr to Airway Pl	County	4C	34,200	1,179	0.034	A	0	1179	0.03	A	0	NO	
Siempre Viva Road													
SR-905 NB to Paseo de las Americas	City	6P	60,000	17,146	0.286	A	706	17,852	0.298	A	0.012	NO	
Paseo de las Americas to Michael Faraday Dr	City	4C	30,000	7,639	0.255	A	706	8,345	0.278	A	0.024	NO	
Michael Faraday Dr to Enrico Fermi Dr	City	4C	30,000	5,525	0.184	A	706	6,231	0.208	A	0.024	NO	
Sanyo Avenue													
Otay Mesa Rd to Airway Rd	City	4C	30,000	7,022	0.234	A	0	7,022	0.234	A	0.000	NO	
Enrico Fermi Drive													
Otay Mesa Rd to Airway Rd	County	TC	19,000	2,949	0.155	A	983	3,932	0.207	A	0.052	NO	
Airway Rd to Siempre Viva Rd	City	4M	40,000	4,355	0.109	A	706	5,061	0.127	A	0.018	NO	

City = Capacity of city segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of county segments is based on the upper limits of LOS E per the County of San Diego; SBX = South Bay Expressway; **Bold** = Jurisdiction which capacity is based on; ADT= Average Daily Traffic; LOS= Level of Service; V/C = Volume-to LOS E Capacity Ratio; Fwy = Freeway; 6P = 6-Lane Prime Arterial;

5M = 5-Lane Major Arterial; 4M = 4-Lane Major Arterial; 4C = 4-Lane Collector; 2C= 2-Lane Collector with no fronting property; LC = Light Collector; TC = Town Collector

***Restripe to Town Collector; ** Widen To a 4-lane Collector Road Standards; *** Construct ½ width of 4M to provide 2 lanes; (a) = Improvements required to comply with County Centerline Ordinance requirements.**

Table 7 – Existing + Units 1 thru 3 Roadway Segment Daily LOS Summary Without SR-905 Extended to Enrico Fermi Drive

Roadway Segment	Jurisdiction	Class	Capacity (LOS E)	Existing 2011			Proj. Tr	Existing + Unit 1 thru 3					MIT/LOS
				ADT	V/C	LOS	ADT	ADT	V/C	LOS	ΔV/C	Sig	
Otay Mesa Rd (Old Otay Mesa Rd)													
SR-125 to Harvest Rd	**County**/City/Caltrans	5M(a)	47,000	14,068	0.299	A	12,081	26,149	0.556	A	0.257	NO	
Harvest Rd to Sanyo Av	**County**/City/Caltrans	4M	37,000	14,068	0.380	A	12,081	26,149	0.71	B	0.327	NO	
Sanyo Av to Enrico Fermi Dr	**County**/City	LC	16,200	7,499	0.463	D	12,081	19,580	1.209	F	0.746	YES	**/B
Enrico Fermi Dr to Alta Rd	County	LC	16,200	6,651	0.411	C	13,453	20.104	1.241	F	0.830	YES	**/B
Alta Rd to Lone Star Rd	County	LC	16,200	-	-	-	5,766	5,766	0.356	C	0.356	NO	***/C(a)
Alta Road													
Otay Mesa to Airway Rd	County	LC	16,200	-	-	-	5,700	5,700	0.352	C	0.352	NO	***/C(a)
Airway Road													
SR-905 to Sanyo Av	City	TC	15,000	5,160	0.344	A	412	5,572	0.371	C	0.027	NO	
Sanyo Av to Paseo de las Americas	City	4M	40,000	5,649	0.141	A	412	6,061	0.152	A	0.010	NO	
Paseo de las Americas to Michael Faraday Dr	**County**/City	4M	37,000	4,533	0.123	A	686	5,219	0.141	A	0.019	NO	
Michael Faraday Dr to Enrico Fermi Dr	**County**/City	LC	16,200	2,918	0.180	A	686	3,604	0.222	B	0.042	NO	
Enrico Fermi Dr to Airway Pl	County	4C	34,200	1,179	0.034	A	686	1,865	0.05	A	0.02	NO	
Siempre Viva Road													
SR-905 NB to Paseo de las Americas	City	6P	60,000	17,146	0.286	A	686	17,832	0.297	A	0.011	NO	
Paseo de las Americas to Michael Faraday Dr	City	4C	30,000	7,639	0.255	A	686	8,325	0.278	A	0.023	NO	
Michael Faraday Dr to Enrico Fermi Dr	City	4C	30,000	5,525	0.184	A	686	6,211	0.207	A	0.023	NO	
Sanyo Avenue													
Otay Mesa Rd to Airway Rd	City	4C	30,000	7,022	0.234	A	0	7,022	0.234	A	0.000	NO	
Enrico Fermi Drive													
Otay Mesa Rd to Airway Rd	County	TC	19,000	2,949	0.155	A	7,952	7,952	0.419	C	0.263	NO	
Airway Rd to Siempre Viva Rd	City	4M	40,000	4,355	0.109	A	686	686	0.017	A	-0.092	NO	

City = Capacity of city segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of county segments is based on the upper limits of LOS E per the County of San Diego;

SBX = South Bay Expressway; **Bold** = Jurisdiction which capacity is based on; ADT= Average Daily Traffic; LOS= Level of Service; V/C = Volume-to LOS E Capacity Ratio; Fwy = Freeway; 6P = 6-Lane Prime Arterial;

5M = 5-Lane Major Arterial; 4M = 4-Lane Major Arterial; 4C = 4-Lane Collector; 2C= 2-Lane Collector with no fronting property; LC = Light Collector; TC = Town Collector

***Restripe to Town Collector; ** Widen To a 4-lane Collector Road Standards; *** Construct ½ width of 4M to provide 2 lanes, (a) = Improvements required to comply with County Centerline Ordinance requirements.**

Table 8 – Existing + Units 1 thru 5 Roadway Segment Daily LOS Summary Without SR-905 Extended to Enrico Fermi Drive

Roadway Segment	Jurisdiction	Class	Capacity (LOS E)	Existing 2011			Proj. Tr ADT	Existing + Unit 1 thru 5 (a)				Sig	MIT./LOS
				ADT	V/C	LOS		ADT (a)	V/C	LOS	ΔV/C		
Otay Mesa Rd (Old Otay Mesa Rd)													
SR-125 to Harvest Rd	**County/City/ Caltrans**	5M(a)	47,000	14,068	0.299	A	16,773	30,841	0.656	B	0.357	NO	
Harvest Rd to Sanyo Av	**County/City/ Caltrans**	4M	37,000	14,068	0.380	A	16,773	30,841	0.833	D	0.453	NO	
Sanyo Av to Enrico Fermi Dr	**County/City**	LC	16,200	7,499	0.463	D	16,773	24,272	1.498	F	1.035	YES	**/C
Enrico Fermi Dr to Alta Rd	County	LC	16,200	6,651	0.411	C	13,813	20,464	1.263	F	0.852	YES	**/C
Alta Rd to Lone Star Rd	County	LC	16,200	-	-	-	6,077	6,077	0.375	C	0.375	NO	***/C(a)
Alta Road													
Otay Mesa to Airway Rd	County	LC	16,200	-	-	-	7,459	7,459	0.460	C	0.460	NO	***/D(a)
Airway Road													
SR-905 to Sanyo Av	City	TC	15,000	5,160	0.344	A	593	5,753	0.384	B	0.040	NO	
Sanyo Av to Paseo de las Americas	City	4M	40,000	5,649	0.141	A	593	6,242	0.156	A	0.015	NO	
Paseo de las Americas to Michael Faraday Dr	**County/City**	4M	37,000	4,533	0.123	A	989	5,522	0.149	A	0.027	NO	
Michael Faraday Dr to Enrico Fermi Dr	**County/City**	LC	16,200	2,918	0.180	A	989	3,907	0.241	B	0.061	NO	
Enrico Fermi Dr to Airway Pl	County	4C	34,200	1,179	0.034	A	0	6,319	0.185	C	0.150	NO	
Airway Pl to Alta	**County 4M (e)**	-	16,200 (e)	-	-	-	1,977	1,977	0.32	B	0.32	YES	***/A
Siempre Viva Road													
SR-905 NB to Paseo de las Americas	City	6P	60,000	17,146	0.286	A	989	18,135	0.302	A	0.016	NO	
Paseo de las Americas to Michael Faraday Dr	City	4C	30,000	7,639	0.255	A	989	8,628	0.288	A	0.033	NO	
Michael Faraday Dr to Enrico Fermi Dr	City	4C	30,000	5,525	0.184	A	989	6,514	0.217	A	0.033	NO	
Enrico Fermi Drive													
Otay Mesa Rd to Airway Rd	County	TC	19,000	2,949	0.155	A	1,977	4,926	0.259	A	0.104	NO	
Airway Rd to Siempre Viva Rd	City	4M	40,000	4,355	0.109	A	989	5,344	0.134	A	0.025	NO	

City = Capacity of city segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of county segments is based on the upper limits of LOS E per the County of San Diego; SBX = South Bay Expressway; **Bold** = Jurisdiction which capacity is based on; ADT= Average Daily Traffic; LOS= Level of Service; V/C = Volume-to LOS E Capacity Ratio; Fwy = Freeway; 6P = 6-Lane Prime Arterial; 5M = 5-Lane Major Arterial; 4M = 4-Lane Major Arterial; 4C = 4-Lane Collector; 2C= 2-Lane Collector with no fronting property; LC = Light Collector; TC = Town Collector,***Restripe to Town Collector; ** Widen To a 4-lane Collector Road Standards; *** Construct ½ width of 4M to provide 2 lanes, (a) = Improvements required to comply with County Centerline Ordinance requirements.**

Tables 4 thru 8 were reviewed to identify the projects direct impacts with the reduction in traffic. Table 9 summarizes the mitigation required of the project by the development of the units listed, also presented in Table 9 are the roadway improvements required to satisfy the County's Centerline Ordnance requirements.

Table 9 – Summary of Project Direct Impact Mitigation Without SR-905 Extended to Enrico Fermi Drive

Roadway Segment	Unit 1	Units 1 & 2	Units 1 & 3	Units 1 thru 3	Units 1 thru 5
Otay Mesa Road Sanyo Ave to Enrico Fermi Drive	Restripe Otay Mesa Road to provide two 14' foot lanes and a center 12' foot lane.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.
Mitigated LOS	B	B	B	B	C
Otay Mesa Road Enrico Fermi Drive to Alta Road	Restripe Otay Mesa Road to provide two 14' foot lanes and a center 12' foot lane.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.
Mitigated LOS	D	A	B	B	C
Otay Mesa Road Alta Road at Lone Star Road	Construct ½ width of 4M to provide two (2) lanes (a).	Construct ½ width of 4M to provide two (2) lanes.	Construct ½ width of 4M to provide two (2) lanes.	Construct ½ width of 4M to provide two (2) lanes.	Construct ½ width of 4M to provide two (2) lanes.
Mitigated LOS	A	C	C	C	D
Siempre Viva Road Lone Star to Unit 4 Eastern Boundry	No Impact	No Impact	No Impact	No Impact	Construct ½ width of 4 lane Industrial Collector to provide two (2) lanes.
Mitigated LOS	-	-	-	-	A
Lone Star Road Otay Mesa to South Boundary of Unit 2	No Impact	Construct ½ width of 4M to provide two (2) lanes.	No Impact	Construct ½ width of 4M to provide two (2) lanes.	Construct ½ width of 4M to provide two (2) lanes.
Mitigated LOS	-	A	-	A	A
Lone Star Road Unit 2 Southern Boundary to Unit 4 Eastern Boundary	No Impact	No Impact	No Impact	No Impact	Construct ½ width of 4M to provide two (2) lanes to Siempre Viva Road and ½ width of 4-lane Industrail Collector to Unit 4 Eastern Boundary.
Mitigated LOS	-	-	-	-	A
Alta Road Otay Mesa Road to Airway Road	Construct ½ width of 4M to provide two (2) lanes (a).	Construct ½ width of 4M to provide two (2) lanes.	Construct ½ width of 4M to provide two (2) lanes.	Construct ½ width of 4M to provide two (2) lanes.	Construct ½ width of 4M to provide two (2) lanes.
Mitigated LOS	C	C	C	C	C
Airway Road Airway Place to Alta Road	No Impact	No Impact	No Impact	No Impact	Construct ½ width of 4M to provide two (2) lanes.
Mitigated LOS	-	-	-	-	A

LOS = Level of Service, (a) = Improvements required to comply with County Centerline Ordinance requirements.

Intersections

The next step is the analysis of the key intersections along the Otay Mesa Road and identification of recommended direct impact mitigation requirements. Utilizing the peak hourly traffic volumes presented in Figures 5, 7, 9, and 11 the AM and PM peak hourly Level of Service was calculated by using the Synchro 6 Intersection Capacity Software.

The results of the analyses are presented in Table 10. Review of Table 10 identifies that the project will have direct impacts that will require signal modification, signalization and/or addition of travel lanes. The impacts are based on the County of San Diego Significance Criteria. Table 11 was then prepared to identify the resulting intersection Level of Service based on the recommended signalization and additional travel lanes required at the key intersections. Copies of the Synchro Worksheets are presented in Appendicies A thru E. The Required intersection improvements to mitigate the projects direct impacts are presented on Figure 12. Review of Table 11 with the recommended intersection improvements, each intersection will operate at a Level of Service "D" or better.

In summary the project will require the roadway improvements listed on Tables 4 thru 8 and travel lane additions at intersections presented on Figure 12. With these improvements each of the roadway segments and intersections will operate at LOS "D" or better.

SR-905 EXTENSION TO ENRICO FERMI DRIVE ALTERNATIVE ANALYSIS

In addition to the project accommodating Caltrans changes to SR-11 and the new Port of Entry Border Crossing and since Caltrans is proceeding with design and construction for the extension of SR-905 to Enrico Fermi Drive with an at-grade intersection. The schedule for this funded improvement calls for construction to be started in December 2013 with it opening to traffic between June 2015 and December 2015. The extension of SR-905 to Enrico Fermi will result in the reduction of existing traffic on Otay Mesa Road west of Enrico Fermi Drive. To account for the reduction, traffic modeling was reviewed for the area. Review of the traffic modeling forecasts allowed the estimation that 48 percent of the existing 6,651 daily vehicles on Otay Mesa Road east of Enrico Fermi will be diverted to the new SR-905/Enrico Fermi Drive connection. This represents a reduction of 3,192 daily vehicles on Otay Mesa Road west of Enrico Fermi Drive and 1,416 daily vehicles from Airway Road and Siempre Viva Road when the SR-905 extension to Enrico Fermi Drive is opened to traffic. Figure 13 was then prepared to show existing 2011 traffic conditions with SR-905 extended to Enrico Fermi Drive and diversion of approximately 4,608 existing daily vehicles to the new connection.

The next step in the analysis process involves the reassignment of project traffic previously presented on Table 2 to the surrounding roadway system with the SR-905 extension to Enrico Fermi Drive for the following conditions:

- Unit 1;
- Units 1 and 2;
- Units 1 thru 3.

Figures 14, 16, 18 and 20 present project traffic, and Figures 13, 15, 17, and 19 present the existing plus project traffic volumes for development of the proposed project by units identified above.

The development of Units 4 and 5 with SR-905 extended to Enrico Fermi includes the extension of Alta Road to Siempre Viva Road and Siempre Viva Road is extended to Enrico Fermi Drive as 2-lane roadways within one half of a 4-lane Major road right-of-way. Figure 20 presents project traffic and Figure 21 presents existing plus Units 1-5 traffic.

Table 10 Existing + Project Units Intersection LOS Summary Without SR-905

Intersection	Existing 2011				Existing + Unit 1					Existing + Units 1-2				
	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	SIG.	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	SIG
Otay Mesa Road: Sanyo Avenue	4.9	A	7.6	A	7.6	A	49	D	NO	15.4	B	134.3	F	YES
Enrico Fermi Drive	11.3	B	8.6	A	7.2	A	14.9	B	NO	149.8	F	14	B	YES
Alta Road	12.5	B	9.6	A	214.6	F	53	F	YES	519	F	309	F	YES
Intersection	**Existing 2011**				**Existing + Units 1-3**					**Existing + Units 1-5**				
	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	SIG.	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	SIG
Otay Mesa Road: Sanyo Avenue	4.9	A	7.6	A	153.7	F	199.8	F	YES	89.2	F	199.8	F	YES
Enrico Fermi Drive	11.3	B	8.6	A	249.9	F	328.6	F	YES	328.2	F	328.6	F	YES
Alta Road	12.5	B	9.6	A	553.8	F	400.8	F	YES	1077.7	F	400.8	F	YES

Table 11 Mitigated Existing + Project Units Intersection LOS Summary Without SR-905 (a)

Intersection	Existing 2011				Existing + Unit 1				Existing + Units 1-2			
	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS
Otay Mesa Road: Sanyo Avenue	4.9	A	7.6	A	7.6	A	49	D	15.3	B	14.2	B
Enrico Fermi Drive	11.3	B	8.6	A	7.2	A	14.9	B	11.6	B	12.3	B
Alta Road	12.5	B	9.6	A	11	B	15.3	B	24.2	C	37.9	D
Intersection	**Existing 2011**				**Existing + Units 1-3**				**Existing + Units 1-5**			
	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS
Otay Mesa Road: Sanyo Avenue	4.9	A	7.6	A	3.8	A	16.4	B	14.3	B	15.4	B
Enrico Fermi Drive	11.3	B	8.6	A	18	B	39.5	B	13.4	B	17.5	B
Alta Road	12.5	B	9.6	A	18	B	31.8	C	25.7	C	33.2	D

(a) See Figure 12 for Mitigation Improvements by Unit Development.

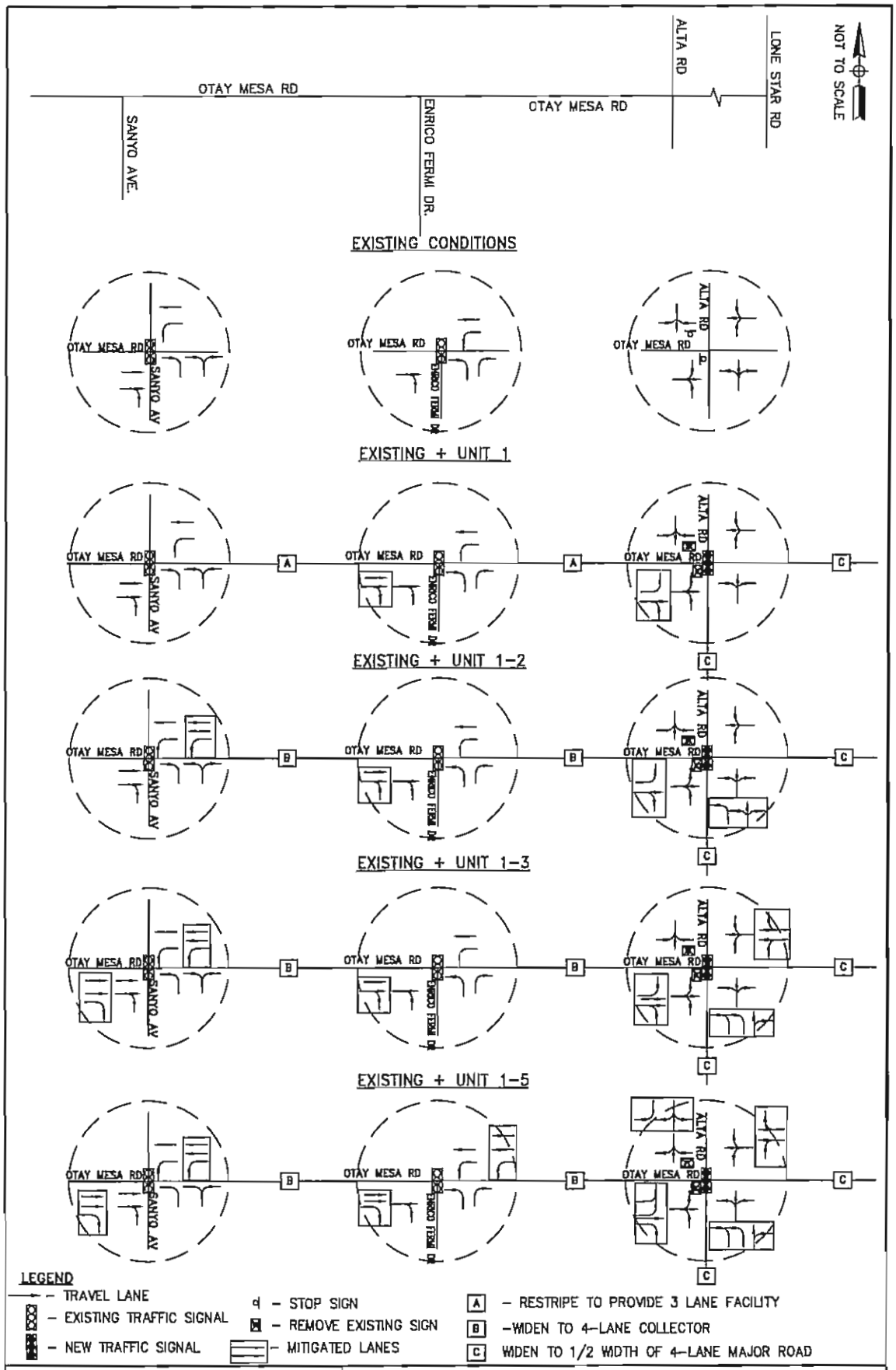


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FIGURE 12

RECOMMENDED MITIGATION WITHOUT SR-905

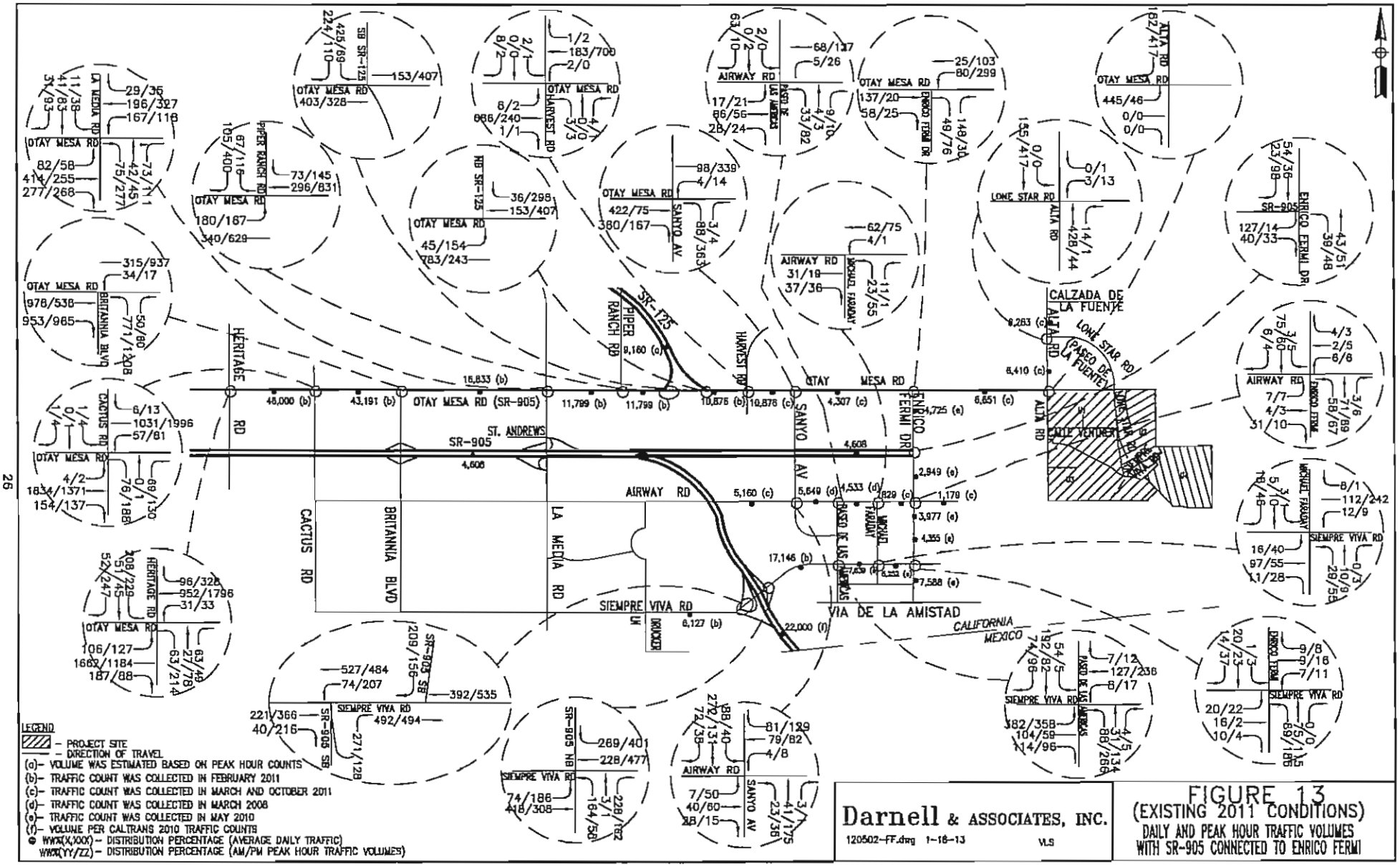

FIGURE 13
(EXISTING 2011 CONDITIONS)
DAILY AND PEAK HOUR TRAFFIC VOLUMES
WITH SR-905 CONNECTED TO ENRICO FERMI

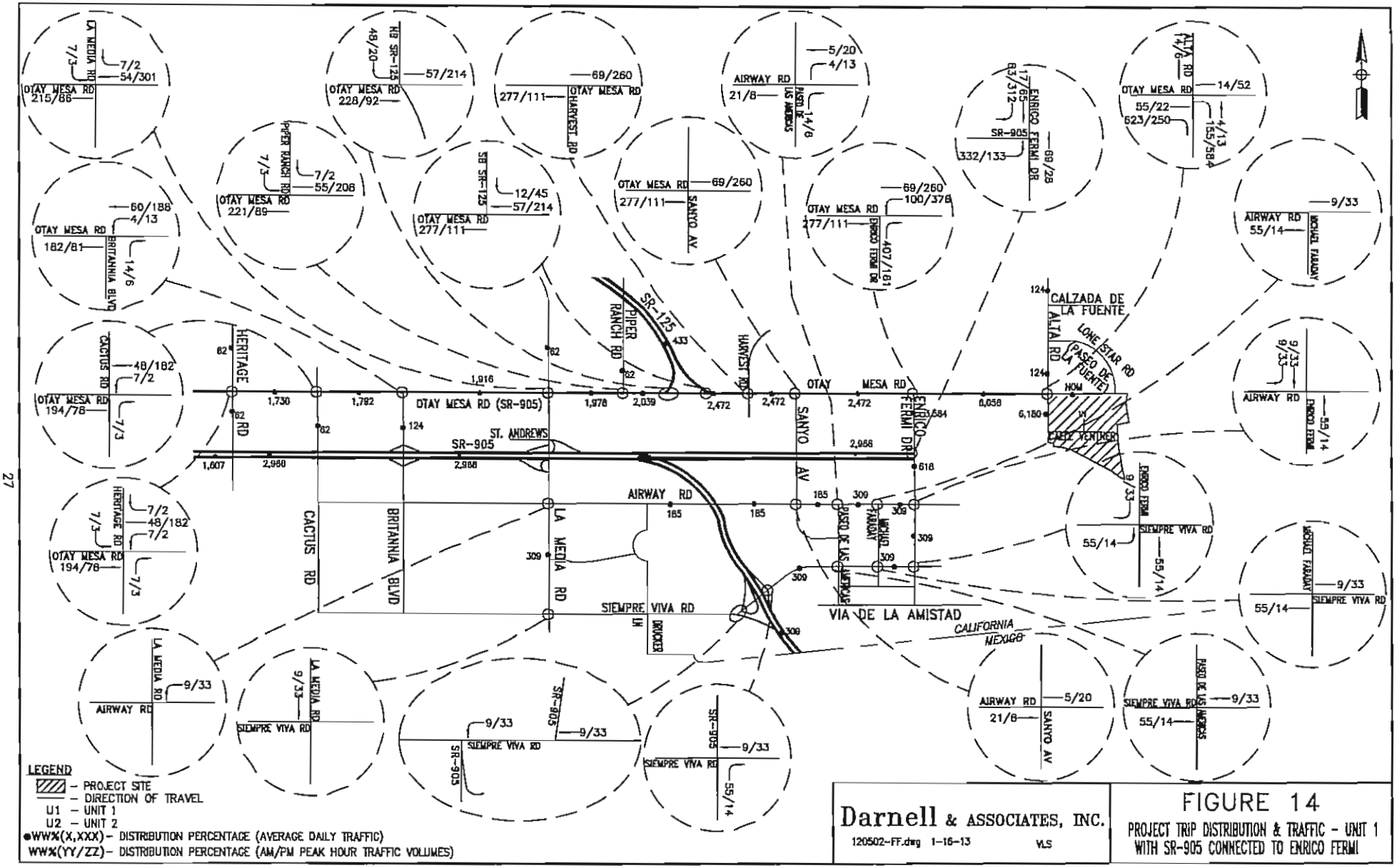

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FIGURE 14

PROJECT TRIP DISTRIBUTION & TRAFFIC – UNIT 1 WITH SR-905 CONNECTED TO ENRICO FERMI

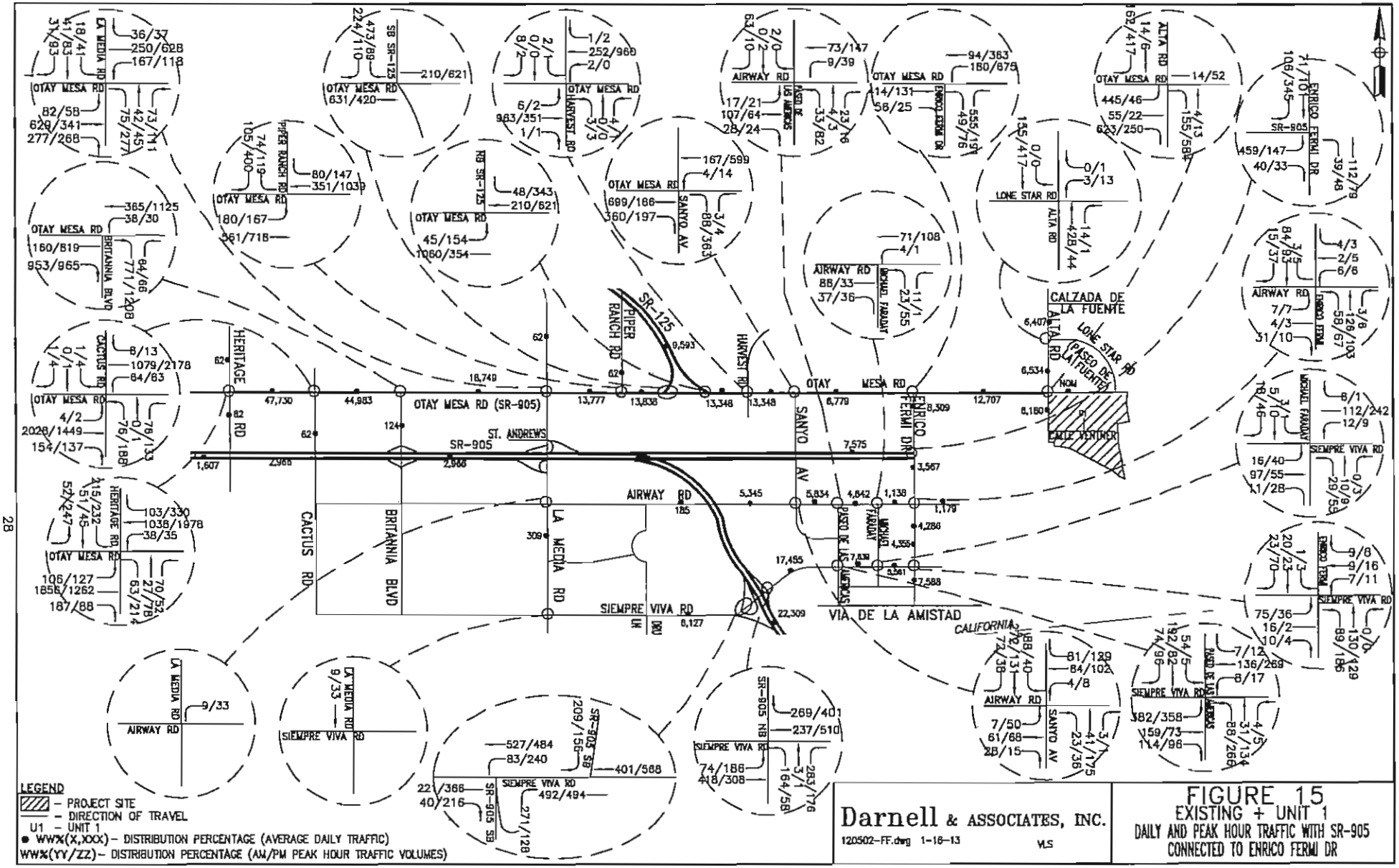

FIGURE 15
EXISTING + UNIT 1
DAILY AND PEAK HOUR TRAFFIC WITH SR-905 CONNECTED TO ENRICO FERMI DR

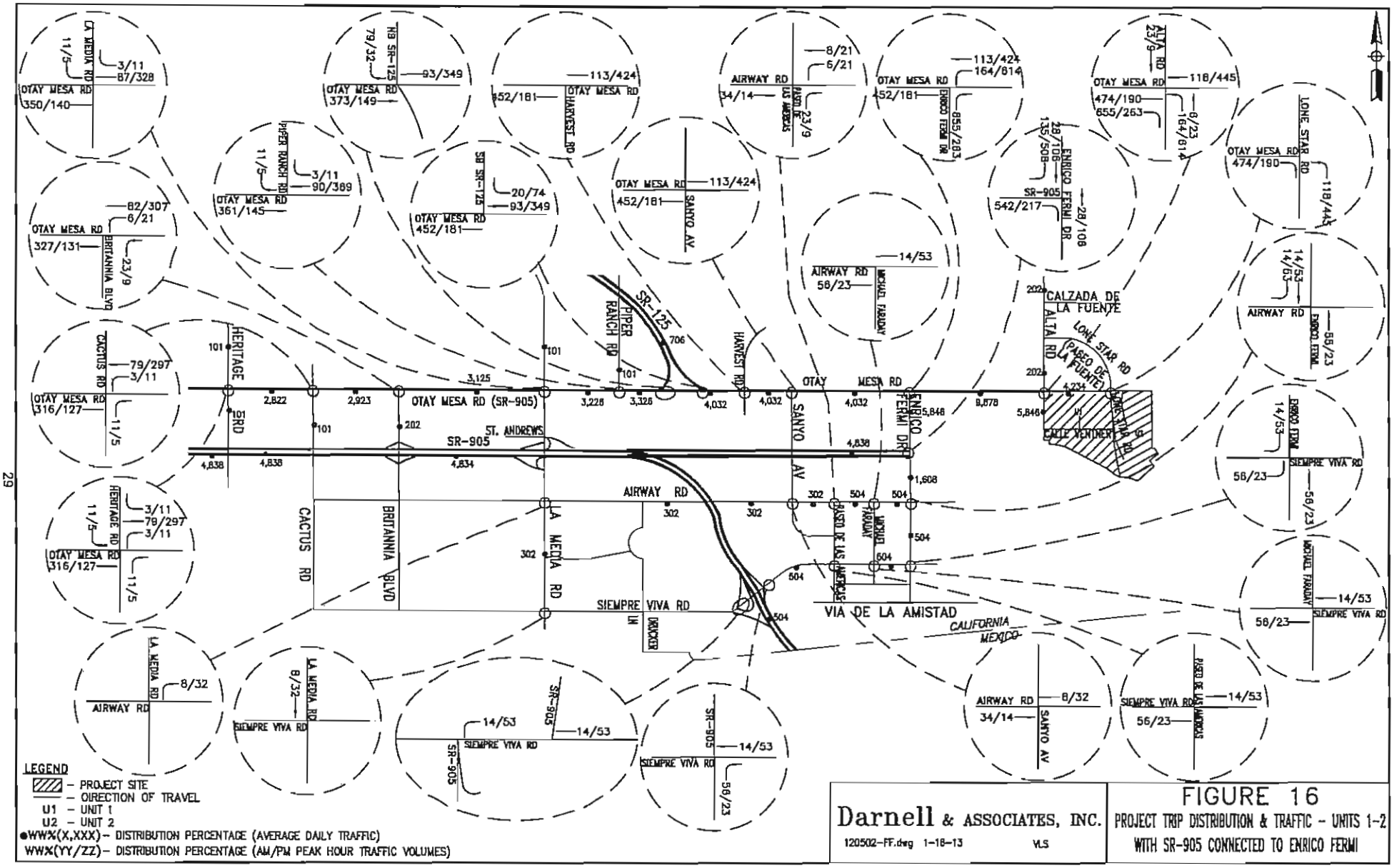

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FIGURE 16

PROJECT TRIP DISTRIBUTION & TRAFFIC - UNITS 1-2 WITH SR-905 CONNECTED TO ENRICO FERMI

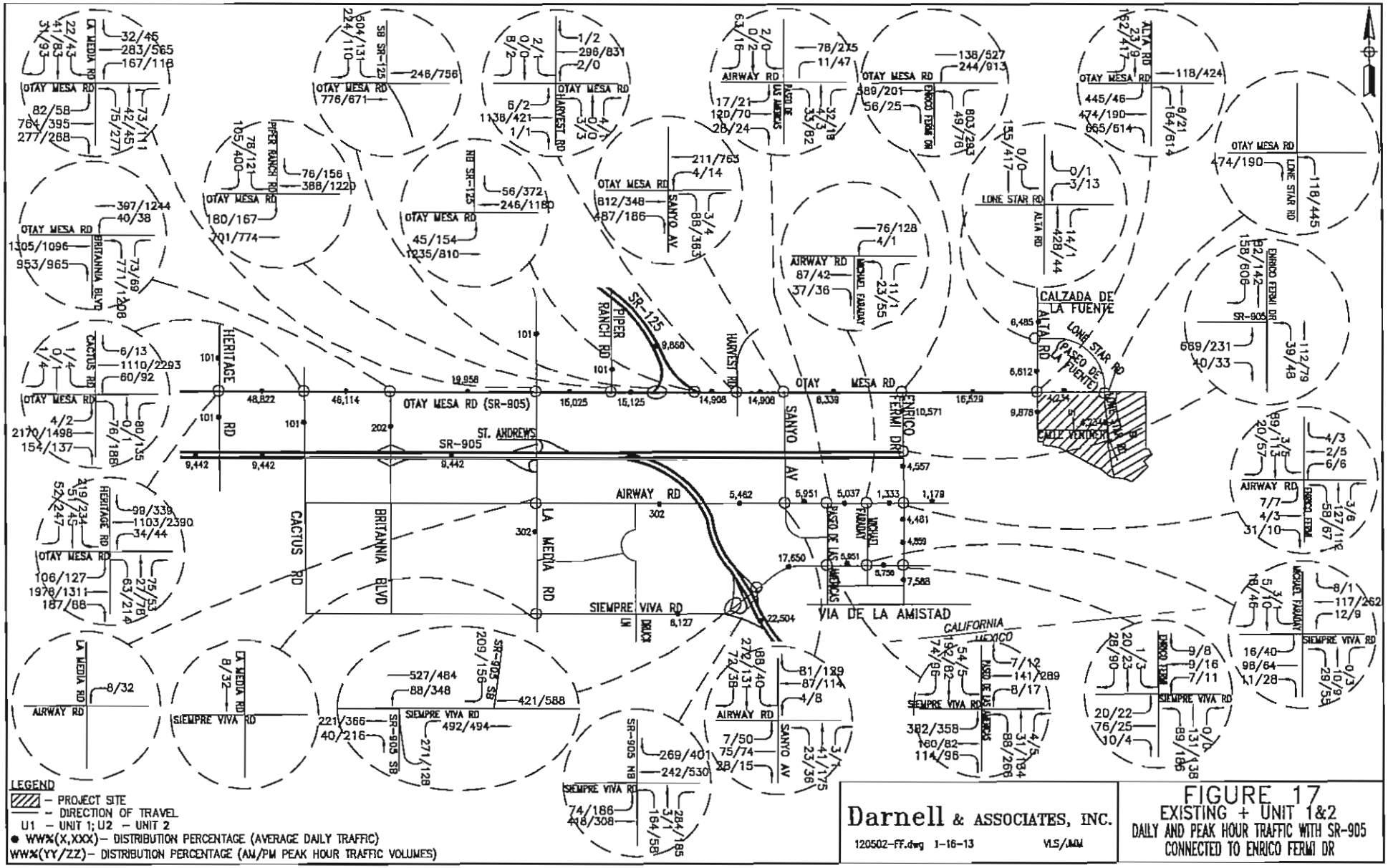

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FIGURE 17
EXISTING + UNIT 1&2
DAILY AND PEAK HOUR TRAFFIC WITH SR-905 CONNECTED TO ENRICO FERMI DR

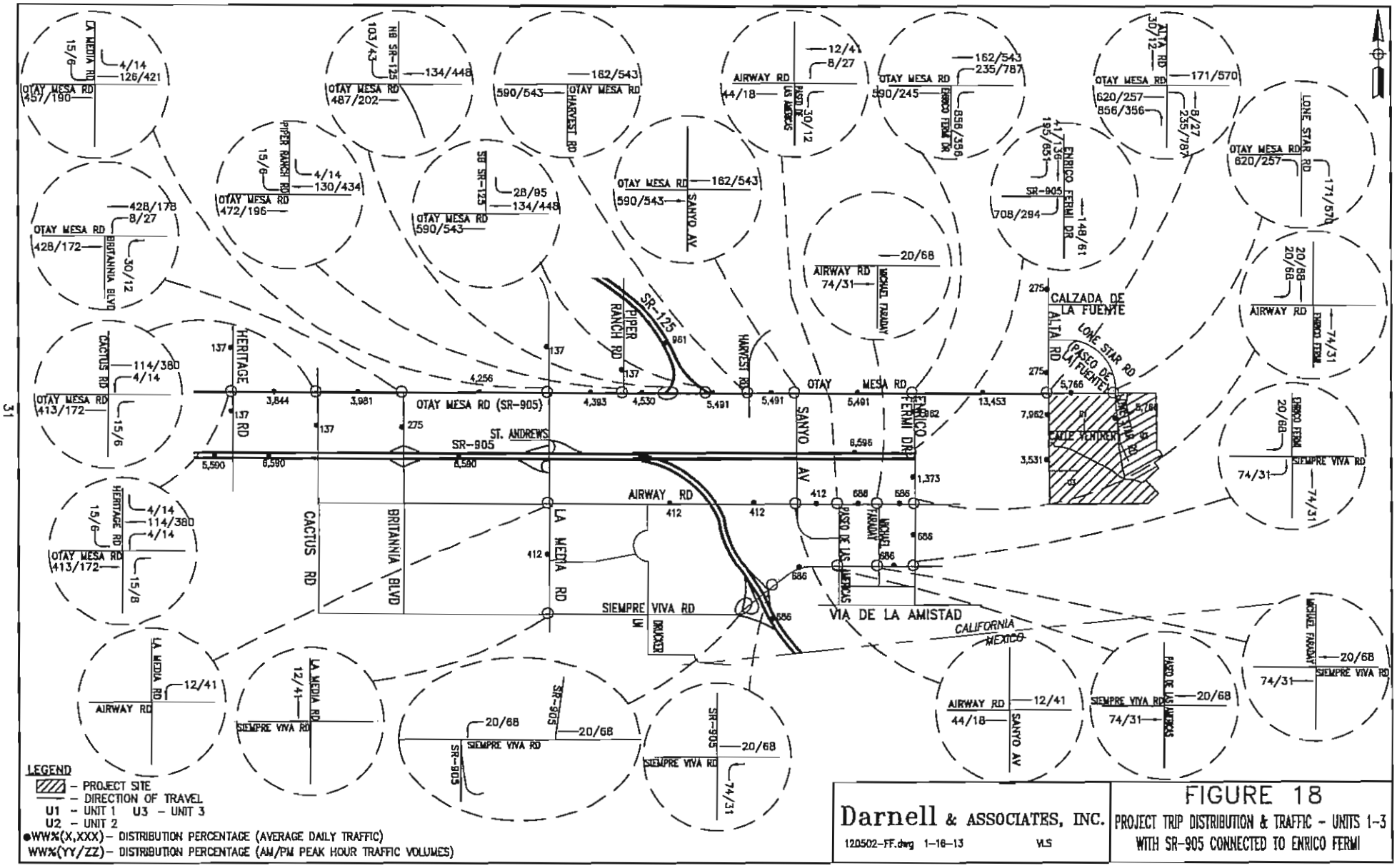

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FIGURE 18

PROJECT TRIP DISTRIBUTION & TRAFFIC - UNITS 1-3 WITH SR-905 CONNECTED TO ENRICO FERMI

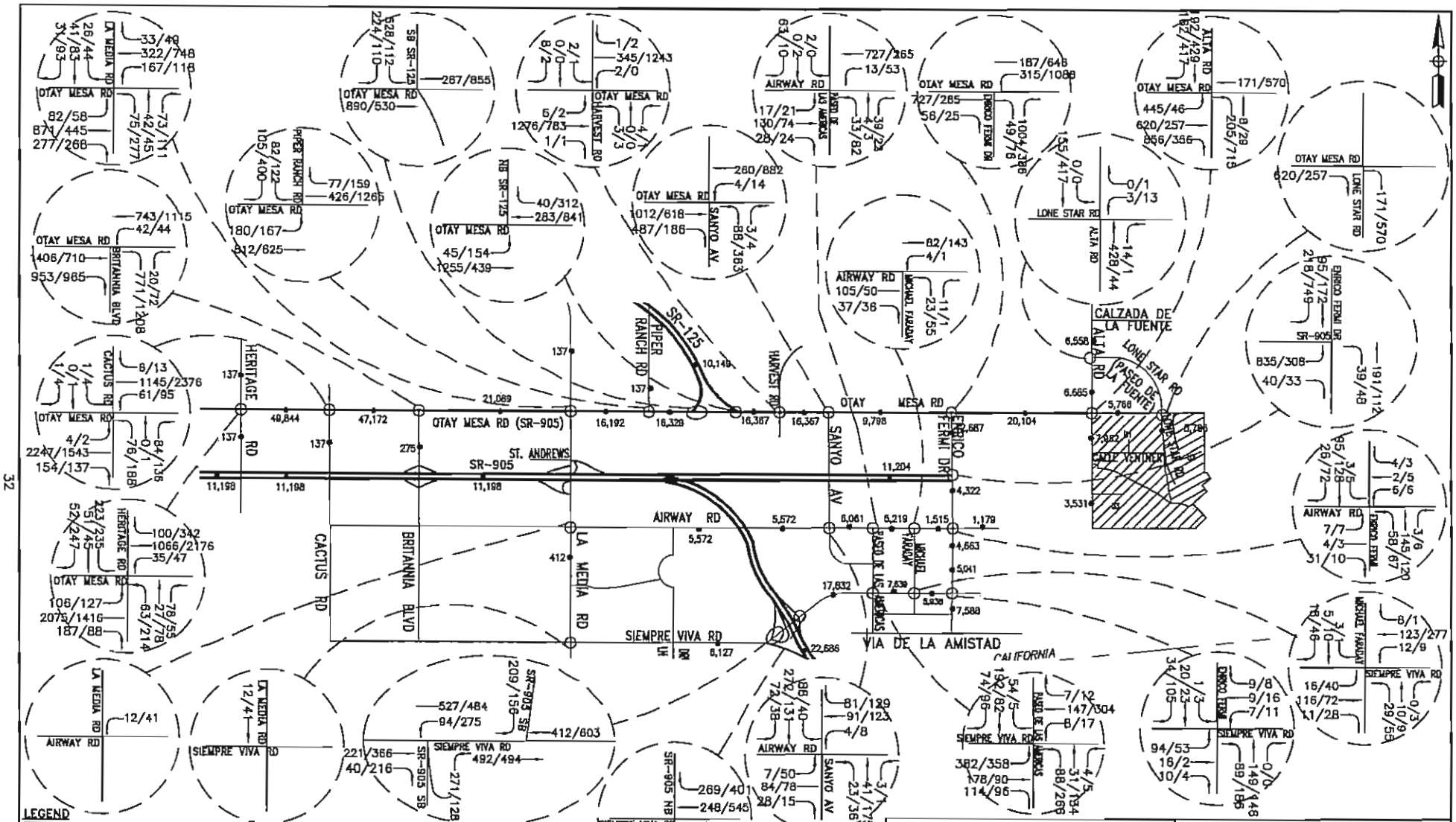


FIGURE 19
EXISTING + UNIT 1 THRU 3
DAILY AND PEAK HOUR TRAFFIC WITH SR-905
CONNECTED TO ENRICO FERMI DR

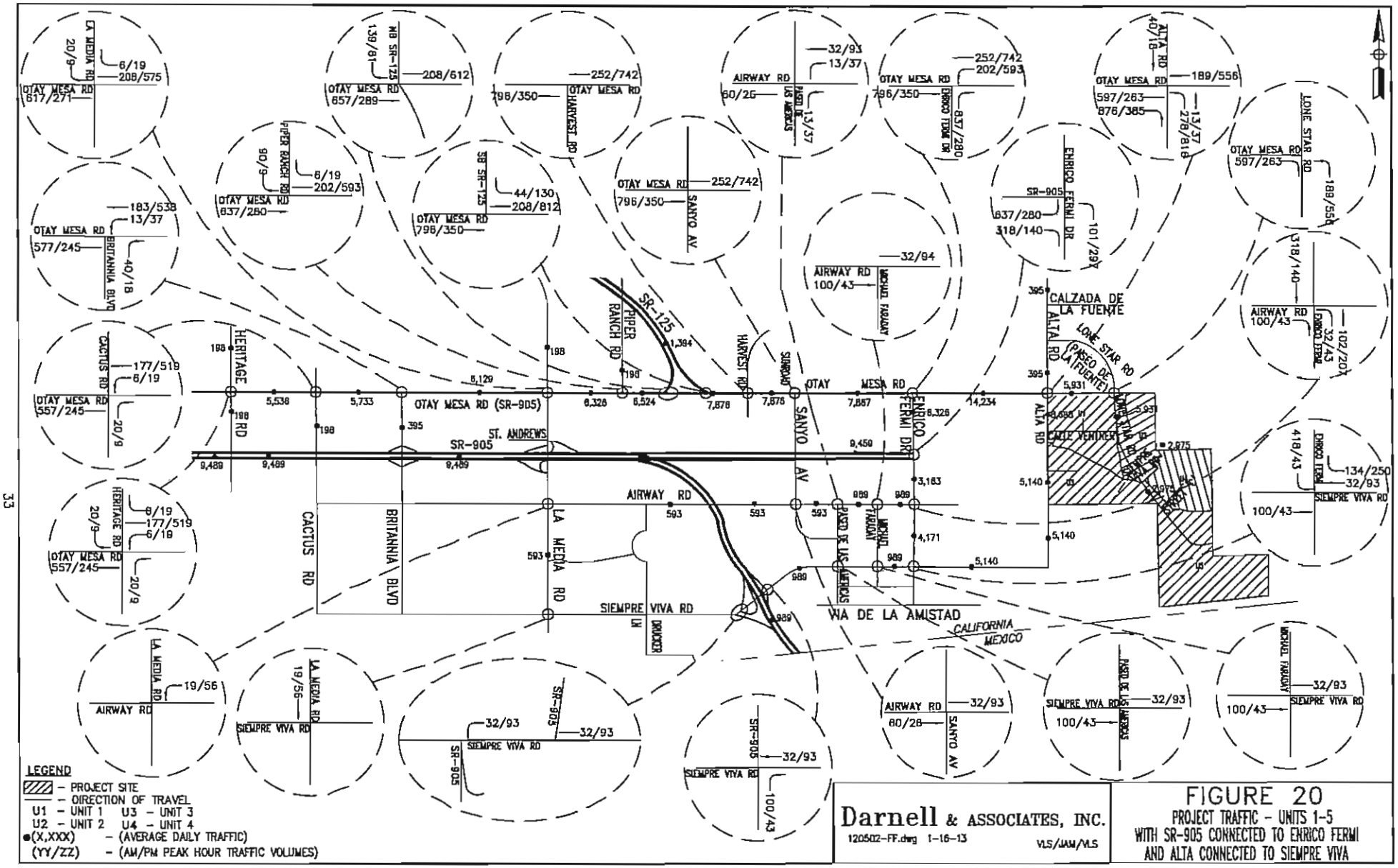
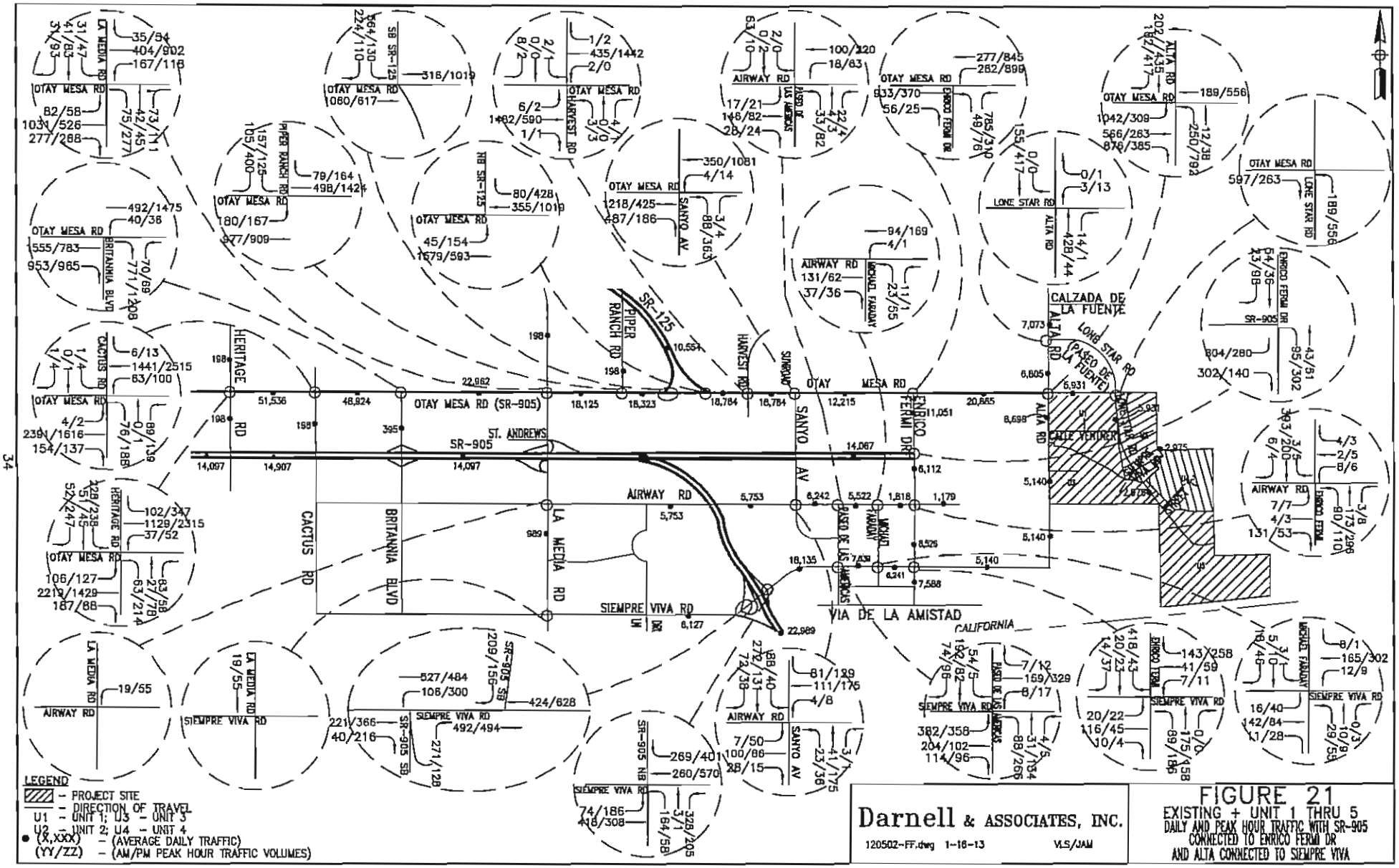


FIGURE 20
PROJECT TRAFFIC - UNITS 1-5
WITH SR-905 CONNECTED TO ENRICO FERMI
AND ALTA CONNECTED TO SIEMPRE VIVA



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120502-FF.dwg 1-16-13 VLS/JAM

FIGURE 21

EXISTING + UNIT 1 THRU 5
DAILY AND PEAK HOUR TRAFFIC WITH SR-905
CONNECTED TO ENRICO FERMI DR
AND ALTA CONNECTED TO SIEMPRE VIVA

DIRECT IMPACT ANALYSIS WITH SR-905 EXTENDED TO ENRICO FERMI DRIVE

The direct impact analysis of the revised project with SR-905 exteneded to Enrico Fermi Drive has been prepared based on the daily and peak hourly intersection volumes presented on Figures 13 thru 21. Development of Units 4 and 5 include the extension of Alta Road to Siempre Viva Road to Enrico Fermi Drive as 2 lane roadways. The analysis has been focused on the following roadways east of SR-905:

- Otay Mesa Road;
- Alta Road;
- Airway Road;
- Siempre Viva Road;
- Enrico Fermi Drive; and
- Lone Star Road.

Roadway Segments

Utilizing the existing plus project traffic volumes on Figures 15, 17, 19 and 21 the direct impacts of the project can be identified. Tables 11 thru 15 were prepared to show the daily Level of Service for the roadways with:

- Unit 1;
- Units 1 and 2;
- Units 1 thru 3;
- Units 1 thru 5

The next analysis step involves the identification of direct impacts that would occur with SR-905 extended to Enrico Fermi Drive. This analysis has been prepared due to the understanding that occupancy of any development of Units 1 thru 5 would occur after the SR-905 is extended to Enrico Fermi Drive. Figures 15, 17, 19 and 21 present the resulting daily and peak hourly traffic volumes respectively for:

- Unit 1;
- Units 1 & 2;
- Units 1 thru 3; and
- Units 1 thru 5.

Analysis of the traffic volumes for each of the conditions listed above were then preformed using the traffic volumes on Figures 15, 17, 19 and 21. Tables 13 thru 16 present the results of the analysis for each of the above development conditions with SR-905 extended to Enrico Fermi Drive. The development of Units 4 and 5 require the extension /construction of Alta Road to Siempre Viva Road and Siempre Viva Road from Alta Road to Enrico Fermi Driveto provide secondary access for the project.

Review of Tables 13 thru 16; identify the projects direct impacts that are expected to occur on the following roadway segments:

Otay Mesa Road:

- Sanyo Avenue to Enrico Fermi Drive
- Enrico Fermi Drive to Alta Road;
- Alta Road to Lone Star Road;

Alta Road:

- Otay Mesa Road to Airway Road;
- Airway Road to Siempre Viva Road;

Siempre Viva:

- Alta Road to Enrico Fermi Drive;
- Lone Star Road to Unit 4 Eastern Boundary

Lone Star Road:

- Otay Mesa Road to Unit 4 Eastern Boundary

Table 17 was then prepared to summarize the roadway mitigation required and circulation element roadways required of the project for each Unit of development with SR-905 extended to Enrico Fermi Drive.

Intersections

The next step in the analysis of the key intersections along Otay Mesa Road is the identification of recommended direct impact intersection mitigation. Utilizing the peak hourly traffic volumes presented on Figures 15, 17, 19, and 21 the peak hourly Level of Service was calculated using the Synchro 6 Intersection Capacity Software. The results of the analysis are presented on Table 18, 19 and 20. Review of Table 18, 19, 20 and 21 identifies that the project will require signal modfication, signalization and addition of travel lanes at the Otay Mesa Road intersections with Enrico Fermi Drive and at Alta Road. The impacts are based on the County of San Diego Significance Criteria.

Also presented on Table 18 is the resulting Level of Service with mitigation. Further review of Table 18 shows that with mitigation all of the intersections will operate at LOS C or better.Table 18 then was prepared to identify the required mitigation and the resulting intersection Level of Service based on the recommend signalization and additional travel lanes at the key two (2) intersections. Copies of the Synchro Worksheets are presented in Appendix E. The intersection analysis for development of the project indentified the need for signalization of Otay Mesa Road and Alta Road and addition of travel lanes. Figure 22 presents the recommended intersection improvements.

In summary the SR-905 Extension to Enrico Fermi will require roadway widening, signal improvements and the travel lanes additions presented in Figure 22 with these improvements each of the roadway segments and intersections will operate at LOS D or better.

It is noted that he Enrico Fermi Drive and SR-905 at grade intersection was assumed to be constructed by Caltrans as a signalized intersection with the following minimun number of lanes:

- One (1) Northbound Left Turn Lane;
- One (1) Northbound Through Lane;
- One (1) Southbound Through Lane;
- One (1) Southbound Right Turn Lane;
- One Eastbound Left Turn Lane; and
- One (eastbound Right Turn Lane.

Table 12 – Existing + Unit 1 Roadway Segment Daily LOS Summary With SR-905 Extended to Enrico Fermi

Roadway Segment	Jurisdiction	Class	Capacity (LOS E)	Existing 2011			Proj. Tr ADT (a)	Existing + Unit 1 (a)					
				ADT	V/C	LOS		ADT	V/C	LOS	ΔV/C	Sig	MIT/ LOS
Otay Mesa Rd (Old Otay Mesa Rd)													
SR-125 to Harvest Rd	**County**/City/Caltrans	5M(a)	47,000	14,068	0.299	A	2,472	13,348	0.284	A	-0.015	NO	
Harvest Rd to Sanyo Av	**County**/City/Caltrans	4M	37,000	14,068	0.380	A	2,472	13348	0.361	A	-0.019	NO	
Sanyo Av to Enrico Fermi Dr	**County**/City	LC	16,200	7,499	0.463	D	2,472	6,779	0.418	C	-0.044	NO	
Enrico Fermi Dr to Alta Rd	County	LC	16,200	6,651	0.411	C	6,056	12,707	0.784	E	0.374	YES	*/D
Alta Rd to Lone Star Rd	County	LC	16,200	-	-	-	NOM	NOM	-	A	-	NO	***/A(a)
Alta Road													
Otay Mesa to Airway Rd	County	LC	16,200	-	-	-	6,180	6,180	0.381	A	0.381	NO	***/C(a)
Airway Road													
SR-905 to Sanyo Av (c)	City	TC	15,000	5,160	0.344	B	185	5,345	0.356	B	0.012	NO	
Sanyo Av to Paseo de las Americas	City	4M	40,000	5,649	0.141	A	185	5,834	0.146	A	0.005	NO	
Paseo de las Americas to Michael Faraday Dr	**County**/City	4M	37,000	4,533	0.123	A	309	4,842	0.131	A	0.008	NO	
Michael Faraday Dr to Enrico Fermi Dr	**County**/City	LC	16,200	2,918	0.180	A	309	3,227	0.199	A	0.019	NO	
Enrico Fermi Dr to Airway Pl	County	4C	34,200	1,179	0.034	A	0	1,179	0.034	A	0.000	NO	
Siempre Viva Road													
SR-905 NB to Paseo de las Americas	City	6P	60,000	17,146	0.286	A	309	17,455	0.291	A	0.005	NO	
Paseo de las Americas to Michael Faraday Dr	City	4C	30,000	7,639	0.255	A	309	8,348	0.278	A	0.024	NO	
Michael Faraday Dr to Enrico Fermi Dr	City	4C	30,000	5,525	0.184	A	309	5,834	0.194	A	0.010	NO	
Enrico Fermi Dr to Airway Pl	County	LC	16,200	5,525	0.341	A	309	5,834	0.360	A	0.019	NO	
Sanyo Avenue													
Otay Mesa Rd to Airway Rd	City	4C	30,000	7,022	0.234	A	0	7,022	0.234	A	0.000	NO	
Enrico Fermi Drive													
Otay Mesa Rd to Airway Rd	County	TC	19,000	2,949	0.155	A	1	2,950	0.155	C	0.000	NO	
Airway Rd to Siempre Viva Rd	City	4M	40,000	4,355	0.109	A	309	4,664	0.117	A	0.008	NO	

City = Capacity of city segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of county segments is based on the upper limits of LOS E per the County of San Diego;

SBX = South Bay Expressway; **Bold** = Jurisdiction which capacity is based on; ADT= Average Daily Traffic; LOS= Level of Service; V/C = Volume-to LOS E Capacity Ratio; Fwy = Freeway; 6P = 6-Lane Prime Arterial;

5M = 5-Lane Major Arterial; 4M = 4-Lane Major Arterial; 4C = 4-Lane Collector; 2C= 2-Lane Collector with no fronting property; LC = Light Collector; TC = Town Collector

(a) Includes Diversion of 3,192 ADT Diverted from Otay Mesa Road to SR-905 Extension.

***Restripe to Town Collector, *** Construct ½ width of 4M to provide 2 lanes, (a) = Improvements required to comply with County Centerline Ordinance requirements.**

Table 13 – Existing + Units 1&2 Roadway Segment Daily LOS Summary With SR-905 Extended to Enrico Fermi

Roadway Segment	Jurisdiction	Class	Capacity (LOS E)	Existing 2011			Proj. Tr	Existing + Unit I & 2 (a)					
				ADT	V/C	LOS	ADT	ADT (a)	V/C	LOS	ΔV/C	Sig	MIT/ LOS
Otay Mesa Rd (Old Otay Mesa Rd)													
SR-125 to Harvest Rd	**County**/City/Caltrans	5M(a)	47,000	14,068	0.299	A	4,032	14,908	0.317	A	0.018	NO	
Harvest Rd to Sanyo Av	**County**/City/Caltrans	4M	37,000	14,068	0.380	A	4,032	14,908	0.403	B	0.023	NO	
Sanyo Av to Enrico Fermi Dr	**County**/City	LC	16,200	7,499	0.463	D	4,032	8,339	0.515	D	0.052	NO	
Enrico Fermi Dr to Alta Rd	County	LC	16,200	6,651	0.411	C	9,878	16,529	1.020	F	0.610	YES	**/B
Alta Rd to Lone Star Rd	County	LC	16,200	-	-	-	4,234	4,234	0.261	B	0.261	NO	***/C(a)
Alta Road													
Otay Mesa to Airway Rd	County	LC	16,200	-	-	-	9,878	9,878	0.610	D	0.610	NO	***/D(a)
Airway Road													
SR-905 to Sanyo Av	City	TC	15,000	5,160	0.344	B	314	5,474	0.365	B	0.021	NO	
Sanyo Av to Paseo de las Americas	City	4M	40,000	5,649	0.141	A	314	5,963	0.149	A	0.008	NO	
Paseo de las Americas to Michael Faraday Dr	**County**/City	4M	37,000	4,533	0.123	A	524	5,057	0.137	A	0.014	NO	
Michael Faraday Dr to Enrico Fermi Dr	**County**/City	LC	16,200	2,918	0.180	A	524	3,442	0.212	A	0.032	NO	
Enrico Fermi Dr to Airway Pl	County	4C	34,200	1,179	0.034	A	0	1,179	0.034	A	0.000	NO	
Siempre Viva Road													
SR-905 NB to Paseo de las Americas	City	6P	60,000	17,146	0.286	A	524	17,670	0.295	A	0.009	NO	
Paseo de las Americas to Michael Faraday Dr	City	4C	30,000	7,639	0.255	A	524	81,163	2.705	A	2.451	NO	
Michael Faraday Dr to Enrico Fermi Dr	City	4C	30,000	5,525	0.184	A	524	6,049	0.202	A	0.017	NO	
Enrico Fermi Dr to Airway Pl	County	LC	16,200	5,525	0.341	A	0	5,525	0.341	A	0.000	NO	
Sanyo Avenue													
Otay Mesa Rd to Airway Rd	City	4C	30,000	7,022	0.234	A	0	7,022	0.234	A	0.000	NO	
Enrico Fermi Drive													
Otay Mesa Rd to Airway Rd	County	TC	19,000	2,949	0.155	A	7,124	10,073	0.530	D	0.375	NO	
Airway Rd to Siempre Viva Rd	City	4M	40,000	4,355	0.109	A	524	4,879	0.122	A	0.013	NO	

City = Capacity of city segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of county segments is based on the upper limits of LOS E per the County of San Diego;

SBX = South Bay Expressway; **Bold** = Jurisdiction which capacity is based on; ADT= Average Daily Traffic; LOS= Level of Service; V/C = Volume-to LOS E Capacity Ratio; Fwy = Freeway; 6P = 6-Lane Prime Arterial;

5M = 5-Lane Major Arterial; 4M = 4-Lane Major Arterial; 4C = 4-Lane Collector; 2C= 2-Lane Collector with no fronting property; LC = Light Collector; TC = Town Collector

(a) Includes Diversion of 3,192 ADT Diverted from Otay Mesa Road to SR-905 Extension.

Restripe to Town Collector, ** Construct 4-Lane Collector Road Standards, Construct ½ width of 4M to provide 2 lanes, (a) = Improvements required to comply with County Centerline Ordinance requirements.**

Table 14 – Existing + Units 1 & 3 Roadway Segment Daily LOS Summary With SR-905 Extended to Enrico Fermi

Roadway Segment	Jurisdiction	Class	Capacity (LOS E)	Existing 2011			Proj. Tr	Existing + Unit 1 & 3 (a)					
				ADT	V/C	LOS	ADT	ADT (a)	V/C	LOS	ΔV/C	Sig	MIT/LOS
Otay Mesa Rd (Old Otay Mesa Rd)													
SR-125 to Harvest Rd	**County**/City/Caltrans	5M(a)	47,000	14,068	0.299	A	3,931	14,807	0.315	A	0.016	NO	
Harvest Rd to Sanyo Av	**County**/City/Caltrans	4M	37,000	14,068	0.380	A	3,931	14,807	0.4	B	0.02	NO	
Sanyo Av to Enrico Fermi Dr	**County**/City	LC	16,200	7,499	0.463	D	3,931	8,238	0.509	D	0.046	NO	
Enrico Fermi Dr to Alta Rd	County	LC	16,200	6,651	0.411	C	9,631	16,282	1.005	F	0.595	YES	**/B
Alta Rd to Lone Star Rd	County	LC	16,200	-	-	-	4,127	4,127	0.255	C	0.255	NO	***/C(a)
Alta Road													
Otay Mesa to Airway Rd	County	LC	16,200	-	-	-	5,700	5,700	0.352	C	0.352	NO	***/C(a)
Airway Road													
SR-905 to Sanyo Av	City	TC	15,000	5,160	0.344	A	424	5,584	0.372	A	0.028	NO	
Sanyo Av to Paseo de las Americas	City	4M	40,000	5,649	0.141	A	424	6,073	0.152	A	0.011	NO	
Paseo de las Americas to Michael Faraday Dr	**County**/City	4M	37,000	4,533	0.123	A	706	5,239	0.142	A	0.019	NO	
Michael Faraday Dr to Enrico Fermi Dr	**County**/City	LC	16,200	2,918	0.180	A	706	3,624	0.224	A	0.044	NO	
Enrico Fermi Dr to Airway Pl	County	4C	34,200	1,179	0.034	A	0	1179	0.03	A	0	NO	
Siempre Viva Road													
SR-905 NB to Paseo de las Americas	City	6P	60,000	17,146	0.286	A	706	17,852	0.298	A	0.012	NO	
Paseo de las Americas to Michael Faraday Dr	City	4C	30,000	7,639	0.255	A	706	8,345	0.278	A	0.024	NO	
Michael Faraday Dr to Enrico Fermi Dr	City	4C	30,000	5,525	0.184	A	706	6,231	0.208	A	0.024	NO	
Enrico Fermi Dr to Airway Pl	County	LC	16,200	5,525	0.341	A	0	5,525	0.341	A	0.000	NO	
Sanyo Avenue													
Otay Mesa Rd to Airway Rd	City	4C	30,000	7,022	0.234	A	0	7,022	0.234	A	0.000	NO	
Enrico Fermi Drive													
Otay Mesa Rd to Airway Rd	County	TC	19,000	2,949	0.155	A	983	3,932	0.207	A	0.052	NO	
Airway Rd to Siempre Viva Rd	City	4M	40,000	4,355	0.109	A	706	5,061	0.127	A	0.018	NO	

City = Capacity of city segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of county segments is based on the upper limits of LOS E per the County of San Diego;

SBX = South Bay Expressway; **Bold** = Jurisdiction which capacity is based on; ADT= Average Daily Traffic; LOS= Level of Service; V/C = Volume-to LOS E Capacity Ratio; Fwy = Freeway; 6P = 6-Lane Prime Arterial;

5M = 5-Lane Major Arterial; 4M = 4-Lane Major Arterial; 4C = 4-Lane Collector; 2C= 2-Lane Collector with no fronting property; LC = Light Collector; TC = Town Collector

(a) Includes Diversion of 3,192 ADT Diverted from Otay Mesa Road to SR-905 Extension.

Restripe to Town Collector; ** Construct 4-Lane Collector Road Standards,; *** Construct ½ width of 4M to provide 2 lanes, (a) = Improvements required to comply with County Centerline Ordinance requirements.**

Table 15 – Existing + Units 1 thru 3 Roadway Segment Daily LOS Summary With SR-905 Extended to Enrico Fermi

Roadway Segment	Jurisdiction	Class	Capacity (LOS E)	Existing 2011			Proj. Tr	Existing + Unit 1 thru 3 (a)					
				ADT	V/C	LOS	ADT	ADT (a)	V/C	LOS	ΔV/C	Sig	MIT.
Otay Mesa Rd (Old Otay Mesa Rd)													
SR-125 to Harvest Rd	**County**/City/Caltrans	5M(a)	47,000	14,068	0.299	A	5,491	16,367	0.348	A	0.049	NO	
Harvest Rd to Sanyo Av	**County**/City/Caltrans	4M	37,000	14,068	0.380	A	5,491	16367	0.44	B	0.062	NO	
Sanyo Av to Enrico Fermi Dr	**County**/City	LC	16,200	7,499	0.463	D	5,491	9,798	0.605	D	0.142	NO	
Enrico Fermi Dr to Alta Rd	County	LC	16,200	6,651	0.411	C	13,453	20,104	1.241	F	0.830	YES	**/B
Alta Rd to Lone Star Rd	County	LC	16,200	-	-	-	5,766	5,766	0.356	C	0.356	NO	***/C(a)
Alta Road													
Otay Mesa to Airway Rd	County	LC	16,200	-	-	-	5,700	5,700	0.352	C	0.352	NO	***/C(a)
Airway Road													
SR-905 to Sanyo Av	City	TC	15,000	5,160	0.344	C	412	5,572	0.371	C	0.027	NO	
Sanyo Av to Paseo de las Americas	City	4M	40,000	5,649	0.141	A	686	6,335	0.158	A	0.017	NO	
Paseo de las Americas to Michael Faraday Dr	**County**/City	4M	37,000	4,533	0.123	A	686	5,219	0.141	A	0.019	NO	
Michael Faraday Dr to Enrico Fermi Dr	**County**/City	LC	16,200	829	0.051	A	686	1,515	0.094	B	0.043	NO	
Enrico Fermi Dr to Airway Pl	County	4C	34,200	1,179	0.034	A	0	1179	0.03	A	0	NO	
Siempre Viva Road													
SR-905 NB to Paseo de las Americas	City	6P	60,000	17,146	0.286	A	686	17,839	0.297	A	0.011	NO	
Paseo de las Americas to Michael Faraday Dr	City	4C	30,000	7,639	0.255	A	686	8,325	0.278	A	0.023	NO	
Michael Faraday Dr to Enrico Fermi Dr	City	4C	30,000	5,525	0.184	A	686	6,211	0.207	A	0.023	NO	
Enrico Fermi Dr to Airway Pl	County	LC	16,200	5,525	0.341	A	0	5,525	0.341	C	0.000	NO	
Sanyo Avenue													
Otay Mesa Rd to Airway Rd	City	4C	30,000	7,022	0.234	A	0	7,022	0.234	A	0.000	NO	
Enrico Fermi Drive													
Otay Mesa Rd to Airway Rd	County	TC	19,000	2,949	0.155	A	1,373	4,322	0.227	C	0.072	NO	
Airway Rd to Siempre Viva Rd	City	4M	40,000	4,355	0.109	A	686	5,041	0.126	A	0.017	NO	

City = Capacity of city segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of county segments is based on the upper limits of LOS E per the County of San Diego;

SBX = South Bay Expressway; **Bold** = Jurisdiction which capacity is based on; ADT= Average Daily Traffic; LOS= Level of Service; V/C = Volume-to LOS E Capacity Ratio; Fwy = Freeway; 6P = 6-Lane Prime Arterial;

5M = 5-Lane Major Arterial; 4M = 4-Lane Major Arterial; 4C = 4-Lane Collector; 2C= 2-Lane Collector with no fronting property; LC = Light Collector; TC = Town Collector

(a) Includes Diversion of 3,192 ADT Diverted from Otay Mesa Road to SR-905 Extension.

***Restripe to Town Collector; ** Construct 4-Lane Collector Road Standards; *** Construct ½ width of 4M to provide 2 lanes, (a) = Improvements required to comply with County Centerline Ordinance requirements.**

Table 16 – Existing + Units 1 thru 5 Roadway Segment Daily LOS Summary With SR-905 with Alta and Siempre Viva Extended to Enrico Fermi

Roadway Segment	Jurisdiction	Class	Capacity (LOS E)	Existing 2011			Proj. Tr	Existing + Unit 1 thru 5 (a)					
				ADT	V/C	LOS	ADT	ADT (a)	V/C	LOS	ΔV/C	Sig	MIT/ LOS
Otay Mesa Rd (Old Otay Mesa Rd)													
SR-125 to Harvest Rd	County/City/Caltrans	5M(a)	47,000	10,876	0.231	A	7,908	18,784	0.400	B	0.169	NO	
Harvest Rd to Sanyo Av	County/City/Caltrans	4M	37,000	10,876	0.0294	A	7,908	18784	0.508	B	0.214	NO	
Sanyo Av to Enrico Fermi Dr	County/City	LC	16,200	4,307	0.266	D	7,908	12,215	0.754	E	0.488	YES	*/D
Enrico Fermi Dr to Alta Rd	County	LC	16,200	6,051	0.374	C	14,234	20,285	1.252	F	0.879	YES	**/B
Alta Rd to Lone Star Rd	County	LC	16,200	-	-	-	5,931	5,931	0.366	C	0.366	YES	***/C
Alta Road													
Otay Mesa to Airway Rd	County	LC	16,200	-	-	-	8,698	8,698	0.537	C	0.537	NO	***/C(a)
Airway Rd to Siempre Viva Rd	County	LC	16,200	-	-	-	5,140	5,140	0.317	B	0.317	YES	***/B (a)
Airway Road													
SR-905 to Sanyo Av	City	TC	15,000	5,160	0.344	A	593	5,753	0.384	B	0.040	NO	
Sanyo Av to Paseo de las Americas	City	4M	40,000	5,649	0.141	A	593	6,242	0.156	A	0.015	NO	
Paseo de las Americas to Michael Faraday Dr	County/City	4M	37,000	4,533	0.123	A	989	5,522	0.149	A	0.027	NO	
Michael Faraday Dr to Enrico Fermi Dr	County/City	LC	16,200	2,918	0.180	A	989	3,907	0.241	B	0.061	NO	
Enrico Fermi Dr to Airway Pl	County	4C	34,200	1,179	0.034	A	0	6,319	0.185	C	0.150	NO	
Siempre Viva Road													
SR-905 NB to Paseo de las Americas	City	6P	60,000	17,146	0.286	A	989	18,135	0.302	A	0.016	NO	
Paseo de las Americas to Michael Faraday Dr	City	4C	30,000	7,639	0.255	A	989	8,628	0.288	A	0.033	NO	
Michael Faraday Dr to Enrico Fermi Dr	City	4C	30,000	5,525	0.184	A	989	6,514	0.217	A	0.033	NO	
Enrico Fermi Dr to Airway Pl	County	LC	16,200	5,525	0.341	A	0	5,525	0.341	C	0.000	NO	
Enrico Fermi Dr to Alta Rd	County	LC	16,200	-	-	-	5,140	5,140	0.317	B	0.317	YES	***/B
Enrico Fermi Drive													
Otay Mesa Rd to SR-905	County	TC	19,000	4,725	0.249	A	6,326	11,051	0.581	D	0.272	NO	
SR-905 to Airway Rd	County	TC	19,000	2,949	0.155	A	6,326	9,275	0.488	A	0.333	NO	
Airway Rd to Siempre Viva	City	4m	40,000	4,355	0.109	A	4,171	8,526	0.213	A	0.104	NO	

City = Capacity of city segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of county segments is based on the upper limits of LOS E per the County of San Diego; SBX = South Bay Expressway; **Bold** = Jurisdiction which capacity is based on; ADT= Average Daily Traffic; LOS= Level of Service; V/C = Volume-to LOS E Capacity Ratio; Fwy = Freeway; 6P = 6-Lane Prime Arterial; 5M = 5-Lane Major Arterial; 4M = 4-Lane Major Arterial; 4C = 4-Lane Collector; 2C= 2-Lane Collector with no fronting property; LC = Light Collector; TC = Town Collector

(a) Includes Diversion of 3,192 ADT from Otay Mesa Road to SR-905 Extension. ***Restripe to Town Collector; ** Construct 4-Lane Collector Road Standards,*** Construct ½ width of 4M to provide 2 lanes, (a) = Improvements required to comply with County Centerline Ordinance requirements.**

Table 17 Summary of Project Direct Impact Mitigation With SR-905 Extended to Enrico Fermi Drive(a), (b)					
Roadway Segment	**Unit 1**	**Units 1 & 2**	**Units 1 & 3**	**Units 1 thru 3**	**Units 1 thru 5(b)**
Otay Mesa Road • Sanyo Ave to Enrico Fermi Drive	No Impact	No Impact	No Impact	No Impact	Restripe Otay Mesa Road to provide two 14' foot lanes and a center 12' foot lane.
LOS	C	B	B	B	B
Otay Mesa Road • Enrico Fermi Drive to Alta Road	Restripe Otay Mesa Road to provide two 14' foot lanes and a center 12' foot lane.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.
LOS	D	B	B	B	B
Otay Mesa Road • Alta Road at Lone Star Road	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)
LOS	A	C	C	C	C
Alta Road • Otay Mesa Road to Unit 1 Southern Boundary	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)
LOS	C	D	C	C	D
Alta Road • Unit 1 Southern Boundary to future Airway Road	No Impact	No Impact	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)
LOS	-	-	C	C	D
Alta Road • Airway Road to Siempre Viva Road	No Impact	No Impact	No Impact	No Impact	Construct ½ width of 4M to provide 2 lanes
LOS	-	-	-	-	
Siempre Viva Road • Alta Road to Enrico Fermi Dr.	No Impact	No Impact	No Impact	No Impact	Construct ½ width of 4L Industrial Collector to provide 2 lanes
LOS	-	-	-	-	
Siempre Viva Road • Lone Star to Unit 4 Eastern Boundry	No Impact	No Impact	No Impact	No Impact	Construct ½ width of 4M to provide two (2) lanes.
Mitigated LOS	-	-	-	-	A
Lone Star Road • Otay Mesa to South Boundary of Unit 2	No Impact	Construct ½ width of 4M to provide two (2) lanes.	No Impaet	Construct ½ width of 4M to provide two (2) lanes.	Construct ½ width of 4M to provide two (2) lanes.
Mitigated LOS	-	A	-	A	A
Lone Star Road • Unit 2 Southern Boundary to Unit 4 Eastern Boundary	No Impact	No Impact	No Impact	No Impact	Construct ½ width of 4M to provide two (2) lanes to Siempre Viva Road and ½ width of 4-lane Industrail Collector to Unit 4 Eastern Boundary.
Mitigated LOS	-	-	-	-	A

LOS = Level of Service, (a) = **Improvements required to comply with County Centerline Ordinance requirements. (b)= Includes construction of Alta Road from Airway Road to Siempre Viva Road and Siempre Viva Road from Alta Road to Enrico Fermi Drive to provide access for Units 4 and 5.**

Table 18 Existing + Units 1 thru 5 Intersection LOS Summary With SR-905 – Extended to Enrico Fermi Drive

Intersection	Existing 2011				Existing + Unit 1					Existing + Units 1-2				
	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	SIG	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	SIG
Otay Mesa Road:														
• Sanyo Avenue	4.9	A	7.6	A	4.5	A	15.7	B	NO	4.8	A	16.1	B	NO
• Enrico Fermi Drive	11.3	B	8.6	A	27	C	27.7	C	NO	22.4	C	109.6	F	YES
• Alta Road	12.5	B	9.6	A	214.6	F	53	F	YES	497.8	F	375.0	F	YES
Enrico Fermi:														
• SR-905	22.9	C	11.3	B	26.5	C	14.0	B	NO	24.4	C	13.0	B	NO
Intersection	**Existing 2011**				**Existing + Units 1-3**					**Existing + Units 1-5**				
	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	SIG	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	SIG
Otay Mesa Road: Sanyo Avenue	4.9	A	7.6	A	4.6	A	16.3	B	NO	6.5	A	28.6	C	NO
Enrico Fermi Drive	11.3	B	8.6	A	80.3	F	87.6	F	YES	174.9	F	117.4	F	YES
Alta Road	12.5	B	9.6	A	269.8	F	154.3	F	YES	1398.8	F	613.2	F	YES
Enrico Fermi: • SR-905	22.9	C	11.3	B	23.7	C	13.8	B	NO	18.6	B	26.0	C	NO

Table 19 - Mitigated Existing + Units 1 thru 5 Intersection LOS Summary With SR-905 – Extended to Enrico Fermi Drive (See Figure 22)

Intersection	Existing 2011				Existing + Unit 1					Existing + Units 1-2				
	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	SIG	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	SIG
Otay Mesa Road: Enrico Fermi Drive	11.3	B	8.6	A	22.4	C	13.2	B	NO	20.8	C	13.6	B	YES
Alta Road	12.5	B	9.6	A	11.0	B	22.0	C	YES	7.3	A	16.4	B	YES
Intersection	**Existing 2011**				**Existing + Units 1-3**					**Existing + Units 1-5**				
	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	SIG	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	SIG
Otay Mesa Road: Enrico Fermi Drive	11.3	B	8.6	A	22.5	C	14.2	B	YES	24.1	C	16.3	E	YES
Alta Road	12.5	B	9.6	A	13.4	B	27.3	C	YES	17.2	B	27.9	C	YES

Table 20 - Existing + Project Units 1 thru 5 Intersection LOS Summary With SR-905 – Extended to Enrico Fermi Drive

Roadway Segment	Traffic Control	Existing + Units 1-5					Mitigated Existing + Units 1-5			
		AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	SIG	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS
Otay Mesa Rd at:										
Sanyo Ave	Sig.	6.5	A	28.4	C	NO	-	-	-	-
Enrico Fermi	Sig.	256.4	F	190.0	F	YES	24.1	C	16.3	B
Alta Rd	AWSC	846.2	F	632.4	F	YES	30.2	C	17.2	B
Lone Star Rd	TWSC	3.1	A	6.2	B	NO	-	-	-	-
Enrico Fermi at:										
SR-905 On/Off Ramp	Sig.	14.2	B	17.9	B	NO	-	-	-	-
Siempre Viva Rd	Sig.	20.2	C	11.4	B	NO	-	-	-	-
Airway Rd	Sig.	10.6	A	8.9	A	NO	-	-	-	-
Siempre Viva Rd at:										
Paseo De Las Americas	Sig.	22.9	C	52.5	A	NO	-	-	-	-
Michael Faraday	TWSG	2.4	A	3.5	A	NO	-	-	-	-

Sig =Signal
AWSC= All Way Stop Controled
TWSC= Two Way Stop Controled

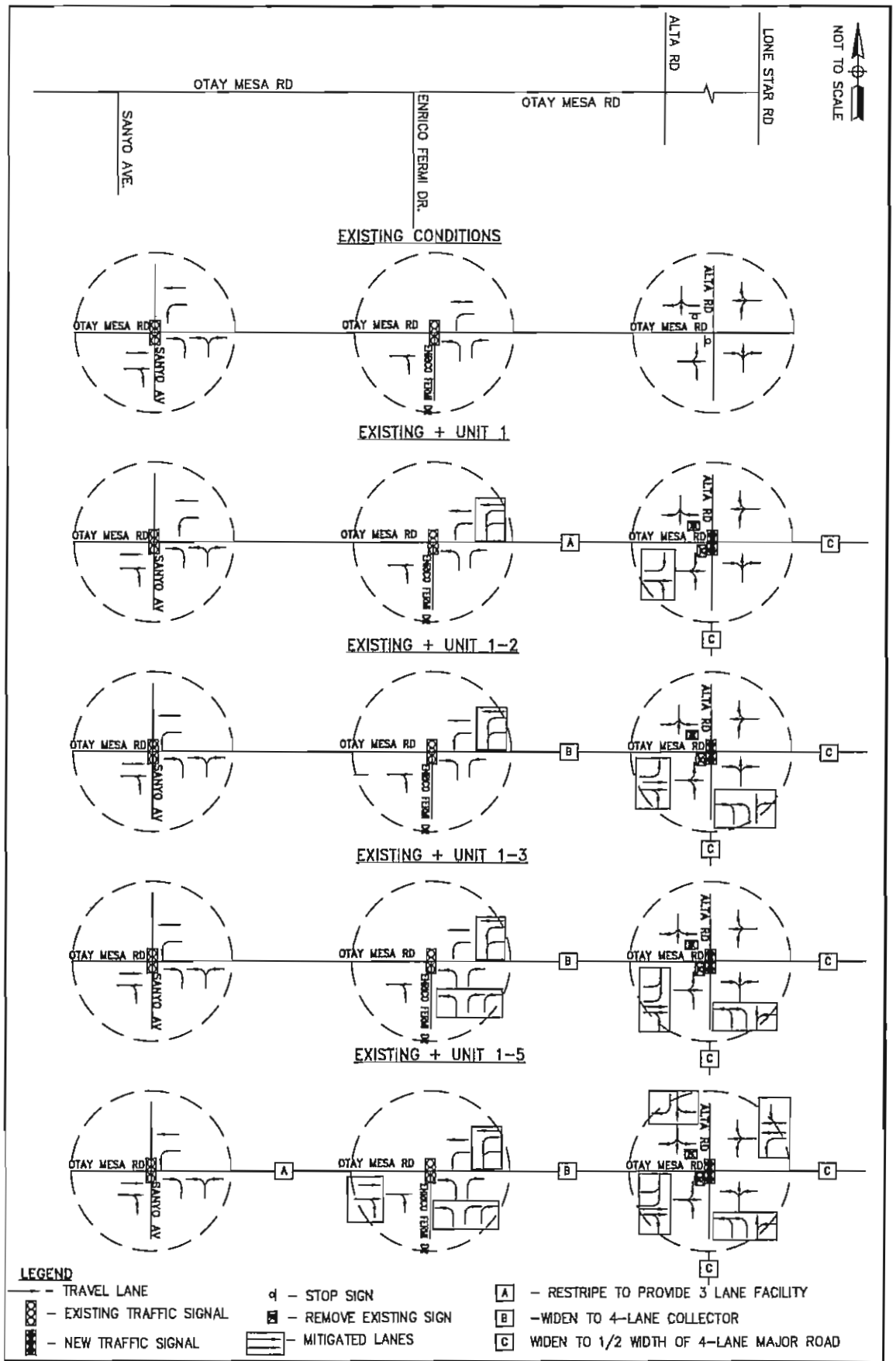

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FIGURE 22

RECOMMENDED MITIGATION WITH SR-905 EXTENSION TO ENRICO FERMI

SR-11 EXTENDED TO SIEMPRE VIVA ROAD ACCESS ALTERNATIVE

The SR-11 is proposed to be extended from SR-905 to a new Federal Port of Entry (POE) as a new four-lane tolled Highway to the new Poe at Siempre Viva Road. Interchanges are proposed to be constructed at Enrico Fermi Drive and at Siempre Viva Road. Sandag and Caltrans in partnership with the U.S. Genreal Services Administration (GSA) and the U.S. Customs and Border Proection (CBP) are respondsible for design and construction of the new POE. The SR-11 is proposed to be financed primarily through the collection of tolls or user fees. The award of the contract to construct the project is presently planned for July 2013 with completation of the project by December 2015. The construction schedule of Units 4 and 5 is similar to the Otay Crossings Commerence Park Project. The construction of the SR-11 to Siempre Viva Road provides secondary access for Units 4 and 5 of the proposed project and will eliminate the need for the Otay Crossings Commerce Park Project to construct Alta Road from Airway Road to Siempre Viva Road from Alta Road to Enrico Fermi Road.

The Constrution of SR-11 to Siempre Viva Road will provide a direct connection for project traffic to SR-905 resulting in a reduction of traffic using Otay Mesa Road, Airway Road and Siempre Viva Road to travel to/from the project site. Traffic to/from the project site for development of Units 1-5 of the project was then assigned to the surrounding roadway system with SR-11 extended to Siempre Viva Road. Figure 23 depicts the projects daily and peak hourly traffic. Approximately 43% of the projects traffic is estimated to access SR-11 at Siempre Viva Road and 5% will access SR-11 at the SR-11/Enrico Fermi Drive Interchange.

The next step in the analysis process involves the addition of project traffic presented in Figure 23 to the existing 2011 traffic volumes previously presented on Figure 13. Figure 24 was then prepared to present the exsiting plus project Units 1-5 daily and peak hourly traffic volumes. These volumes will be analyzed to determine the projects direct impacts of the projects.

ROADWAY SEGMENTS

The daily volumes presented on Figured 23 were then analyzed to show the resulting Level of Service for the surrounding roadways with full occupancy of Units 1-5 which includes truck parking in lots 43 and 44. This is a worst case condition since Truck Parking on Lots 43 and44 be removed with the construction of SR-11. The impact of adding Units 1 and 5 daily traffic to the street system with SR-11 extended to Siempre Viva Road was analyzed and the results are presented in Table 21. Also presented on Table 21 is the recommended mitigation and resulting Level of Service with the mitigation.

Review of Table 21 indentifies project impacts on the following roadway segments:

Otay Mesa Road:

- Sanyo Avenue to Enrico Fermi Drive;
- Enrico Fermi Drive to Alta Road;
- Alta Road to Lone Star Road;

Alta Road:

- Otay Mesa Road to Airway;

Siempre Viva Road:

- Lone Star Road to the Eastern Boundray of Unit 4;

Lone Star Road:

- Otay Mesa Road to the south Boundary Unit 2;
- South Boundary of Unit 2 to the Eastern Boundary of Unit 4.

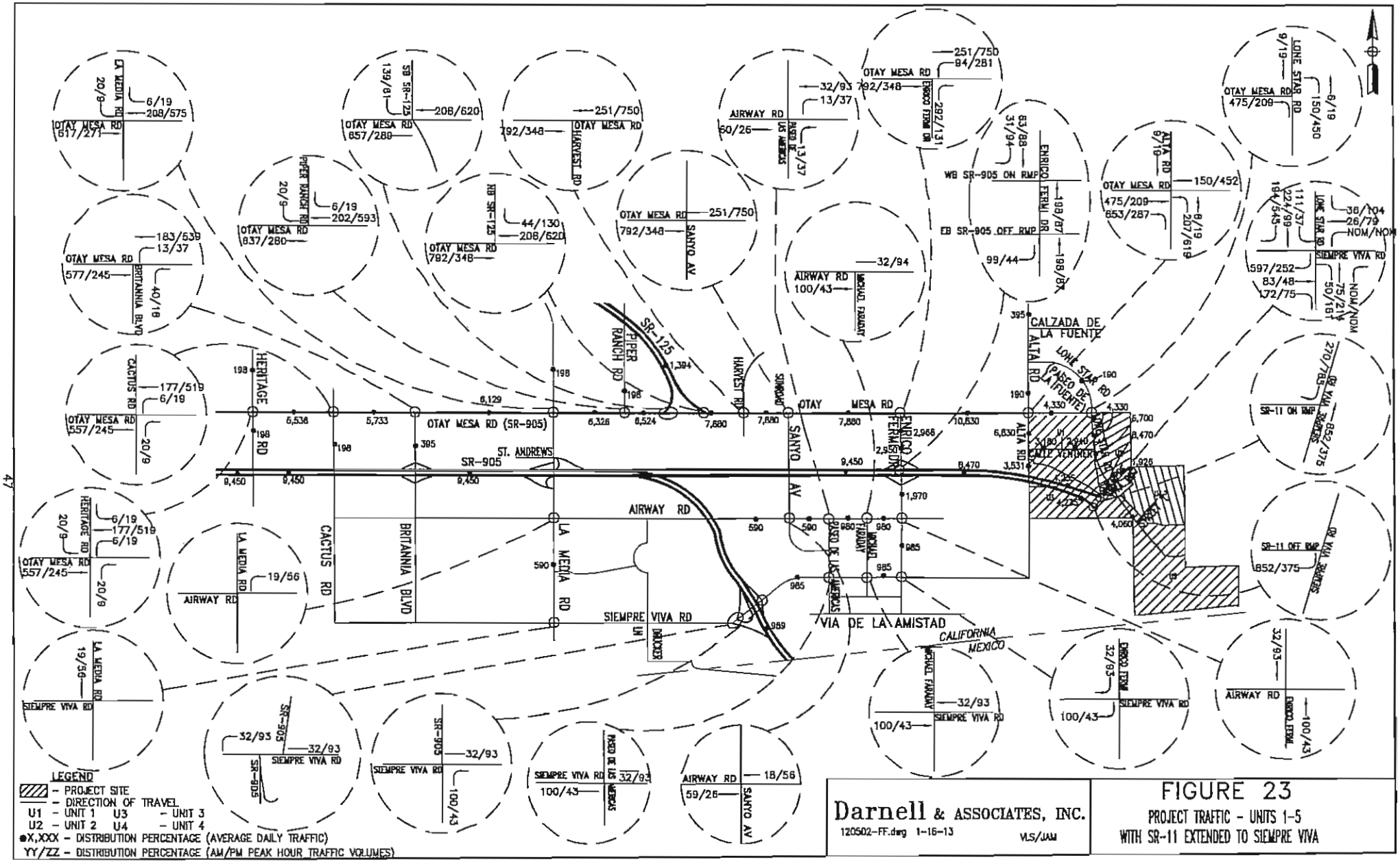

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FIGURE 23
PROJECT TRAFFIC - UNITS 1-5
WITH SR-11 EXTENDED TO SIEMPRE VIVA

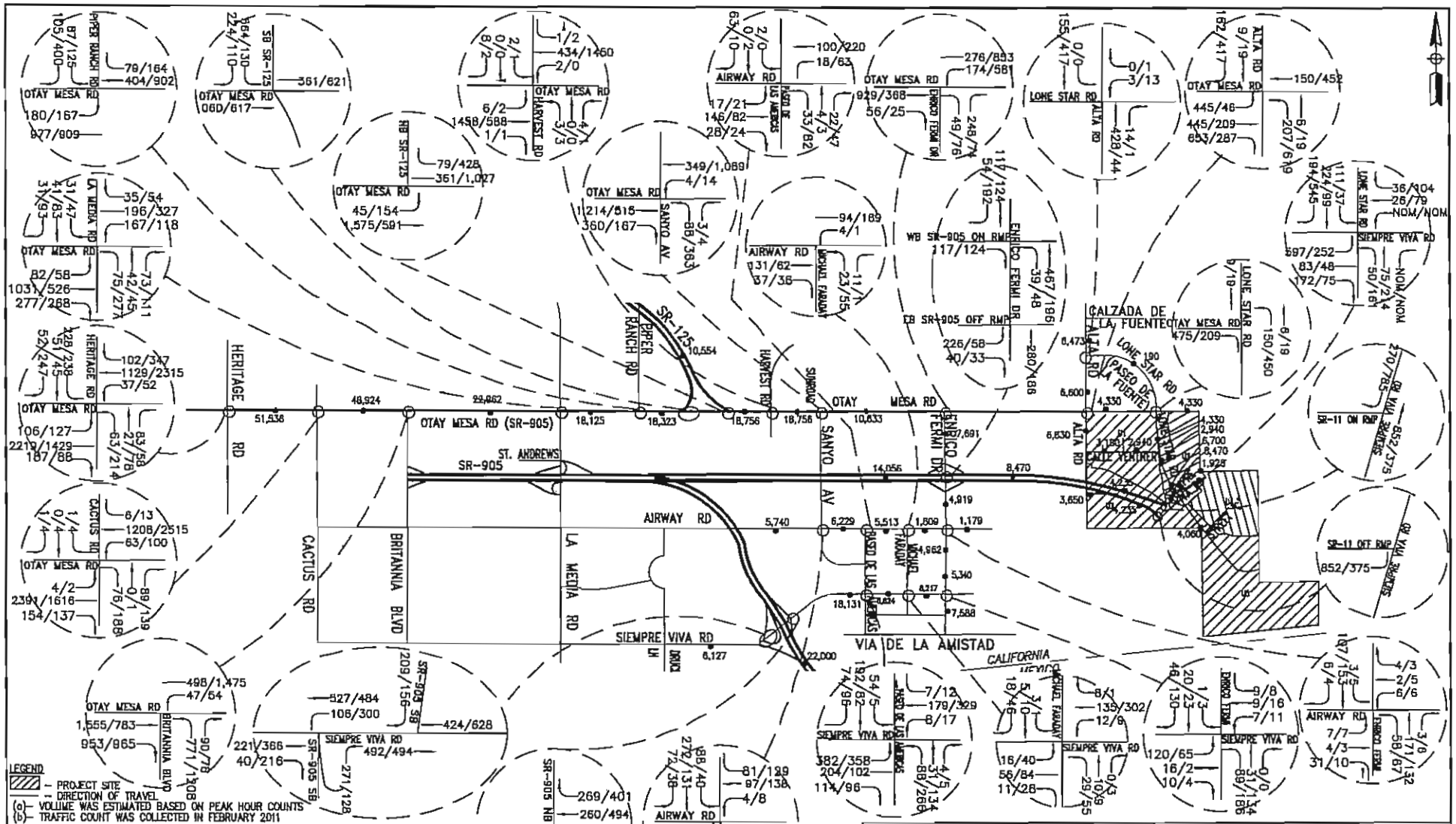


FIGURE 24
EXISTING + UNIT 1 THRU 5
DAILY AND PEAK HOUR TRAFFIC WITH
SR-11 EXTENDED TO SIEMPRE VIVA

Table 21 - Existing + Units 1 thru 5 Roadway Segment Daily LOS Summary With SR-11 Extended to Siempre Viva

Roadway Segment	Jurisdiction	Class	Capacity (LOS E)	Existing 2011			Proj. Tr	Existing + Unit 1 thru 5 (a)					
				ADT	V/C	LOS	ADT	ADT (a)	V/C	LOS	ΔV/C	Sig	MIT/ LOS
Otay Mesa Rd (Old Otay Mesa Rd)													
SR-125 to Harvest Rd	**County/City/Caltrans**	5M(a)	47,000	10,876	0.231	A	7,880	18,756	0.399	B	0.168	NO	
Harvest Rd to Sanyo Av	**County/City/Caltrans**	4M	37,000	10,876	0.0294	A	7,880	18,756	0.507	B	0.1846	NO	
Sanyo Av to Enrico Fermi Dr	**County/City**	LC	16,200	4,307	0.266	D	7,880	12,187	0.752	E	0.486	YES	*/D
Enrico Fermi Dr to Alta Rd	County	LC	16,200	6,651	0.411	C	10,830	17,481	1.079	F	0.668	YES	**/B
Alta Rd to Lone Star Rd	County	LC	16,200	-	-	-	4,330	4,330	0.267	C	0.267	YES	***/C(a)
Alta Road													
Otay Mesa to Airway Rd	County	LC	16,200	-	-	-	6,830	6,830	0.537	C	0.423	NO	***/C(a)
Airway Road													
SR-905 to Sanyo Av	City	TC	15,000	5,160	0.344	A	590	5,750	0.383	B	0.040	NO	
Sanyo Av to Paseo de las Americas	City	4M	40,000	5,649	0.141	A	590	6,239	0.156	A	0.015	NO	
Paseo de las Americas to Michael Faraday Dr	**County/City**	4M	37,000	4,533	0.123	A	980	5,513	0.149	A	0.027	NO	
Michael Faraday Dr to Enrico Fermi Dr	County/City	LC	16,200	2,918	0.180	A	980	3,898	0.241	B	0.061	NO	
Siempre Viva Road													
SR-905 NB to Paseo de las Americas	City	6P	60,000	17,146	0.286	A	985	18,131	0.302	A	0.016	NO	
Paseo de las Americas to Michael Faraday Dr	City	4C	30,000	7,639	0.255	A	985	8,624	0.032	A	0.033	NO	
Michael Faraday Dr to Enrico Fermi Dr	City	4C	30,000	5,525	0.184	A	985	6,510	0.033	A	0.033	NO	
Enrico Fermi Dr to Airway Pl	County	LC	16,200	5,525	0.341	A	0	5,525	0.341	C	0.000	NO	
Enrico Fermi Dr to Alta Rd	County	LC	16,200	-	-	-	2,966	7,691	0.0	0	0.0	NO	
Enrico Fermi Drive													
Otay Mesa Rd to SR-905	County	TC	19,000	4,725	0.249	A	6,326	7,691	0.405	A	0.156	NO	
SR-905 to Airway Rd	County	TC	19,000	2,949	0.155	A	1,970	4,919	0.259	A	0.104	NO	
Airway Rd to Siempre Viva	City	4m	40,000	4,355	0.109	A	985	5,340	0.1334	A	0.024	NO	

City = Capacity of city segments is based on the upper limits of LOS E per the City of San Diego; County = Capacity of county segments is based on the upper limits of LOS E per the County of San Diego; SBX = South Bay Expressway; **Bold** = Jurisdiction which capacity is based on; ADT= Average Daily Traffic; LOS= Level of Service; V/C = Volume-to LOS E Capacity Ratio; Fwy = Freeway; 6P = 6-Lane Prime Arterial; 5M = 5-Lane Major Arterial; 4M = 4-Lane Major Arterial; 4C = 4-Lane Collector; 2C= 2-Lane Collector with no fronting property; LC = Light Collector; TC = Town Collector

(a) Includes Diversion of 3,192 ADT from Otay Mesa Road to SR-905 Extension. ***Restripe to Town Collector; ** Construct 4-Lane Collector Road Standards,*** Construct ½ width of 4M to provide 2 lanes, (a) = Improvements required to comply with County Centerline Ordinance requirements.**

Table 22 summarizes the recommended improvements for Units 1-5 including construction of roadways with the project.

Table 22 - Summary of Project Roadway Segment Direct Impact Mitigation for Units 1 thru 5 with SR-11 Extended to Siempre Viva Road		
Roadway Segment	Mitigation	LOS
Otay Mesa Rd (Old Otay Mesa Rd)		
Sanyo Av to Enrico Fermi Dr	Restripe Otay Mesa Road to provide two (2) 14 foot Travel Lanes and a center 12 foot Travel Lane	D
Enrico Fermi Dr to Alta Rd	Widen Otay Mesa Road to 4-Lane Collector Road standards with Left Turn lanes at Intersection.	B
Alta Rd to Lone Star Rd	Construct ½ width of 4-Lane Major Road to provide two (2) Lanes	C
Alta Road		
Otay Mesa to Airway Rd	Construct ½ width of 4-Lane Major Road to provide two (2) Lanes	C
Lone Star Road		
Otay Mesa Road to Siempre Viva Road	Construct ½ width of 4-Lane Major Road to provide two (2) Lanes	A
Siempre Viva Road to Eastern Project Boundary	Construct ½ width of 4-Lane Industrail Collecter Road to provide two (2) Lanes	A

INTERSECTIONS

The next step in the analysis process involves the analysis of the AM and PM Peak Hour traffic volumes for the existing plus Unit 1-5 project traffic volumes presented on Figure 24. The analysis has been focused on eleven (11) intersections on Otay Mesa Road, Enrico Fermi, Siempre Viva Road and Lone Star Road. Table 23 summarizes the resulting level of service and identification of direct impact intersections that require mitigation.

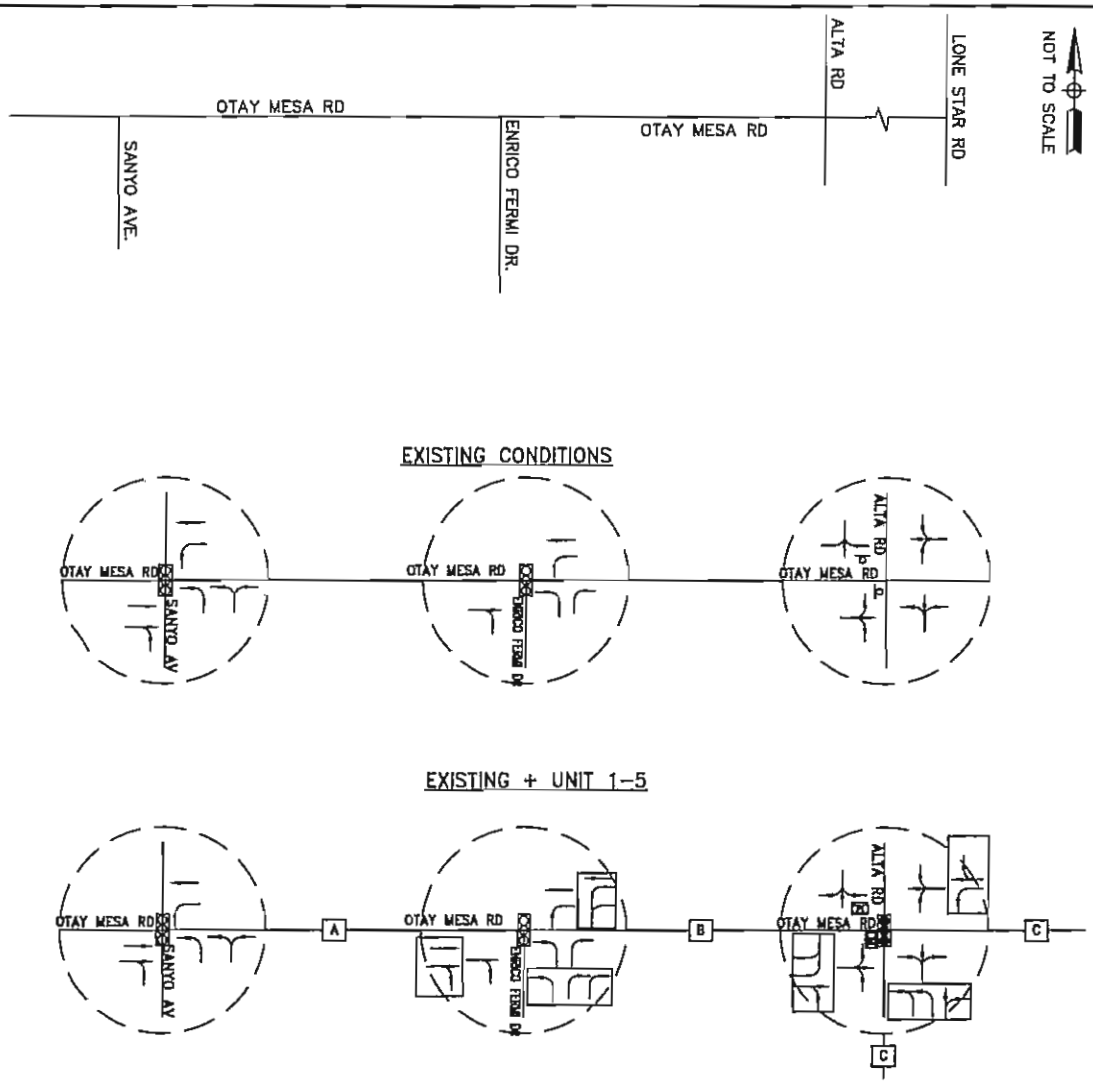
Also presented on Table 23 is the level of service with mitigation. As shown on Table 23 the Otay Mesa Road intersections at Enrico Fermi Drive and Alta Road have direct Impacts that require mitigation. With mitigation the intersections will operate at a LOS B or better.

Figure 25 was then prepared to show the recommended roadway and intersection improvements along Otay Mesa Road from Sanyo Avenue to Alta Road

Table 23 - Existing + Project Units 1 thru 5 Intersection LOS Summary With SR-11 Extended to Siempre Viva Rd.

Roadway Segment	Jurisdiction	Traffic Control	Existing + Units 1-5					Mitigated Existing + Units 1-5			
			AM Delay veh/sec	LOS	PM Delay veh/sec	LOS	SIG	AM Delay veh/sec	LOS	PM Delay veh/sec	LOS
Otay Mesa Rd at:											
Sanyo Ave	County/City	Sig.	5.4	A	28.6	C	NO	-	-	-	-
Enrico Fermi	County	Sig.	32.3*	C	26.8	C	YES *	29.5	C	18.5	B
Alta Rd	County	Sig.	518.2	F	266.0	F	YES	34.8	B	43.6	D
Lone Star Rd	County	TWSC	2.3	A	9.1	A	NO	-	-	-	-
Enrico Fermi at:											
SR-11 WB On/Off Ramp	Caltrans/County	Sig.	4.6	A	4.0	A	NO	-	-	-	-
SR-11 EB On/Off Ramp	Caltrans/County	Sig.	8.4	A	4.8	A	NO	-	-	-	-
Siempre Viva Rd	County/City	Sig.	12.5	A	10.2	A	NO	-	-	-	-
Airway Rd	County/City	Sig.	8.4	A	7.9	A	NO	-	-	-	-
Siempre Viva Rd at:											
Paseo De Las Americas	City	Sig.	21.4	C	50.4	D	NO	-	-	-	-
Michael Faraday	City	TWSC	3.1	A	3.6	A	NO	-	-	-	-
Lone Star Rd at:											
Siempre Viva Rd	County	AWSC	33.5	D	15.1	C	NO	-	-	-	-

Sig =Signal
AWSC= All Way Stop Controled
TWSC= Two Way Stop Controled
* Requires 2EB Left



LEGEND

- TRAVEL LANE
- EXISTING TRAFFIC SIGNAL
- NEW TRAFFIC SIGNAL
- STOP SIGN
- REMOVE EXISTING SIGN
- MITIGATED LANES
- A – RESTRIPE TO PROVIDE 3 LANE FACILITY
- B – WIDEN TO 4-LANE COLLECTOR
- C – WIDEN TO 1/2 WIDTH OF 4-LANE MAJOR ROAD

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FIGURE 25

UNIT 1-5 RECOMMENDED MITIGATION WITH SR-11 EXTENSION TO SIEMPRE VIVA ROAD

RECOMMENED ON-SITE IMPROVEMENTS

The development of the Otay Crossings Commerce Park will be developed by unit. With Unit 1 and 3 the project will construct frontage improvements along Otay Mesa Road and Alta Road. The recommended improvements are shown on Figure 22 for the traffic conditions with SR-905 extended to Enrico Fermi Drive and Figure 25 with SR-11 extended to Siempre Viva Road. Figure 26 identiifes the the projects recommended on-site improvements, classification of the roads and show the recommended intersection geometrics.

Development of the roads within the project site are planned to be consisitant with the County of San Diego Circulation Element and Standards.

CUMULATIVE IMPACTS AT CITY OF SAN DIEGO INTERSECTIONS

The Traffic Study for the approved project TM 5405 RPL7, EIR 93-19-0060 indentified cumulative impacts at the following intersections in the City of San Diego:

- Airway Road at Sanyo Avenue
- Siempre Viva Road at Michael Faraday Drive

The fair share percentages were based on the opening of SR-905 to I-805.

The contribution of project traffic to the intersections could be with the extension of SR-905 to Enrico Fermi Drive and with the extension of SR-11 to Siempre Viva Road. The construction of either or both these facilities would significantly reduce project traffic on Siempre Viva Road west of Enrico Fermi Drive by providing alternate access to reach SR-905. Previously agreed to fair share percentages are 6.4% for the Airway Road and Sanyo Avenue intersection and 26.4% for the Siempre Viva Road and Paseo De Las Americas intersection.

Examination of the March 14, 2011 fair share memorandum on Table 2 identified the 2020 cumulative peak hour volumes as well as the project traffic that was used to calculate the projects fair share. Review of Table 2 showed 7,335 PM Peak Hour vehicles entering the intersection with 1,810 of those vehicles identified to be project traffic resulting in a project fair share percentage of 26.4% (1,810 / 7,335 * 100% = 26.4%). With the SR-905 extension to Enrico Fermi Drive and/ or construction of SR-11 to Siempre Viva Road the PM Peak Hour project traffic will be reduced from 1,810 vehicles to 137 vehicles. This reduction results in the 7,335 total vehicles being reduced to 5,662 (7,335 – 1,810 + 137 = 5,662). The projects fair share calculation with the reduced project traffic results in 2.4% (137 / 5,662) for the Siempre Viva Road at Michael Faraday Drive intersection.

For the Airway Road/ Sanyo Avenue intersections similar calculations were perfomed utilizes the PM Peak Hour volumes of 2,592 and 119 project trips. The project fair share percentages calculation results in the projects fair share to be 4.5% (119 / (2,592 – 89 + 119) = 4.5%).

In summary the projects fair share percentages are:

- Airway Road at Sanyo Avenue = 4.5%
- Siempre Viva Road at Michael Faraday Drive = 2.4%

These are the recommended revised fair share percentage.

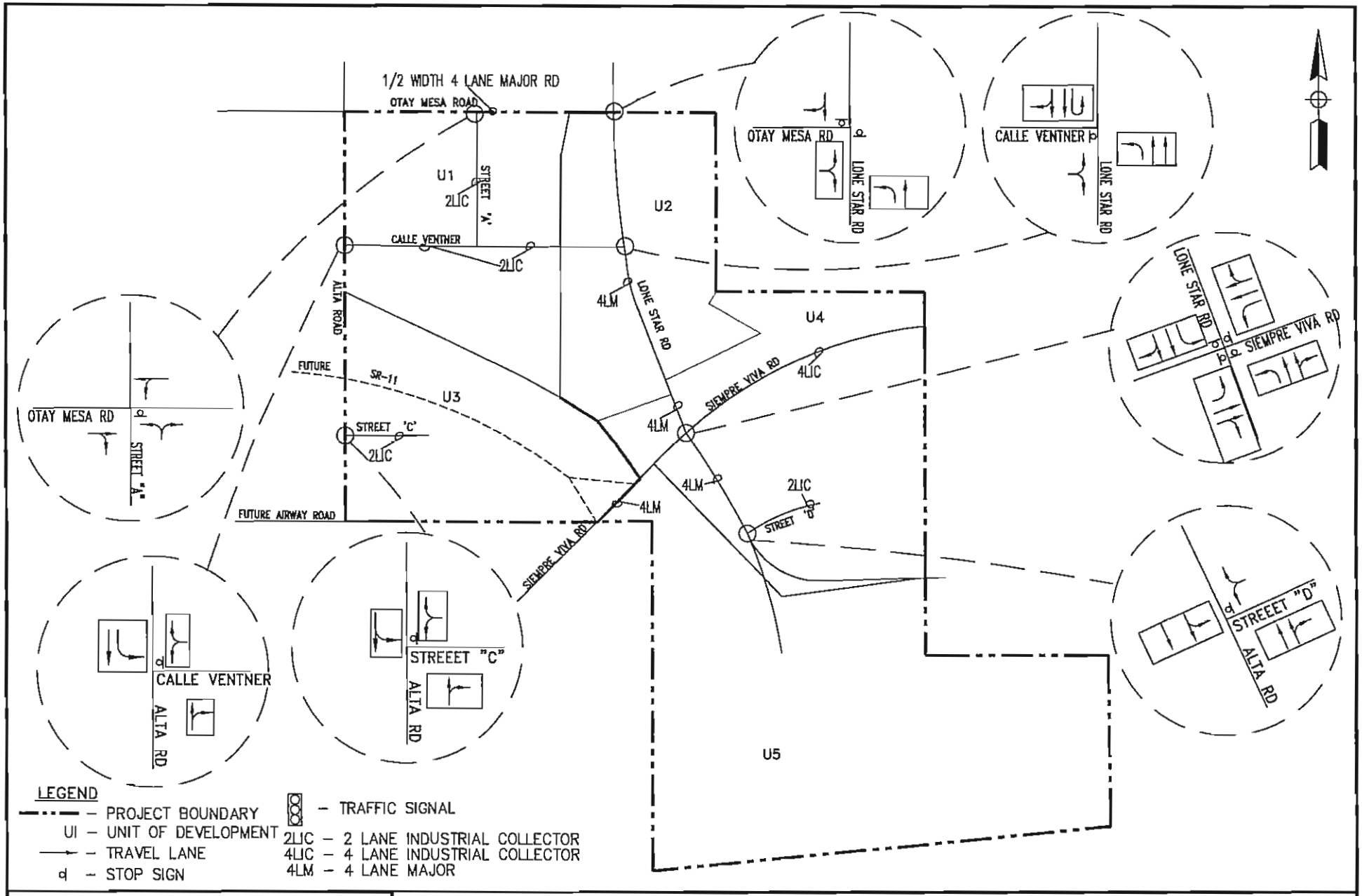

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FIGURE 26

RECOMMENDED PROJECT ONSITE IMPROVEMENTS

RECOMMENDED CHANGES TO APPROVED CONDITIONS TM 5405 RPL 7R

The Public Worked Conditions for development of the project dated October 7, 2011 contained in the Resolution of the County of San Diego Conditionally approving the project were reviewed to identify changes in the conditions to accommodate proposed revisions to the project presented on TM 5405 RPL 7R.

A memorandum containing the suggested changes has been prepared and will be submitted as a separate submittal. The memorandum presents changes with and without the SR-905 extended to Enrico Fermi Drive and includes conditions for Units 4 and 5 with SR-11 extended to Siempre Viva Road.

SUMMARY OF FINDINGS AND CONCLUSIONS

The revised project will result in less traffic than the approved project. Table 3 provides a summary and comparison of traffic generation. Analysis of Year 2011 traffic volumes plus the project found that the revised project would reduce the projects direct impacts to Otay Mesa Road between Sanyo Avenue and Alta Road. The impacts to Otay Mesa Road would be changed as shown on Table 9, Unit 1 Otay Mesa Road between Sanyo Avenue and Alta Road the previous condition to widen the road to 4-lanes has been reduced to provide two 14' foot lanes and a center 12' foot lane.

Development of Units 4 and 5 will require the offsite extension Alta Road to Siempre Viva Road and Siempre Viva Road to Enrico Fermi Drive. The recommended improvements consist of constructing ½ width of a 4-lane Major Road to provide two (2) travel lanes. This improvement is required with and without the SR-905 extension to Enrico Fermi Drive. If the SR-11 is extended to Siempre Viva Road those facilities are not required.

In addition to the above improvements intersection signalization and travel lanes depicted on Figure 22 are required to mitigate the projects impacts.

The construction of the SR-905 Extension connection to Enrico Fermi Drive will result in a reduction of traffic volumes along Otay Mesa Road to the west of Enrico Fermi Drive. It is estimated that 48 percent of existing traffic and project traffic east of Enrico Fermi Drive will utilize the SR-905 at-grade intersection. The extension of SR-905 to Enrico Fermi Drive is expected to further reduce the projects direct impacts to Otay Mesa Road between Sanyo Avenue and Enrico Fermi Drive by diverting traffic from Otay Mesa Road east of Enrico Fermi Drive to the new SR-905 extension. This diversion of existing and project traffic reduces the projects impacts to provide the improvements listed on Table 17 and the intersection improvements presented in Figure 22.

Development of Units 1 thru 3 with the SR-905 extension results in no impact to Otay Mesa Road between Sanyo Avenue and Enrico Fermi Drive. For Units 4 and 5 Otay Mesa Road between Sanyo Avenue and Enrico Fermi Drive requires the road to be restriped to provide two 14' foot travel lanes and a 12' foot center lane.

Between Enrico Fermi Drive and Alta Road the Unit 1 Mitigation requires the restriping of Otay Mesa Road to provide two 14' foot travel lanes and a 12' foot center lane. Development of Units 2 thru 5 requires that Otay Mesa Road be widened to 4-lane Collector Road Standards between Enrico Fermi Drive to Alta Road with turn lanes at driveways and intersections.

This focused traffic study has provided analysis to recommend changes in project direct impact mitigations based on updated traffic volumes and alternative conditions with proposed circulation system improvements to be constructed by Caltrans. The updated analysis has been prepared for the following:

- SR-905 1A and 1B open to Traffic
- SR-905 extended to Enrico Fermi Drive with an at-grade intersection
- Construction of SR-11 from SR-905 to Siempre Viva Road at the proposed New Port of Entry

Recommended Direct Impact Mitigation improvements for each condition listed above have been identified for the above three conditions. The recommended improvements include the construction of on-site roadways presented on Tables 24, 25, and 26 and on-site intersection improvements presented on Figure 26.

Direct Impact Mitigation with SR-905 1A and 1B completed:

The mitigation of project roadway segment direct impacts by project phase with SR-905 1A and 1B open to traffic are presented in Table 24. Table 24 identifies the direct impacts by roadway segment for each phase of development. Table 24 also identifies the on-site circulation element roads and the required improvements.

The mitigation improvements for intersection direct impacts are presented on Figure 27 for Otay Mesa Road intersections at Sanyo Avenue, Enrico Fermi Drive and Alta Road. The recommended mitigation is presented by project phase. With Phase 1 development the signalization of the Otay Mesa Road and Alta Road intersection is identified with the restriping of Otay Mesa Road to add and eastbound left turn lane and extension of Otay Mesa Road east of Alta Road and extension of Alta Road south of Otay mesa Road. Figure 27 also identifies the signalization and additional traffic lanes that are required for each additional phase of development. The mitigation is based on the project proceeding with development and does not assume the Caltrans SR-905 extension and/or the SR-11 extension are constructed.

Direct Impact Mitigation with SR-905 Extended to Enrico Fermi Drive.

The mitigation measures required to mitigate the project direct impacts assume the extension of the SR-905 to Enrico Fermi is under construction. With this improvement the projects roadway segments direct impacts and recommended improvements were identified. Table 25 presents the recommended improvements by project phase with SR-905 extended to Enrico Fermi Drive.The projects intersection direct impact mitigation is presented in Figure 28. The signalization and additional travel lanes are presented.

Table 24 Summary of Project Direct Roadway Segment Impact Mitigation With+ SR-905 1A & 1B Completed					
Roadway Segment	**Unit 1**	**Units 1 & 2**	**Units 1 & 3**	**Units 1 thru 3**	**Units 1 thru 5(b)**
Otay Mesa Road • Sanyo Ave to Enrico Fermi Drive	Restripe Otay Mesa Road to provide two 14' foot lanes and a center 12' foot lane.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.
Otay Mesa Road • Enrico Fermi Drive to Alta Road	Restripe Otay Mesa Road to provide two 14' foot lanes and a center 12' foot lane.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.
Otay Mesa Road • Alta Road at Lone Star Road	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)
Alta Road • Otay Mesa Road to Unit 1 Southern Boundary	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)
Alta Road • Unit 1 Southern Boundary to Airway Road	No Impact	No Impact	No Impact	No Impact	Construct ½ width of 4M to provide two (2) lanes. (a)
Airway Road • Airway Place to Alta Road	No Impact	No Impact	No Impact	No Impact	Construct ½ width of 4M to provide 2 lanes
Siempre Viva Road • Alta Road to Enrico Fermi Dr.	No Impact	No Impact	No Impact	No Impact	Construct ½ width of 4L Industrial Collector to provide 2 lanes
Siempre Viva Road • Lone Star to Unit 4 Eastern Boundry	No Impact	No Impact	No Impact	No Impact	Construct ½ width of 4M to provide two (2) lanes.
Lone Star Road • Otay Mesa to South Boundary of Unit 2	No Impact	Construct ½ width of 4M to provide two (2) lanes.	No Impact	Construct ½ width of 4M to provide two (2) lanes.	Construct ½ width of 4M to provide two (2) lanes.
Lone Star Road • Unit 2 Southern Boundary to Unit 4 Eastern Boundary	No Impact	No Impact	No Impact	No Impact	Construct ½ width of 4M to provide two (2) lanes to Siempre Viva Road and ½ width of 4-lane Industrail Collector to Unit 4 Eastern Boundary.
LOS = Level of Service, **(a) = Improvements required to comply with County Centerline Ordinance requirements.**					

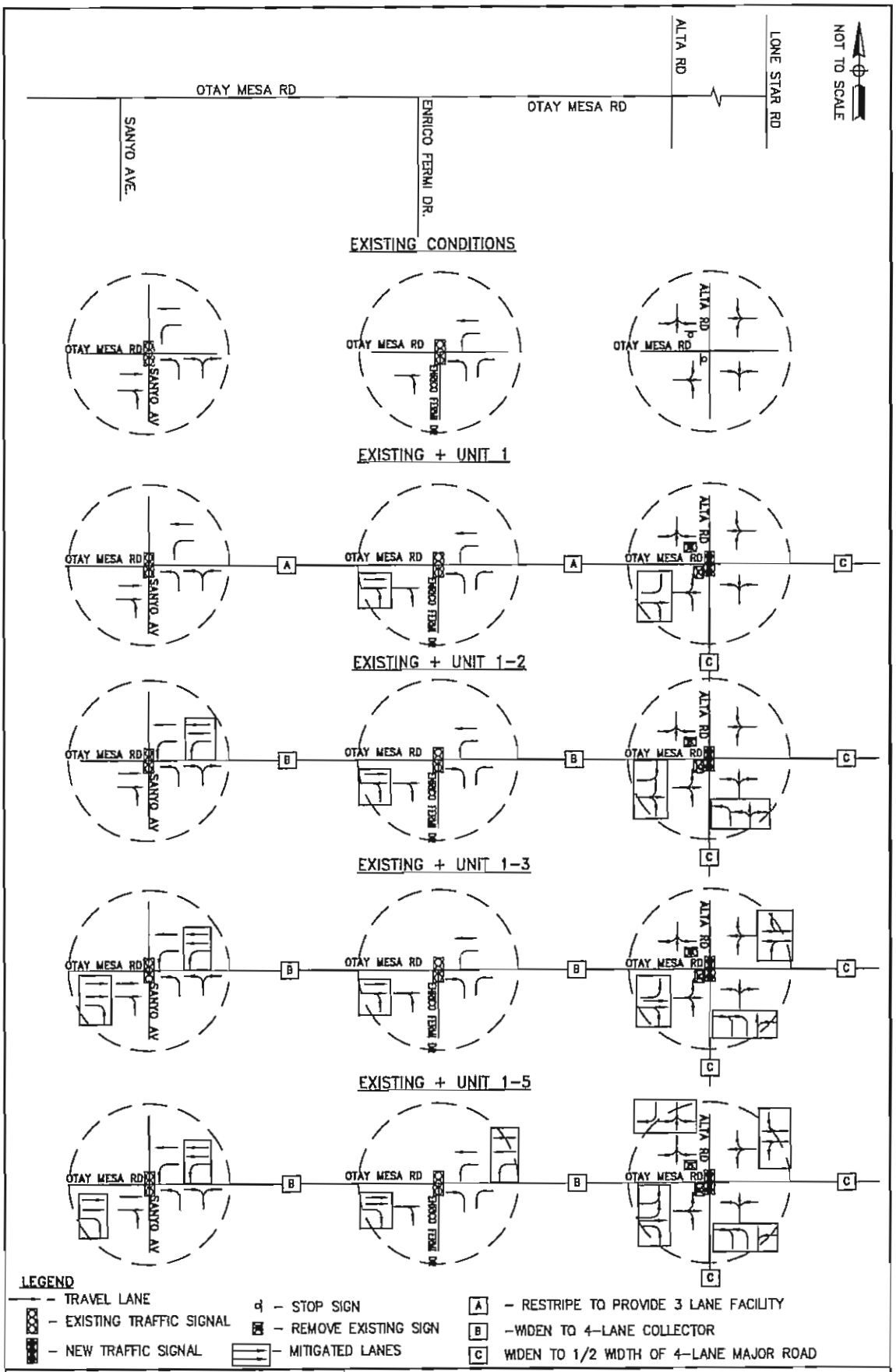

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FIGURE 27

RECOMMENDED MITIGATION WITH SR-905 1A AND 1B OPEN TO TRAFFIC

Table 25 Summary of Project Direct Impact Mitigation With SR-905 Extended to Enrico Fermi Drive (a), (b)					
Roadway Segment	**Unit 1**	**Units 1 & 2**	**Units 1 & 3**	**Units 1 thru 3**	**Units 1 thru 5(b)**
Otay Mesa Road • Sanyo Ave to Enrico Fermi Drive	No Impact	No Impact	No Impact	No Impact	Restrip Otay Mesa Road to provide two 14' foot lanes and a center 12' foot lane
Otay Mesa Road • Enrico Fermi Drive to Alta Road	Restripe Otay Mesa Road to provide two 14' foot lanes and a center 12' foot lane.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.	Widen Otay Mesa Road to 4-Lane Collector Road Standards with left turn lanes at intersection.
Otay Mesa Road • Alta Road at Lone Star Road	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)
Alta Road • Otay Mesa Road to Unit 1 Southern Boundary	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)
Alta Road • Unit 1 Southern Boundary to Airway Road (a)	No Impact	No Impact	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)	Construct ½ width of 4M to provide two (2) lanes. (a)
Alta Road • Airway Road to Siempre Viva Road	No Impact	No Impact	No Impact	No Impact	Construct ½ width of 4M to provide 2 lanes
Siempre Viva Road • Alta Road to Enrico Fermi Dr.	No Impact	No Impact	No Impact	No Impact	Construct ½ width of 4M to provide 2 lanes
Siempre Viva Road • Lone Star to Unit 4 Eastern Boundry	No Impact	No Impact	No Impact	No Impact	Construct ½ width of 4L Industrial Collector to provide two (2) lanes.
Lone Star Road • Otay Mesa to South Boundary of Unit 2	No Impact	Construct ½ width of 4M to provide two (2) lanes.	No Impact	Construct ½ width of 4M to provide two (2) lanes.	Construct ½ width of 4M to provide two (2) lanes.
Lone Star Road • Unit 2 Southern Boundary to Unit 4 Eastern Boundary	No Impact	No Impact	No Impact	No Impact	Construct ½ width of 4M to provide two (2) lanes to Siempre Viva Road and ½ width of 4-lane Industrail Collector to Unit 4 Eastern Boundary.
LOS = Level of Service, (a) = **Improvements required to comply with County Centerline Ordinance requirements. (b)= Includes construction of Alta Road from Airway Road to Siempre Viva Road and Siempre Viva Road and Siempre Viva Road from Alta Road to Enrico Fermi Drive to provide access for Units 4 and 5. 4M= 4 Lane Major.**					

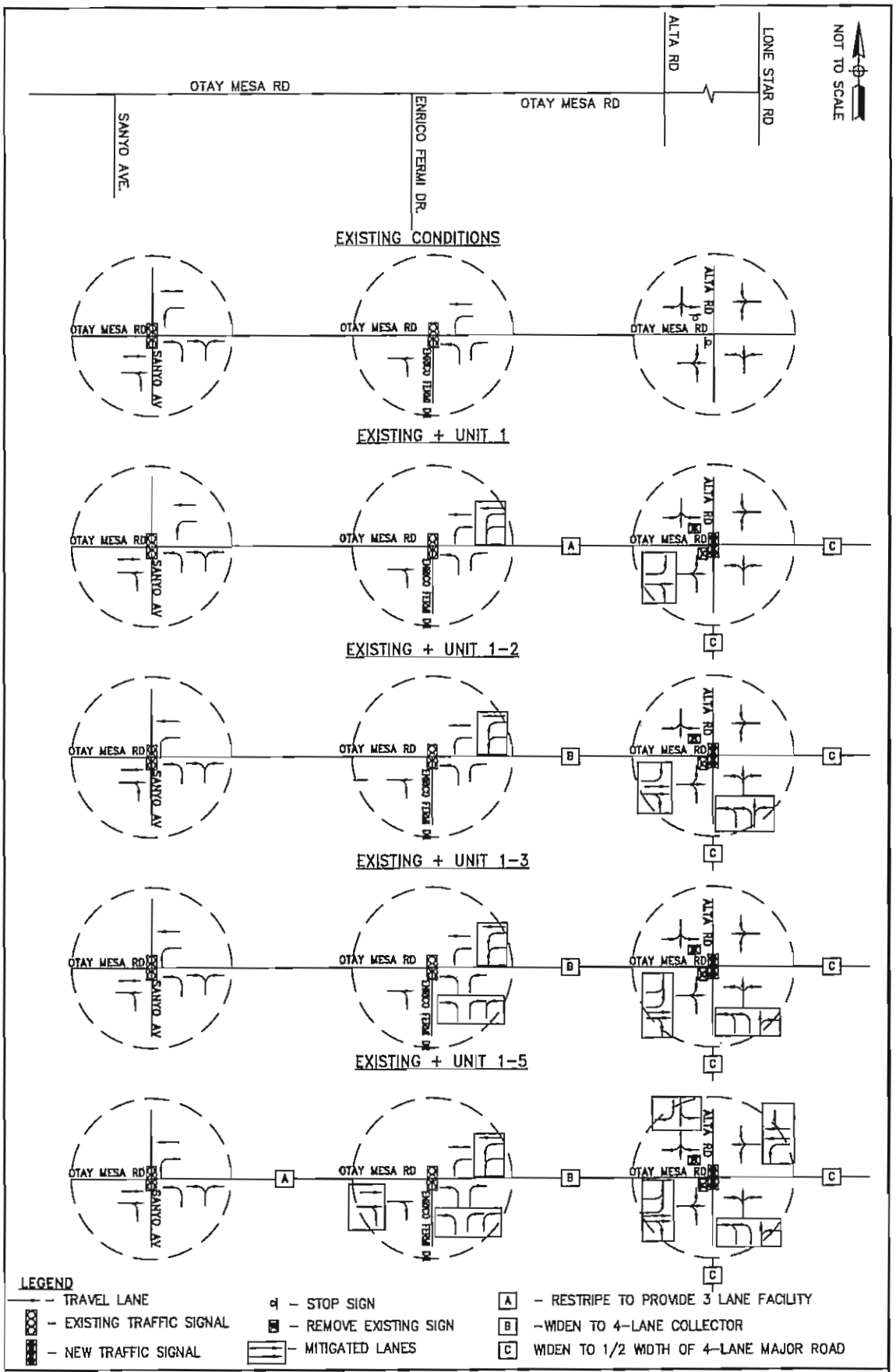

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FIGURE 28

RECOMMENDED MITIGATION WITH SR-905 EXTENSION TO ENRICO FERMI

Direct Impact Mitigation for Units 1-5 with SR-11 Extended to Siempre Viva Road.

The extension of SR-11 to Siempre Viva Road is not assumed to be constructed prior to the projects units 1, 2 and 3. Therefore the analysis with SR-11 extended to Siempre Viva Road has been conducted to identify the unit 4 and 5 mitigation.

The Caltrans Schedule identifies the completion of the SR-11 extension to Siempre Viva Road in the fall of 2015. In the event SR-11 is constructed prior to units 4 and 5 the projects impacts and mitigation measures were identified and summarized on Table 25. It should be noted that the mitigation measures for units 1 thru 3 presented on Table 25 are required in addition to unit 4 and 5 mitigation measures presented on Table 25.

Table 26 summarizes the recommended improvements for Units 1-5 include construction of roadways with the project.

Table 26 - Summary of Project Roadway Segment Direct Impact Mitigation for Units 1 thru 5 with SR-11 Extended to Siempre Viva Road

Roadway Segment	Mitigation
Otay Mesa Rd (Old Otay Mesa Rd)	
Sanyo Av to Enrico Fermi Dr	Restripe Otay Mesa Road to provide two (2) 14 foot Travel Lanes and a center 12 foot Travel Lane
Enrico Fermi Dr to Alta Rd	Widen Otay Mesa Road to 4-Lane Collector Road standards with Left Turn lanes at Intersection.
Alta Rd to Lone Star Rd	Construct ½ width of 4-Lane Major Road to provide two (2) Lanes
Lone Star Road	
Southern Boundary of Unit 2 to Siempre Viva Road	Construct ½ width of 4-Lane Major Road to provide two (2) Lanes
Siempre Viva Road to Unit 4Eastern Project Boundary	Construct ½ width of 4-Lane Major Road to provide two (2) Lanes

Mitigation of the projects direct impacts for Units 4 and 5 have been indentified and presented on Figure 29. In addition the previously identified mitigation measures for Units 1 thru 3 with SR-905 extended to Enrico Fermi are presented on Figure 28.

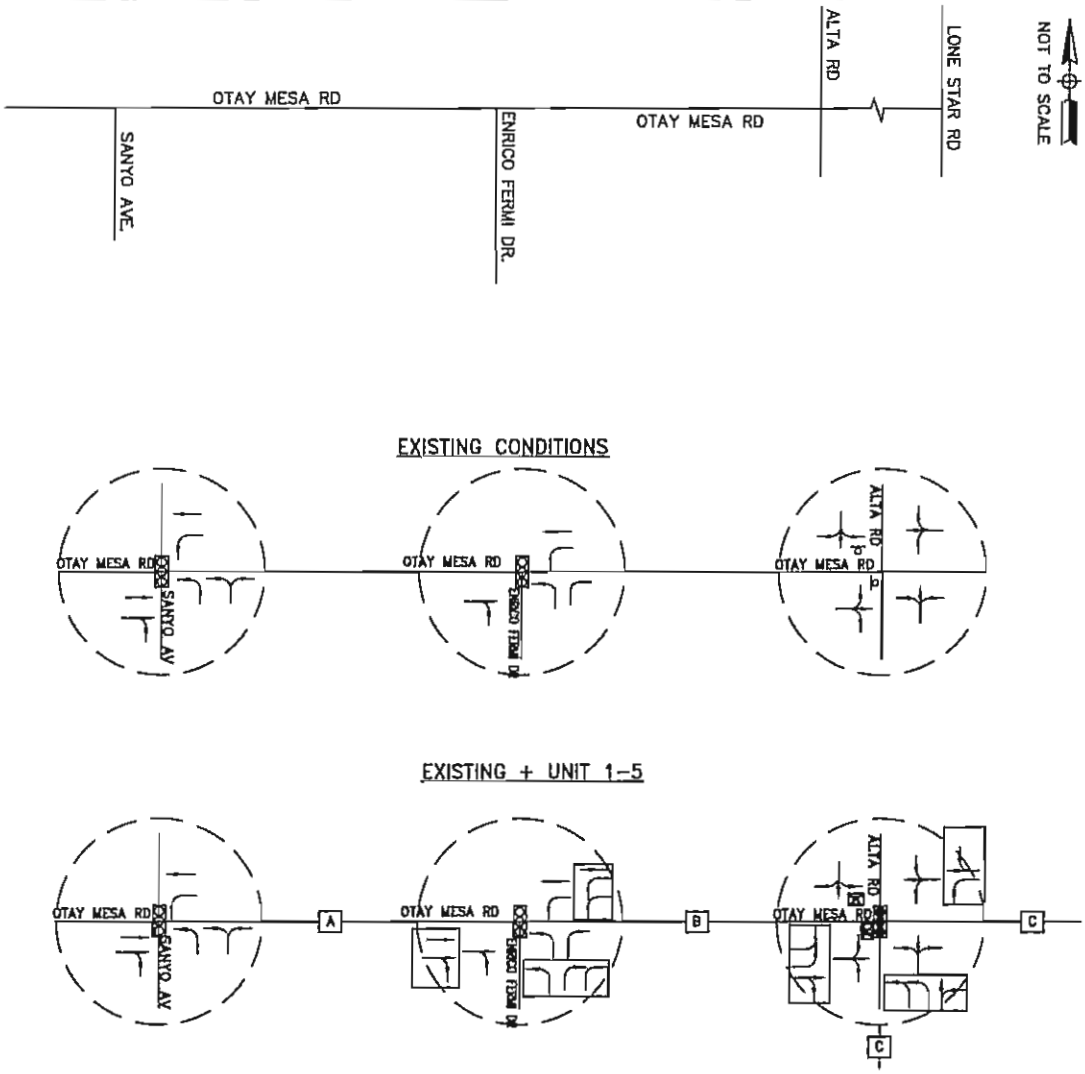
ON-SITE RECOMMENDED IMPROVEMENTS

Figure 26 presents the recommended on-site roadway and intersection improvements.

CUMULATIVE IMPACT MITIGATION

To mitigate the projects cumulative impacts the applicant will pay the County's Traffic Impact Fee (TIF). In addition the applicant agrees to pay its fair share to the City of San Diego for the following improvements within the City of San Diego.

- 4.5% of the cost of the design and installation of a traffic signal at the intersection of Airway Road/ Sanyo Avenue.
- 2.4% of the cost of the design and installation of a traffic signal at the intersection of Siempre Viva Road/ Michael Faraday Drive.



LEGEND

- TRAVEL LANE
- EXISTING TRAFFIC SIGNAL
- NEW TRAFFIC SIGNAL
- STOP SIGN
- REMOVE EXISTING SIGN
- MITIGATED LANES
- A – RESTRIPE TO PROVIDE 3 LANE FACILITY
- B – WIDEN TO 4-LANE COLLECTOR
- C – WIDEN TO 1/2 WIDTH OF 4-LANE MAJOR ROAD

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FIGURE 29

UNIT 1-5 RECOMMENDED MITIGATION WITH SR-11 EXTENSION TO SIEMPRE VIVA ROAD

APPENDIX A

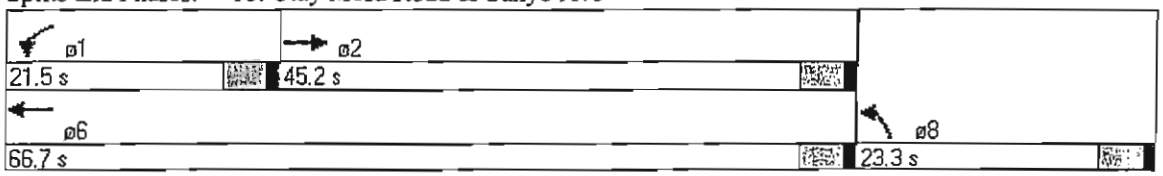
- EXISTING CONDITIONS SYNCHRO INTERSECTION WORKSHEETS

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.983				0.995	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3479	0	1770	1863	3430	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3479	0	1770	1863	3430	0
Satd. Flow (RTOR)	21				4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	666	87	4	165	88	3
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	832	109	5	206	110	4
Lane Group Flow (vph)	941	0	5	206	114	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Detector Phases	2		1	6	8	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	20.5		8.5	20.5	8.5	
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Total Split (%)	50.2%	0.0%	23.9%	74.1%	25.9%	0.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Min		None	C-Min	None	
Act Effct Green (s)	74.1		6.3	76.3	8.5	
Actuated g/C Ratio	0.82		0.07	0.85	0.09	
v/c Ratio	0.33		0.04	0.13	0.35	
Control Delay	1.1		39.5	2.0	39.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	1.1		39.5	2.0	39.2	
LOS	A		D	A	D	
Approach Delay	1.1			2.8	39.2	
Approach LOS	A			A	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.35
Intersection Signal Delay: 4.9 Intersection LOS: A
Intersection Capacity Utilization 31.2% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

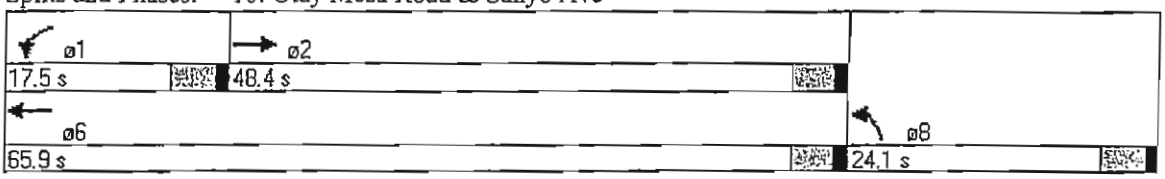


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.906				0.995	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3207	0	1770	1863	3430	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3207	0	1770	1863	3430	0
Satd. Flow (RTOR)	230				4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	111	186	4	165	88	3
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	137	230	5	204	109	4
Lane Group Flow (vph)	367	0	5	204	113	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Detector Phases	2		1	6	8	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	20.5		8.5	20.5	8.5	
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Total Split (%)	53.8%	0.0%	19.4%	73.2%	26.8%	0.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Min		None	C-Min	None	
Act Effct Green (s)	74.2		6.3	76.4	8.5	
Actuated g/C Ratio	0.82		0.07	0.85	0.09	
v/c Ratio	0.14		0.04	0.13	0.34	
Control Delay	0.6		39.5	1.9	39.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	0.6		39.5	1.9	39.2	
LOS	A		D	A	D	
Approach Delay	0.6			2.8	39.2	
Approach LOS	A			A	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.34
Intersection Signal Delay: 7.6 Intersection LOS: A
Intersection Capacity Utilization 19.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

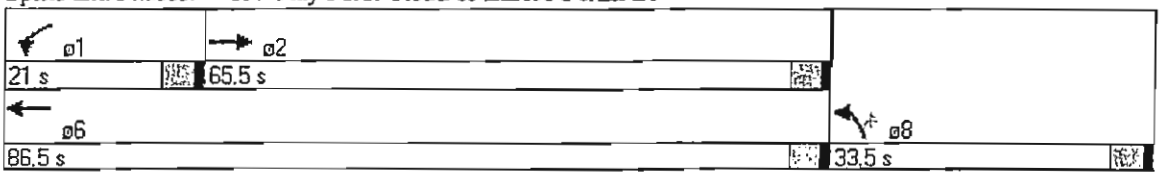


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.987					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1839	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1839	0	1770	1863	1770	1583
Satd. Flow (RTOR)	7					25
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	508	56	9	92	49	21
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	598	66	11	108	58	25
Lane Group Flow (vph)	664	0	11	108	58	25
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Detector Phases	2		1	6	8	8
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.5		8.5	20.5	20.5	20.5
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Total Split (%)	54.6%	0.0%	17.5%	72.1%	27.9%	27.9%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	19.6		6.7	20.9	8.1	8.1
Actuated g/C Ratio	0.51		0.14	0.55	0.21	0.21
v/c Ratio	0.70		0.04	0.11	0.15	0.07
Control Delay	11.7		23.8	3.6	18.9	10.7
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	11.7		23.8	3.6	18.9	10.7
LOS	B		C	A	B	B
Approach Delay	11.7			5.4	16.4	
Approach LOS	B			A	B	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 38.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 11.3 — Intersection LOS: B
Intersection Capacity Utilization 40.1% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

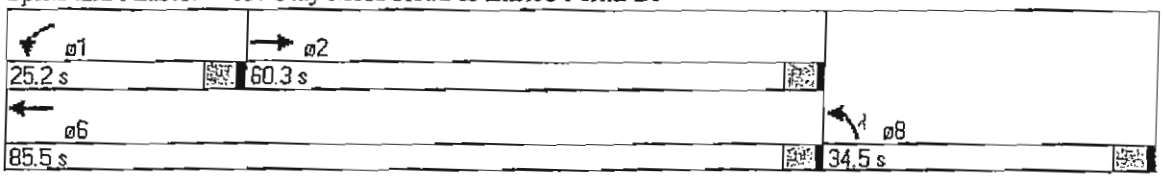


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.967					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1801	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1801	0	1770	1863	1770	1583
Satd. Flow (RTOR)	19					12
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	75	25	13	393	76	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	27	14	427	83	12
Lane Group Flow (vph)	109	0	14	427	83	12
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Detector Phases	2		1	6	8	8
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.5		8.5	20.5	20.5	20.5
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Total Split (%)	50.3%	0.0%	21.0%	71.3%	28.8%	28.8%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	10.9		6.3	12.5	8.5	8.5
Actuated g/C Ratio	0.37		0.17	0.43	0.29	0.29
v/c Ratio	0.16		0.05	0.54	0.16	0.03
Control Delay	7.4		14.1	8.4	10.5	6.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	7.4		14.1	8.4	10.5	6.5
LOS	A		B	A	B	A
Approach Delay	7.4			8.6	10.0	
Approach LOS	A			A	A	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 29.3
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.54
Intersection Signal Delay: 8.6 — Intersection LOS: A
Intersection Capacity Utilization 31.6% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	445	0	0	0	0	0	0	0	0	0	0	162
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	468	0	0	0	0	0	0	0	0	0	0	171

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	468	0	0	171
Volume Left (vph)	468	0	0	0
Volume Right (vph)	0	0	0	171
Hadj (s)	0.23	0.00	0.00	-0.57
Departure Headway (s)	4.5	4.9	5.3	4.5
Degree Utilization, x	0.59	0.00	0.00	0.21
Capacity (veh/h)	769	700	618	734
Control Delay (s)	13.9	7.9	8.3	8.7
Approach Delay (s)	13.9	0.0	0.0	8.7
Approach LOS	B	A	A	A

Intersection Summary			
Delay	12.5		
HCM Level of Service	B		
Intersection Capacity Utilization	41.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	101	0	46	0	0	0	0	0	0	0	0	417
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	106	0	48	0	0	0	0	0	0	0	0	439

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	155	0	0	439
Volume Left (vph)	106	0	0	0
Volume Right (vph)	48	0	0	439
Hadj (s)	-0.02	0.00	0.00	-0.57
Departure Headway (s)	4.8	5.0	4.7	3.7
Degree Utilization, x	0.20	0.00	0.00	0.45
Capacity (veh/h)	696	655	732	930
Control Delay (s)	9.0	8.0	7.7	9.8
Approach Delay (s)	9.0	0.0	0.0	9.8
Approach LOS	A	A	A	A

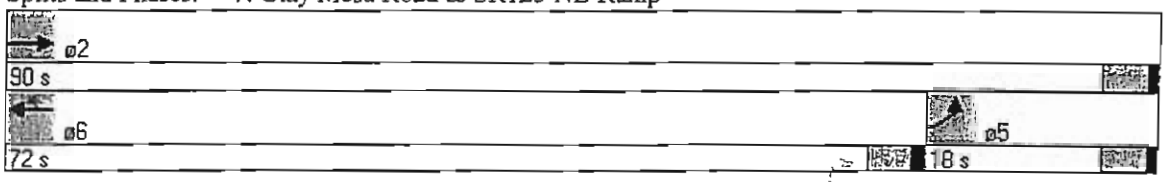
Intersection Summary			
Delay	9.6		
HCM Level of Service	A		
Intersection Capacity Utilization	40.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				41		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	45	1154	220	36	0	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	52	1326	253	41	0	0
Lane Group Flow (vph)	52	1326	253	41	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Detector Phases	5	2	6	6		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	8.5	20.5	20.5	20.5		
Total Split (s)	18.0	90.0	72.0	72.0	0.0	0.0
Total Split (%)	20.0%	100.0%	80.0%	80.0%	0.0%	0.0%
Yellow Time (s)	3.5	3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min		
Act Effct Green (s)	23.5	90.0	64.2	64.2		
Actuated g/C Ratio	0.26	1.00	0.71	0.71		
v/c Ratio	0.06	0.37	0.10	0.02		
Control Delay	17.0	0.6	3.4	0.9		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	17.0	0.6	3.4	0.9		
LOS	B	A	A	A		
Approach Delay		1.3	3.0			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 62 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.37
Intersection Signal Delay: 1.6 Intersection LOS: A
Intersection Capacity Utilization 35.2% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

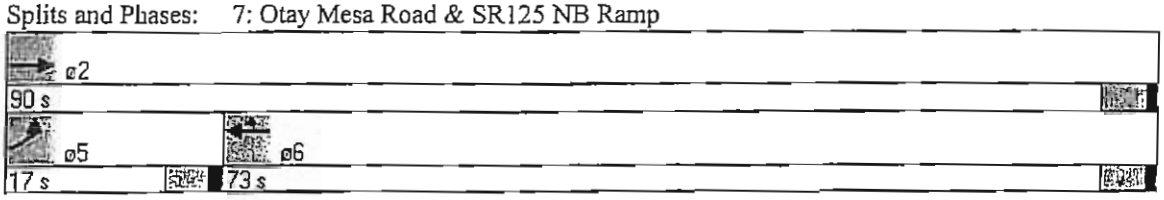


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				327		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	154	298	693	298	0	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	169	327	762	327	0	0
Lane Group Flow (vph)	169	327	762	327	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Detector Phases	5	2	6	6		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	8.5	20.5	20.5	20.5		
Total Split (s)	17.0	90.0	73.0	73.0	0.0	0.0
Total Split (%)	18.9%	100.0%	81.1%	81.1%	0.0%	0.0%
Yellow Time (s)	3.5	3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min		
Act Effct Green (s)	10.2	90.0	71.8	71.8		
Actuated g/C Ratio	0.11	1.00	0.80	0.80		
v/c Ratio	0.43	0.09	0.27	0.14		
Control Delay	38.2	0.1	2.0	0.6		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	38.2	0.1	2.0	0.6		
LOS	D	A	A	A		
Approach Delay		13.0	1.6			
Approach LOS		B	A			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 33 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.43
Intersection Signal Delay: 5.2 Intersection LOS: A
Intersection Capacity Utilization 38.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp



APPENDIX B

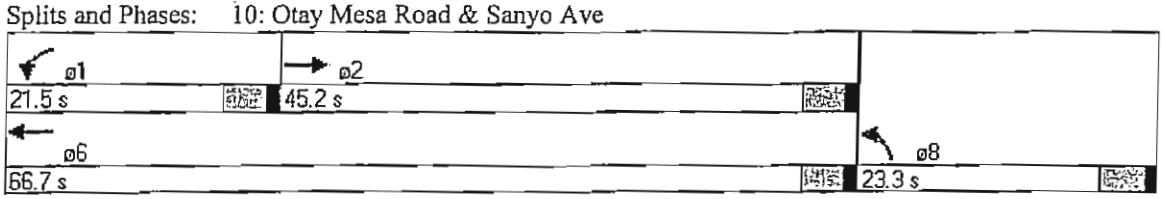
- EXISTING PLUS PROJECT SYNCHRO INTERSECTION WORKSHEETS

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.959				0.995	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3394	0	1770	1863	3430	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3394	0	1770	1863	3430	0
Satd. Flow (RTOR)	82				4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1275	487	4	317	88	3
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	1594	609	5	396	110	4
Lane Group Flow (vph)	2203	0	5	396	114	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Detector Phases	2		1	6	8	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	20.5		8.5	20.5	8.5	
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Total Split (%)	50.2%	0.0%	23.9%	74.1%	25.9%	0.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Min		None	C-Min	None	
Act Effct Green (s)	74.1		6.3	76.3	8.5	
Actuated g/C Ratio	0.82		0.07	0.85	0.09	
v/c Ratio	0.78		0.04	0.25	0.35	
Control Delay	6.8		39.5	2.3	39.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	6.8		39.5	2.3	39.2	
LOS	A		D	A	D	
Approach Delay	6.8			2.8	39.2	
Approach LOS	A			A	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 7.6 — Intersection LOS: A
Intersection Capacity Utilization 60.8% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

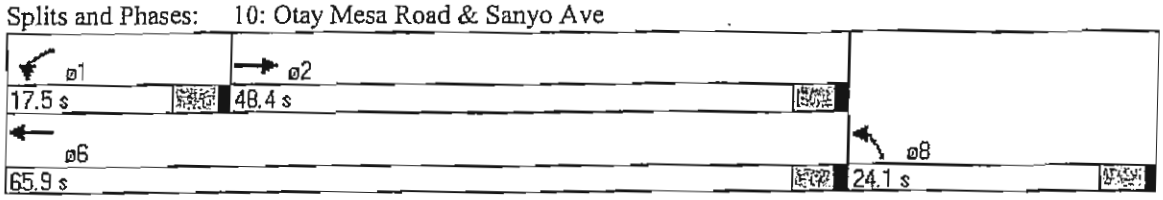


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.948				0.998	
Flt Protected			0.950		0.953	
Satd. Flow (prot)	3355	0	1770	1863	3437	0
Flt Permitted			0.950		0.953	
Satd. Flow (perm)	3355	0	1770	1863	3437	0
Satd. Flow (RTOR)	149				1	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	355	186	14	1197	363	4
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	438	230	17	1478	448	5
Lane Group Flow (vph)	668	0	17	1478	453	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Detector Phases	2		1	6	8	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	20.5		8.5	20.5	8.5	
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Total Split (%)	53.8%	0.0%	19.4%	73.2%	26.8%	0.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Min		None	C-Min	None	
Act Effct Green (s)	62.7		6.7	65.2	16.8	
Actuated g/C Ratio	0.70		0.07	0.72	0.19	
v/c Ratio	0.28		0.13	1.10	0.70	
Control Delay	5.9		40.6	71.2	40.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	5.9		40.6	71.2	40.2	
LOS	A		D	E	D	
Approach Delay	5.9			70.9	40.2	
Approach LOS	A			E	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.10
Intersection Signal Delay: 49.0 Intersection LOS: D
Intersection Capacity Utilization 80.1% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

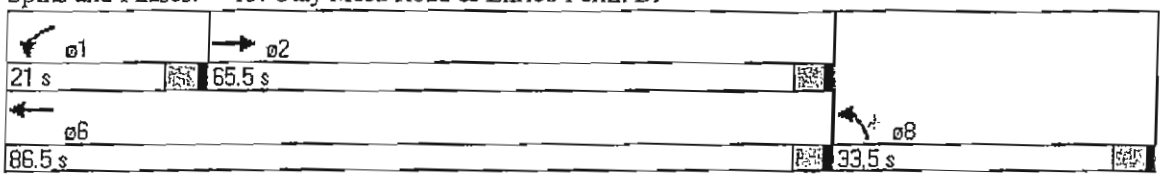


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.946					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1762	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1762	0	1770	1863	1770	1583
Satd. Flow (RTOR)	41					106
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	85	56	26	244	49	90
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	100	66	31	287	58	106
Lane Group Flow (vph)	166	0	31	287	58	106
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Detector Phases	2		1	6	8	8
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.5		8.5	20.5	20.5	20.5
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Total Split (%)	54.6%	0.0%	17.5%	72.1%	27.9%	27.9%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	9.9		6.7	11.9	12.0	12.0
Actuated g/C Ratio	0.32		0.18	0.38	0.41	0.41
v/c Ratio	0.28		0.10	0.41	0.08	0.15
Control Delay	7.5		13.8	6.9	10.1	4.2
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	7.5		13.8	6.9	10.1	4.2
LOS	A		B	A	B	A
Approach Delay	7.5			7.6	6.3	
Approach LOS	A			A	A	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 29.2
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.41
Intersection Signal Delay: 7.2 — Intersection LOS: A
Intersection Capacity Utilization 24.6% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

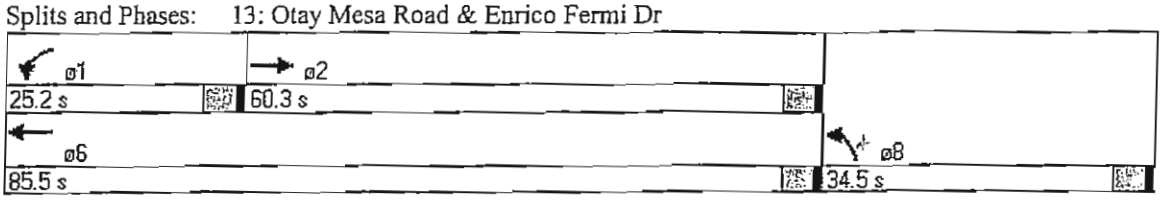


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.984					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1833	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1833	0	1770	1863	1770	1583
Satd. Flow (RTOR)	8					42
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	186	25	78	965	76	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	202	27	85	1049	83	42
Lane Group Flow (vph)	229	0	85	1049	83	42
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Detector Phases	2		1	6	8	8
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.5		8.5	20.5	20.5	20.5
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Total Split (%)	50.3%	0.0%	21.0%	71.3%	28.8%	28.8%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	29.5		9.0	36.7	9.3	9.3
Actuated g/C Ratio	0.53		0.15	0.66	0.17	0.17
v/c Ratio	0.23		0.32	0.85	0.28	0.14
Control Delay	8.7		30.7	13.9	29.6	12.3
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	8.7		30.7	13.9	29.6	12.3
LOS	A		C	B	C	B
Approach Delay	8.7			15.2	23.8	
Approach LOS	A			B	C	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 55.3
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 14.9 — Intersection LOS: B
Intersection Capacity Utilization 61.7% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	445	55	623	0	14	0	155	4	0	0	14	162
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	468	58	656	0	15	0	163	4	0	0	15	171

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	1182	15	167	185
Volume Left (vph)	468	0	163	0
Volume Right (vph)	656	0	0	171
Hadj (s)	-0.22	0.03	0.23	-0.52
Departure Headway (s)	4.8	6.1	6.4	5.7
Degree Utilization, x	1.57	0.02	0.30	0.29
Capacity (veh/h)	740	548	552	620
Control Delay (s)	277.7	9.3	12.1	11.0
Approach Delay (s)	277.7	9.3	12.1	11.0
Approach LOS	F	A	B	B

Intersection Summary			
Delay	214.6		
HCM Level of Service	F		
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	46	22	250	0	52	0	584	13	0	0	6	417
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	48	23	263	0	55	0	615	14	0	0	6	439

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	335	55	628	445
Volume Left (vph)	48	0	615	0
Volume Right (vph)	263	0	0	439
Hadj (s)	-0.41	0.03	0.23	-0.56
Departure Headway (s)	6.5	8.0	6.4	5.8
Degree Utilization, x	0.60	0.12	1.11	0.72
Capacity (veh/h)	526	388	566	600
Control Delay (s)	18.9	12.1	96.4	22.4
Approach Delay (s)	18.9	12.1	96.4	22.4
Approach LOS	C	B	F	C

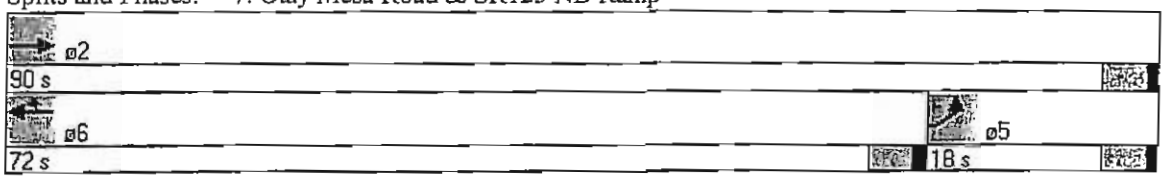
Intersection Summary			
Delay	53.0		
HCM Level of Service	F		
Intersection Capacity Utilization	94.9%	ICU Level of Service	F
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				55		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	45	1763	360	48	0	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	52	2026	414	55	0	0
Lane Group Flow (vph)	52	2026	414	55	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Detector Phases	5	2	6	6		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	8.5	20.5	20.5	20.5		
Total Split (s)	18.0	90.0	72.0	72.0	0.0	0.0
Total Split (%)	20.0%	100.0%	80.0%	80.0%	0.0%	0.0%
Yellow Time (s)	3.5	3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min		
Act Effct Green (s)	37.8	90.0	49.9	49.9		
Actuated g/C Ratio	0.42	1.00	0.55	0.55		
v/c Ratio	0.04	0.57	0.21	0.04		
Control Delay	10.5	1.5	14.6	7.2		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	10.5	1.5	14.6	7.2		
LOS	B	A	B	A		
Approach Delay		1.7	13.8			
Approach LOS		A	B			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 62 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 3.9 Intersection LOS: A
Intersection Capacity Utilization 46.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

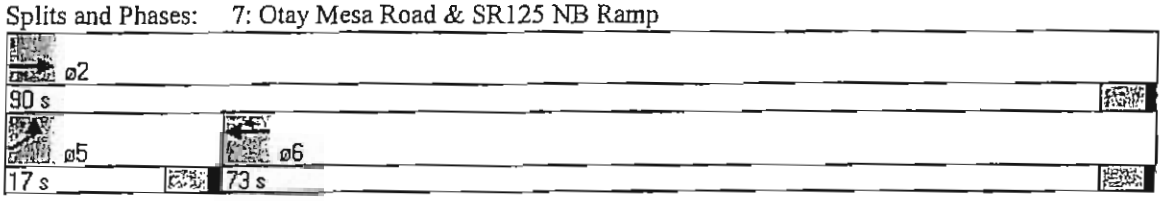


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				377		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	154	542	1219	343	0	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	169	596	1340	377	0	0
Lane Group Flow (vph)	169	596	1340	377	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Detector Phases	5	2	6	6		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	8.5	20.5	20.5	20.5		
Total Split (s)	17.0	90.0	73.0	73.0	0.0	0.0
Total Split (%)	18.9%	100.0%	81.1%	81.1%	0.0%	0.0%
Yellow Time (s)	3.5	3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min		
Act Effct Green (s)	10.2	90.0	71.8	71.8		
Actuated g/C Ratio	0.11	1.00	0.80	0.80		
v/c Ratio	0.44	0.17	0.47	0.16		
Control Delay	44.1	0.1	2.5	0.2		
Queue Delay	0.0	0.0	0.1	0.0		
Total Delay	44.1	0.1	2.6	0.2		
LOS	D	A	A	A		
Approach Delay		9.8	2.1			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 33 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.47
Intersection Signal Delay: 4.5 Intersection LOS: A
Intersection Capacity Utilization 44.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

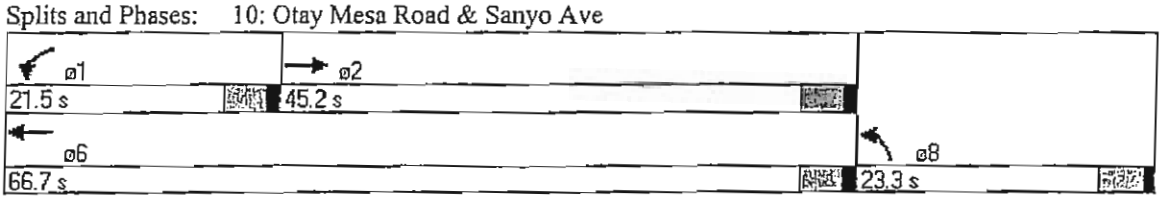


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.966				0.995	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3419	0	1770	1863	3430	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3419	0	1770	1863	3430	0
Satd. Flow (RTOR)	56				4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1660	487	4	413	88	3
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	2075	609	5	516	110	4
Lane Group Flow (vph)	2684	0	5	516	114	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Detector Phases	2		1	6	8	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	20.5		8.5	20.5	8.5	
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Total Split (%)	50.2%	0.0%	23.9%	74.1%	25.9%	0.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Min		None	C-Min	None	
Act Effct Green (s)	74.1		6.3	76.3	8.5	
Actuated g/C Ratio	0.82		0.07	0.85	0.09	
v/c Ratio	0.95		0.04	0.33	0.35	
Control Delay	16.8		39.5	2.7	39.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	16.8		39.5	2.7	39.2	
LOS	B		D	A	D	
Approach Delay	16.8			3.0	39.2	
Approach LOS	B			A	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 15.4 Intersection LOS: B
Intersection Capacity Utilization 71.4% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

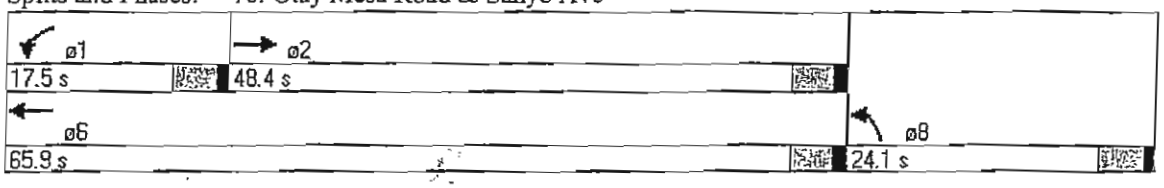


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.960				0.998	
Flt Protected			0.950		0.953	
Satd. Flow (prot)	3398	0	1770	1863	3437	0
Flt Permitted			0.950		0.953	
Satd. Flow (perm)	3398	0	1770	1863	3437	0
Satd. Flow (RTOR)	81				1	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	510	186	14	1557	363	4
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	630	230	17	1922	448	5
Lane Group Flow (vph)	860	0	17	1922	453	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Detector Phases	2		1	6	8	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	20.5		8.5	20.5	8.5	
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Total Split (%)	53.8%	0.0%	19.4%	73.2%	26.8%	0.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Min		None	C-Min	None	
Act Effct Green (s)	62.7		6.7	65.2	16.8	
Actuated g/C Ratio	0.70		0.07	0.72	0.19	
v/c Ratio	0.36		0.13	1.42	0.70	
Control Delay	7.1		40.6	214.2	40.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	7.1		40.6	214.2	40.2	
LOS	A		D	F	D	
Approach Delay	7.1			212.6	40.2	
Approach LOS	A			F	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.42
Intersection Signal Delay: 134.3 Intersection LOS: F
Intersection Capacity Utilization 99.1% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

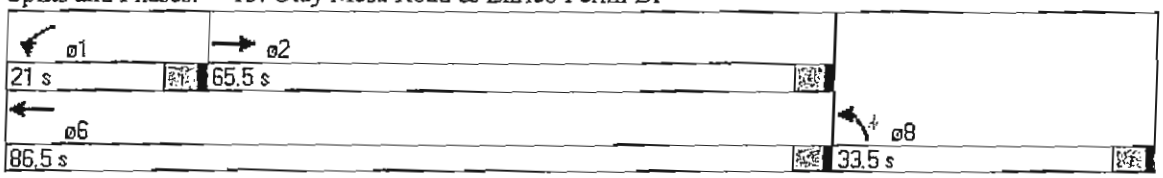


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1853	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1853	0	1770	1863	1770	1583
Satd. Flow (RTOR)	2					58
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1502	56	37	340	49	49
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1767	66	44	400	58	58
Lane Group Flow (vph)	1833	0	44	400	58	58
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Detector Phases	2		1	6	8	8
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.5		8.5	20.5	20.5	20.5
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Total Split (%)	54.6%	0.0%	17.5%	72.1%	27.9%	27.9%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	62.2		8.2	69.6	8.8	8.8
Actuated g/C Ratio	0.72		0.09	0.80	0.10	0.10
v/c Ratio	1.38		0.28	0.27	0.32	0.27
Control Delay	192.1		43.5	2.7	42.9	14.3
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	192.1		43.5	2.7	42.9	14.3
LOS	F		D	A	D	B
Approach Delay	192.1			6.8	28.6	
Approach LOS	F			A	C	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 86.5
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.38
Intersection Signal Delay: 149.8 — Intersection LOS: F
Intersection Capacity Utilization 92.4% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

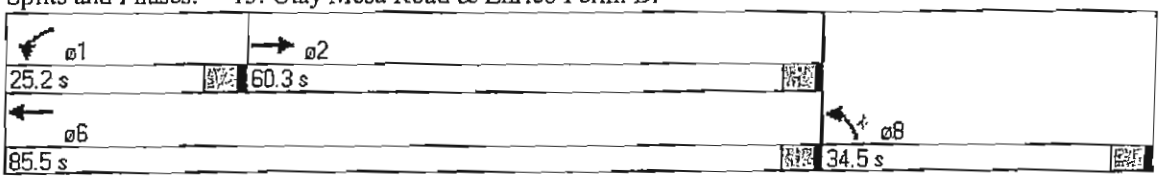


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.993					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1850	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1850	0	1770	1863	1770	1583
Satd. Flow (RTOR)	3					127
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	474	25	119	792	76	117
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	515	27	129	861	83	127
Lane Group Flow (vph)	542	0	129	861	83	127
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Detector Phases	2		1	6	8	8
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.5		8.5	20.5	20.5	20.5
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Total Split (%)	50.3%	0.0%	21.0%	71.3%	28.8%	28.8%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	21.4		9.8	32.2	9.0	9.0
Actuated g/C Ratio	0.43		0.19	0.64	0.18	0.18
v/c Ratio	0.69		0.39	0.72	0.26	0.33
Control Delay	18.2		25.3	9.4	25.3	8.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	18.2		25.3	9.4	25.3	8.6
LOS	B		C	A	C	A
Approach Delay	18.2			11.5	15.2	
Approach LOS	B			B	B	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 50.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 14.0 — Intersection LOS: B
Intersection Capacity Utilization 52.6% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	445	474	655	0	118	0	205	6	0	0	23	162
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	468	499	689	0	124	0	216	6	0	0	24	171

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	1657	124	222	195
Volume Left (vph)	468	0	216	0
Volume Right (vph)	689	0	0	171
Hadj (s)	-0.16	0.03	0.23	-0.49
Departure Headway (s)	5.4	6.5	6.8	6.2
Degree Utilization, x	2.48	0.22	0.42	0.33
Capacity (veh/h)	675	517	515	556
Control Delay (s)	684.2	11.4	14.6	12.3
Approach Delay (s)	684.2	11.4	14.6	12.3
Approach LOS	F	B	B	B

Intersection Summary			
Delay	519.0		
HCM Level of Service	F		
Intersection Capacity Utilization	129.2%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	46	190	263	0	445	0	748	22	0	0	9	417
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	48	200	277	0	468	0	787	23	0	0	9	439

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	525	468	811	448
Volume Left (vph)	48	0	787	0
Volume Right (vph)	277	0	0	439
Hadj (s)	-0.26	0.03	0.23	-0.55
Departure Headway (s)	9.3	9.6	9.8	9.0
Degree Utilization, x	1.36	1.25	2.20	1.12
Capacity (veh/h)	396	381	375	412
Control Delay (s)	202.8	161.0	572.2	112.5
Approach Delay (s)	202.8	161.0	572.2	112.5
Approach LOS	F	F	F	F

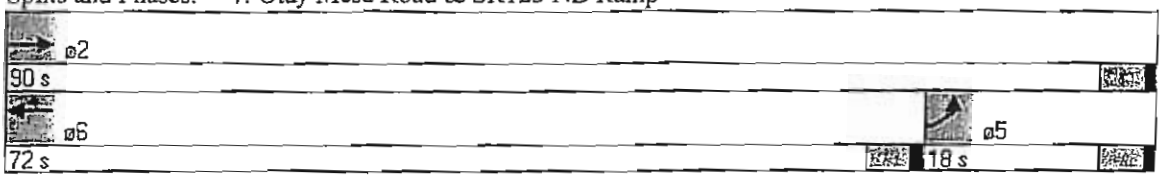
Intersection Summary			
Delay	309.1		
HCM Level of Service	F		
Intersection Capacity Utilization	134.3%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				64		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	45	2060	446	56	0	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	52	2368	513	64	0	0
Lane Group Flow (vph)	52	2368	513	64	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Detector Phases	5	2	6	6		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	8.5	20.5	20.5	20.5		
Total Split (s)	18.0	90.0	72.0	72.0	0.0	0.0
Total Split (%)	20.0%	100.0%	80.0%	80.0%	0.0%	0.0%
Yellow Time (s)	3.5	3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min		
Act Effct Green (s)	39.0	90.0	48.7	48.7		
Actuated g/C Ratio	0.43	1.00	0.54	0.54		
v/c Ratio	0.03	0.67	0.27	0.04		
Control Delay	10.2	2.2	18.0	8.5		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	10.2	2.2	18.0	8.5		
LOS	B	A	B	A		
Approach Delay		2.4	17.0			
Approach LOS		A	B			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 62 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 5.2 — Intersection LOS: A
Intersection Capacity Utilization 48.4% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

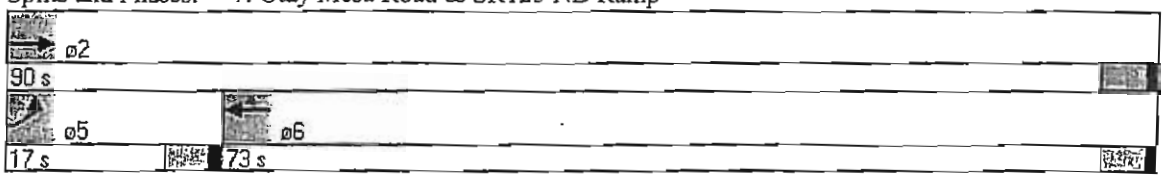


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				409		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	154	697	1540	372	0	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	169	766	1692	409	0	0
Lane Group Flow (vph)	169	766	1692	409	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Detector Phases	5	2	6	6		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	8.5	20.5	20.5	20.5		
Total Split (s)	17.0	90.0	73.0	73.0	0.0	0.0
Total Split (%)	18.9%	100.0%	81.1%	81.1%	0.0%	0.0%
Yellow Time (s)	3.5	3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min		
Act Effct Green (s)	10.1	90.0	71.9	71.9		
Actuated g/C Ratio	0.11	1.00	0.80	0.80		
v/c Ratio	0.44	0.22	0.60	0.18		
Control Delay	43.6	0.2	3.5	0.3		
Queue Delay	0.0	0.0	0.2	0.0		
Total Delay	43.6	0.2	3.7	0.3		
LOS	D	A	A	A		
Approach Delay		8.0	3.0			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 33 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 4.6 Intersection LOS: A
Intersection Capacity Utilization 53.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

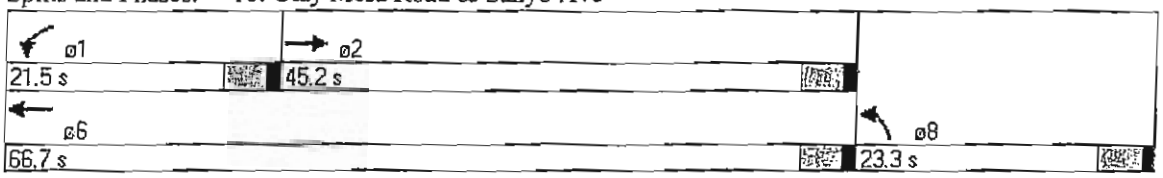


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.977				0.995	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3458	0	1770	1863	3430	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3458	0	1770	1863	3430	0
Satd. Flow (RTOR)	31				4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2630	487	4	522	88	3
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	3288	609	5	652	110	4
Lane Group Flow (vph)	3897	0	5	652	114	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Detector Phases	2		1	6	8	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	20.5		8.5	20.5	8.5	
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Total Split (%)	50.2%	0.0%	23.9%	74.1%	25.9%	0.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Min		None	C-Min	None	
Act Effct Green (s)	74.1		6.3	76.3	8.5	
Actuated g/C Ratio	0.82		0.07	0.85	0.09	
v/c Ratio	1.37		0.04	0.41	0.35	
Control Delay	182.4		39.5	3.2	39.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	182.4		39.5	3.2	39.2	
LOS	F		D	A	D	
Approach Delay	182.4			3.5	39.2	
Approach LOS	F			A	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.37
Intersection Signal Delay: 153.7 Intersection LOS: F
Intersection Capacity Utilization 98.2% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

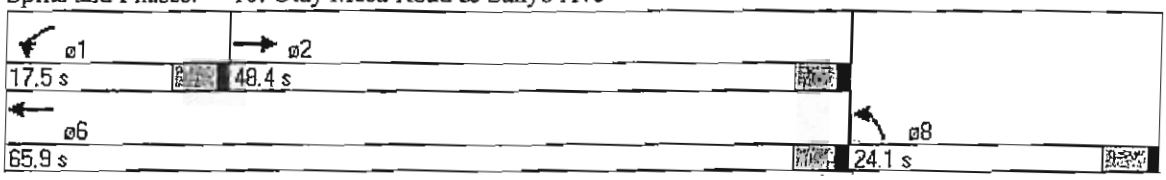


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.967				0.998	
Flt Protected			0.950		0.953	
Satd. Flow (prot)	3422	0	1770	1863	3437	0
Flt Permitted			0.950		0.953	
Satd. Flow (perm)	3422	0	1770	1863	3437	0
Satd. Flow (RTOR)	58				1	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	650	186	14	1819	363	4
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	802	230	17	2246	448	5
Lane Group Flow (vph)	1032	0	17	2246	453	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Detector Phases	2		1	6	8	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	20.5		8.5	20.5	8.5	
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Total Split (%)	53.8%	0.0%	19.4%	73.2%	26.8%	0.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Min		None	C-Min	None	
Act Effct Green (s)	62.7		6.7	65.2	16.8	
Actuated g/C Ratio	0.70		0.07	0.72	0.19	
v/c Ratio	0.43		0.13	1.66	0.70	
Control Delay	7.9		40.6	321.4	40.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	7.9		40.6	321.4	40.2	
LOS	A		D	F	D	
Approach Delay	7.9			319.3	40.2	
Approach LOS	A			F	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.66
Intersection Signal Delay: 199.8 Intersection LOS: F
Intersection Capacity Utilization 112.9% ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

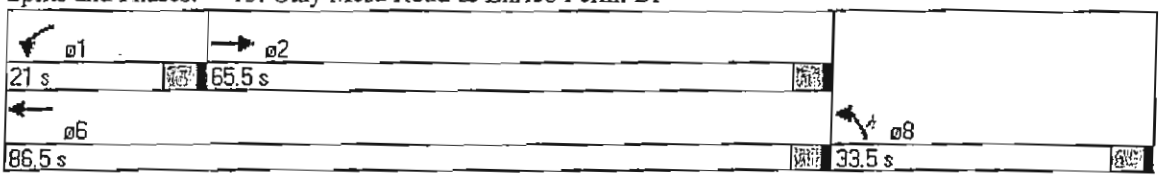


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.996					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1855	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1855	0	1770	1863	1770	1583
Satd. Flow (RTOR)	2					199
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1806	56	50	449	49	169
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	2125	66	59	528	58	199
Lane Group Flow (vph)	2191	0	59	528	58	199
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Detector Phases	2		1	6	8	8
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.5		8.5	20.5	20.5	20.5
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Total Split (%)	54.6%	0.0%	17.5%	72.1%	27.9%	27.9%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	62.0		8.9	72.6	9.1	9.1
Actuated g/C Ratio	0.69		0.10	0.81	0.10	0.10
v/c Ratio	1.71		0.34	0.35	0.32	0.59
Control Delay	341.8		44.8	3.2	43.7	13.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	341.8		44.8	3.2	43.7	13.5
LOS	F		D	A	D	B
Approach Delay	341.8			7.4	20.3	
Approach LOS	F			A	C	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 89.8
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.71
Intersection Signal Delay: 249.9 — Intersection LOS: F
Intersection Capacity Utilization 115.6% — ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

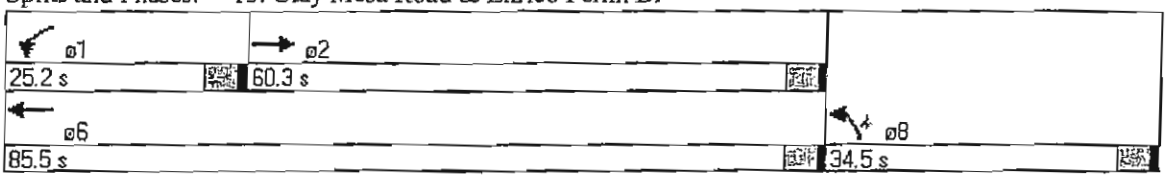


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1853	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1853	0	1770	1863	1770	1583
Satd. Flow (RTOR)	2					418
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	614	25	76	71	149	1587
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	667	27	83	77	162	1725
Lane Group Flow (vph)	694	0	83	77	162	1725
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Detector Phases	2		1	6	8	8
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.5		8.5	20.5	20.5	20.5
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Total Split (%)	50.3%	0.0%	21.0%	71.3%	28.8%	28.8%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	38.1		10.2	49.4	32.3	32.3
Actuated g/C Ratio	0.42		0.11	0.55	0.36	0.36
v/c Ratio	0.89		0.43	0.08	0.26	2.07
Control Delay	38.0		49.0	7.8	28.3	501.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	38.0		49.0	7.8	28.3	501.6
LOS	D		D	A	C	F
Approach Delay	38.0			29.2	460.9	
Approach LOS	D			C	F	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 90.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.07
Intersection Signal Delay: 328.6 — Intersection LOS: F
Intersection Capacity Utilization 138.8% — ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	445	620	496	0	171	0	235	8	0	0	30	162
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	468	653	522	0	180	0	247	8	0	0	32	171

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	1643	180	256	202
Volume Left (vph)	468	0	247	0
Volume Right (vph)	522	0	0	171
Hadj (s)	-0.10	0.03	0.23	-0.47
Departure Headway (s)	5.8	6.8	7.0	6.5
Degree Utilization, x	2.66	0.34	0.50	0.37
Capacity (veh/h)	628	490	488	520
Control Delay (s)	763.2	13.2	16.8	13.3
Approach Delay (s)	763.2	13.2	16.8	13.3
Approach LOS	F	B	C	B

Intersection Summary			
Delay	553.8		
HCM Level of Service	F		
Intersection Capacity Utilization	134.9%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	46	257	356	0	570	0	787	27	0	0	12	417
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	48	271	375	0	600	0	828	28	0	0	13	439

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	694	600	857	452
Volume Left (vph)	48	0	828	0
Volume Right (vph)	375	0	0	439
Hadj (s)	-0.28	0.03	0.23	-0.55
Departure Headway (s)	9.3	9.6	9.8	9.0
Degree Utilization, x	1.79	1.60	2.33	1.13
Capacity (veh/h)	392	379	375	412
Control Delay (s)	387.7	306.0	628.1	115.4
Approach Delay (s)	387.7	306.0	628.1	115.4
Approach LOS	F	F	F	F

Intersection Summary			
Delay	400.8		
HCM Level of Service	F		
Intersection Capacity Utilization	152.7%	ICU Level of Service	H
Analysis Period (min)	15		

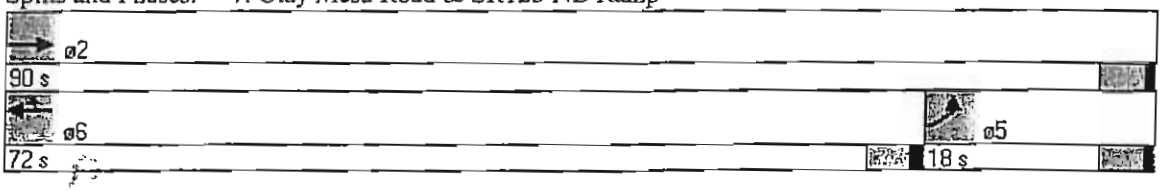
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				41		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	45	2246	555	36	103	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	52	2582	638	41	118	0
Lane Group Flow (vph)	52	2582	638	41	118	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Detector Phases	5	2	6	6		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	8.5	20.5	20.5	20.5		
Total Split (s)	18.0	90.0	72.0	72.0	0.0	0.0
Total Split (%)	20.0%	100.0%	80.0%	80.0%	0.0%	0.0%
Yellow Time (s)	3.5	3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min		
Act Effct Green (s)	36.8	90.0	50.9	50.9	0.0	
Actuated g/C Ratio	0.41	1.00	0.57	0.57	0.00	
v/c Ratio	0.04	0.73	0.32	0.03	no cap	
Control Delay	11.8	2.8	19.0	9.1		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	11.8	2.8	19.0	9.1	Error	
LOS	B	A	B	A	F	
Approach Delay		3.0	18.4		Err	
Approach LOS		A	B		F	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 62 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: Err
Intersection Signal Delay: Err
Intersection Capacity Utilization 51.4%
Analysis Period (min) 15

Intersection LOS: F
ICU Level of Service A

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp



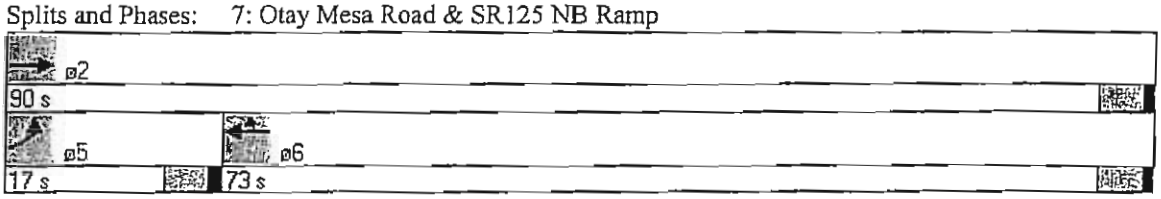
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				327		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	154	683	1778	298	43	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	169	751	1954	327	47	0
Lane Group Flow (vph)	169	751	1954	327	47	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Detector Phases	5	2	6	6		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	8.5	20.5	20.5	20.5		
Total Split (s)	17.0	90.0	73.0	73.0	0.0	0.0
Total Split (%)	18.9%	100.0%	81.1%	81.1%	0.0%	0.0%
Yellow Time (s)	3.5	3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min		
Act Effct Green (s)	10.1	90.0	71.9	71.9	0.0	
Actuated g/C Ratio	0.11	1.00	0.80	0.80	0.00	
v/c Ratio	0.44	0.21	0.69	0.14	no cap	
Control Delay	43.7	0.2	4.3	0.3		
Queue Delay	0.0	0.0	0.2	0.0		
Total Delay	43.7	0.2	4.5	0.3	Error	
LOS	D	A	A	A	F	
Approach Delay		8.2	3.9		Err	
Approach LOS		A	A		F	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 33 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: Err
Intersection Signal Delay: Err
Intersection Capacity Utilization 60.2%
Analysis Period (min) 15

Intersection LOS: F
ICU Level of Service B

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

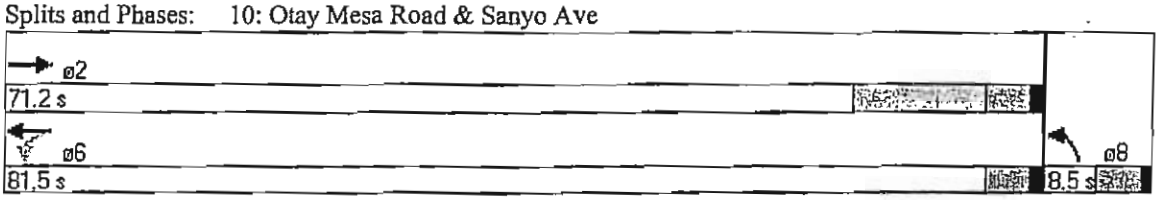


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	0.95
Frt	0.974				0.995	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3447	0	1770	3539	3430	0
Flt Permitted			0.052		0.954	
Satd. Flow (perm)	3447	0	97	3539	3430	0
Satd. Flow (RTOR)	139				3	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2358	487	4	701	88	3
Adj. Flow (vph)	2406	497	4	715	90	3
Lane Group Flow (vph)	2903	0	4	715	93	0
Turn Type			Perm			
Protected Phases	2			6	8	
Permitted Phases			6			
Total Split (s)	71.2	0.0	81.5	81.5	8.5	0.0
Act Effct Green (s)	80.0		80.0	80.0	4.5	
Actuated g/C Ratio	0.89		0.89	0.89	0.05	
v/c Ratio	0.94		0.05	0.23	0.53	
Control Delay	16.3		2.0	1.1	52.0	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	16.3		2.0	1.1	52.0	
LOS	B		A	A	D	
Approach Delay	16.3			1.1	52.0	
Approach LOS	B			A	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 79.7 (89%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 14.3 Intersection LOS: B
Intersection Capacity Utilization 90.7% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

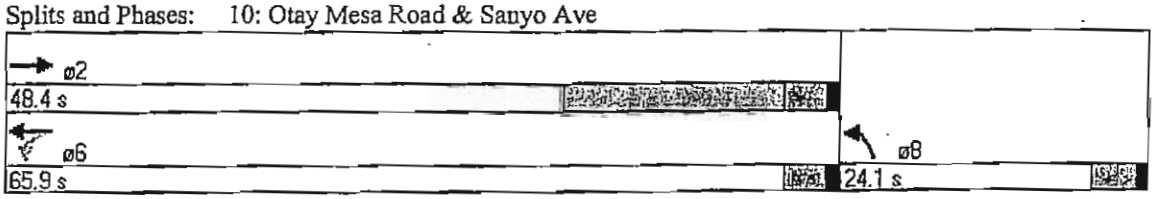


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	0.95
Frt	0.973				0.998	
Flt Protected			0.950		0.953	
Satd. Flow (prot)	3444	0	1770	3539	3437	0
Flt Permitted			0.222		0.953	
Satd. Flow (perm)	3444	0	414	3539	3437	0
Satd. Flow (RTOR)	66				1	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	855	186	14	2227	363	4
Adj. Flow (vph)	900	196	15	2344	382	4
Lane Group Flow (vph)	1096	0	15	2344	386	0
Turn Type			Perm			
Protected Phases	2			6	8	
Permitted Phases			6			
Total Split (s)	48.4	0.0	65.9	65.9	24.1	0.0
Act Effct Green (s)	66.5		66.5	66.5	15.5	
Actuated g/C Ratio	0.74		0.74	0.74	0.17	
v/c Ratio	0.43		0.05	0.90	0.65	
Control Delay	5.6		4.4	16.1	39.8	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	5.6		4.4	16.1	39.8	
LOS	A		A	B	D	
Approach Delay	5.6			16.0	39.8	
Approach LOS	A			B	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 72.5 (81%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 15.4 — Intersection LOS: B
Intersection Capacity Utilization 78.7% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1857	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1857	0	1770	1863	1770	1583
Satd. Flow (RTOR)	2					25
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2259	56	9	647	49	21
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	2658	66	11	761	58	25
Lane Group Flow (vph)	2724	0	11	761	58	25
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Detector Phases	2		1	6	8	8
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.5		8.5	20.5	20.5	20.5
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Total Split (%)	54.6%	0.0%	17.5%	72.1%	27.9%	27.9%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	61.9		6.6	63.9	8.6	8.6
Actuated g/C Ratio	0.77		0.07	0.79	0.11	0.11
v/c Ratio	1.91		0.08	0.51	0.31	0.13
Control Delay	428.8		40.6	4.5	38.7	15.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	428.8		40.6	4.5	38.7	15.8
LOS	F		D	A	D	B
Approach Delay	428.8			5.0	31.8	
Approach LOS	F			A	C	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 80.5
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.91
Intersection Signal Delay: 328.2 — Intersection LOS: F
Intersection Capacity Utilization 132.3% — ICU Level of Service H
Analysis Period (min) 15

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1853	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1853	0	1770	1863	1770	1583
Satd. Flow (RTOR)	2					418
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	614	25	76	71	149	1587
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	667	27	83	77	162	1725
Lane Group Flow (vph)	694	0	83	77	162	1725
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Detector Phases	2		1	6	8	8
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.5		8.5	20.5	20.5	20.5
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Total Split (%)	50.3%	0.0%	21.0%	71.3%	28.8%	28.8%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	38.1		10.2	49.4	32.3	32.3
Actuated g/C Ratio	0.42		0.11	0.55	0.36	0.36
v/c Ratio	0.89		0.43	0.08	0.26	2.07
Control Delay	38.0		49.0	7.8	28.3	501.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	38.0		49.0	7.8	28.3	501.6
LOS	D		D	A	C	F
Approach Delay	38.0			29.2	460.9	
Approach LOS	D			C	F	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 90.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.07
Intersection Signal Delay: 328.6 — Intersection LOS: F
Intersection Capacity Utilization 138.8% — ICU Level of Service H
Analysis Period (min) 15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	445	836	792	0	265	0	366	13	0	0	40	162
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	468	880	834	0	279	0	385	14	0	0	42	171

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	2182	279	399	213
Volume Left (vph)	468	0	385	0
Volume Right (vph)	834	0	0	171
Hadj (s)	-0.15	0.03	0.23	-0.45
Departure Headway (s)	7.1	7.9	7.7	7.8
Degree Utilization, x	4.30	0.61	0.85	0.46
Capacity (veh/h)	512	432	452	421
Control Delay (s)	1505.5	22.3	40.7	17.3
Approach Delay (s)	1505.5	22.3	40.7	17.3
Approach LOS	F	C	E	C

Intersection Summary			
Delay	1077.7		
HCM Level of Service	F		
Intersection Capacity Utilization	177.3%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	46	257	356	0	570	0	787	27	0	0	12	417
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	48	271	375	0	600	0	828	28	0	0	13	439

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	694	600	857	452
Volume Left (vph)	48	0	828	0
Volume Right (vph)	375	0	0	439
Hadj (s)	-0.28	0.03	0.23	-0.55
Departure Headway (s)	9.3	9.6	9.8	9.0
Degree Utilization, x	1.79	1.60	2.33	1.13
Capacity (veh/h)	392	379	375	412
Control Delay (s)	387.7	306.0	628.1	115.4
Approach Delay (s)	387.7	306.0	628.1	115.4
Approach LOS	F	F	F	F

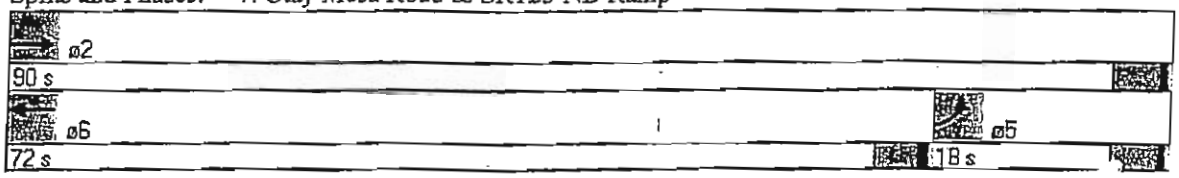
Intersection Summary			
Delay	400.8		
HCM Level of Service	F		
Intersection Capacity Utilization	152.7%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				41		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	45	2905	725	36	0	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	52	3339	833	41	0	0
Lane Group Flow (vph)	52	3339	833	41	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Detector Phases	5	2	6	6		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	8.5	20.5	20.5	20.5		
Total Split (s)	18.0	90.0	72.0	72.0	0.0	0.0
Total Split (%)	20.0%	100.0%	80.0%	80.0%	0.0%	0.0%
Yellow Time (s)	3.5	3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min		
Act Effct Green (s)	33.7	90.0	54.0	54.0		
Actuated g/C Ratio	0.37	1.00	0.60	0.60		
v/c Ratio	0.04	0.94	0.39	0.02		
Control Delay	13.8	11.1	19.3	8.8		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	13.8	11.1	19.3	8.8		
LOS	B	B	B	A		
Approach Delay		11.1	18.8			
Approach LOS		B	B			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 62 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 12.7 — Intersection LOS: B
Intersection Capacity Utilization 56.1% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

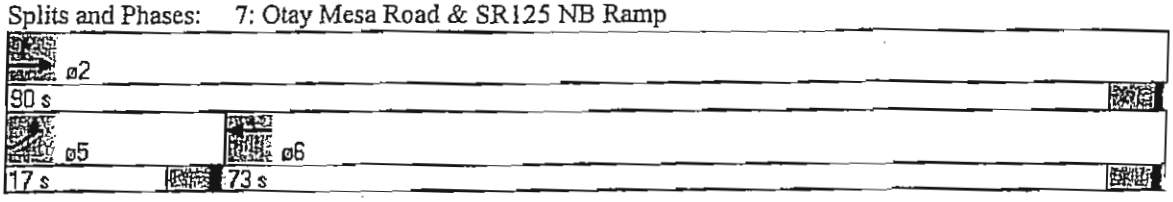


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				327		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	154	998	2176	298	0	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	169	1097	2391	327	0	0
Lane Group Flow (vph)	169	1097	2391	327	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Detector Phases	5	2	6	6		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	8.5	20.5	20.5	20.5		
Total Split (s)	17.0	90.0	73.0	73.0	0.0	0.0
Total Split (%)	18.9%	100.0%	81.1%	81.1%	0.0%	0.0%
Yellow Time (s)	3.5	3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min		
Act Effct Green (s)	10.1	90.0	71.9	71.9		
Actuated g/C Ratio	0.11	1.00	0.80	0.80		
v/c Ratio	0.44	0.31	0.85	0.14		
Control Delay	42.7	0.2	7.8	0.3		
Queue Delay	0.0	0.0	0.2	0.0		
Total Delay	42.7	0.2	8.0	0.3		
LOS	D	A	A	A		
Approach Delay		5.9	7.1			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 33 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 6.7 — Intersection LOS: A
Intersection Capacity Utilization 71.2% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp



APPENDIX C

- EXISTING PLUS PROJECT MITIGATED SYNCHRO INTERSECTION WORKSHEETS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Satd. Flow (prot)	1770	1606	0	0	1863	0	0	1775	0	0	1632	0
Flt Permitted	0.748							0.446				
Satd. Flow (perm)	1393	1606	0	0	1863	0	0	831	0	0	1632	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		656									171	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		2592			1598			945			1271	
Travel Time (s)		39.3			24.2			21.5			28.9	
Volume (vph)	445	55	623	0	14	0	155	4	0	0	14	162
Adj. Flow (vph)	468	58	656	0	15	0	163	4	0	0	15	171
Lane Group Flow (vph)	468	714	0	0	15	0	0	167	0	0	186	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	76.0	76.0	0.0	76.0	76.0	0.0	24.0	24.0	0.0	24.0	24.0	0.0
Act Effct Green (s)	24.3	24.3			24.3			20.5			20.5	
Actuated g/C Ratio	0.46	0.46			0.46			0.39			0.39	
v/c Ratio	0.74	0.66			0.02			0.52			0.25	
Control Delay	18.5	4.3			6.4			25.6			5.2	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	18.5	4.3			6.4			25.6			5.2	
LOS	B	A			A			C			A	
Approach Delay		9.9			6.4			25.6			5.2	
Approach LOS		A			A			C			A	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 53.1
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 11.0 — Intersection LOS: B
Intersection Capacity Utilization 70.9% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd

ø2	ø4
24 s	76 s
ø6	ø8
24 s	76 s

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.862									0.867	
Flt Protected	0.950							0.953				
Satd. Flow (prot)	1770	1606	0	0	1863	0	0	1775	0	0	1615	0
Flt Permitted	0.721							0.440				
Satd. Flow (perm)	1343	1606	0	0	1863	0	0	820	0	0	1615	0
Satd. Flow (RTOR)		263									439	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	46	22	250	0	52	0	584	13	0	0	6	417
Adj. Flow (vph)	48	23	263	0	55	0	615	14	0	0	6	439
Lane Group Flow (vph)	48	286	0	0	55	0	0	629	0	0	445	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	20.5	20.5	0.0	20.5	20.5	0.0	79.5	79.5	0.0	79.5	79.5	0.0
Act Effct Green (s)	10.1	10.1			10.1			76.9			76.9	
Actuated g/C Ratio	0.11	0.11			0.11			0.81			0.81	
v/c Ratio	0.34	0.71			0.28			0.95			0.32	
Control Delay	44.7	16.9			41.5			35.8			0.9	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	44.7	16.9			41.5			35.8			0.9	
LOS	D	B			D			D			A	
Approach Delay		20.9			41.5			35.8			0.9	
Approach LOS		C			D			D			A	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 95
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 22.0 — Intersection LOS: C
Intersection Capacity Utilization 85.8% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd

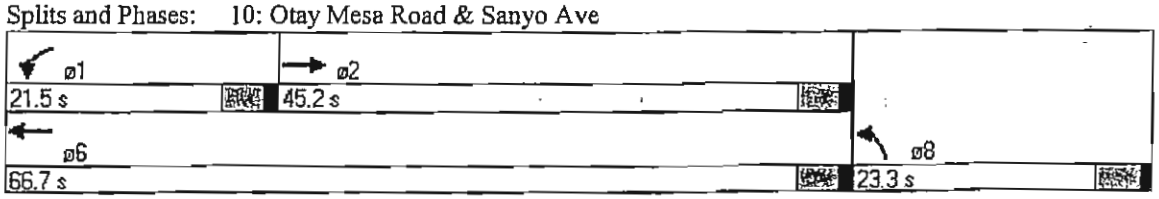
ø2	ø4
79.5 s	20.5 s
ø6	ø8
79.5 s	20.5 s

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	0.95
Frt	0.966				0.995	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3419	0	1770	3539	3430	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3419	0	1770	3539	3430	0
Satd. Flow (RTOR)	56				4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1660	487	4	413	88	3
Adj. Flow (vph)	2075	609	5	516	110	4
Lane Group Flow (vph)	2684	0	5	516	114	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Act Effct Green (s)	74.1		6.3	76.3	8.5	
Actuated g/C Ratio	0.82		0.07	0.85	0.09	
v/c Ratio	0.95		0.04	0.17	0.35	
Control Delay	16.8		39.5	1.9	39.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	16.8		39.5	1.9	39.2	
LOS	B		D	A	D	
Approach Delay	16.8			2.2	39.2	
Approach LOS	B			A	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 15.3 — Intersection LOS: B
Intersection Capacity Utilization 71.4% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

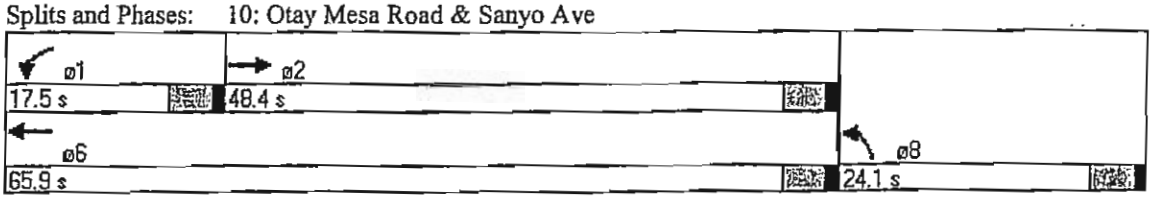


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.97	0.95
Frt	0.960				0.998	
Flt Protected			0.950		0.953	
Satd. Flow (prot)	3398	0	1770	3539	3437	0
Flt Permitted			0.950		0.953	
Satd. Flow (perm)	3398	0	1770	3539	3437	0
Satd. Flow (RTOR)	81				1	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	510	186	14	1557	363	4
Adj. Flow (vph)	630	230	17	1922	448	5
Lane Group Flow (vph)	860	0	17	1922	453	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Act Effct Green (s)	62.7		6.7	65.2	16.8	
Actuated g/C Ratio	0.70		0.07	0.72	0.19	
v/c Ratio	0.36		0.13	0.75	0.70	
Control Delay	8.3		40.6	10.4	40.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	8.3		40.6	10.4	40.2	
LOS	A		D	B	D	
Approach Delay	8.3			10.7	40.2	
Approach LOS	A			B	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 14.2 — Intersection LOS: B
Intersection Capacity Utilization 60.2% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

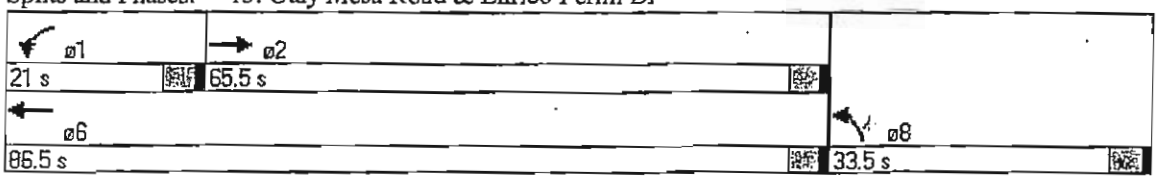


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt	0.995					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3522	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3522	0	1770	1863	1770	1583
Satd. Flow (RTOR)	5					58
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1502	56	37	340	49	49
Adj. Flow (vph)	1767	66	44	400	58	58
Lane Group Flow (vph)	1833	0	44	400	58	58
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Act Effct Green (s)	55.0		8.1	61.8	8.8	8.8
Actuated g/C Ratio	0.70		0.10	0.78	0.11	0.11
v/c Ratio	0.75		0.26	0.27	0.30	0.26
Control Delay	11.8		41.9	2.9	41.1	14.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	11.8		41.9	2.9	41.1	14.0
LOS	B		D	A	D	B
Approach Delay	11.8			6.7	27.6	
Approach LOS	B			A	C	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 79
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 11.6 — Intersection LOS: B
Intersection Capacity Utilization 53.3% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

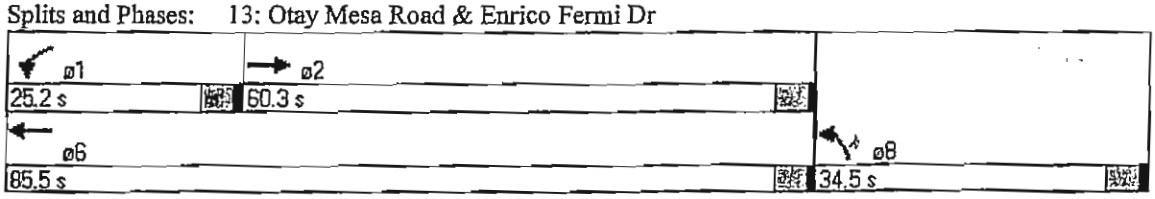


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt	0.993					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3514	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3514	0	1770	1863	1770	1583
Satd. Flow (RTOR)	6					127
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	474	25	119	792	76	117
Adj. Flow (vph)	515	27	129	861	83	127
Lane Group Flow (vph)	542	0	129	861	83	127
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Act Effct Green (s)	17.9		9.2	25.5	8.5	8.5
Actuated g/C Ratio	0.42		0.20	0.60	0.20	0.20
v/c Ratio	0.37		0.37	0.78	0.24	0.31
Control Delay	11.1		21.6	11.6	20.7	7.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	11.1		21.6	11.6	20.7	7.5
LOS	B		C	B	C	A
Approach Delay	11.1			12.9	12.7	
Approach LOS	B			B	B	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 42.8
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 12.3 — Intersection LOS: B
Intersection Capacity Utilization 52.6% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

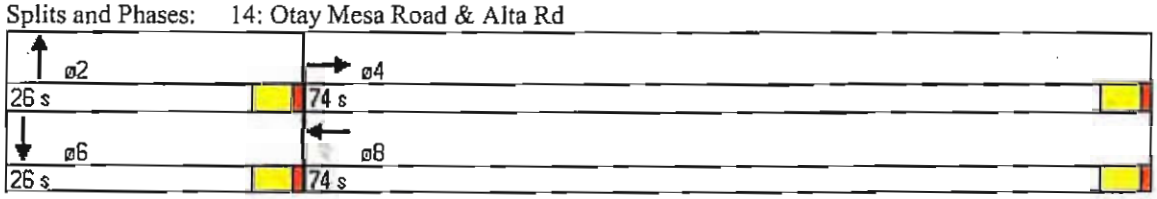


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt		0.913									0.882	
Flt Protected	0.950						0.950	0.955				
Satd. Flow (prot)	1770	1701	0	0	1863	0	1681	1690	0	0	1643	0
Flt Permitted	0.677						0.477	0.454				
Satd. Flow (perm)	1261	1701	0	0	1863	0	844	803	0	0	1643	0
Satd. Flow (RTOR)		166									171	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	445	474	655	0	118	0	205	6	0	0	23	162
Adj. Flow (vph)	468	499	689	0	124	0	216	6	0	0	24	171
Lane Group Flow (vph)	468	1188	0	0	124	0	108	114	0	0	195	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	74.0	74.0	0.0	74.0	74.0	0.0	26.0	26.0	0.0	26.0	26.0	0.0
Act Effct Green (s)	61.6	61.6			61.6		16.5	16.5			16.5	
Actuated g/C Ratio	0.71	0.71			0.71		0.19	0.19			0.19	
v/c Ratio	0.52	0.95			0.09		0.67	0.75			0.43	
Control Delay	8.9	27.5			4.7		57.1	65.5			10.9	
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	
Total Delay	8.9	27.5			4.7		57.1	65.5			10.9	
LOS	A	C			A		E	E			B	
Approach Delay		22.2			4.7			61.4			10.9	
Approach LOS		C			A			E			B	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 86.8
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 24.2 — Intersection LOS: C
Intersection Capacity Utilization 92.1% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd

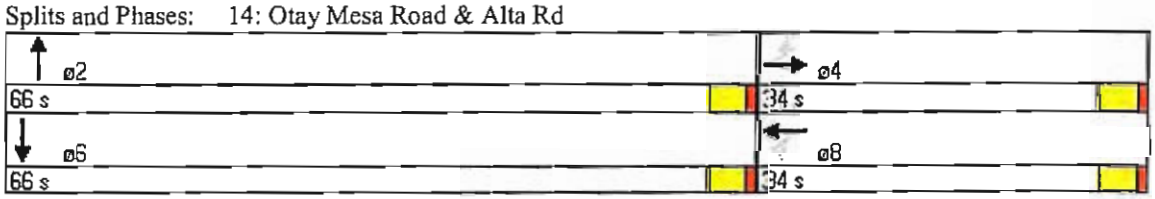


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt		0.913									0.868	
Flt Protected	0.950						0.950	0.955				
Satd. Flow (prot)	1770	1701	0	0	1863	0	1681	1690	0	0	1617	0
Flt Permitted	0.155						0.434	0.407				
Satd. Flow (perm)	289	1701	0	0	1863	0	768	720	0	0	1617	0
Satd. Flow (RTOR)		71									140	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	46	190	263	0	445	0	748	22	0	0	9	417
Adj. Flow (vph)	48	200	277	0	468	0	787	23	0	0	9	439
Lane Group Flow (vph)	48	477	0	0	468	0	394	416	0	0	448	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	34.0	34.0	0.0	34.0	34.0	0.0	66.0	66.0	0.0	66.0	66.0	0.0
Act Effct Green (s)	25.6	25.6			25.6		54.3	54.3			54.3	
Actuated g/C Ratio	0.29	0.29			0.29		0.61	0.61			0.61	
v/c Ratio	0.57	0.88			0.87		0.84	0.94			0.43	
Control Delay	59.2	46.2			49.7		33.0	50.3			7.6	
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	
Total Delay	59.2	46.2			49.7		33.0	50.3			7.6	
LOS	E	D			D		C	D			A	
Approach Delay		47.4			49.7			41.9			7.6	
Approach LOS		D			D			D			A	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 88.7
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 37.9 — Intersection LOS: D
Intersection Capacity Utilization 95.8% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd

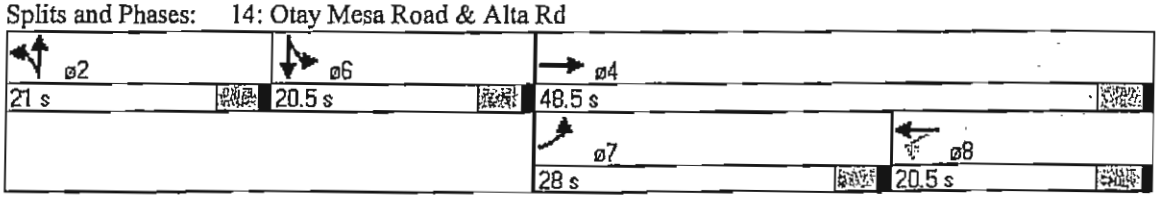


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Frt		0.933									0.886	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	3302	0	0	3539	0	3433	1863	0	0	1650	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1770	3302	0	0	3539	0	3433	1863	0	0	1650	0
Satd. Flow (RTOR)		318									171	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	445	620	496	0	171	0	235	8	0	0	30	162
Adj. Flow (vph)	468	653	522	0	180	0	247	8	0	0	32	171
Lane Group Flow (vph)	468	1175	0	0	180	0	247	8	0	0	203	0
Turn Type	Prot			Perm			Split			Split		
Protected Phases	7	4			8		2	2		6	6	
Permitted Phases				8								
Total Split (s)	28.0	48.5	0.0	20.5	20.5	0.0	21.0	21.0	0.0	20.5	20.5	0.0
Act Effct Green (s)	23.6	34.0			9.2		10.5	10.5			8.6	
Actuated g/C Ratio	0.36	0.52			0.14		0.16	0.16			0.13	
v/c Ratio	0.73	0.63			0.38		0.45	0.03			0.56	
Control Delay	30.4	10.0			30.5		29.7	26.6			14.4	
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	
Total Delay	30.4	10.0			30.5		29.7	26.6			14.4	
LOS	C	A			C		C	C			B	
Approach Delay		15.8			30.5			29.6			14.4	
Approach LOS		B			C			C			B	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 65.6
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 18.4 — Intersection LOS: B
Intersection Capacity Utilization 69.4% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd

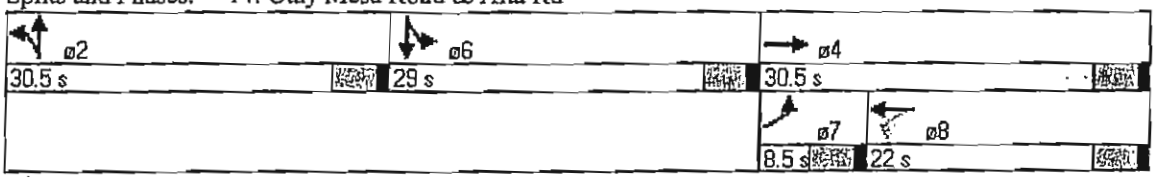


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Frt		0.913									0.869	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	3231	0	0	3539	0	3433	1863	0	0	1619	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1770	3231	0	0	3539	0	3433	1863	0	0	1619	0
Satd. Flow (RTOR)		375									112	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	46	257	356	0	570	0	787	27	0	0	12	417
Adj. Flow (vph)	48	271	375	0	600	0	828	28	0	0	13	439
Lane Group Flow (vph)	48	646	0	0	600	0	828	28	0	0	452	0
Turn Type	Prot			Perm			Split			Split		
Protected Phases	7	4			8		2	2		6	6	
Permitted Phases				8								
Total Split (s)	8.5	30.5	0.0	22.0	22.0	0.0	30.5	30.5	0.0	29.0	29.0	0.0
Act Effct Green (s)	4.7	20.7			16.3		22.5	22.5			20.6	
Actuated g/C Ratio	0.06	0.27			0.21		0.29	0.29			0.27	
v/c Ratio	0.46	0.56			0.80		0.82	0.05			0.87	
Control Delay	56.8	12.3			40.3		34.7	22.9			41.1	
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	
Total Delay	56.8	12.3			40.3		34.7	22.9			41.1	
LOS	E	B			D		C	C			D	
Approach Delay		15.4			40.3			34.3			41.1	
Approach LOS		B			D			C			D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 76.6
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 31.8 — Intersection LOS: C
Intersection Capacity Utilization 96.5% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd

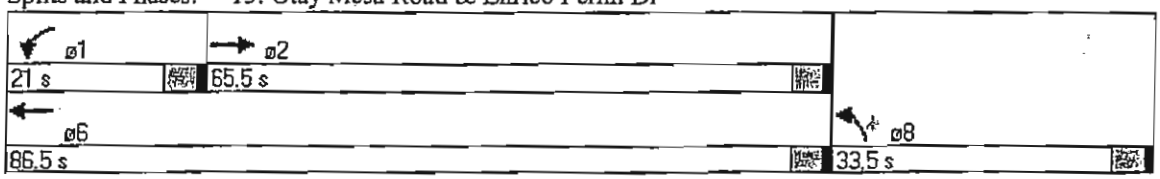


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt	0.995					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3522	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3522	0	1770	1863	1770	1583
Satd. Flow (RTOR)	4					199
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1806	56	50	449	49	169
Adj. Flow (vph)	2125	66	59	528	58	199
Lane Group Flow (vph)	2191	0	59	528	58	199
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Act Effct Green (s)	62.0		8.9	72.6	9.1	9.1
Actuated g/C Ratio	0.69		0.10	0.81	0.10	0.10
v/c Ratio	0.90		0.34	0.35	0.32	0.59
Control Delay	20.2		44.8	3.2	43.7	13.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	20.2		44.8	3.2	43.7	13.5
LOS	C		D	A	D	B
Approach Delay	20.2			7.4	20.3	
Approach LOS	C			A	C	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 89.8
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 17.8 — Intersection LOS: B
Intersection Capacity Utilization 68.8% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

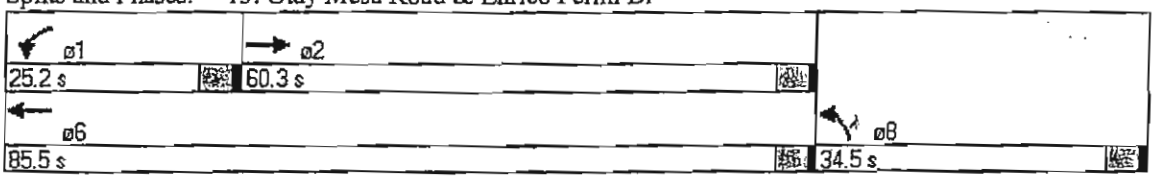


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	0.88
Frt	0.994					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3518	0	1770	1863	1770	2787
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3518	0	1770	1863	1770	2787
Satd. Flow (RTOR)	5					736
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	614	25	76	71	149	1587
Adj. Flow (vph)	667	27	83	77	162	1725
Lane Group Flow (vph)	694	0	83	77	162	1725
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Act Effct Green (s)	19.6		9.2	30.2	31.5	31.5
Actuated g/C Ratio	0.28		0.13	0.43	0.45	0.45
v/c Ratio	0.70		0.37	0.10	0.20	1.04
Control Delay	26.9		35.0	10.4	16.2	48.3
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	26.9		35.0	10.4	16.2	48.3
LOS	C		D	B	B	D
Approach Delay	26.9			23.2	45.5	
Approach LOS	C			C	D	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 69.9
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 39.5 — Intersection LOS: D
Intersection Capacity Utilization 80.0% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

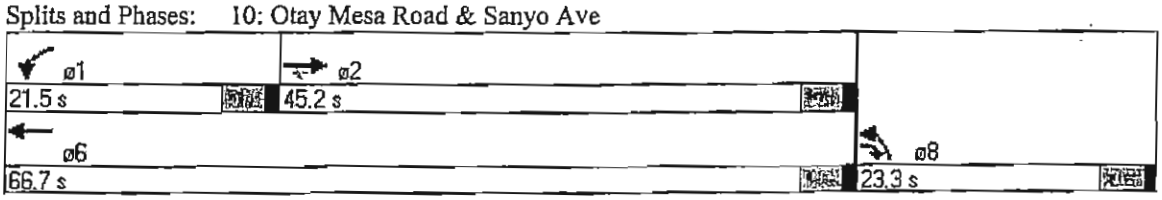


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	0.95
Frt		0.850			0.995	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3539	1583	1770	3539	3430	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3539	1583	1770	3539	3430	0
Satd. Flow (RTOR)		440			4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	2417	360	4	720	88	3
Adj. Flow (vph)	3021	450	5	900	110	4
Lane Group Flow (vph)	3021	450	5	900	114	0
Turn Type		pm+ov	Prot			
Protected Phases	2	8	1	6	8	
Permitted Phases		2				
Total Split (s)	45.2	23.3	21.5	66.7	23.3	0.0
Act Effct Green (s)	71.0	87.0	6.3	73.2	8.8	
Actuated g/C Ratio	0.79	0.97	0.07	0.81	0.10	
v/c Ratio	1.08	0.29	0.04	0.31	0.34	
Control Delay	55.5	0.5	39.5	2.5	38.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	55.5	0.5	39.5	2.5	38.7	
LOS	E	A	D	A	D	
Approach Delay	48.4			2.8	38.7	
Approach LOS	D			A	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 38.9 Intersection LOS: D
Intersection Capacity Utilization 76.8% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

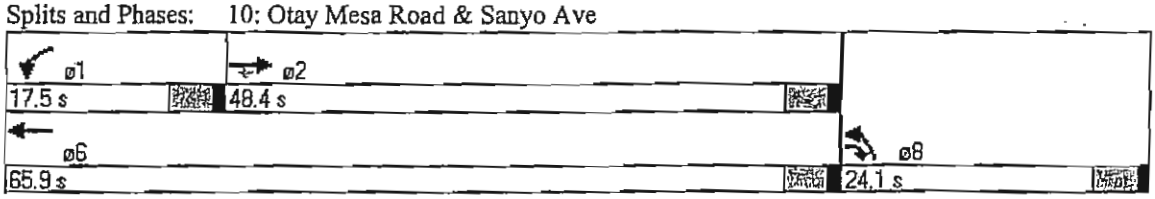


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	0.95
Frt		0.850			0.998	
Flt Protected			0.950		0.953	
Satd. Flow (prot)	3539	1583	1770	3539	3437	0
Flt Permitted			0.950		0.953	
Satd. Flow (perm)	3539	1583	1770	3539	3437	0
Satd. Flow (RTOR)		230			1	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	650	186	14	1819	363	4
Adj. Flow (vph)	802	230	17	2246	448	5
Lane Group Flow (vph)	802	230	17	2246	453	0
Turn Type		pm+ov	Prot			
Protected Phases	2	8	1	6	8	
Permitted Phases		2				
Total Split (s)	48.4	24.1	17.5	65.9	24.1	0.0
Act Effct Green (s)	62.4	86.7	6.7	64.9	17.1	
Actuated g/C Ratio	0.69	0.96	0.07	0.72	0.19	
v/c Ratio	0.33	0.15	0.13	0.88	0.69	
Control Delay	7.6	0.4	40.6	15.9	39.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	7.6	0.4	40.6	15.9	39.5	
LOS	A	A	D	B	D	
Approach Delay	6.0			16.1	39.5	
Approach LOS	A			B	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 16.2 — Intersection LOS: B
Intersection Capacity Utilization 67.4% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

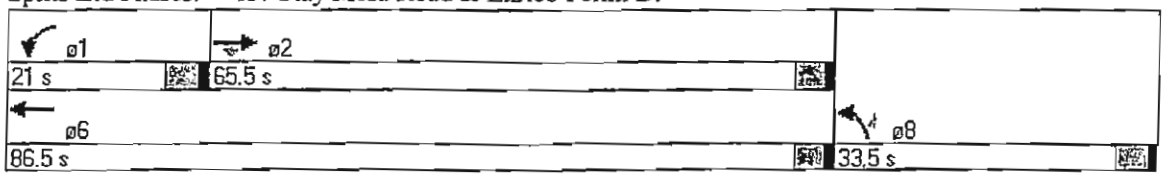


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱	↰	↑↑	↰	↱
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	1770	1583
Satd. Flow (RTOR)		213				25
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1901	315	9	534	131	21
Adj. Flow (vph)	2236	371	11	628	154	25
Lane Group Flow (vph)	2236	371	11	628	154	25
Turn Type		Perm	Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Total Split (s)	65.5	65.5	21.0	86.5	33.5	33.5
Act Effct Green (s)	62.1	62.1	6.7	64.1	13.0	13.0
Actuated g/C Ratio	0.73	0.73	0.07	0.75	0.15	0.15
v/c Ratio	0.87	0.31	0.09	0.24	0.57	0.09
Control Delay	15.6	3.1	43.9	3.7	42.5	13.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.6	3.1	43.9	3.7	42.5	13.6
LOS	B	A	D	A	D	B
Approach Delay	13.8			4.4	38.4	
Approach LOS	B			A	D	
Queue Length 50th (ft)	331	18	5	41	74	0
Queue Length 95th (ft)	#866	75	23	74	142	20
Internal Link Dist (ft)	1250			2512	2644	
Turn Bay Length (ft)						
Base Capacity (vph)	2578	1211	290	2818	516	479
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.31	0.04	0.22	0.30	0.05

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 85.2
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 13.4 Intersection LOS: B
Intersection Capacity Utilization 66.5% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

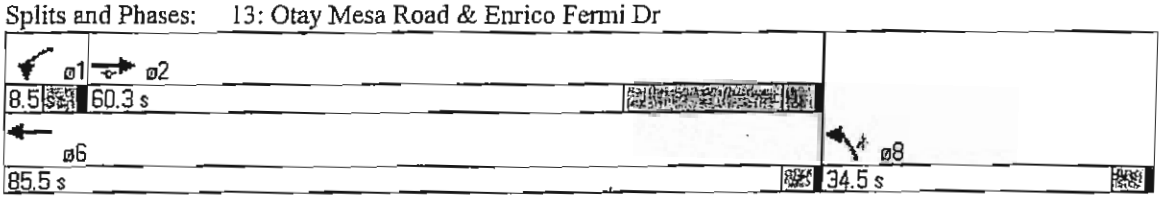


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3539	1583	1770	3539	1770	1583
Satd. Flow (RTOR)		112				12
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	687	103	13	1713	321	11
Adj. Flow (vph)	747	112	14	1862	349	12
Lane Group Flow (vph)	747	112	14	1862	349	12
Turn Type		Perm	Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Total Split (s)	60.3	60.3	8.5	85.5	34.5	34.5
Act Effct Green (s)	48.9	48.9	5.0	51.4	21.3	21.3
Actuated g/C Ratio	0.60	0.60	0.06	0.63	0.26	0.26
v/c Ratio	0.35	0.11	0.14	0.84	0.76	0.03
Control Delay	9.8	2.3	54.7	16.3	43.7	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.8	2.3	54.7	16.3	43.7	15.9
LOS	A	A	D	B	D	B
Approach Delay	8.8			16.5	42.8	
Approach LOS	A			B	D	
Queue Length 50th (ft)	83	0	7	347	160	0
Queue Length 95th (ft)	179	22	34	563	#387	16
Internal Link Dist (ft)	1246			2512	2660	
Turn Bay Length (ft)						
Base Capacity (vph)	2469	1139	102	2611	629	571
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.10	0.14	0.71	0.55	0.02

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 82
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 17.5 Intersection LOS: B
Intersection Capacity Utilization 71.8% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	0.95	0.97	1.00	1.00	1.00	0.95	0.95
Frt			0.850								0.911	0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1863	1583	0	3539	0	3433	1863	0	0	1612	1504
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1863	1583	0	3539	0	3433	1863	0	0	1612	1504
Satd. Flow (RTOR)			532								51	109
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	445	646	747	0	220	0	208	13	0	0	40	162
Adj. Flow (vph)	468	680	786	0	232	0	219	14	0	0	42	171
Lane Group Flow (vph)	468	680	786	0	232	0	219	14	0	0	104	109
Turn Type	Split		Perm	Split			Split			Split		Perm
Protected Phases	4	4		8	8		2	2		6	6	
Permitted Phases			4									6
Total Split (s)	38.0	38.0	38.0	20.5	20.5	0.0	20.5	20.5	0.0	20.5	20.5	20.5
Act Effct Green (s)	34.3	34.3	34.3		11.1		10.9	10.9			9.0	9.0
Actuated g/C Ratio	0.42	0.42	0.42		0.14		0.13	0.13			0.11	0.11
v/c Ratio	0.32	0.87	0.81		0.48		0.48	0.06			0.47	0.42
Control Delay	18.0	37.2	15.3		36.9		37.0	33.1			27.3	12.7
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0			0.0	0.0
Total Delay	18.0	37.2	15.3		36.9		37.0	33.1			27.3	12.7
LOS	B	D	B		D		D	C			C	B
Approach Delay		23.7			36.9			36.8			19.8	
Approach LOS		C			D			D			B	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 81.4
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 25.7 — Intersection LOS: C
Intersection Capacity Utilization 67.7% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd

ø2	ø6	ø3	ø4	ø8
20.5 s	20.5 s	20.5 s	38 s	20.5 s

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	0.95	0.97	1.00	1.00	1.00	0.95	0.95
Frt			0.850								0.862	0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1863	1583	0	3539	0	3433	1863	0	0	1525	1504
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1863	1583	0	3539	0	3433	1863	0	0	1525	1504
Satd. Flow (RTOR)			326								219	220
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	46	302	310	0	630	0	622	37	0	0	18	417
Adj. Flow (vph)	48	318	326	0	663	0	655	39	0	0	19	439
Lane Group Flow (vph)	48	318	326	0	663	0	655	39	0	0	238	220
Turn Type	Split		Perm	Split			Split			Split		Perm
Protected Phases	4	4		8	8		2	2		6	6	
Permitted Phases			4									6
Total Split (s)	32.0	32.0	32.0	33.0	33.0	0.0	34.0	34.0	0.0	21.0	21.0	21.0
Act Effct Green (s)	20.3	20.3	20.3		21.9		22.4	22.4			9.3	9.3
Actuated g/C Ratio	0.22	0.22	0.22		0.24		0.25	0.25			0.10	0.10
v/c Ratio	0.06	0.77	0.54		0.78		0.78	0.09			0.68	0.63
Control Delay	32.5	49.1	7.8		41.6		41.2	31.8			18.9	15.1
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0			0.0	0.0
Total Delay	32.5	49.1	7.8		41.6		41.2	31.8			18.9	15.1
LOS	C	D	A		D		D	C			B	B
Approach Delay		28.5			41.6			40.7			17.1	
Approach LOS		C			D			D			B	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 91.3
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 33.2 — Intersection LOS: C
Intersection Capacity Utilization 62.4% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd

ø2	ø6	ø4	ø8
34 s	21 s	32 s	33 s

APPENDIX D

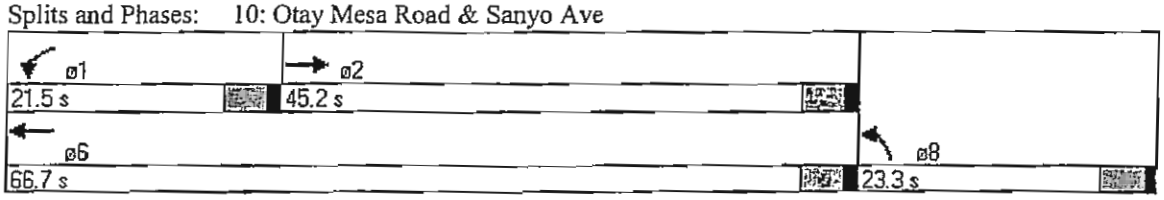
- MITIGATED EXISTING PLUS PROJECT WITH SR-905 EXTENDED TO ENRICO FERMI SYNCHRO INTERSECTION WORKSHEETS

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.949				0.995	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3359	0	1770	1863	3430	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3359	0	1770	1863	3430	0
Satd. Flow (RTOR)	134				4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	699	360	4	167	88	3
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	874	450	5	209	110	4
Lane Group Flow (vph)	1324	0	5	209	114	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Detector Phases	2		1	6	8	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	20.5		8.5	20.5	8.5	
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Total Split (%)	50.2%	0.0%	23.9%	74.1%	25.9%	0.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Min		None	C-Min	None	
Act Effct Green (s)	74.1		6.3	76.3	8.5	
Actuated g/C Ratio	0.82		0.07	0.85	0.09	
v/c Ratio	0.47		0.04	0.13	0.35	
Control Delay	1.8		39.5	2.0	39.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	1.8		39.5	2.0	39.2	
LOS	A		D	A	D	
Approach Delay	1.8			2.8	39.2	
Approach LOS	A			A	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.47
Intersection Signal Delay: 4.5 Intersection LOS: A
Intersection Capacity Utilization 40.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

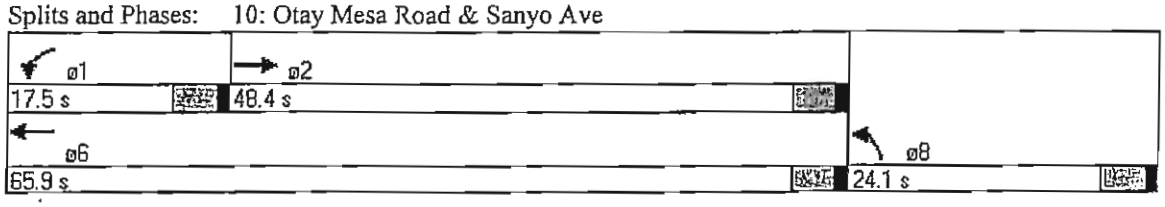


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.923				0.998	
Flt Protected			0.950		0.953	
Satd. Flow (prot)	3267	0	1770	1863	3437	0
Flt Permitted			0.950		0.953	
Satd. Flow (perm)	3267	0	1770	1863	3437	0
Satd. Flow (RTOR)	243				1	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	186	197	14	599	363	4
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	230	243	17	740	448	5
Lane Group Flow (vph)	473	0	17	740	453	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Detector Phases	2		1	6	8	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	20.5		8.5	20.5	8.5	
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Total Split (%)	53.8%	0.0%	19.4%	73.2%	26.8%	0.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Min		None	C-Min	None	
Act Effct Green (s)	62.1		6.7	64.5	17.5	
Actuated g/C Ratio	0.69		0.07	0.72	0.19	
v/c Ratio	0.20		0.13	0.55	0.68	
Control Delay	3.8		40.6	8.6	38.6	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	3.8		40.6	8.6	38.6	
LOS	A		D	A	D	
Approach Delay	3.8			9.3	38.6	
Approach LOS	A			A	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 15.7 Intersection LOS: B
Intersection Capacity Utilization 48.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

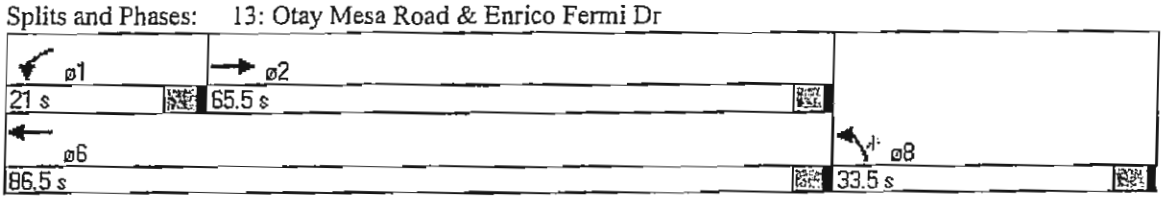


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.984					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1833	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1833	0	1770	1863	1770	1583
Satd. Flow (RTOR)	8					482
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	414	56	180	94	49	555
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	487	66	212	111	58	653
Lane Group Flow (vph)	553	0	212	111	58	653
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Detector Phases	2		1	6	8	8
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.5		8.5	20.5	20.5	20.5
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Total Split (%)	54.6%	0.0%	17.5%	72.1%	27.9%	27.9%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	27.2		14.6	46.4	18.7	18.7
Actuated g/C Ratio	0.37		0.20	0.62	0.25	0.25
v/c Ratio	0.82		0.61	0.10	0.13	0.86
Control Delay	32.5		42.1	6.8	25.7	21.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	32.5		42.1	6.8	25.7	21.1
LOS	C		D	A	C	C
Approach Delay	32.5			30.0	21.5	
Approach LOS	C			C	C	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 74.3
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 27.0 — Intersection LOS: C
Intersection Capacity Utilization 66.2% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

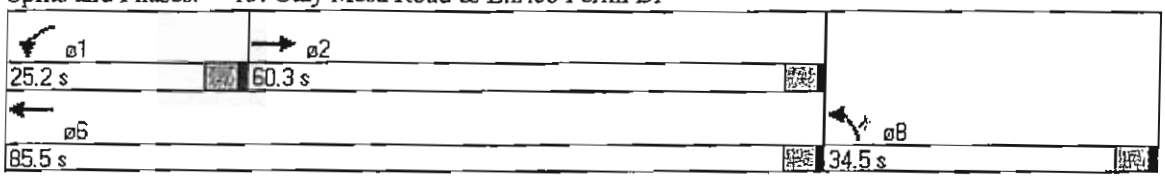


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.978					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1822	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1822	0	1770	1863	1770	1583
Satd. Flow (RTOR)	11					21
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	131	25	675	363	76	19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	142	27	734	395	83	21
Lane Group Flow (vph)	169	0	734	395	83	21
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Detector Phases	2		1	6	8	8
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.5		8.5	20.5	20.5	20.5
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Total Split (%)	50.3%	0.0%	21.0%	71.3%	28.8%	28.8%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	10.2		21.9	33.3	8.4	8.4
Actuated g/C Ratio	0.20		0.44	0.67	0.17	0.17
v/c Ratio	0.46		0.95	0.32	0.28	0.07
Control Delay	21.8		42.7	4.4	22.7	10.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	21.8		42.7	4.4	22.7	10.5
LOS	C		D	A	C	B
Approach Delay	21.8			29.3	20.2	
Approach LOS	C			C	C	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 50
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 27.7 — Intersection LOS: C
Intersection Capacity Utilization 60.0% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	445	55	623	0	14	0	155	4	0	0	14	162
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	468	58	656	0	15	0	163	4	0	0	15	171

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	1182	15	167	185
Volume Left (vph)	468	0	163	0
Volume Right (vph)	656	0	0	171
Hadj (s)	-0.22	0.03	0.23	-0.52
Departure Headway (s)	4.8	6.1	6.4	5.7
Degree Utilization, x	1.57	0.02	0.30	0.29
Capacity (veh/h)	740	548	552	620
Control Delay (s)	277.7	9.3	12.1	11.0
Approach Delay (s)	277.7	9.3	12.1	11.0
Approach LOS	F	A	B	B

Intersection Summary			
Delay	214.6		
HCM Level of Service	F		
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	46	22	250	0	52	0	584	13	0	0	6	417
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	48	23	263	0	55	0	615	14	0	0	6	439

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	335	55	628	445
Volume Left (vph)	48	0	615	0
Volume Right (vph)	263	0	0	439
Hadj (s)	-0.41	0.03	0.23	-0.56
Departure Headway (s)	6.5	8.0	6.4	5.8
Degree Utilization, x	0.60	0.12	1.11	0.72
Capacity (veh/h)	526	388	566	600
Control Delay (s)	18.9	12.1	96.4	22.4
Approach Delay (s)	18.9	12.1	96.4	22.4
Approach LOS	C	B	F	C

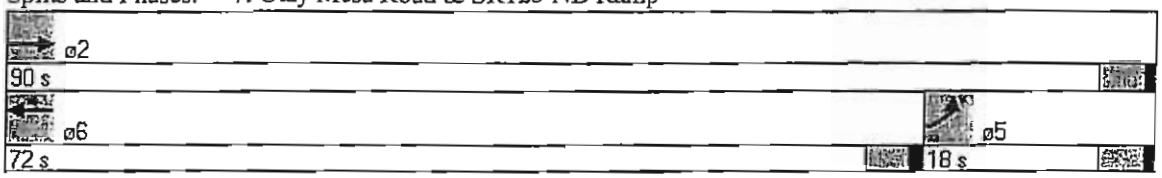
Intersection Summary			
Delay	53.0		
HCM Level of Service	F		
Intersection Capacity Utilization	94.9%	ICU Level of Service	F
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				55		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	45	1060	210	48	0	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	52	1218	241	55	0	0
Lane Group Flow (vph)	52	1218	241	55	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Detector Phases	5	2	6	6		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	8.5	20.5	20.5	20.5		
Total Split (s)	18.0	90.0	72.0	72.0	0.0	0.0
Total Split (%)	20.0%	100.0%	80.0%	80.0%	0.0%	0.0%
Yellow Time (s)	3.5	3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min		
Act Effct Green (s)	21.6	90.0	66.1	66.1		
Actuated g/C Ratio	0.24	1.00	0.73	0.73		
v/c Ratio	0.06	0.34	0.09	0.03		
Control Delay	17.3	0.5	3.8	0.8		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	17.3	0.5	3.8	0.8		
LOS	B	A	A	A		
Approach Delay		1.2	3.2			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 62 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.34
Intersection Signal Delay: 1.6 Intersection LOS: A
Intersection Capacity Utilization 34.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

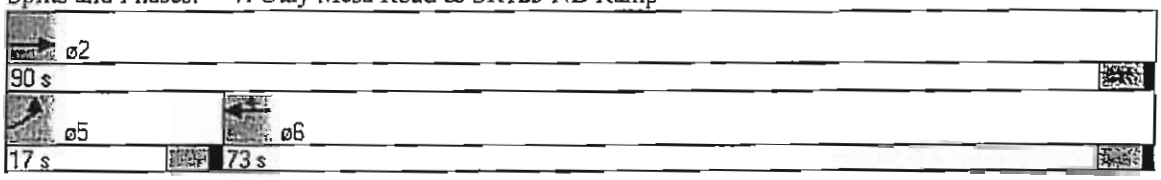


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				377		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	154	354	621	343	0	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	169	389	682	377	0	0
Lane Group Flow (vph)	169	389	682	377	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Detector Phases	5	2	6	6		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	8.5	20.5	20.5	20.5		
Total Split (s)	17.0	90.0	73.0	73.0	0.0	0.0
Total Split (%)	18.9%	100.0%	81.1%	81.1%	0.0%	0.0%
Yellow Time (s)	3.5	3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min		
Act Effct Green (s)	10.2	90.0	71.8	71.8		
Actuated g/C Ratio	0.11	1.00	0.80	0.80		
v/c Ratio	0.43	0.11	0.24	0.16		
Control Delay	37.7	0.1	2.6	0.8		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	37.7	0.1	2.6	0.8		
LOS	D	A	A	A		
Approach Delay		11.5	2.0			
Approach LOS		B	A			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 33 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.43
Intersection Signal Delay: 5.2 Intersection LOS: A
Intersection Capacity Utilization 38.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

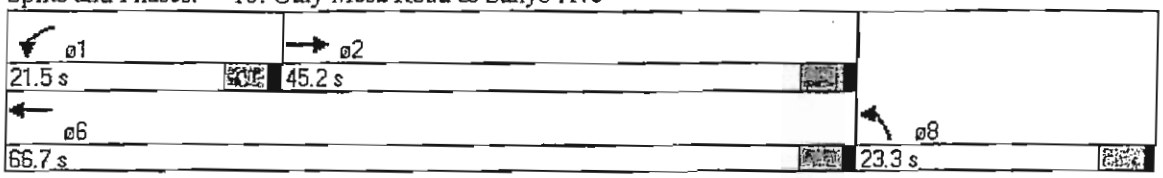


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.944				0.995	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3341	0	1770	1863	3430	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3341	0	1770	1863	3430	0
Satd. Flow (RTOR)	183				4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	812	487	4	211	88	3
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	1015	609	5	264	110	4
Lane Group Flow (vph)	1624	0	5	264	114	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Detector Phases	2		1	6	8	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	20.5		8.5	20.5	8.5	
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Total Split (%)	50.2%	0.0%	23.9%	74.1%	25.9%	0.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Min		None	C-Min	None	
Act Effct Green (s)	74.1		6.3	76.3	8.5	
Actuated g/C Ratio	0.82		0.07	0.85	0.09	
v/c Ratio	0.58		0.04	0.17	0.35	
Control Delay	2.7		39.5	2.1	39.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	2.7		39.5	2.1	39.2	
LOS	A		D	A	D	
Approach Delay	2.7			2.7	39.2	
Approach LOS	A			A	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 4.8 Intersection LOS: A
Intersection Capacity Utilization 48.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

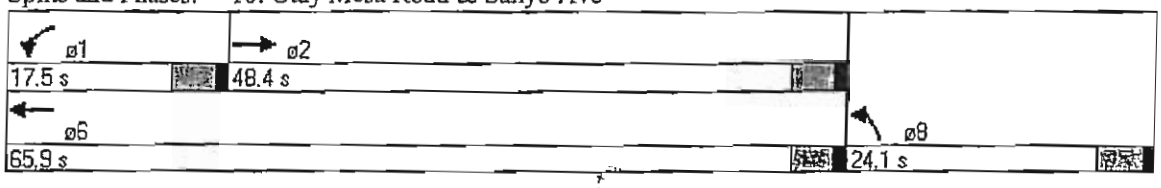


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.948				0.998	
Flt Protected			0.950		0.953	
Satd. Flow (prot)	3355	0	1770	1863	3437	0
Flt Permitted			0.950		0.953	
Satd. Flow (perm)	3355	0	1770	1863	3437	0
Satd. Flow (RTOR)	155				1	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	348	186	14	763	363	4
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	430	230	17	942	448	5
Lane Group Flow (vph)	660	0	17	942	453	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Detector Phases	2		1	6	8	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	20.5		8.5	20.5	8.5	
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Total Split (%)	53.8%	0.0%	19.4%	73.2%	26.8%	0.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Min		None	C-Min	None	
Act Effct Green (s)	62.7		6.7	65.2	16.8	
Actuated g/C Ratio	0.70		0.07	0.72	0.19	
v/c Ratio	0.28		0.13	0.70	0.70	
Control Delay	6.1		40.6	11.1	40.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	6.1		40.6	11.1	40.2	
LOS	A		D	B	D	
Approach Delay	6.1			11.6	40.2	
Approach LOS	A			B	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 16.1 Intersection LOS: B
Intersection Capacity Utilization 57.3% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

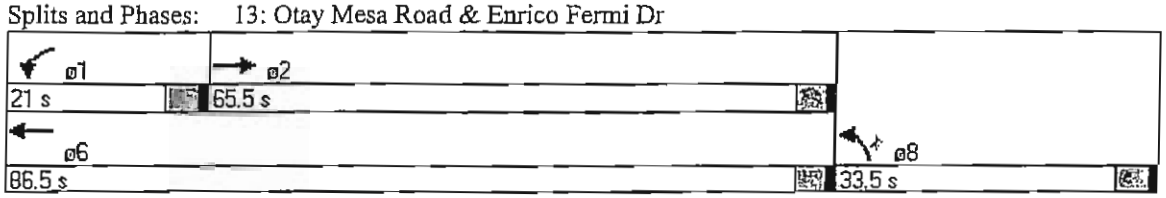


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.988					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1840	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1840	0	1770	1863	1770	1583
Satd. Flow (RTOR)	6					162
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	589	56	49	803	244	138
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	693	66	58	945	287	162
Lane Group Flow (vph)	759	0	58	945	287	162
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Detector Phases	2		1	6	8	8
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.5		8.5	20.5	20.5	20.5
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Total Split (%)	54.6%	0.0%	17.5%	72.1%	27.9%	27.9%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	36.7		9.2	43.3	17.7	17.7
Actuated g/C Ratio	0.51		0.12	0.61	0.25	0.25
v/c Ratio	0.80		0.27	0.83	0.65	0.32
Control Delay	23.9		42.6	18.1	37.1	7.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	23.9		42.6	18.1	37.1	7.5
LOS	C		D	B	D	A
Approach Delay	23.9			19.5	26.4	
Approach LOS	C			B	C	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 71.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 22.4 — Intersection LOS: C
Intersection Capacity Utilization 62.4% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

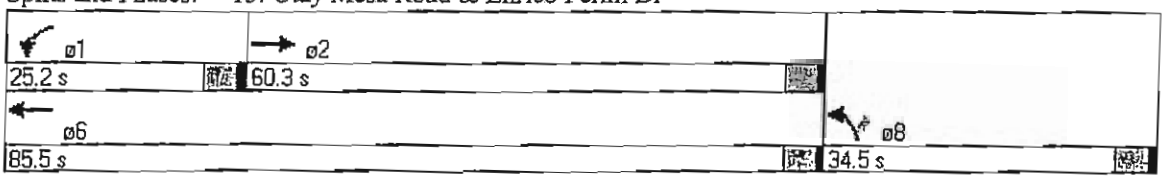


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.985					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1835	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1835	0	1770	1863	1770	1583
Satd. Flow (RTOR)	7					308
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	201	25	913	527	76	283
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	218	27	992	573	83	308
Lane Group Flow (vph)	245	0	992	573	83	308
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Detector Phases	2		1	6	8	8
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.5		8.5	20.5	20.5	20.5
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Total Split (%)	50.3%	0.0%	21.0%	71.3%	28.8%	28.8%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	12.7		21.6	38.3	9.0	9.0
Actuated g/C Ratio	0.23		0.39	0.69	0.16	0.16
v/c Ratio	0.58		1.44	0.45	0.29	0.60
Control Delay	24.5		229.2	5.6	24.0	8.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	24.5		229.2	5.6	24.0	8.6
LOS	C		F	A	C	A
Approach Delay	24.5			147.3	11.9	
Approach LOS	C			F	B	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 55.5
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.44
Intersection Signal Delay: 109.6 — Intersection LOS: F
Intersection Capacity Utilization 76.9% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	445	474	655	0	118	0	164	6	0	0	23	162
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	468	499	689	0	124	0	173	6	0	0	24	171

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	1657	124	179	195
Volume Left (vph)	468	0	173	0
Volume Right (vph)	689	0	0	171
Hadj (s)	-0.16	0.03	0.23	-0.49
Departure Headway (s)	5.2	6.3	6.7	6.0
Degree Utilization, x	2.39	0.22	0.34	0.33
Capacity (veh/h)	697	538	515	570
Control Delay (s)	643.8	11.0	13.1	11.9
Approach Delay (s)	643.8	11.0	13.1	11.9
Approach LOS	F	B	B	B

Intersection Summary			
Delay	497.8		
HCM Level of Service	F		
Intersection Capacity Utilization	126.9%	ICU Level of Service	H
Analysis Period (min)	15		

 W SR 905

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	46	190	614	0	424	0	614	21	0	0	9	417
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	48	200	646	0	446	0	646	22	0	0	9	439

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	895	446	668	448
Volume Left (vph)	48	0	646	0
Volume Right (vph)	646	0	0	439
Hadj (s)	-0.39	0.03	0.23	-0.55
Departure Headway (s)	9.2	9.6	9.8	9.0
Degree Utilization, x	2.28	1.19	1.82	1.12
Capacity (veh/h)	400	380	372	412
Control Delay (s)	604.5	138.8	401.5	112.5
Approach Delay (s)	604.5	138.8	401.5	112.5
Approach LOS	F	F	F	F

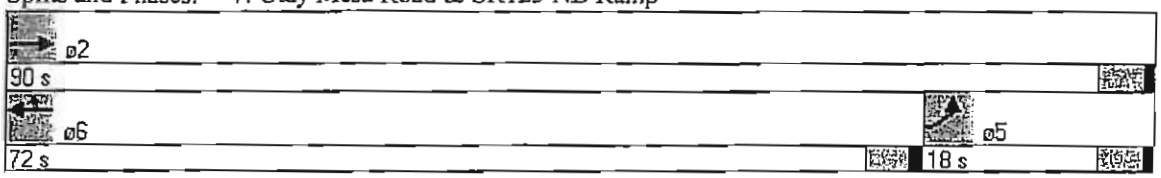
Intersection Summary			
Delay	375.0		
HCM Level of Service	F		
Intersection Capacity Utilization	147.4%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				64		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	45	1235	246	56	0	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	52	1420	283	64	0	0
Lane Group Flow (vph)	52	1420	283	64	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Detector Phases	5	2	6	6		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	8.5	20.5	20.5	20.5		
Total Split (s)	18.0	90.0	72.0	72.0	0.0	0.0
Total Split (%)	20.0%	100.0%	80.0%	80.0%	0.0%	0.0%
Yellow Time (s)	3.5	3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min		
Act Effct Green (s)	24.0	90.0	63.7	63.7		
Actuated g/C Ratio	0.27	1.00	0.71	0.71		
v/c Ratio	0.06	0.40	0.11	0.03		
Control Delay	17.8	0.7	3.1	0.2		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	17.8	0.7	3.1	0.2		
LOS	B	A	A	A		
Approach Delay		1.3	2.5			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 62 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.40
Intersection Signal Delay: 1.6 Intersection LOS: A
Intersection Capacity Utilization 37.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				409		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	154	810	1180	372	0	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	169	890	1297	409	0	0
Lane Group Flow (vph)	169	890	1297	409	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Detector Phases	5	2	6	6		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	8.5	20.5	20.5	20.5		
Total Split (s)	17.0	90.0	73.0	73.0	0.0	0.0
Total Split (%)	18.9%	100.0%	81.1%	81.1%	0.0%	0.0%
Yellow Time (s)	3.5	3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min		
Act Effct Green (s)	10.1	90.0	71.9	71.9		
Actuated g/C Ratio	0.11	1.00	0.80	0.80		
v/c Ratio	0.44	0.25	0.46	0.18		
Control Delay	43.0	0.2	3.0	0.3		
Queue Delay	0.0	0.0	0.2	0.0		
Total Delay	43.0	0.2	3.2	0.3		
LOS	D	A	A	A		
Approach Delay		7.0	2.5			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 33 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.46
Intersection Signal Delay: 4.2 Intersection LOS: A
Intersection Capacity Utilization 43.7% ICU Level of Service A
Analysis Period (min) 15

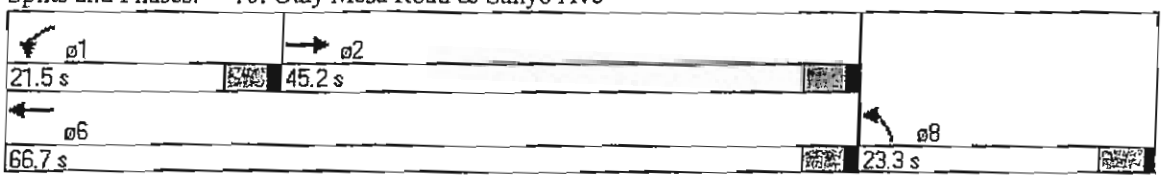
Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.945				0.995	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3345	0	1770	1863	3430	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3345	0	1770	1863	3430	0
Satd. Flow (RTOR)	171				4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	837	487	4	217	88	3
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	1046	609	5	271	110	4
Lane Group Flow (vph)	1655	0	5	271	114	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Detector Phases	2		1	6	8	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	20.5		8.5	20.5	8.5	
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Total Split (%)	50.2%	0.0%	23.9%	74.1%	25.9%	0.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Min		None	C-Min	None	
Act Effct Green (s)	74.1		6.3	76.3	8.5	
Actuated g/C Ratio	0.82		0.07	0.85	0.09	
v/c Ratio	0.59		0.04	0.17	0.35	
Control Delay	2.9		39.5	2.1	39.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	2.9		39.5	2.1	39.2	
LOS	A		D	A	D	
Approach Delay	2.9			2.7	39.2	
Approach LOS	A			A	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 4.9 Intersection LOS: A
Intersection Capacity Utilization 48.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

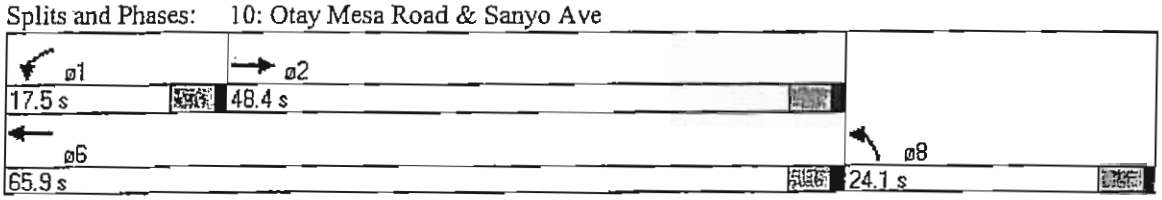


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.936				0.998	
Flt Protected			0.950		0.953	
Satd. Flow (prot)	3313	0	1770	1863	3437	0
Flt Permitted			0.950		0.953	
Satd. Flow (perm)	3313	0	1770	1863	3437	0
Satd. Flow (RTOR)	230				1	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	250	186	14	718	363	4
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	309	230	17	886	448	5
Lane Group Flow (vph)	539	0	17	886	453	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Detector Phases	2		1	6	8	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	20.5		8.5	20.5	8.5	
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Total Split (%)	53.8%	0.0%	19.4%	73.2%	26.8%	0.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Min		None	C-Min	None	
Act Effct Green (s)	62.5		6.7	64.9	17.1	
Actuated g/C Ratio	0.69		0.07	0.72	0.19	
v/c Ratio	0.23		0.13	0.66	0.69	
Control Delay	5.1		40.6	10.3	39.5	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	5.1		40.6	10.3	39.5	
LOS	A		D	B	D	
Approach Delay	5.1			10.9	39.5	
Approach LOS	A			B	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 16.1 Intersection LOS: B
Intersection Capacity Utilization 54.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

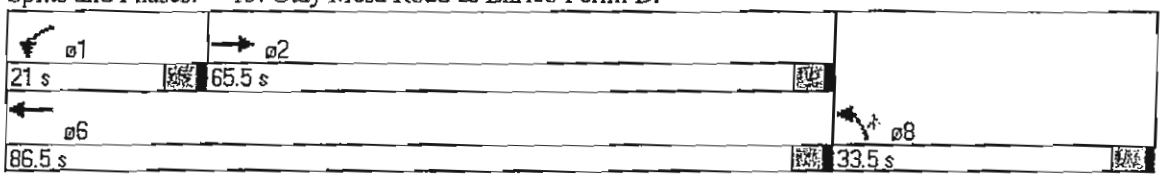


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.988					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1840	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1840	0	1770	1863	1770	1583
Satd. Flow (RTOR)	6					396
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	552	56	252	144	49	750
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	649	66	296	169	58	882
Lane Group Flow (vph)	715	0	296	169	58	882
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Detector Phases	2		1	6	8	8
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.5		8.5	20.5	20.5	20.5
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Total Split (%)	54.6%	0.0%	17.5%	72.1%	27.9%	27.9%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	44.5		17.2	65.8	29.9	29.9
Actuated g/C Ratio	0.43		0.17	0.63	0.29	0.29
v/c Ratio	0.90		1.01	0.14	0.11	1.20
Control Delay	42.3		100.2	7.5	32.2	121.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	42.3		100.2	7.5	32.2	121.4
LOS	D		F	A	C	F
Approach Delay	42.3			66.5	115.9	
Approach LOS	D		.	E	F	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 103.8
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.20
Intersection Signal Delay: 80.3 — Intersection LOS: F
Intersection Capacity Utilization 85.6% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

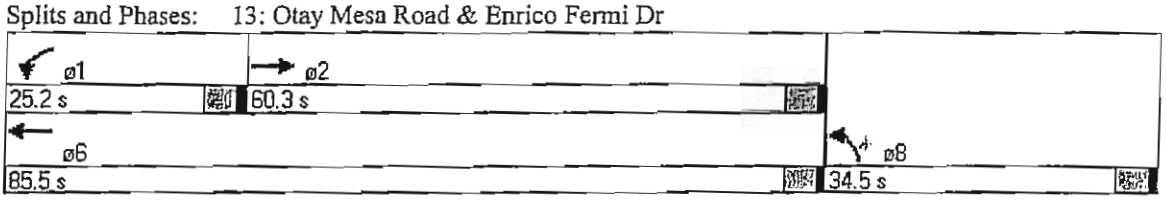


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.985					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1835	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1835	0	1770	1863	1770	1583
Satd. Flow (RTOR)	7					309
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	195	25	848	482	76	284
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	212	27	922	524	83	309
Lane Group Flow (vph)	239	0	922	524	83	309
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Detector Phases	2		1	6	8	8
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.5		8.5	20.5	20.5	20.5
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Total Split (%)	50.3%	0.0%	21.0%	71.3%	28.8%	28.8%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	12.5		21.6	38.1	9.0	9.0
Actuated g/C Ratio	0.23		0.39	0.69	0.16	0.16
v/c Ratio	0.57		1.34	0.41	0.29	0.60
Control Delay	24.4		183.0	5.3	23.8	8.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	24.4		183.0	5.3	23.8	8.6
LOS	C		F	A	C	A
Approach Delay	24.4			118.6	11.8	
Approach LOS	C			F	B	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 55.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.34
Intersection Signal Delay: 87.6 — Intersection LOS: F
Intersection Capacity Utilization 73.0% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	445	218	519	0	125	0	149	6	0	0	21	162
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	468	229	546	0	132	0	157	6	0	0	22	171

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	1244	132	163	193
Volume Left (vph)	468	0	157	0
Volume Right (vph)	546	0	0	171
Hadj (s)	-0.15	0.03	0.23	-0.50
Departure Headway (s)	5.2	6.2	6.7	6.0
Degree Utilization, x	1.78	0.23	0.31	0.32
Capacity (veh/h)	701	547	513	573
Control Delay (s)	370.8	11.0	12.7	11.8
Approach Delay (s)	370.8	11.0	12.7	11.8
Approach LOS	F	B	B	B

Intersection Summary			
Delay	269.8		
HCM Level of Service	F		
Intersection Capacity Utilization	107.5%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	46	184	219	0	398	0	474	19	0	0	9	417
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	48	194	231	0	419	0	499	20	0	0	9	439

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	473	419	519	448
Volume Left (vph)	48	0	499	0
Volume Right (vph)	231	0	0	439
Hadj (s)	-0.24	0.03	0.23	-0.55
Departure Headway (s)	9.3	9.6	9.8	9.0
Degree Utilization, x	1.22	1.12	1.41	1.12
Capacity (veh/h)	391	386	377	412
Control Delay (s)	150.6	113.2	226.9	112.5
Approach Delay (s)	150.6	113.2	226.9	112.5
Approach LOS	F	F	F	F

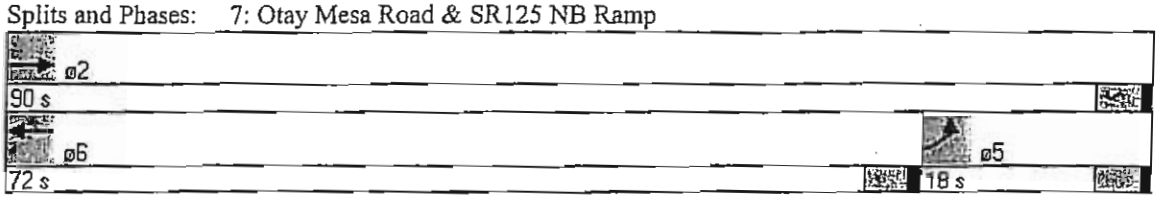
Intersection Summary			
Delay	154.3		
HCM Level of Service	F		
Intersection Capacity Utilization	113.4%	ICU Level of Service	H
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				46		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	45	1255	283	40	0	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	52	1443	325	46	0	0
Lane Group Flow (vph)	52	1443	325	46	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Detector Phases	5	2	6	6		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	8.5	20.5	20.5	20.5		
Total Split (s)	18.0	90.0	72.0	72.0	0.0	0.0
Total Split (%)	20.0%	100.0%	80.0%	80.0%	0.0%	0.0%
Yellow Time (s)	3.5	3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min		
Act Effct Green (s)	23.1	90.0	64.6	64.6		
Actuated g/C Ratio	0.26	1.00	0.72	0.72		
v/c Ratio	0.06	0.41	0.13	0.02		
Control Delay	19.1	0.8	1.9	0.1		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	19.1	0.8	1.9	0.1		
LOS	B	A	A	A		
Approach Delay		1.4	1.7			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 62 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.41
Intersection Signal Delay: 1.4 Intersection LOS: A
Intersection Capacity Utilization 38.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

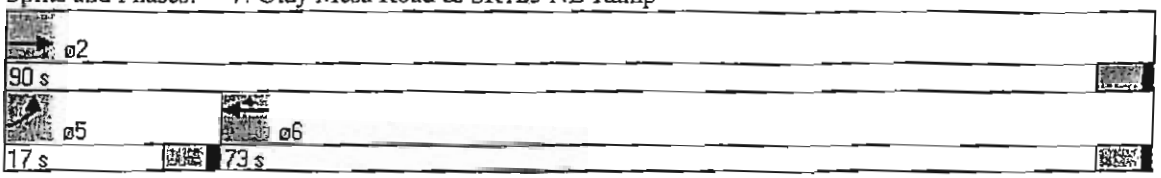


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				343		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	154	439	841	312	0	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	169	482	924	343	0	0
Lane Group Flow (vph)	169	482	924	343	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Detector Phases	5	2	6	6		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	8.5	20.5	20.5	20.5		
Total Split (s)	17.0	90.0	73.0	73.0	0.0	0.0
Total Split (%)	18.9%	100.0%	81.1%	81.1%	0.0%	0.0%
Yellow Time (s)	3.5	3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min		
Act Effct Green (s)	10.2	90.0	71.8	71.8		
Actuated g/C Ratio	0.11	1.00	0.80	0.80		
v/c Ratio	0.43	0.14	0.33	0.15		
Control Delay	39.0	0.1	4.2	1.3		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	39.0	0.1	4.2	1.3		
LOS	D	A	A	A		
Approach Delay		10.2	3.4			
Approach LOS		B	A			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 33 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.43
Intersection Signal Delay: 5.7 Intersection LOS: A
Intersection Capacity Utilization 38.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

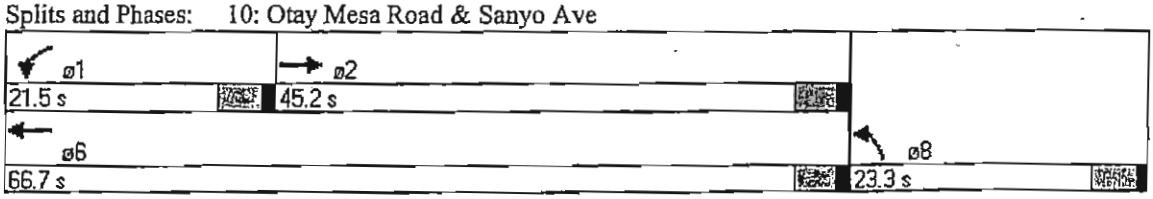


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.957				0.995	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3387	0	1770	1863	3430	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3387	0	1770	1863	3430	0
Satd. Flow (RTOR)	88				4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1218	487	4	350	88	3
Adj. Flow (vph)	1522	609	5	438	110	4
Lane Group Flow (vph)	2131	0	5	438	114	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Act Effct Green (s)	74.1		6.3	76.3	8.5	
Actuated g/C Ratio	0.82		0.07	0.85	0.09	
v/c Ratio	0.76		0.04	0.28	0.35	
Control Delay	5.5		39.5	2.5	39.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	5.5		39.5	2.5	39.2	
LOS	A		D	A	D	
Approach Delay	5.5			2.9	39.2	
Approach LOS	A			A	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 6.5 — Intersection LOS: A
Intersection Capacity Utilization 59.2% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

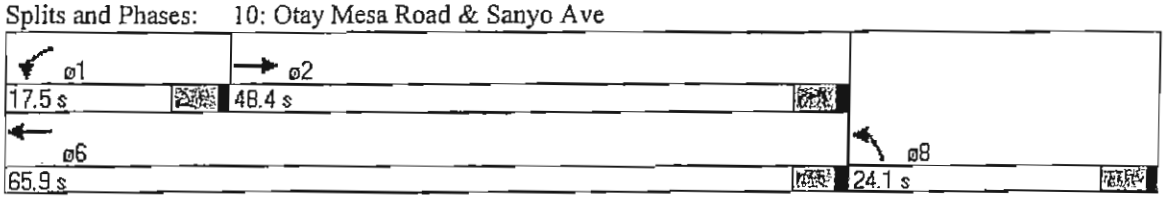


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.954				0.998	
Flt Protected			0.950		0.953	
Satd. Flow (prot)	3376	0	1770	1863	3437	0
Flt Permitted			0.950		0.953	
Satd. Flow (perm)	3376	0	1770	1863	3437	0
Satd. Flow (RTOR)	109				1	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	425	186	14	1081	363	4
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	525	230	17	1335	448	5
Lane Group Flow (vph)	755	0	17	1335	453	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Detector Phases	2		1	6	8	
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	20.5		8.5	20.5	8.5	
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Total Split (%)	53.8%	0.0%	19.4%	73.2%	26.8%	0.0%
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Min		None	C-Min	None	
Act Effct Green (s)	62.7		6.7	65.2	16.8	
Actuated g/C Ratio	0.70		0.07	0.72	0.19	
v/c Ratio	0.32		0.13	0.99	0.70	
Control Delay	6.7		40.6	36.9	40.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	6.7		40.6	36.9	40.2	
LOS	A		D	D	D	
Approach Delay	6.7			36.9	40.2	
Approach LOS	A			D	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 28.6 Intersection LOS: C
Intersection Capacity Utilization 74.0% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

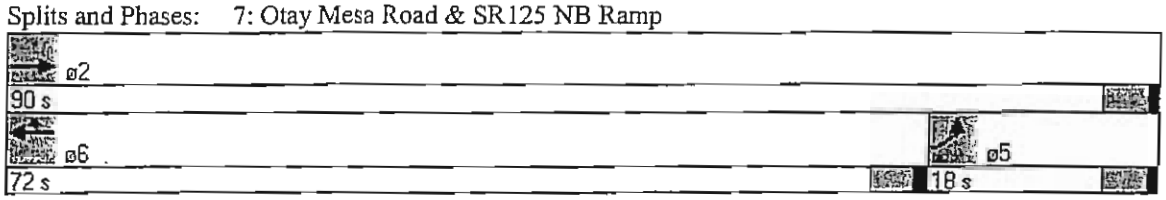


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				92		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	45	1579	355	80	0	0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	52	1815	408	92	0	0
Lane Group Flow (vph)	52	1815	408	92	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Detector Phases	5	2	6	6		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	8.5	20.5	20.5	20.5		
Total Split (s)	18.0	90.0	72.0	72.0	0.0	0.0
Total Split (%)	20.0%	100.0%	80.0%	80.0%	0.0%	0.0%
Yellow Time (s)	3.5	3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lag		Lead	Lead		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min		
Act Effct Green (s)	31.2	90.0	56.5	56.5		
Actuated g/C Ratio	0.35	1.00	0.63	0.63		
v/c Ratio	0.04	0.51	0.18	0.05		
Control Delay	13.5	1.2	8.1	3.1		
Queue Delay	0.0	0.0	0.0	0.0		
Total Delay	13.5	1.2	8.1	3.1		
LOS	B	A	A	A		
Approach Delay		1.5	7.2			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 62 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.51
Intersection Signal Delay: 2.7 Intersection LOS: A
Intersection Capacity Utilization 45.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

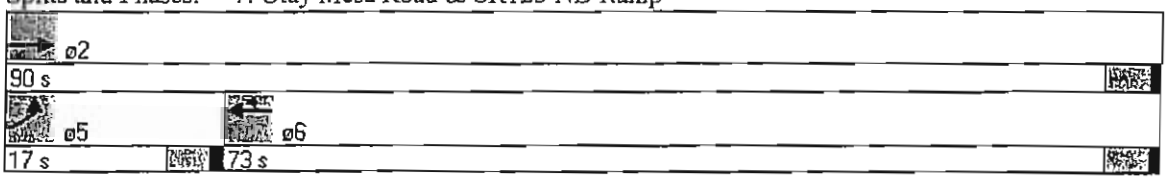


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	0.88	1.00	1.00
Frt				0.850		
Flt Protected	0.950					
Satd. Flow (prot)	3433	3539	3539	2787	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	3539	3539	2787	0	0
Satd. Flow (RTOR)				417		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	154	593	1019	428	0	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	169	652	1120	470	0	0
Lane Group Flow (vph)	169	652	1120	470	0	0
Turn Type	Prot			Perm		
Protected Phases	5	2	6			
Permitted Phases				6		
Detector Phases	5	2	6	6		
Minimum Initial (s)	4.0	4.0	4.0	4.0		
Minimum Split (s)	8.5	20.5	20.5	20.5		
Total Split (s)	17.0	90.0	73.0	73.0	0.0	0.0
Total Split (%)	18.9%	100.0%	81.1%	81.1%	0.0%	0.0%
Yellow Time (s)	3.5	3.5	3.5	3.5		
All-Red Time (s)	1.0	1.0	1.0	1.0		
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Min	C-Min	C-Min		
Act Effct Green (s)	10.2	90.0	71.8	71.8		
Actuated g/C Ratio	0.11	1.00	0.80	0.80		
v/c Ratio	0.43	0.18	0.40	0.20		
Control Delay	40.5	0.1	6.1	2.0		
Queue Delay	0.0	0.0	0.2	0.0		
Total Delay	40.5	0.1	6.2	2.0		
LOS	D	A	A	A		
Approach Delay		8.4	5.0			
Approach LOS		A	A			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 33 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.43
Intersection Signal Delay: 6.2 Intersection LOS: A
Intersection Capacity Utilization 39.2% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Otay Mesa Road & SR125 NB Ramp

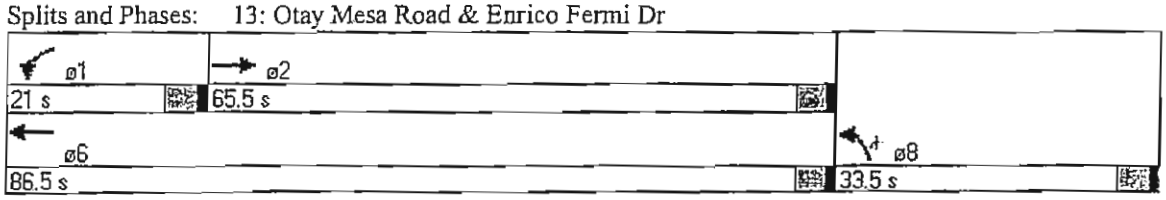


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1848	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1848	0	1770	1863	1770	1583
Satd. Flow (RTOR)	4					281
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	933	56	282	277	49	785
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	1098	66	332	326	58	924
Lane Group Flow (vph)	1164	0	332	326	58	924
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Detector Phases	2		1	6	8	8
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.5		8.5	20.5	20.5	20.5
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Total Split (%)	54.6%	0.0%	17.5%	72.1%	27.9%	27.9%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	61.5		17.0	82.5	29.5	29.5
Actuated g/C Ratio	0.51		0.14	0.69	0.25	0.25
v/c Ratio	1.23		1.32	0.25	0.13	1.54
Control Delay	139.7		210.8	7.7	36.4	274.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	139.7		210.8	7.7	36.4	274.0
LOS	F		F	A	D	F
Approach Delay	139.7			110.2	259.9	
Approach LOS	F			F	F	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.54
Intersection Signal Delay: 174.9 Intersection LOS: F
Intersection Capacity Utilization 107.8% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

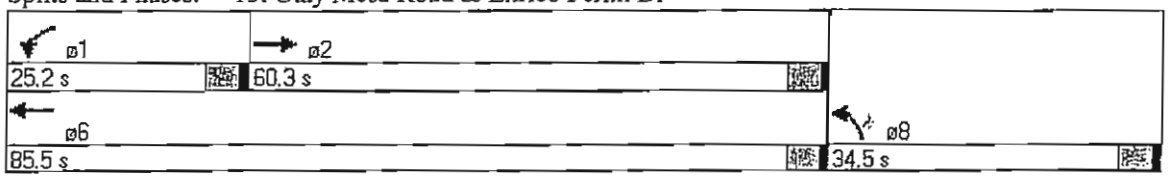


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1848	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1848	0	1770	1863	1770	1583
Satd. Flow (RTOR)	4					337
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	370	25	899	845	76	310
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	402	27	977	918	83	337
Lane Group Flow (vph)	429	0	977	918	83	337
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Detector Phases	2		1	6	8	8
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	20.5		8.5	20.5	20.5	20.5
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Total Split (%)	50.3%	0.0%	21.0%	71.3%	28.8%	28.8%
Yellow Time (s)	3.5		3.5	3.5	3.5	3.5
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None		None	None	Min	Min
Act Effct Green (s)	20.0		21.8	45.9	9.5	9.5
Actuated g/C Ratio	0.31		0.34	0.72	0.15	0.15
v/c Ratio	0.74		1.61	0.68	0.32	0.64
Control Delay	27.4		303.6	8.6	29.3	10.0
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	27.4		303.6	8.6	29.3	10.0
LOS	C		F	A	C	A
Approach Delay	27.4			160.7	13.8	
Approach LOS	C			F	B	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 63.6
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.61
Intersection Signal Delay: 117.4 — Intersection LOS: F
Intersection Capacity Utilization 85.0% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	1042	566	876	0	189	0	250	12	0	0	202	162
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1097	596	922	0	199	0	263	13	0	0	213	171

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	2615	199	276	383
Volume Left (vph)	1097	0	263	0
Volume Right (vph)	922	0	0	171
Hadj (s)	-0.09	0.03	0.22	-0.23
Departure Headway (s)	7.0	8.0	7.9	7.2
Degree Utilization, x	5.07	0.44	0.61	0.76
Capacity (veh/h)	522	410	433	481
Control Delay (s)	1849.7	17.2	22.4	29.7
Approach Delay (s)	1849.7	17.2	22.4	29.7
Approach LOS	F	C	C	D

Intersection Summary			
Delay	1398.8		
HCM Level of Service	F		
Intersection Capacity Utilization	199.3%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	309	263	385	0	556	0	792	38	0	0	435	417
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	325	277	405	0	585	0	834	40	0	0	458	439

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	1007	585	874	897
Volume Left (vph)	325	0	834	0
Volume Right (vph)	405	0	0	439
Hadj (s)	-0.14	0.03	0.22	-0.26
Departure Headway (s)	9.4	9.6	9.8	9.3
Degree Utilization, x	2.64	1.56	2.38	2.32
Capacity (veh/h)	392	388	376	395
Control Delay (s)	763.8	289.2	648.3	621.5
Approach Delay (s)	763.8	289.2	648.3	621.5
Approach LOS	F	F	F	F

Intersection Summary			
Delay	613.2		
HCM Level of Service	F		
Intersection Capacity Utilization	191.3%	ICU Level of Service	H
Analysis Period (min)	15		

APPENDIX E

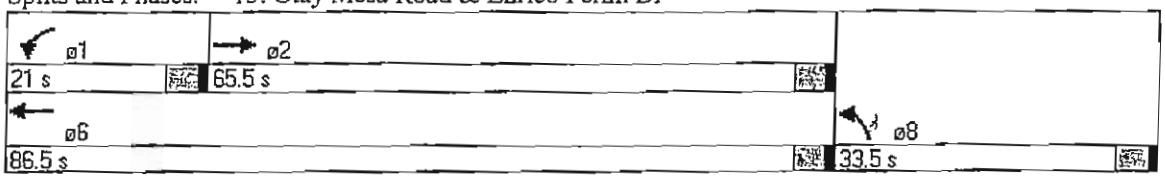
- EXISTING PLUS PROJECT WITH SR-905 EXTENDED TO ENRICO SYNCHRO INTERSECTION WORKSHEETS

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.984					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1833	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1833	0	1770	1863	1770	1583
Satd. Flow (RTOR)	8					482
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	414	56	180	94	49	555
Adj. Flow (vph)	487	66	212	111	58	653
Lane Group Flow (vph)	553	0	212	111	58	653
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Act Effct Green (s)	27.2		14.6	46.4	18.7	18.7
Actuated g/C Ratio	0.37		0.20	0.62	0.25	0.25
v/c Ratio	0.82		0.61	0.10	0.13	0.86
Control Delay	32.5		42.1	6.8	25.7	21.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	32.5		42.1	6.8	25.7	21.1
LOS	C		D	A	C	C
Approach Delay	32.5			30.0	21.5	
Approach LOS	C			C	C	
Queue Length 50th (ft)	233		92	19	21	69
Queue Length 95th (ft)	373		#221	44	58	226
Internal Link Dist (ft)	1250			2512	2644	
Turn Bay Length (ft)						
Base Capacity (vph)	1069		426	1405	646	884
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.52		0.50	0.08	0.09	0.74

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 74.3
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 27.0 Intersection LOS: C
Intersection Capacity Utilization 66.2% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.978					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1822	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1822	0	1770	1863	1770	1583
Satd. Flow (RTOR)	11					21
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	131	25	675	363	76	19
Adj. Flow (vph)	142	27	734	395	83	21
Lane Group Flow (vph)	169	0	734	395	83	21
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Act Effct Green (s)	10.2		21.9	33.3	8.4	8.4
Actuated g/C Ratio	0.20		0.44	0.67	0.17	0.17
v/c Ratio	0.46		0.95	0.32	0.28	0.07
Control Delay	21.8		42.7	4.4	22.7	10.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	21.8		42.7	4.4	22.7	10.5
LOS	C		D	A	C	B
Approach Delay	21.8			29.3	20.2	
Approach LOS	C			C	C	
Queue Length 50th (ft)	43		~216	36	23	0
Queue Length 95th (ft)	93		#509	80	58	16
Internal Link Dist (ft)	1246			2512	2660	
Turn Bay Length (ft)						
Base Capacity (vph)	1053		776	1551	756	688
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.16		0.95	0.25	0.11	0.03

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 27.7 Intersection LOS: C
Intersection Capacity Utilization 60.0% ICU Level of Service B
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

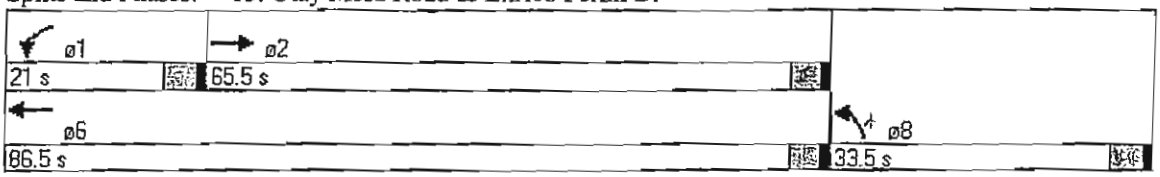
Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	1.00
Frt	0.984					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1833	0	3433	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1833	0	3433	1863	1770	1583
Satd. Flow (RTOR)	8					482
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	414	56	180	94	49	555
Adj. Flow (vph)	487	66	212	111	58	653
Lane Group Flow (vph)	553	0	212	111	58	653
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Act Effct Green (s)	25.6		10.6	36.6	18.9	18.9
Actuated g/C Ratio	0.39		0.16	0.56	0.29	0.29
v/c Ratio	0.77		0.39	0.11	0.11	0.82
Control Delay	27.1		33.7	7.1	23.2	17.3
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	27.1		33.7	7.1	23.2	17.3
LOS	C		C	A	C	B
Approach Delay	27.1			24.6	17.8	
Approach LOS	C			C	B	
Queue Length 50th (ft)	187		39	17	17	54
Queue Length 95th (ft)	362		96	44	57	222
Internal Link Dist (ft)	1250			2512	2644	
Turn Bay Length (ft)			250			
Base Capacity (vph)	1148		861	1412	738	941
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.48		0.25	0.08	0.08	0.69

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 65.8
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 22.4 — Intersection LOS: C
Intersection Capacity Utilization 66.2% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

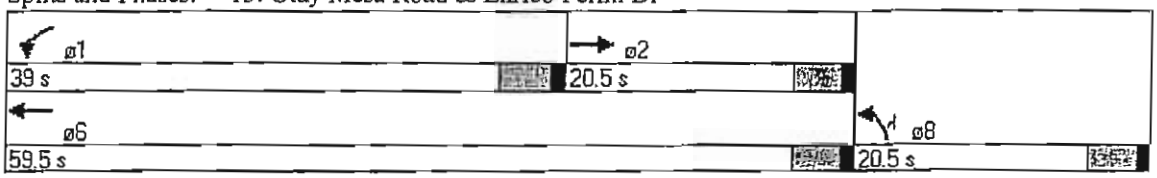


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	1.00
Frt	0.978					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1822	0	3433	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1822	0	3433	1863	1770	1583
Satd. Flow (RTOR)	11					21
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	131	25	675	363	76	19
Adj. Flow (vph)	142	27	734	395	83	21
Lane Group Flow (vph)	169	0	734	395	83	21
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	20.5	0.0	39.0	59.5	20.5	20.5
Act Effct Green (s)	10.0		16.0	26.8	8.8	8.8
Actuated g/C Ratio	0.21		0.36	0.60	0.20	0.20
v/c Ratio	0.43		0.60	0.35	0.24	0.06
Control Delay	20.4		15.1	4.9	21.5	10.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	20.4		15.1	4.9	21.5	10.9
LOS	C		B	A	C	B
Approach Delay	20.4			11.5	19.4	
Approach LOS	C			B	B	
Queue Length 50th (ft)	36		79	35	19	0
Queue Length 95th (ft)	101		159	80	64	16
Internal Link Dist (ft)	1246			2512	2660	
Turn Bay Length (ft)			250			
Base Capacity (vph)	587		1928	1439	589	541
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.29		0.38	0.27	0.14	0.04

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 44.7
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 13.2 — Intersection LOS: B
Intersection Capacity Utilization 41.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.862									0.876	
Flt Protected	0.950							0.953				
Satd. Flow (prot)	1770	1606	0	0	1863	0	0	1775	0	0	1632	0
Flt Permitted	0.748							0.446				
Satd. Flow (perm)	1393	1606	0	0	1863	0	0	831	0	0	1632	0
Satd. Flow (RTOR)		656									171	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	445	55	623	0	14	0	155	4	0	0	14	162
Adj. Flow (vph)	468	58	656	0	15	0	163	4	0	0	15	171
Lane Group Flow (vph)	468	714	0	0	15	0	0	167	0	0	186	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	76.0	76.0	0.0	76.0	76.0	0.0	24.0	24.0	0.0	24.0	24.0	0.0
Act Effct Green (s)	24.3	24.3			24.3			20.5			20.5	
Actuated g/C Ratio	0.46	0.46			0.46			0.39			0.39	
v/c Ratio	0.74	0.66			0.02			0.52			0.25	
Control Delay	18.5	4.3			6.4			25.6			5.2	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	18.5	4.3			6.4			25.6			5.2	
LOS	B	A			A			C			A	
Approach Delay		9.9			6.4			25.6			5.2	
Approach LOS		A			A			C			A	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 53.1
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 11.0 — Intersection LOS: B
Intersection Capacity Utilization 70.9% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd

ø2	ø4
24 s	76 s
ø6	ø8
24 s	76 s

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.862									0.867	
Flt Protected	0.950							0.953				
Satd. Flow (prot)	1770	1606	0	0	1863	0	0	1775	0	0	1615	0
Flt Permitted	0.721							0.440				
Satd. Flow (perm)	1343	1606	0	0	1863	0	0	820	0	0	1615	0
Satd. Flow (RTOR)		263									439	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	46	22	250	0	52	0	584	13	0	0	6	417
Adj. Flow (vph)	48	23	263	0	55	0	615	14	0	0	6	439
Lane Group Flow (vph)	48	286	0	0	55	0	0	629	0	0	445	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	20.5	20.5	0.0	20.5	20.5	0.0	79.5	79.5	0.0	79.5	79.5	0.0
Act Effct Green (s)	10.1	10.1			10.1			76.9			76.9	
Actuated g/C Ratio	0.11	0.11			0.11			0.81			0.81	
v/c Ratio	0.34	0.71			0.28			0.95			0.32	
Control Delay	44.7	16.9			41.5			35.8			0.9	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	44.7	16.9			41.5			35.8			0.9	
LOS	D	B			D			D			A	
Approach Delay		20.9			41.5			35.8			0.9	
Approach LOS		C			D			D			A	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 95
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 22.0 — Intersection LOS: C
Intersection Capacity Utilization 85.8% — ICU Level of Service E
Analysis Period (min) 15

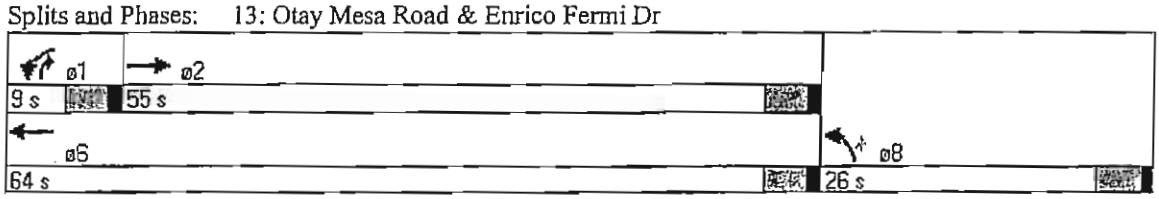
Splits and Phases: 14: Otay Mesa Road & Alta Rd

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	1.00
Frt	0.988					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1840	0	3433	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1840	0	3433	1863	1770	1583
Satd. Flow (RTOR)	9					162
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	589	56	49	803	244	138
Adj. Flow (vph)	693	66	58	945	287	162
Lane Group Flow (vph)	759	0	58	945	287	162
Turn Type			Prot			pm+ov
Protected Phases	2		1	6	8	1
Permitted Phases						8
Total Split (s)	55.0	0.0	9.0	64.0	26.0	9.0
Act Effct Green (s)	31.9		5.5	38.5	15.6	23.8
Actuated g/C Ratio	0.50		0.08	0.61	0.25	0.36
v/c Ratio	0.82		0.20	0.84	0.66	0.24
Control Delay	22.2		37.2	17.6	33.3	4.7
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	22.2		37.2	17.6	33.3	4.7
LOS	C		D	B	C	A
Approach Delay	22.2			18.7	23.0	
Approach LOS	C			B	C	
Queue Length 50th (ft)	240		11	242	103	0
Queue Length 95th (ft)	390		34	425	218	34
Internal Link Dist (ft)	1250			2512	2644	
Turn Bay Length (ft)						
Base Capacity (vph)	1164		289	1342	594	680
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.65		0.20	0.70	0.48	0.24

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 63.5
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 20.8 — Intersection LOS: C
Intersection Capacity Utilization 62.4% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

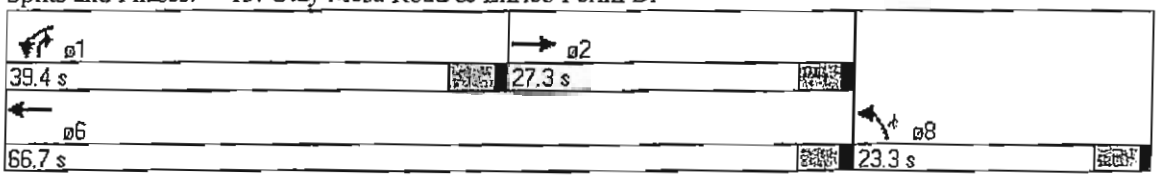


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	1.00
Frt	0.985					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1835	0	3433	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1835	0	3433	1863	1770	1583
Satd. Flow (RTOR)	7					308
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	201	25	913	527	76	283
Adj. Flow (vph)	218	27	992	573	83	308
Lane Group Flow (vph)	245	0	992	573	83	308
Turn Type			Prot			pm+ov
Protected Phases	2		1	6	8	1
Permitted Phases						8
Total Split (s)	27.3	0.0	39.4	66.7	23.3	39.4
Act Effct Green (s)	13.4		24.5	38.3	9.7	40.9
Actuated g/C Ratio	0.22		0.43	0.67	0.17	0.71
v/c Ratio	0.59		0.68	0.46	0.28	0.25
Control Delay	28.4		17.3	5.1	29.8	1.3
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	28.4		17.3	5.1	29.8	1.3
LOS	C		B	A	C	A
Approach Delay	28.4			12.9	7.4	
Approach LOS	C			B	A	
Queue Length 50th (ft)	76		139	61	27	0
Queue Length 95th (ft)	175		274	134	80	26
Internal Link Dist (ft)	1246			2512	2660	
Turn Bay Length (ft)						
Base Capacity (vph)	642		1835	1465	551	1139
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.38		0.54	0.39	0.15	0.27

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 57.5
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 13.6 — Intersection LOS: B
Intersection Capacity Utilization 52.4% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt		0.913									0.882	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	3231	0	0	1863	0	3433	1863	0	0	1643	0
Flt Permitted	0.677						0.453					
Satd. Flow (perm)	1261	3231	0	0	1863	0	1637	1863	0	0	1643	0
Satd. Flow (RTOR)		689									171	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	445	474	655	0	118	0	164	6	0	0	23	162
Adj. Flow (vph)	468	499	689	0	124	0	173	6	0	0	24	171
Lane Group Flow (vph)	468	1188	0	0	124	0	173	6	0	0	195	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	76.0	76.0	0.0	76.0	76.0	0.0	24.0	24.0	0.0	24.0	24.0	0.0
Act Effct Green (s)	26.7	26.7			26.7		11.3	11.3			11.3	
Actuated g/C Ratio	0.56	0.56			0.56		0.24	0.24			0.24	
v/c Ratio	0.66	0.56			0.12		0.44	0.01			0.37	
Control Delay	11.8	3.3			4.8		23.2	19.7			7.9	
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	
Total Delay	11.8	3.3			4.8		23.2	19.7			7.9	
LOS	B	A			A		C	B			A	
Approach Delay		5.7			4.8			23.1			7.9	
Approach LOS		A			A			C			A	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 47.3
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 7.3 — Intersection LOS: A
Intersection Capacity Utilization 60.1% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd

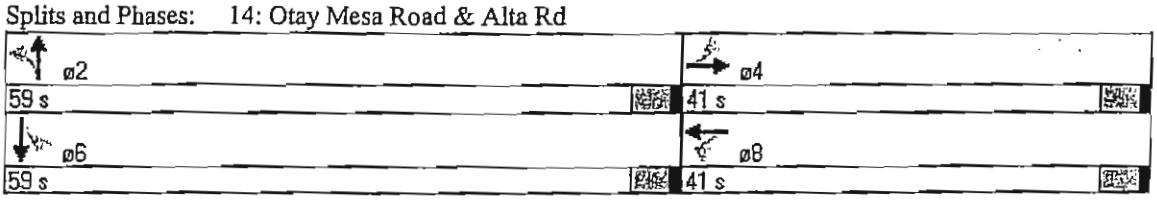
ø2	ø4
24 s	76 s
ø6	ø8
24 s	76 s

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt		0.885									0.868	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1770	3132	0	0	1863	0	3433	1863	0	0	1617	0
Flt Permitted	0.276						0.404					
Satd. Flow (perm)	514	3132	0	0	1863	0	1460	1863	0	0	1617	0
Satd. Flow (RTOR)		646									226	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	46	190	614	0	424	0	614	21	0	0	9	417
Adj. Flow (vph)	48	200	646	0	446	0	646	22	0	0	9	439
Lane Group Flow (vph)	48	846	0	0	446	0	646	22	0	0	448	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	41.0	41.0	0.0	41.0	41.0	0.0	59.0	59.0	0.0	59.0	59.0	0.0
Act Effct Green (s)	21.0	21.0			21.0		33.1	33.1			33.1	
Actuated g/C Ratio	0.33	0.33			0.33		0.52	0.52			0.52	
v/c Ratio	0.28	0.58			0.73		0.85	0.02			0.47	
Control Delay	25.3	6.6			29.0		26.6	9.0			6.8	
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	
Total Delay	25.3	6.6			29.0		26.6	9.0			6.8	
LOS	C	A			C		C	A			A	
Approach Delay		7.6			29.0			26.1			6.8	
Approach LOS		A			C			C			A	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 63.9
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 16.4 — Intersection LOS: B
Intersection Capacity Utilization 92.0% — ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd

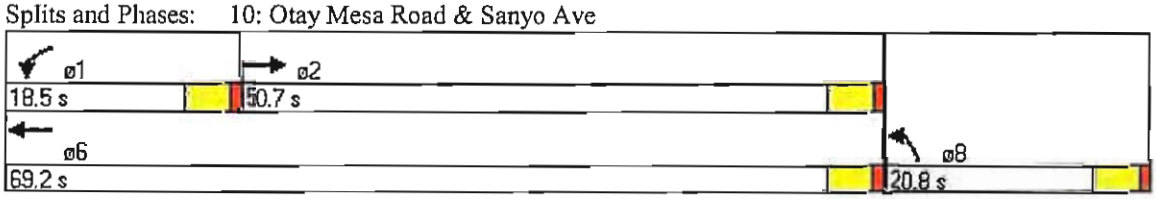


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.945				0.995	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3345	0	1770	1863	3430	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3345	0	1770	1863	3430	0
Satd. Flow (RTOR)	193				4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	837	487	4	217	88	3
Adj. Flow (vph)	1046	609	5	271	110	4
Lane Group Flow (vph)	1655	0	5	271	114	0
Turn Type			Prot			
Proteeted Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	50.7	0.0	18.5	69.2	20.8	0.0
Act Effct Green (s)	74.1		6.3	76.3	8.6	
Actuated g/C Ratio	0.82		0.07	0.85	0.10	
v/c Ratio	0.59		0.04	0.17	0.34	
Control Delay	2.5		39.5	2.1	39.1	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	2.5		39.5	2.1	39.1	
LOS	A		D	A	D	
Approach Delay	2.5			2.8	39.1	
Approach LOS	A			A	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 4.6 — Intersection LOS: A
Intersection Capacity Utilization 48.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

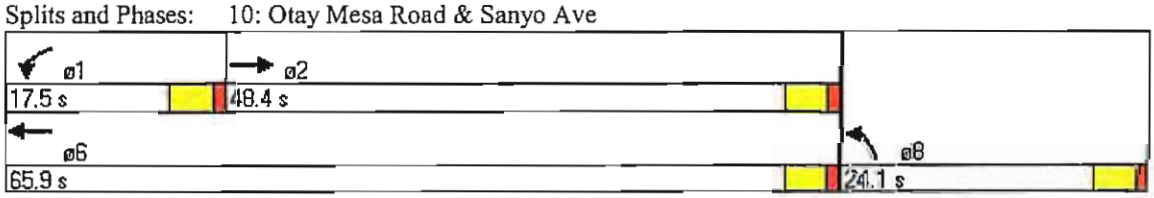


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.936				0.998	
Flt Protected			0.950		0.953	
Satd. Flow (prot)	3313	0	1770	1863	3437	0
Flt Permitted			0.950		0.953	
Satd. Flow (perm)	3313	0	1770	1863	3437	0
Satd. Flow (RTOR)	230				1	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	250	186	14	718	363	4
Adj. Flow (vph)	309	230	17	886	448	5
Lane Group Flow (vph)	539	0	17	886	453	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	48.4	0.0	17.5	65.9	24.1	0.0
Act Effct Green (s)	62.5		6.7	64.9	17.1	
Actuated g/C Ratio	0.69		0.07	0.72	0.19	
v/c Ratio	0.23		0.13	0.66	0.69	
Control Delay	5.9		40.6	10.3	39.5	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	5.9		40.6	10.3	39.5	
LOS	A		D	B	D	
Approach Delay	5.9			10.9	39.5	
Approach LOS	A			B	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 16.3 Intersection LOS: B
Intersection Capacity Utilization 54.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	0.88
Frt	0.988					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1840	0	3433	1863	1770	2787
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1840	0	3433	1863	1770	2787
Satd. Flow (RTOR)	6					697
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	552	56	252	144	49	750
Adj. Flow (vph)	649	66	296	169	58	882
Lane Group Flow (vph)	715	0	296	169	58	882
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	65.5	0.0	21.0	86.5	33.5	33.5
Act Effct Green (s)	33.5		12.4	50.7	14.7	14.7
Actuated g/C Ratio	0.45		0.17	0.68	0.20	0.20
v/c Ratio	0.86		0.52	0.13	0.17	0.80
Control Delay	30.7		37.7	5.2	31.2	13.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	30.7		37.7	5.2	31.2	13.4
LOS	C		D	A	C	B
Approach Delay	30.7			25.9	14.5	
Approach LOS	C			C	B	
Queue Length 50th (ft)	254		60	20	21	39
Queue Length 95th (ft)	527		150	61	68	119
Internal Link Dist (ft)	1250			2512	2644	
Turn Bay Length (ft)						
Base Capacity (vph)	1137		813	1457	623	1434
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.63		0.36	0.12	0.09	0.62

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 74.8
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 22.5 — Intersection LOS: C
Intersection Capacity Utilization 65.4% — ICU Level of Service C
Analysis Period (min) 15

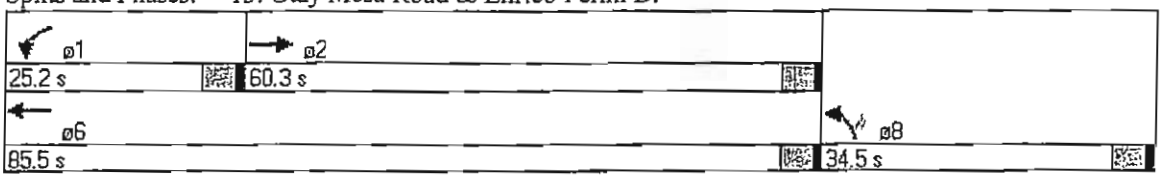
Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	0.88
Frt	0.985					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1835	0	3433	1863	1770	2787
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1835	0	3433	1863	1770	2787
Satd. Flow (RTOR)	7					309
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	195	25	848	482	76	284
Adj. Flow (vph)	212	27	922	524	83	309
Lane Group Flow (vph)	239	0	922	524	83	309
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	60.3	0.0	25.2	85.5	34.5	34.5
Act Effct Green (s)	12.4		21.5	37.9	8.7	8.7
Actuated g/C Ratio	0.23		0.39	0.69	0.16	0.16
v/c Ratio	0.57		0.68	0.41	0.30	0.44
Control Delay	23.9		18.9	5.0	24.3	5.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	23.9		18.9	5.0	24.3	5.5
LOS	C		B	A	C	A
Approach Delay	23.9			13.9	9.5	
Approach LOS	C			B	A	
Queue Length 50th (ft)	66		121	53	24	0
Queue Length 95th (ft)	133		#262	123	62	31
Internal Link Dist (ft)	1246			2512	2660	
Turn Bay Length (ft)						
Base Capacity (vph)	1054		1348	1546	708	1301
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.23		0.68	0.34	0.12	0.24

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 54.7
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 14.2 Intersection LOS: B
Intersection Capacity Utilization 50.2% ICU Level of Service A
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

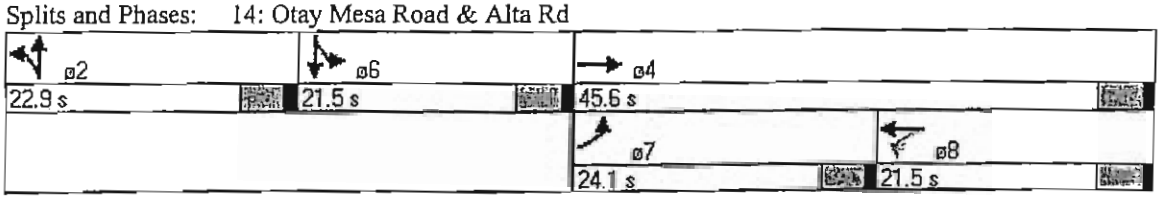


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt		0.894									0.880	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	3164	0	0	1863	0	3433	1863	0	0	1639	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	3164	0	0	1863	0	3433	1863	0	0	1639	0
Satd. Flow (RTOR)		546									171	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	445	218	519	0	125	0	149	6	0	0	21	162
Adj. Flow (vph)	468	229	546	0	132	0	157	6	0	0	22	171
Lane Group Flow (vph)	468	775	0	0	132	0	157	6	0	0	193	0
Turn Type	Prot			Perm			Split			Split		
Protected Phases	7	4			8		2	2		6	6	
Permitted Phases				8								
Total Split (s)	24.1	45.6	0.0	21.5	21.5	0.0	22.9	22.9	0.0	21.5	21.5	0.0
Act Effct Green (s)	13.3	24.1			9.8		8.7	8.7			8.2	
Actuated g/C Ratio	0.25	0.45			0.17		0.16	0.16			0.15	
v/c Ratio	0.56	0.45			0.41		0.28	0.02			0.49	
Control Delay	22.3	3.7			26.9		25.3	25.0			11.4	
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	
Total Delay	22.3	3.7			26.9		25.3	25.0			11.4	
LOS	C	A			C		C	C			B	
Approach Delay		10.7			26.9			25.3			11.4	
Approach LOS		B			C			C			B	
Queue Length 50th (ft)	67	18			37		23	2			6	
Queue Length 95th (ft)	140	56			103		60	13			62	
Internal Link Dist (ft)		2512			1518			865			1191	
Turn Bay Length (ft)												
Base Capacity (vph)	1172	2101			522		1050	570			594	
Starvation Cap Reductn	0	0			0		0	0			0	
Spillback Cap Reductn	0	0			0		0	0			0	
Storage Cap Reductn	0	0			0		0	0			0	
Reduced v/c Ratio	0.40	0.37			0.25		0.15	0.01			0.32	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 54.1
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 13.4 — Intersection LOS: B
Intersection Capacity Utilization 58.0% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd

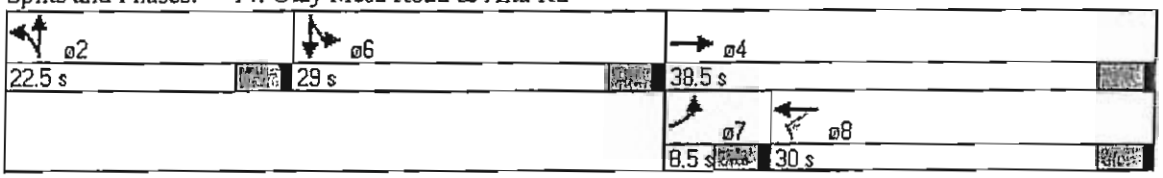


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00
Frt		0.918									0.868	
Flt Protected	0.950						0.950	0.957				
Satd. Flow (prot)	3433	3249	0	0	1863	0	3221	1622	0	0	1617	0
Flt Permitted	0.950						0.950	0.957				
Satd. Flow (perm)	3433	3249	0	0	1863	0	3221	1622	0	0	1617	0
Satd. Flow (RTOR)		231									195	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	46	184	219	0	398	0	474	19	0	0	9	417
Adj. Flow (vph)	48	194	231	0	419	0	499	20	0	0	9	439
Lane Group Flow (vph)	48	425	0	0	419	0	340	179	0	0	448	0
Turn Type	Prot			Perm			Split			Split		
Protected Phases	7	4			8		2	2		6	6	
Permitted Phases				8								
Total Split (s)	8.5	38.5	0.0	30.0	30.0	0.0	22.5	22.5	0.0	29.0	29.0	0.0
Act Effct Green (s)	4.9	23.8			19.7		13.6	13.6			16.8	
Actuated g/C Ratio	0.07	0.35			0.29		0.20	0.20			0.25	
v/c Ratio	0.20	0.33			0.77		0.53	0.55			0.82	
Control Delay	40.9	8.6			36.4		31.1	36.5			28.8	
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	
Total Delay	40.9	8.6			36.4		31.1	36.5			28.8	
LOS	D	A			D		C	D			C	
Approach Delay		11.9			36.4			32.9			28.8	
Approach LOS		B			D			C			C	
Queue Length 50th (ft)	11	30			183		84	89			116	
Queue Length 95th (ft)	31	69			#358		140	173			#263	
Internal Link Dist (ft)		2512			1578			989			1151	
Turn Bay Length (ft)												
Base Capacity (vph)	235	1608			688		879	443			688	
Starvation Cap Reductn	0	0			0		0	0			0	
Spillback Cap Reductn	0	0			0		0	0			0	
Storage Cap Reductn	0	0			0		0	0			0	
Reduced v/c Ratio	0.20	0.26			0.61		0.39	0.40			0.65	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 68
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 27.3 Intersection LOS: C
Intersection Capacity Utilization 66.3% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Otay Mesa Road & Alta Rd

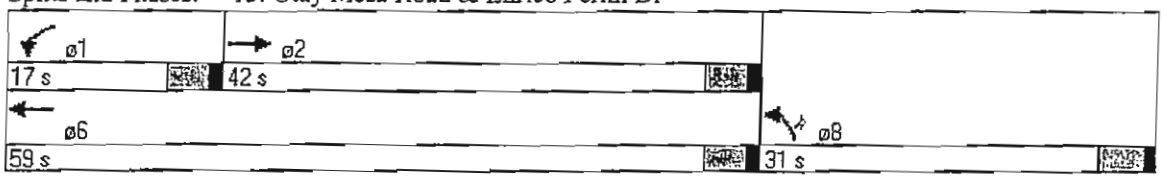


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	0.97	1.00	1.00	0.88
Frt	0.991					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3507	0	3433	1863	1770	2787
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3507	0	3433	1863	1770	2787
Satd. Flow (RTOR)	8					523
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	933	56	282	277	49	785
Adj. Flow (vph)	1098	66	332	326	58	924
Lane Group Flow (vph)	1164	0	332	326	58	924
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	42.0	0.0	17.0	59.0	31.0	31.0
Act Effct Green (s)	29.4		11.6	45.3	18.4	18.4
Actuated g/C Ratio	0.41		0.16	0.62	0.25	0.25
v/c Ratio	0.82		0.61	0.28	0.13	0.84
Control Delay	25.3		37.2	7.9	23.2	19.2
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	25.3		37.2	7.9	23.2	19.2
LOS	C		D	A	C	B
Approach Delay	25.3			22.7	19.4	
Approach LOS	C			C	B	
Queue Length 50th (ft)	253		79	64	22	105
Queue Length 95th (ft)	341		129	115	49	172
Internal Link Dist (ft)	1250			2512	2644	
Turn Bay Length (ft)						
Base Capacity (vph)	1683		641	1256	610	1303
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.69		0.52	0.26	0.10	0.71

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 72.5
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 22.6 — Intersection LOS: C
Intersection Capacity Utilization 61.7% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

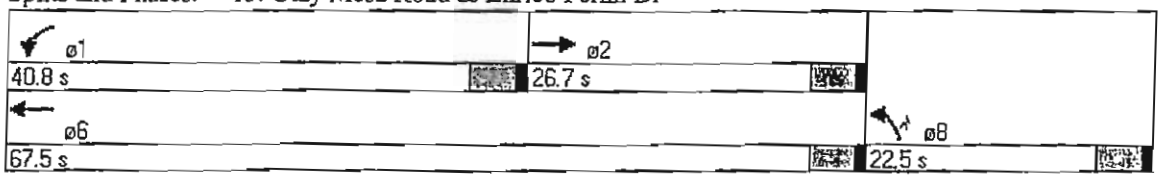


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	0.97	1.00	1.00	0.88
Frt	0.991					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3507	0	3433	1863	1770	2787
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3507	0	3433	1863	1770	2787
Satd. Flow (RTOR)	7					337
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	370	25	899	845	76	310
Adj. Flow (vph)	402	27	977	918	83	337
Lane Group Flow (vph)	429	0	977	918	83	337
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	26.7	0.0	40.8	67.5	22.5	22.5
Act Effct Green (s)	12.7		22.4	39.4	9.0	9.0
Actuated g/C Ratio	0.22		0.39	0.69	0.16	0.16
v/c Ratio	0.55		0.72	0.71	0.30	0.46
Control Delay	23.9		18.4	9.0	28.2	6.1
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	23.9		18.4	9.0	28.2	6.1
LOS	C		B	A	C	A
Approach Delay	23.9			13.9	10.5	
Approach LOS	C			B	B	
Queue Length 50th (ft)	64		130	132	25	0
Queue Length 95th (ft)	145		256	316	78	38
Internal Link Dist (ft)	1246			2512	2660	
Turn Bay Length (ft)			250			
Base Capacity (vph)	1228		1801	1469	511	1044
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.35		0.54	0.62	0.16	0.32

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 57
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 14.9 — Intersection LOS: B
Intersection Capacity Utilization 55.4% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

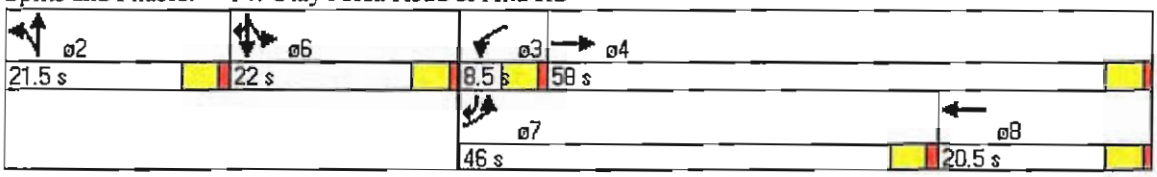


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Frt		0.959										0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	3394	0	1863	3539	0	3433	1863	0	0	1863	1583
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	3394	0	1863	3539	0	3433	1863	0	0	1863	1583
Satd. Flow (RTOR)		71										128
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	445	646	247	0	289	0	208	13	0	0	40	162
Adj. Flow (vph)	468	680	260	0	304	0	219	14	0	0	42	171
Lane Group Flow (vph)	468	940	0	0	304	0	219	14	0	0	42	171
Turn Type	Prot			Prot			Split			Split		pt+ov
Protected Phases	7	4		3	8		2	2		6	6	6 7
Permitted Phases												
Total Split (s)	46.0	58.0	0.0	8.5	20.5	0.0	21.5	21.5	0.0	22.0	22.0	68.0
Act Effct Green (s)	14.2	29.3			10.9		9.6	9.6			7.7	26.1
Actuated g/C Ratio	0.24	0.50			0.18		0.16	0.16			0.13	0.44
v/c Ratio	0.57	0.55			0.47		0.39	0.05			0.17	0.22
Control Delay	23.4	10.9			25.7		26.3	25.0			28.3	4.7
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	0.0
Total Delay	23.4	10.9			25.7		26.3	25.0			28.3	4.7
LOS	C	B			C		C	C			C	A
Approach Delay		15.1			25.7			26.3			9.4	
Approach LOS		B			C			C			A	
Queue Length 50th (ft)	72	97			50		35	4			13	8
Queue Length 95th (ft)	141	181			106		80	21			47	43
Internal Link Dist (ft)		2512			1518			865			1191	
Turn Bay Length (ft)												
Base Capacity (vph)	1677	2225			920		915	497			494	1093
Starvation Cap Reductn	0	0			0		0	0			0	0
Spillback Cap Reductn	0	0			0		0	0			0	0
Storage Cap Reductn	0	0			0		0	0			0	0
Reduced v/c Ratio	0.28	0.42			0.33		0.24	0.03			0.09	0.16

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 59.1
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 17.2 — Intersection LOS: B
Intersection Capacity Utilization 51.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd

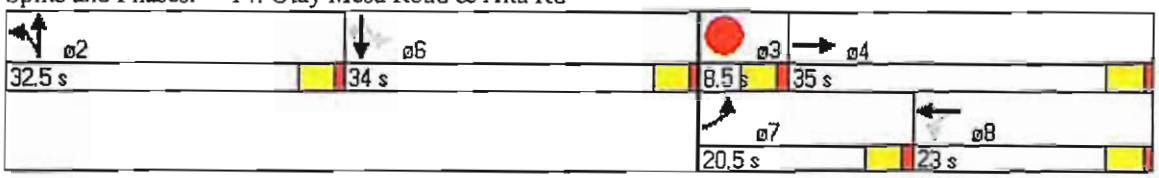


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Frt		0.924										0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	3270	0	1863	3539	0	3433	1863	0	0	1863	1583
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	3270	0	1863	3539	0	3433	1863	0	0	1863	1583
Satd. Flow (RTOR)		236										236
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	45	302	310	0	620	0	622	37	0	0	18	417
Adj. Flow (vph)	47	318	326	0	653	0	655	39	0	0	19	439
Lane Group Flow (vph)	47	644	0	0	653	0	655	39	0	0	19	439
Turn Type	Prot			Perm			Split			Perm		Perm
Protected Phases	7	4			8		2	2			6	
Permitted Phases				8						6		6
Total Split (s)	20.5	35.0	0.0	23.0	23.0	0.0	32.5	32.5	0.0	34.0	34.0	34.0
Act Effct Green (s)	7.3	26.6			20.7		20.0	20.0			16.5	16.5
Actuated g/C Ratio	0.09	0.35			0.27		0.26	0.26			0.22	0.22
v/c Ratio	0.15	0.50			0.68		0.73	0.08			0.05	0.83
Control Delay	40.5	15.3			34.7		32.5	25.4			26.1	28.2
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	0.0
Total Delay	40.5	15.3			34.7		32.5	25.4			26.1	28.2
LOS	D	B			C		C	C			C	C
Approach Delay		17.0			34.7			32.1			28.1	
Approach LOS		B			C			C			C	
Queue Length 50th (ft)	11	78			165		156	15			8	99
Queue Length 95th (ft)	32	170			#347		259	45			27	234
Internal Link Dist (ft)		2512			1578			989			1151	
Turn Bay Length (ft)												
Base Capacity (vph)	652	1445			962		1196	649			645	703
Starvation Cap Reductn	0	0			0		0	0			0	0
Spillback Cap Reductn	0	0			0		0	0			0	0
Storage Cap Reductn	0	0			0		0	0			0	0
Reduced v/c Ratio	0.07	0.45			0.68		0.55	0.06			0.03	0.62

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 76.2
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 27.9 Intersection LOS: C
Intersection Capacity Utilization 70.7% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Otay Mesa Road & Alta Rd



Lane Group	ø3
Lane Configurations	
Total Lost Time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Headway Factor	
Volume (vph)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	3
Permitted Phases	
Total Split (s)	8.5
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

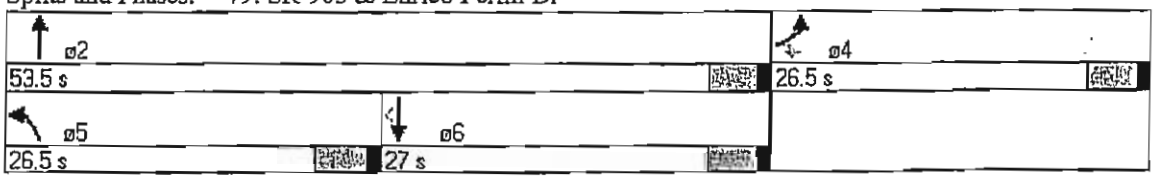
Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1863	1583
Satd. Flow (RTOR)		43				25
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	127	40	39	43	54	23
Adj. Flow (vph)	138	43	42	47	59	25
Lane Group Flow (vph)	138	43	42	47	59	25
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Total Split (s)	26.5	26.5	26.5	53.5	27.0	27.0
Act Effct Green (s)	11.5	11.5	7.7	63.5	50.9	50.9
Actuated g/C Ratio	0.14	0.14	0.10	0.79	0.64	0.64
v/c Ratio	0.54	0.16	0.25	0.03	0.05	0.02
Control Delay	39.1	10.7	36.4	3.2	7.9	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.1	10.7	36.4	3.2	7.9	3.7
LOS	D	B	D	A	A	A
Approach Delay	32.3			18.8	6.7	
Approach LOS	C			B	A	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.54
Intersection Signal Delay: 22.9 — Intersection LOS: C
Intersection Capacity Utilization 22.5% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 79: SR-905 & Enrico Fermi Dr

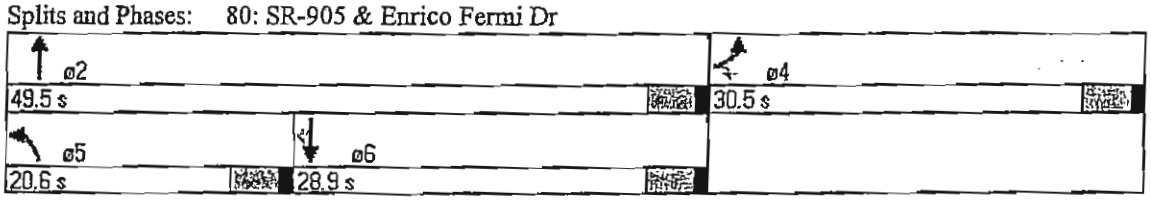


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1863	1583
Satd. Flow (RTOR)		36				107
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	14	33	48	51	36	98
Adj. Flow (vph)	15	36	52	55	39	107
Lane Group Flow (vph)	15	36	52	55	39	107
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Total Split (s)	30.5	30.5	20.6	49.5	28.9	28.9
Act Effct Green (s)	6.8	6.8	8.1	70.8	62.9	62.9
Actuated g/C Ratio	0.08	0.08	0.10	0.88	0.79	0.79
v/c Ratio	0.10	0.22	0.29	0.03	0.03	0.08
Control Delay	34.8	15.4	36.8	1.5	5.1	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.8	15.4	36.8	1.5	5.1	1.5
LOS	C	B	D	A	A	A
Approach Delay	21.1			18.6	2.5	
Approach LOS	C			B	A	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.29
Intersection Signal Delay: 11.3 — Intersection LOS: B
Intersection Capacity Utilization 19.3% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 80: SR-905 & Enrico Fermi Dr

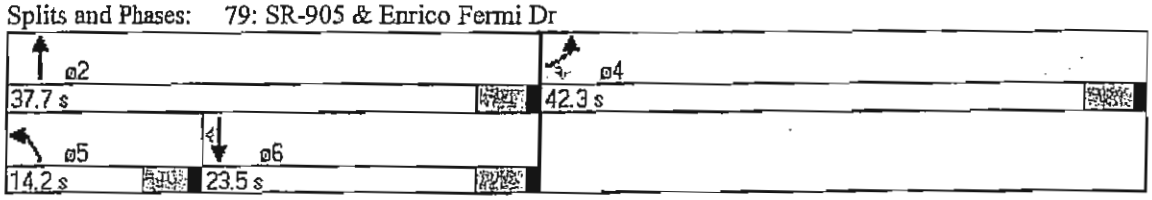


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1863	1583
Satd. Flow (RTOR)		43				115
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	459	40	39	112	71	106
Adj. Flow (vph)	499	43	42	122	77	115
Lane Group Flow (vph)	499	43	42	122	77	115
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Total Split (s)	42.3	42.3	14.2	37.7	23.5	23.5
Act Effct Green (s)	26.7	26.7	7.8	45.3	37.6	37.6
Actuated g/C Ratio	0.33	0.33	0.10	0.57	0.47	0.47
v/c Ratio	0.85	0.08	0.24	0.12	0.09	0.14
Control Delay	37.8	5.0	36.1	10.3	17.6	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.8	5.0	36.1	10.3	17.6	5.1
LOS	D	A	D	B	B	A
Approach Delay	35.2			17.0	10.1	
Approach LOS	D			B	B	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 26.5 — Intersection LOS: C
Intersection Capacity Utilization 40.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 79: SR-905 & Enrico Fermi Dr

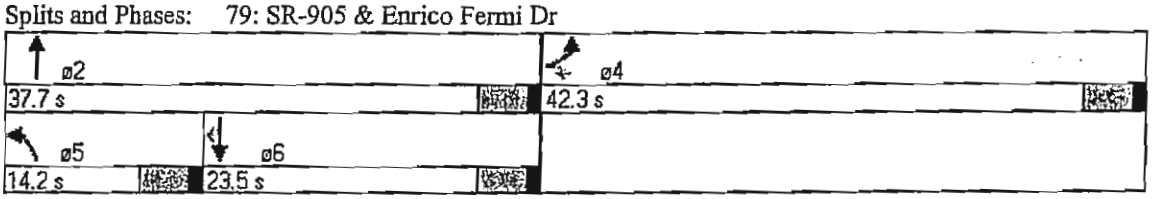


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1863	1583
Satd. Flow (RTOR)		36				375
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	147	33	48	79	10	345
Adj. Flow (vph)	160	36	52	86	11	375
Lane Group Flow (vph)	160	36	52	86	11	375
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Total Split (s)	42.3	42.3	14.2	37.7	23.5	23.5
Act Effct Green (s)	11.7	11.7	8.2	63.3	55.2	55.2
Actuated g/C Ratio	0.15	0.15	0.10	0.79	0.69	0.69
v/c Ratio	0.62	0.14	0.29	0.06	0.01	0.31
Control Delay	41.9	11.1	36.5	3.2	8.6	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.9	11.1	36.5	3.2	8.6	1.9
LOS	D	B	D	A	A	A
Approach Delay	36.2			15.7	2.1	
Approach LOS	D			B	A	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 14.0 — Intersection LOS: B
Intersection Capacity Utilization 31.4% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 79: SR-905 & Enrico Fermi Dr

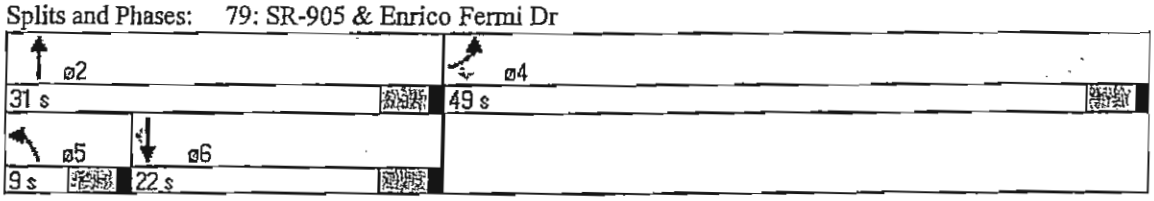


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1863	1583
Satd. Flow (RTOR)		43				172
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	669	40	39	112	82	158
Adj. Flow (vph)	727	43	42	122	89	172
Lane Group Flow (vph)	727	43	42	122	89	172
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Total Split (s)	49.0	49.0	9.0	31.0	22.0	22.0
Act Effct Green (s)	37.7	37.7	6.8	34.3	27.5	27.5
Actuated g/C Ratio	0.47	0.47	0.08	0.43	0.34	0.34
v/c Ratio	0.87	0.06	0.28	0.15	0.14	0.26
Control Delay	30.0	2.5	39.5	18.1	25.5	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	2.5	39.5	18.1	25.5	6.4
LOS	C	A	D	B	C	A
Approach Delay	28.5			23.6	12.9	
Approach LOS	C			C	B	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 24.4 — Intersection LOS: C
Intersection Capacity Utilization 52.6% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 79: SR-905 & Enrico Fermi Dr

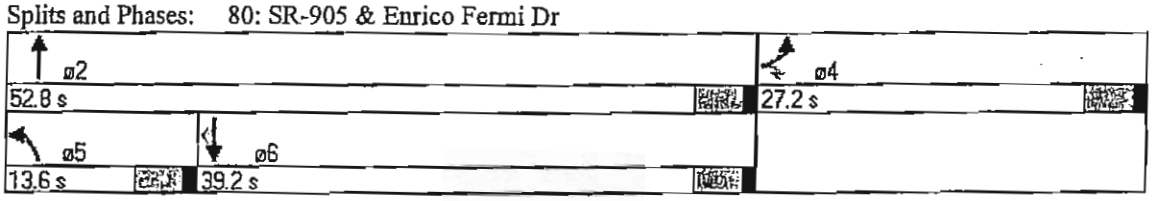


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1863	1583
Satd. Flow (RTOR)		36				659
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	231	33	48	79	142	606
Adj. Flow (vph)	251	36	52	86	154	659
Lane Group Flow (vph)	251	36	52	86	154	659
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Total Split (s)	27.2	27.2	13.6	52.8	39.2	39.2
Act Effct Green (s)	16.5	16.5	8.2	55.5	47.4	47.4
Actuated g/C Ratio	0.21	0.21	0.10	0.69	0.59	0.59
v/c Ratio	0.69	0.10	0.29	0.07	0.14	0.55
Control Delay	38.6	8.7	36.5	5.1	10.7	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.6	8.7	36.5	5.1	10.7	3.2
LOS	D	A	D	A	B	A
Approach Delay	34.8			16.9	4.7	
Approach LOS	C			B	A	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 13.0 — Intersection LOS: B
Intersection Capacity Utilization 47.5% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 80: SR-905 & Enrico Fermi Dr

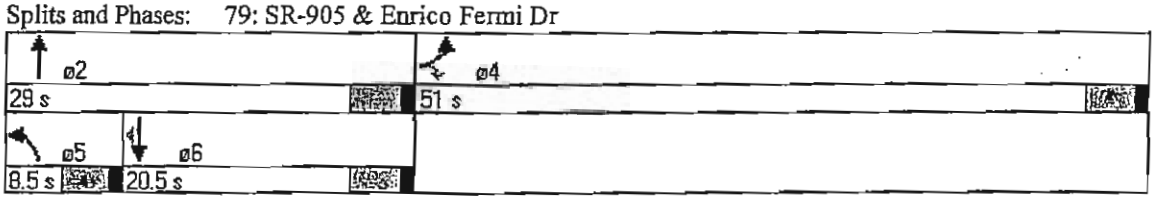


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1863	1583
Satd. Flow (RTOR)		43				237
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	835	40	39	191	95	218
Adj. Flow (vph)	908	43	42	208	103	237
Lane Group Flow (vph)	908	43	42	208	103	237
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Total Split (s)	51.0	51.0	8.5	29.0	20.5	20.5
Act Effct Green (s)	45.7	45.7	5.9	26.3	20.5	20.5
Actuated g/C Ratio	0.57	0.57	0.07	0.33	0.26	0.26
v/c Ratio	0.90	0.05	0.32	0.34	0.22	0.41
Control Delay	27.4	2.0	42.8	24.4	29.7	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.4	2.0	42.8	24.4	29.7	6.9
LOS	C	A	D	C	C	A
Approach Delay	26.2			27.5	13.8	
Approach LOS	C			C	B	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 23.7 — Intersection LOS: C
Intersection Capacity Utilization 63.0% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 79: SR-905 & Enrico Fermi Dr

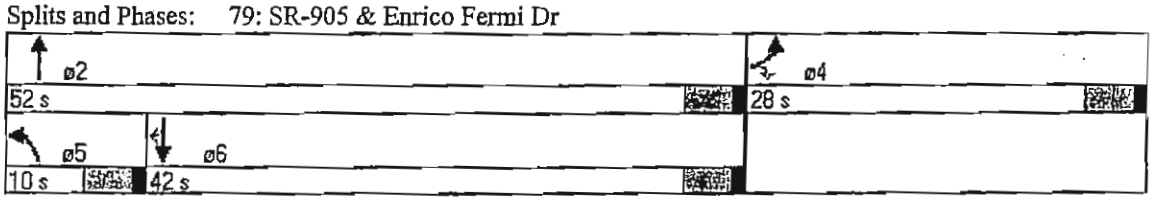


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Proteeted	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1863	1583
Satd. Flow (RTOR)		36				814
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	308	33	48	112	172	749
Adj. Flow (vph)	335	36	52	122	187	814
Lane Group Flow (vph)	335	36	52	122	187	814
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Total Split (s)	28.0	28.0	10.0	52.0	42.0	42.0
Act Effct Green (s)	20.5	20.5	7.3	51.5	44.4	44.4
Actuated g/C Ratio	0.26	0.26	0.09	0.64	0.56	0.56
v/c Ratio	0.74	0.08	0.32	0.10	0.18	0.66
Control Delay	36.8	7.1	39.7	7.0	12.4	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.8	7.1	39.7	7.0	12.4	4.3
LOS	D	A	D	A	B	A
Approach Delay	33.9			16.8	5.8	
Approach LOS	C			B	A	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 13.8 — Intersection LOS: B
Intersection Capacity Utilization 56.4% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 79: SR-905 & Enrico Fermi Dr

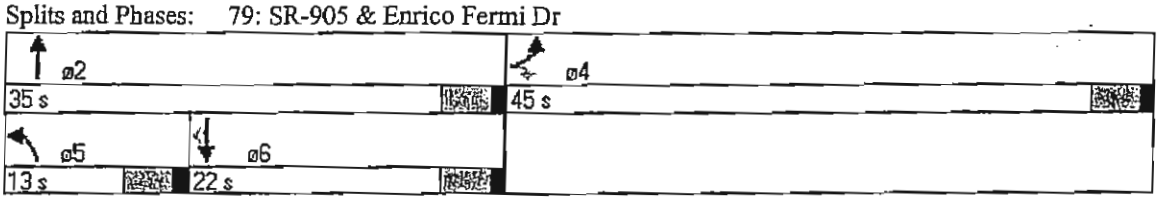


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1863	1583
Satd. Flow (RTOR)		389				25
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	764	358	95	43	54	23
Adj. Flow (vph)	830	389	103	47	59	25
Lane Group Flow (vph)	830	389	103	47	59	25
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Total Split (s)	45.0	45.0	13.0	35.0	22.0	22.0
Act Effct Green (s)	45.2	45.2	8.4	26.8	16.4	16.4
Actuated g/C Ratio	0.56	0.56	0.10	0.34	0.20	0.20
v/c Ratio	0.83	0.37	0.55	0.08	0.15	0.07
Control Delay	22.2	1.8	45.5	21.2	32.7	13.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	1.8	45.5	21.2	32.7	13.6
LOS	C	A	D	C	C	B
Approach Delay	15.7			37.9	27.0	
Approach LOS	B			D	C	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 18.6 — Intersection LOS: B
Intersection Capacity Utilization 60.9% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 79: SR-905 & Enrico Fermi Dr

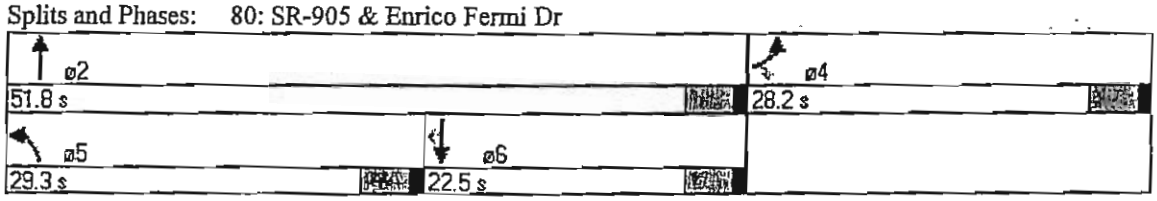


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1863	1583
Satd. Flow (RTOR)		188				107
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	294	173	302	51	36	98
Adj. Flow (vph)	320	188	328	55	39	107
Lane Group Flow (vph)	320	188	328	55	39	107
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Total Split (s)	28.2	28.2	29.3	51.8	22.5	22.5
Act Effct Green (s)	20.1	20.1	19.9	51.9	27.9	27.9
Actuated g/C Ratio	0.25	0.25	0.25	0.65	0.35	0.35
v/c Ratio	0.72	0.35	0.74	0.05	0.06	0.17
Control Delay	36.0	5.1	37.6	6.9	24.1	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.0	5.1	37.6	6.9	24.1	7.2
LOS	D	A	D	A	C	A
Approach Delay	24.6			33.2	11.7	
Approach LOS	C			C	B	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 26.0 — Intersection LOS: C
Intersection Capacity Utilization 46.4% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 80: SR-905 & Enrico Fermi Dr

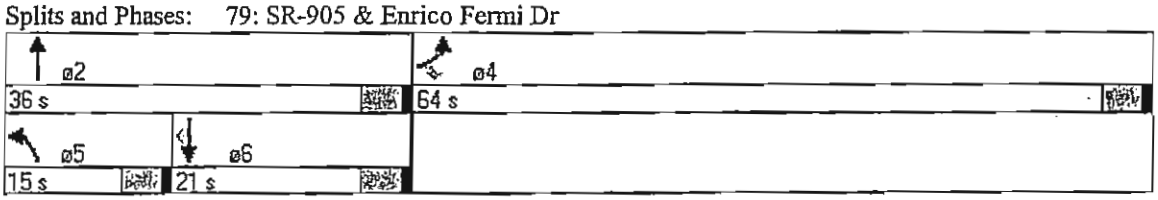


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1863	1583
Satd. Flow (RTOR)		328				25
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	604	302	95	43	54	23
Adj. Flow (vph)	657	328	103	47	59	25
Lane Group Flow (vph)	657	328	103	47	59	25
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Total Split (s)	64.0	64.0	15.0	36.0	21.0	21.0
Act Effct Green (s)	25.7	25.7	9.0	15.6	9.0	9.0
Actuated g/C Ratio	0.50	0.50	0.16	0.30	0.18	0.18
v/c Ratio	0.74	0.34	0.36	0.08	0.18	0.08
Control Delay	16.4	2.1	30.1	16.2	27.9	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.4	2.1	30.1	16.2	27.9	13.9
LOS	B	A	C	B	C	B
Approach Delay	11.7			25.7	23.8	
Approach LOS	B			C	C	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 51.3
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 14.2 Intersection LOS: B
Intersection Capacity Utilization 52.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 79: SR-905 & Enrico Fermi Dr

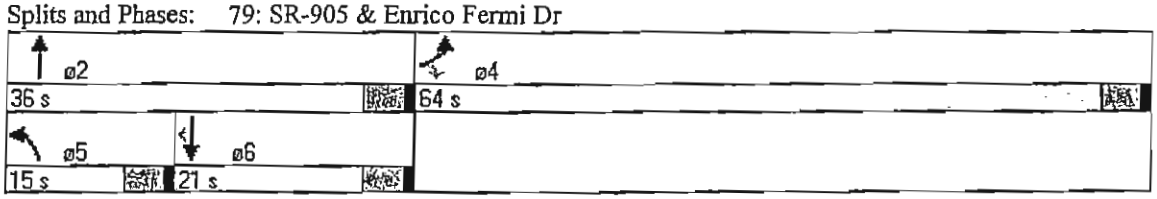


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1863	1583
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1863	1583
Satd. Flow (RTOR)		152				107
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	280	140	302	51	36	98
Adj. Flow (vph)	304	152	328	55	39	107
Lane Group Flow (vph)	304	152	328	55	39	107
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Total Split (s)	64.0	64.0	15.0	36.0	21.0	21.0
Act Effct Green (s)	13.0	13.0	11.2	22.4	7.2	7.2
Actuated g/C Ratio	0.30	0.30	0.26	0.51	0.17	0.17
v/c Ratio	0.58	0.26	0.72	0.06	0.13	0.31
Control Delay	17.5	3.9	29.8	6.9	18.2	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	3.9	29.8	6.9	18.2	7.7
LOS	B	A	C	A	B	A
Approach Delay	13.0			26.5	10.5	
Approach LOS	B			C	B	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 43.6
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 17.9 Intersection LOS: B
Intersection Capacity Utilization 45.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 79: SR-905 & Enrico Fermi Dr

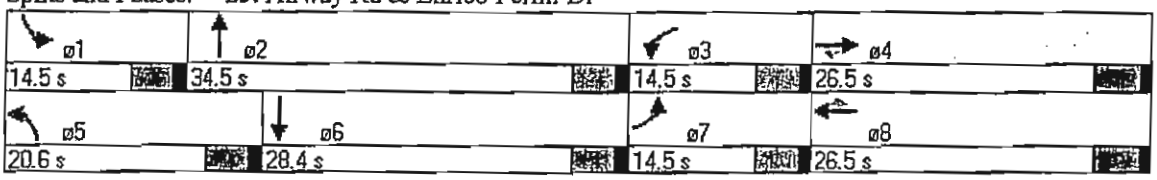


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.858	0.850			0.850		0.998			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1518	1504	1770	1863	1583	1770	3532	0	1770	3532	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1518	1504	1770	1863	1583	1770	3532	0	1770	3532	0
Satd. Flow (RTOR)		71	71			4		2			2	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	7	4	131	8	2	4	90	173	3	3	393	6
Adj. Flow (vph)	8	4	142	9	2	4	98	188	3	3	427	7
Lane Group Flow (vph)	8	75	71	9	2	4	98	191	0	3	434	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	14.5	26.5	26.5	14.5	26.5	26.5	20.6	34.5	0.0	14.5	28.4	0.0
Act Effct Green (s)	7.3	8.3	8.3	7.4	8.3	8.3	10.3	39.3		7.1	31.1	
Actuated g/C Ratio	0.12	0.14	0.14	0.12	0.14	0.14	0.18	0.72		0.11	0.57	
v/c Ratio	0.04	0.27	0.26	0.04	0.01	0.02	0.32	0.08		0.01	0.22	
Control Delay	22.7	9.5	9.0	22.8	19.0	14.0	18.0	5.9		23.0	10.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	22.7	9.5	9.0	22.8	19.0	14.0	18.0	5.9		23.0	10.9	
LOS	C	A	A	C	B	B	B	A		C	B	
Approach Delay		10.0			19.9			10.0			11.0	
Approach LOS		A			B			A			B	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 54.6
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.32
Intersection Signal Delay: 10.6 — Intersection LOS: B
Intersection Capacity Utilization 32.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 23: Airway Rd & Enrico Fermi Dr

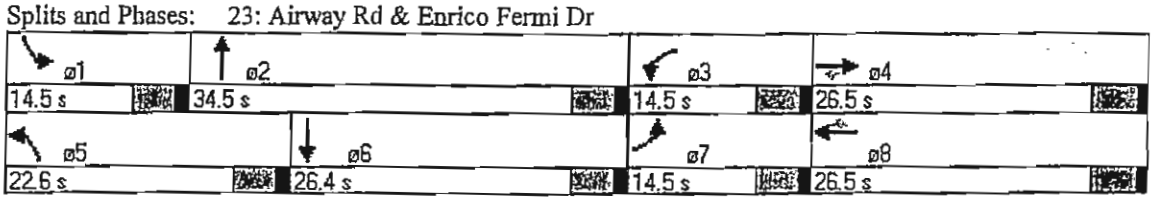


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.864	0.850			0.850		0.996			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1529	1504	1770	1863	1583	1770	3525	0	1770	3529	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1529	1504	1770	1863	1583	1770	3525	0	1770	3529	0
Satd. Flow (RTOR)		29	29			3		3			2	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	7	3	53	6	5	3	110	296	8	5	200	4
Adj. Flow (vph)	8	3	58	7	5	3	120	322	9	5	217	4
Lane Group Flow (vph)	8	32	29	7	5	3	120	331	0	5	221	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	14.5	26.5	26.5	14.5	26.5	26.5	22.6	34.5	0.0	14.5	26.4	0.0
Act Effct Green (s)	7.4	7.8	7.8	7.3	7.8	7.8	10.2	37.4		7.3	32.9	
Actuated g/C Ratio	0.13	0.15	0.15	0.13	0.15	0.15	0.19	0.78		0.13	0.69	
v/c Ratio	0.03	0.13	0.12	0.03	0.02	0.01	0.36	0.12		0.02	0.09	
Control Delay	18.7	10.0	9.7	18.7	16.4	13.3	14.9	5.5		19.0	9.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	18.7	10.0	9.7	18.7	16.4	13.3	14.9	5.5		19.0	9.4	
LOS	B	B	A	B	B	B	B	A		B	A	
Approach Delay		10.9			16.8			8.0			9.6	
Approach LOS		B			B			A			A	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 47.7
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.36
Intersection Signal Delay: 8.9 Intersection LOS: A
Intersection Capacity Utilization 27.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 23: Airway Rd & Enrico Fermi Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	16	142	11	12	165	8	29	10	0	3	5	18
Peak Hour Factor	0.84	0.92	0.84	0.92	0.92	0.92	0.84	0.84	0.92	0.92	0.84	0.84
Hourly flow rate (vph)	19	154	13	13	179	9	35	12	0	3	6	21
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1204			1315							
pX, platoon unblocked												
vC, conflicting volume	188			167			339	413	84	331	415	94
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	188			167			339	413	84	331	415	94
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			94	98	100	99	99	98
cM capacity (veh/h)	1383			1408			562	516	959	578	514	944

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	19	103	65	13	120	68	46	9	21
Volume Left	19	0	0	13	0	0	35	3	0
Volume Right	0	0	13	0	0	9	0	0	21
cSH	1383	1700	1700	1408	1700	1700	549	535	944
Volume to Capacity	0.01	0.06	0.04	0.01	0.07	0.04	0.08	0.02	0.02
Queue Length 95th (ft)	1	0	0	1	0	0	7	1	2
Control Delay (s)	7.6	0.0	0.0	7.6	0.0	0.0	12.2	11.8	8.9
Lane LOS	A			A			B	B	A
Approach Delay (s)	0.8			0.5			12.2	9.8	
Approach LOS							B	A	

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	26.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	40	84	28	9	302	9	55	9	3	1	10	46
Peak Hour Factor	0.84	0.92	0.84	0.92	0.92	0.92	0.84	0.84	0.92	0.92	0.84	0.84
Hourly flow rate (vph)	48	91	33	10	328	10	65	11	3	1	12	55
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1204			1315							
pX, platoon unblocked												
vC, conflicting volume	338			125			448	561	62	502	573	169
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	338			125			448	561	62	502	573	169
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			99			85	97	100	100	97	94
cM capacity (veh/h)	1218			1460			437	415	989	426	409	845

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	48	61	64	10	219	119	79	13	55
Volume Left	48	0	0	10	0	0	65	1	0
Volume Right	0	0	33	0	0	10	3	0	55
cSH	1218	1700	1700	1460	1700	1700	444	410	845
Volume to Capacity	0.04	0.04	0.04	0.01	0.13	0.07	0.18	0.03	0.06
Queue Length 95th (ft)	3	0	0	1	0	0	16	2	5
Control Delay (s)	8.1	0.0	0.0	7.5	0.0	0.0	14.9	14.1	9.6
Lane LOS	A			A			B	B	A
Approach Delay (s)	2.2			0.2			14.9	10.4	
Approach LOS							B	B	

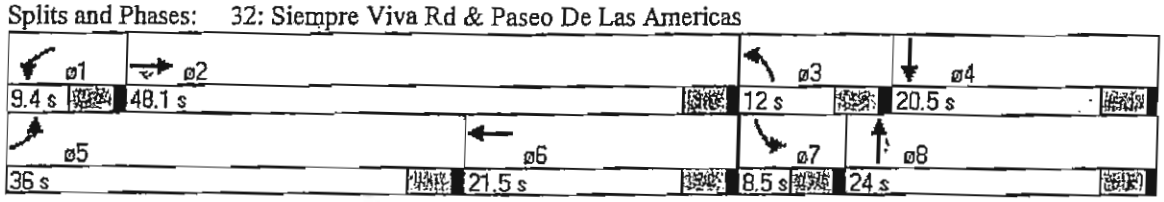
Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	32.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.993				0.850		0.958	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3514	0	1770	3539	1583	1770	3391	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3514	0	1770	3539	1583	1770	3391	0
Satd. Flow (RTOR)			125		5				4		54	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	382	204	114	8	159	7	88	31	4	54	192	74
Adj. Flow (vph)	420	224	125	9	175	8	97	34	4	59	211	81
Lane Group Flow (vph)	420	224	125	9	183	0	97	34	4	59	292	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	36.0	48.1	48.1	9.4	21.5	0.0	12.0	24.0	24.0	8.5	20.5	0.0
Act Effct Green (s)	20.1	28.5	28.5	6.1	9.4		8.1	16.1	16.1	5.0	11.8	
Actuated g/C Ratio	0.34	0.48	0.48	0.09	0.15		0.13	0.27	0.27	0.08	0.20	
v/c Ratio	0.71	0.09	0.15	0.06	0.34		0.42	0.04	0.01	0.42	0.41	
Control Delay	26.6	9.2	2.9	36.8	28.8		37.4	23.0	16.5	45.5	23.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	26.6	9.2	2.9	36.8	28.8		37.4	23.0	16.5	45.5	23.2	
LOS	C	A	A	D	C		D	C	B	D	C	
Approach Delay		17.7			29.2			33.1			27.0	
Approach LOS		B			C			C			C	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 59.9
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 22.9 — Intersection LOS: C
Intersection Capacity Utilization 51.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 32: Siempre Viva Rd & Paseo De Las Americas

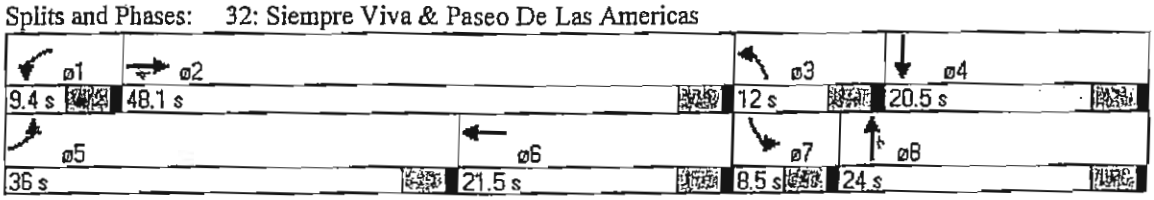


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.995				0.850		0.919	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3522	0	1770	3539	1583	1770	3253	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3522	0	1770	3539	1583	1770	3253	0
Satd. Flow (RTOR)			105		4				5		105	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	358	102	96	17	329	12	266	134	5	5	82	96
Adj. Flow (vph)	393	112	105	19	362	13	292	147	5	5	90	105
Lane Group Flow (vph)	393	112	105	19	375	0	292	147	5	5	195	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	36.0	48.1	48.1	9.4	21.5	0.0	12.0	24.0	24.0	8.5	20.5	0.0
Act Effct Green (s)	19.5	34.6	34.6	5.5	12.4		8.3	19.2	19.2	4.6	8.1	
Actuated g/C Ratio	0.30	0.53	0.53	0.08	0.19		0.13	0.30	0.30	0.06	0.12	
v/c Ratio	0.74	0.04	0.12	0.14	0.55		1.29	0.14	0.01	0.04	0.39	
Control Delay	29.7	7.7	2.5	38.4	28.3		190.0	21.8	16.6	37.6	17.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	29.7	7.7	2.5	38.4	28.3		190.0	21.8	16.6	37.6	17.4	
LOS	C	A	A	D	C		F	C	B	D	B	
Approach Delay		21.0			28.8			132.4			17.9	
Approach LOS		C			C			F			B	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 64.9
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.29
Intersection Signal Delay: 52.5 — Intersection LOS: D
Intersection Capacity Utilization 62.7% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 32: Siempre Viva & Paseo De Las Americas

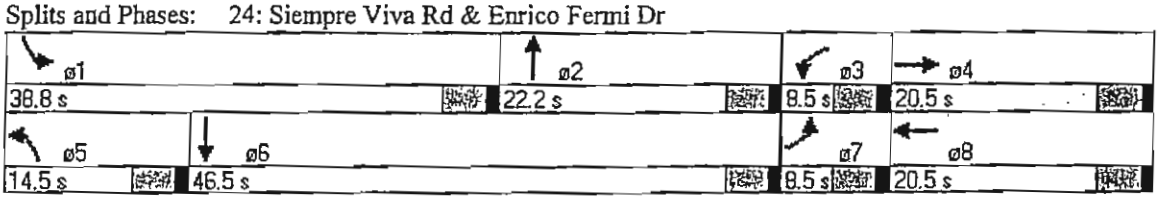


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.988			0.884						0.939	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1840	0	1770	3129	0	1770	3539	0	1770	3323	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1840	0	1770	3129	0	1770	3539	0	1770	3323	0
Satd. Flow (RTOR)		4			155						15	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	20	116	10	7	41	143	89	175	0	418	20	14
Adj. Flow (vph)	22	126	11	8	45	155	97	190	0	454	22	15
Lane Group Flow (vph)	22	137	0	8	200	0	97	190	0	454	37	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Total Split (s)	8.5	20.5	0.0	8.5	20.5	0.0	14.5	22.2	0.0	38.8	46.5	0.0
Act Effct Green (s)	5.0	10.0		5.0	10.0		8.7	9.7		18.6	28.0	
Actuated g/C Ratio	0.09	0.19		0.09	0.19		0.16	0.20		0.37	0.56	
v/c Ratio	0.07	0.38		0.05	0.27		0.34	0.27		0.68	0.02	
Control Delay	32.6	25.0		33.6	8.8		28.5	23.6		20.7	8.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	32.6	25.0		33.6	8.8		28.5	23.6		20.7	8.6	
LOS	C	C		C	A		C	C		C	A	
Approach Delay		26.1			9.7			25.2			19.8	
Approach LOS		C			A			C			B	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 49.7
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 20.2 — Intersection LOS: C
Intersection Capacity Utilization 46.6% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 24: Siempre Viva Rd & Enrico Fermi Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.989			0.878						0.908	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1842	0	1770	3107	0	1770	3539	0	1770	3214	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1842	0	1770	3107	0	1770	3539	0	1770	3214	0
Satd. Flow (RTOR)		4			280						40	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	22	45	4	11	59	258	186	158	0	43	23	37
Adj. Flow (vph)	24	49	4	12	64	280	202	172	0	47	25	40
Lane Group Flow (vph)	24	53	0	12	344	0	202	172	0	47	65	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Total Split (s)	13.5	25.5	0.0	13.5	25.5	0.0	27.4	35.4	0.0	15.6	23.6	0.0
Act Effct Green (s)	6.4	7.6		6.5	7.6		10.4	16.6		7.3	9.0	
Actuated g/C Ratio	0.14	0.20		0.14	0.20		0.26	0.43		0.16	0.23	
v/c Ratio	0.05	0.14		0.05	0.41		0.44	0.11		0.16	0.08	
Control Delay	20.8	16.0		21.0	6.2		16.4	10.8		19.0	10.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.8	16.0		21.0	6.2		16.4	10.8		19.0	10.7	
LOS	C	B		C	A		B	B		B	B	
Approach Delay		17.5			6.7			13.8			14.1	
Approach LOS		B			A			B			B	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 38.3
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.44
Intersection Signal Delay: 11.4 — Intersection LOS: B
Intersection Capacity Utilization 33.6% — ICU Level of Service A
Analysis Period (min) 15

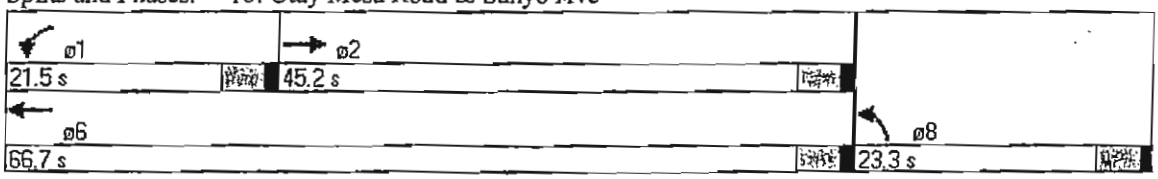
Splits and Phases: 34: Siempre Viva Rd & Enrico Fermi Dr

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.957				0.995	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3387	0	1770	1863	3430	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3387	0	1770	1863	3430	0
Satd. Flow (RTOR)	88				4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1218	487	4	350	88	3
Adj. Flow (vph)	1522	609	5	438	110	4
Lane Group Flow (vph)	2131	0	5	438	114	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Act Effct Green (s)	74.1		6.3	76.3	8.5	
Actuated g/C Ratio	0.82		0.07	0.85	0.09	
v/c Ratio	0.76		0.04	0.28	0.35	
Control Delay	5.5		39.5	2.5	39.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	5.5		39.5	2.5	39.2	
LOS	A		D	A	D	
Approach Delay	5.5			2.9	39.2	
Approach LOS	A			A	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 6.5 Intersection LOS: A
Intersection Capacity Utilization 59.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

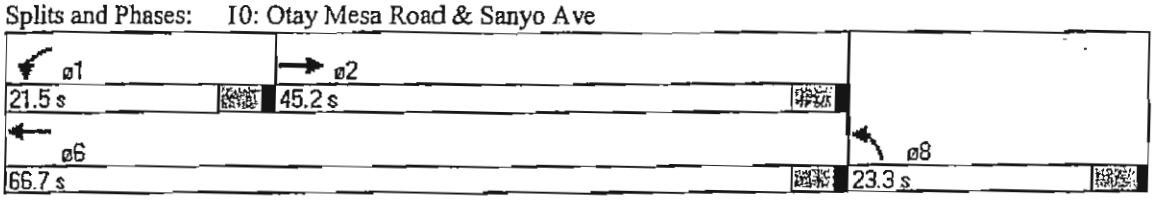


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.954				0.998	
Flt Protected			0.950		0.953	
Satd. Flow (prot)	3376	0	1770	1863	3437	0
Flt Permitted			0.950		0.953	
Satd. Flow (perm)	3376	0	1770	1863	3437	0
Satd. Flow (RTOR)	101				1	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	425	186	14	1081	363	4
Adj. Flow (vph)	531	232	18	1351	454	5
Lane Group Flow (vph)	763	0	18	1351	459	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Act Effct Green (s)	62.7		6.8	65.2	16.8	
Actuated g/C Ratio	0.70		0.08	0.72	0.19	
v/c Ratio	0.32		0.14	1.00	0.71	
Control Delay	0.4		40.7	39.8	40.7	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	0.4		40.7	39.8	40.7	
LOS	A		D	D	D	
Approach Delay	0.4			39.8	40.7	
Approach LOS	A			D	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 28.4 Intersection LOS: C
Intersection Capacity Utilization 74.0% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: I0: Otay Mesa Road & Sanyo Ave

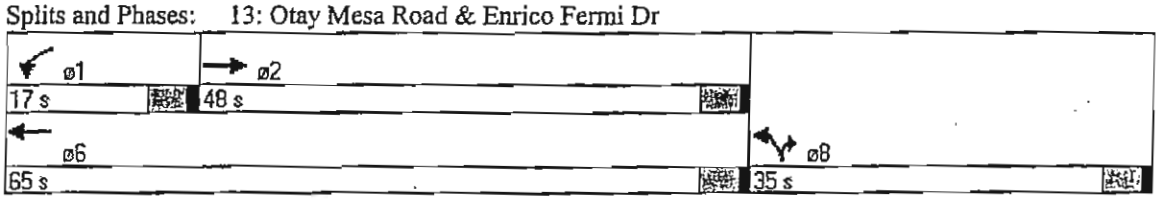


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1848	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1848	0	1770	1863	1770	1583
Satd. Flow (RTOR)	4					365
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	370	25	899	845	76	310
Adj. Flow (vph)	435	29	1058	994	89	365
Lane Group Flow (vph)	464	0	1058	994	89	365
Turn Type			Prot			Prot
Protected Phases	2		1	6	8	8
Permitted Phases						
Total Split (s)	48.0	0.0	17.0	65.0	35.0	35.0
Act Effct Green (s)	21.7		13.9	39.9	9.6	9.6
Actuated g/C Ratio	0.37		0.24	0.69	0.17	0.17
v/c Ratio	0.67		2.49	0.78	0.30	0.64
Control Delay	19.5		694.8	11.6	27.5	9.5
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	19.5		694.8	11.6	27.5	9.5
LOS	B		F	B	C	A
Approach Delay	19.5			363.8	13.0	
Approach LOS	B			F	B	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 58
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.49
Intersection Signal Delay: 256.4 — Intersection LOS: F
Intersection Capacity Utilization 85.0% — ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

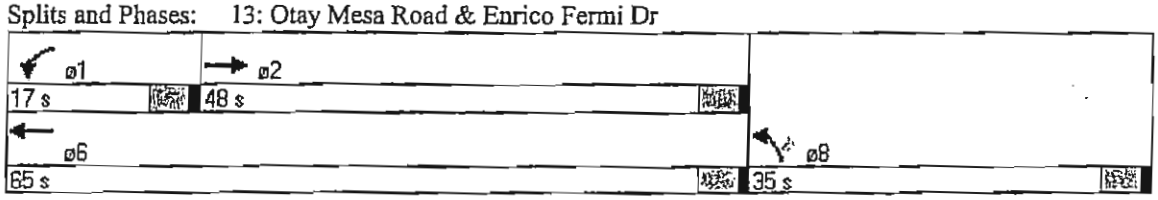


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1848	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1848	0	1770	1863	1770	1583
Satd. Flow (RTOR)	4					273
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	933	56	282	277	49	785
Adj. Flow (vph)	1098	66	332	326	58	924
Lane Group Flow (vph)	1164	0	332	326	58	924
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	48.0	0.0	17.0	65.0	35.0	35.0
Act Effct Green (s)	44.0		13.0	61.0	31.0	31.0
Actuated g/C Ratio	0.44		0.13	0.61	0.31	0.31
v/c Ratio	1.43		1.44	0.29	0.11	1.36
Control Delay	226.0		256.2	10.0	25.4	194.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	226.0		256.2	10.0	25.4	194.6
LOS	F		F	B	C	F
Approach Delay	226.0			134.3	184.6	
Approach LOS	F			F	F	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.44
Intersection Signal Delay: 190.0 — Intersection LOS: F
Intersection Capacity Utilization 107.8% — ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	445	597	876	0	189	0	278	13	0	0	40	162
Peak Hour Factor	0.95	0.95	0.92	0.92	0.95	0.95	0.92	0.92	0.92	0.95	0.92	0.95
Hourly flow rate (vph)	468	628	952	0	199	0	302	14	0	0	43	171

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	2049	199	316	214
Volume Left (vph)	468	0	302	0
Volume Right (vph)	952	0	0	171
Hadj (s)	-0.20	0.03	0.23	-0.44
Departure Headway (s)	6.1	7.2	7.2	6.9
Degree Utilization, x	3.50	0.40	0.63	0.41
Capacity (veh/h)	587	461	481	489
Control Delay (s)	1141.0	14.9	21.7	14.6
Approach Delay (s)	1141.0	14.9	21.7	14.6
Approach LOS	F	B	C	B

Intersection Summary			
Delay	846.2		
HCM Level of Service	F		
Intersection Capacity Utilization	161.1%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	309	263	385	0	556	0	792	38	0	0	435	417
Peak Hour Factor	0.95	0.95	0.92	0.92	0.95	0.95	0.92	0.92	0.92	0.95	0.92	0.95
Hourly flow rate (vph)	325	277	418	0	585	0	861	41	0	0	473	439

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	1021	585	902	912
Volume Left (vph)	325	0	861	0
Volume Right (vph)	418	0	0	439
Hadj (s)	-0.15	0.03	0.22	-0.25
Departure Headway (s)	9.4	9.6	9.8	9.3
Degree Utilization, x	2.67	1.56	2.45	2.36
Capacity (veh/h)	392	388	376	395
Control Delay (s)	778.5	289.2	682.8	639.2
Approach Delay (s)	778.5	289.2	682.8	639.2
Approach LOS	F	F	F	F

Intersection Summary			
Delay	632.4		
HCM Level of Service	F		
Intersection Capacity Utilization	191.3%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Free			Stop	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	0	475	150	6	9	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	516	163	7	10	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		5	0	516	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		5	0	516	0
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	100		84	99	98	100
cM capacity (veh/h)	1623		999	896	463	1085

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	0	516	163	3	3	7	3	0
Volume Left	0	0	163	0	0	0	0	0
Volume Right	0	516	0	0	0	0	0	0
cSH	1700	1700	999	896	896	463	463	1700
Volume to Capacity	0.00	0.30	0.16	0.00	0.00	0.01	0.01	0.00
Queue Length 95th (ft)	0	0	15	0	0	1	1	0
Control Delay (s)	0.0	0.0	9.3	9.0	9.0	12.9	12.8	0.0
Lane LOS			A	A	A	B	B	A
Approach Delay (s)	0.0		9.3			12.9		
Approach LOS			A			B		

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	39.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Free			Stop	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	0	209	450	19	19	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	227	489	21	21	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		10	0	227	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		10	0	227	0
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	100		50	98	97	100
cM capacity (veh/h)	1623		984	896	672	1085

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	0	227	489	10	10	14	7	0
Volume Left	0	0	489	0	0	0	0	0
Volume Right	0	227	0	0	0	0	0	0
cSH	1700	1700	984	896	896	672	672	1700
Volume to Capacity	0.00	0.13	0.50	0.01	0.01	0.02	0.01	0.00
Queue Length 95th (ft)	0	0	71	1	1	2	1	0
Control Delay (s)	0.0	0.0	12.2	9.1	9.1	10.5	10.4	0.0
Lane LOS			B	A	A	B	B	A
Approach Delay (s)	0.0		12.1			10.4		
Approach LOS			B			B		

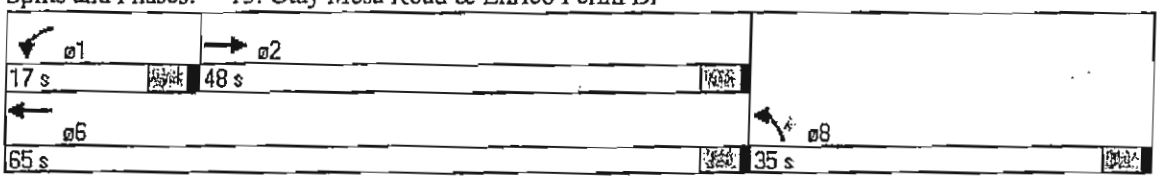
Intersection Summary			
Average Delay	8.4		
Intersection Capacity Utilization	34.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	0.97	1.00	1.00	0.88
Frt	0.991					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3507	0	3433	1863	1770	2787
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3507	0	3433	1863	1770	2787
Satd. Flow (RTOR)	8					480
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	933	56	282	277	49	785
Adj. Flow (vph)	1098	66	332	326	58	924
Lane Group Flow (vph)	1164	0	332	326	58	924
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	48.0	0.0	17.0	65.0	35.0	35.0
Act Effct Green (s)	31.6		11.9	47.9	20.6	20.6
Actuated g/C Ratio	0.41		0.15	0.62	0.27	0.27
v/c Ratio	0.81		0.63	0.28	0.12	0.84
Control Delay	25.9		41.2	8.6	24.3	21.2
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	25.9		41.2	8.6	24.3	21.2
LOS	C		D	A	C	C
Approach Delay	25.9			25.0	21.4	
Approach LOS	C			C	C	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 77.4
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 24.1 Intersection LOS: C
Intersection Capacity Utilization 61.7% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

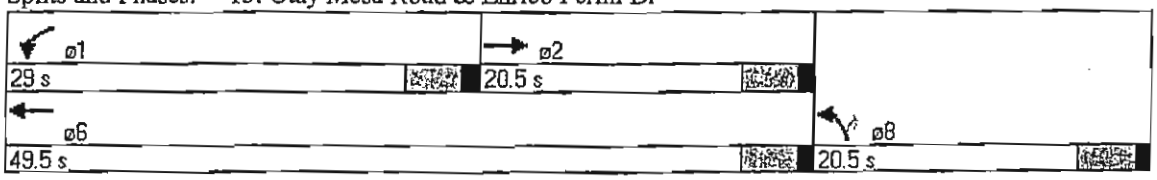


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	0.97	1.00	1.00	0.88
Frt	0.991					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3507	0	3433	1863	1770	2787
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3507	0	3433	1863	1770	2787
Satd. Flow (RTOR)	9					365
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	370	25	899	845	76	310
Adj. Flow (vph)	435	29	1058	994	89	365
Lane Group Flow (vph)	464	0	1058	994	89	365
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	20.5	0.0	29.0	49.5	20.5	20.5
Act Effct Green (s)	12.6		22.1	38.9	9.0	9.0
Actuated g/C Ratio	0.22		0.39	0.69	0.16	0.16
v/c Ratio	0.58		0.78	0.77	0.31	0.48
Control Delay	23.1		20.9	11.3	25.8	5.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	23.1		20.9	11.3	25.8	5.6
LOS	C		C	B	C	A
Approach Delay	23.1			16.3	9.5	
Approach LOS	C			B	A	

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 56.1
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 16.3 Intersection LOS: B
Intersection Capacity Utilization 55.4% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

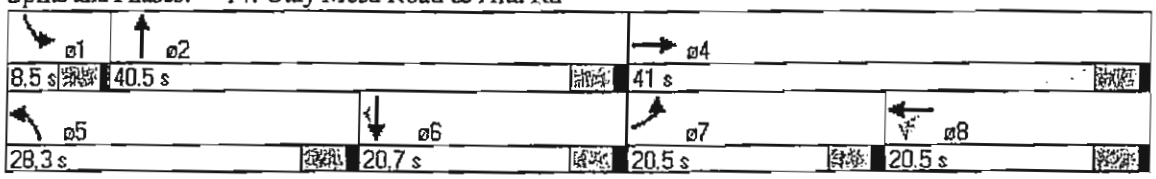


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt		0.910										0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	3221	0	1863	3539	0	3433	1863	0	0	1863	1583
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	3221	0	1863	3539	0	3433	1863	0	0	1863	1583
Satd. Flow (RTOR)		418										349
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	309	263	385	0	556	0	816	37	0	0	18	417
Adj. Flow (vph)	325	277	418	0	585	0	887	40	0	0	20	439
Lane Group Flow (vph)	325	695	0	0	585	0	887	40	0	0	20	439
Turn Type	Prot			Perm			Prot			Prot		Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases				8								6
Total Split (s)	20.5	41.0	0.0	20.5	20.5	0.0	28.3	40.5	0.0	8.5	20.7	20.7
Act Effct Green (s)	13.0	33.0			16.0		23.5	39.1			11.6	11.6
Actuated g/C Ratio	0.16	0.41			0.20		0.29	0.49			0.14	0.14
v/c Ratio	0.59	0.44			0.83		0.88	0.04			0.07	0.83
Control Delay	36.7	7.6			44.3		40.7	11.5			30.9	23.1
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	0.0
Total Delay	36.7	7.6			44.3		40.7	11.5			30.9	23.1
LOS	D	A			D		D	B			C	C
Approach Delay		16.9			44.3			39.4			23.5	
Approach LOS		B			D			D			C	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 80.3
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 30.2 Intersection LOS: C
Intersection Capacity Utilization 74.5% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd

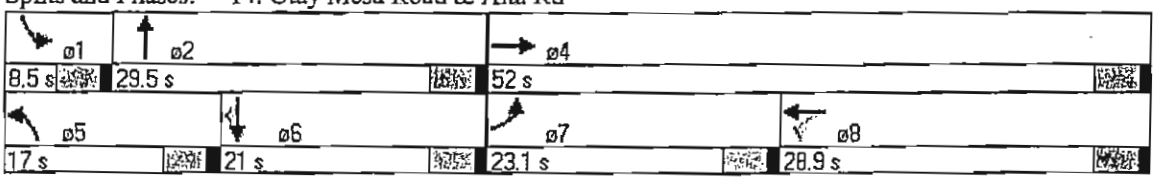


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt		0.910										0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	3221	0	1863	3539	0	3433	1863	0	0	1863	1583
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	3221	0	1863	3539	0	3433	1863	0	0	1863	1583
Satd. Flow (RTOR)		653										171
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	445	597	876	0	189	0	278	13	0	0	40	162
Adj. Flow (vph)	468	628	952	0	199	0	302	14	0	0	43	171
Lane Group Flow (vph)	468	1580	0	0	199	0	302	14	0	0	43	171
Turn Type	Prot			Perm			Prot			Prot		Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases				8								6
Total Split (s)	23.1	52.0	0.0	28.9	28.9	0.0	17.0	29.5	0.0	8.5	21.0	21.0
Act Effct Green (s)	15.6	29.8			13.2		10.8	23.2			8.1	8.1
Actuated g/C Ratio	0.25	0.48			0.21		0.18	0.38			0.13	0.13
v/c Ratio	0.54	0.86dr			0.27		0.51	0.02			0.17	0.48
Control Delay	25.8	11.9			22.4		29.5	16.8			30.9	10.9
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	0.0
Total Delay	25.8	11.9			22.4		29.5	16.8			30.9	10.9
LOS	C	B			C		C	B			C	B
Approach Delay		15.1			22.4			28.9			14.9	
Approach LOS		B			C			C			B	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 61.7
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 17.2 Intersection LOS: B
Intersection Capacity Utilization 72.6% ICU Level of Service C
Analysis Period (min) 15
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: I4: Otay Mesa Road & Alta Rd



APPENDIX F

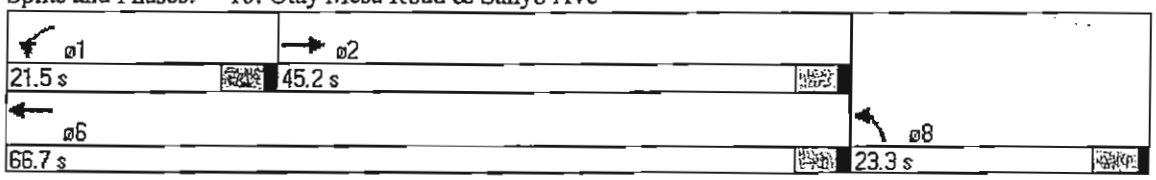
Existing + Project with SR- Extended to Siempre Viva Road Units 1-5
Synchro Analysis Worksheets

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.966				0.995	
Flt Protected			0.950		0.954	
Satd. Flow (prot)	3419	0	1770	1863	3430	0
Flt Permitted			0.950		0.954	
Satd. Flow (perm)	3419	0	1770	1863	3430	0
Satd. Flow (RTOR)	57				4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	1214	360	4	349	88	3
Adj. Flow (vph)	1518	450	5	436	110	4
Lane Group Flow (vph)	1968	0	5	436	114	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Act Effct Green (s)	74.1		6.3	76.3	8.5	
Actuated g/C Ratio	0.82		0.07	0.85	0.09	
v/c Ratio	0.70		0.04	0.28	0.35	
Control Delay	4.0		39.5	2.4	39.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	4.0		39.5	2.4	39.2	
LOS	A		D	A	D	
Approach Delay	4.0			2.9	39.2	
Approach LOS	A			A	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 5.4 — Intersection LOS: A
Intersection Capacity Utilization 55.1% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

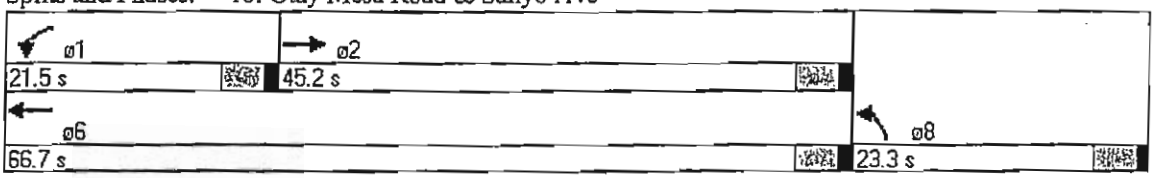


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.97	0.95
Frt	0.963				0.998	
Flt Protected			0.950		0.953	
Satd. Flow (prot)	3408	0	1770	1863	3437	0
Flt Permitted			0.950		0.953	
Satd. Flow (perm)	3408	0	1770	1863	3437	0
Satd. Flow (RTOR)	64				1	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	515	167	14	1089	363	4
Adj. Flow (vph)	644	209	18	1361	454	5
Lane Group Flow (vph)	853	0	18	1361	459	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Total Split (s)	45.2	0.0	21.5	66.7	23.3	0.0
Act Effct Green (s)	62.7		6.8	65.2	16.8	
Actuated g/C Ratio	0.70		0.08	0.72	0.19	
v/c Ratio	0.36		0.14	1.01	0.71	
Control Delay	0.9		40.7	41.8	40.7	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	0.9		40.7	41.8	40.7	
LOS	A		D	D	D	
Approach Delay	0.9			41.7	40.7	
Approach LOS	A			D	D	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 28.6 — Intersection LOS: C
Intersection Capacity Utilization 74.5% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 10: Otay Mesa Road & Sanyo Ave

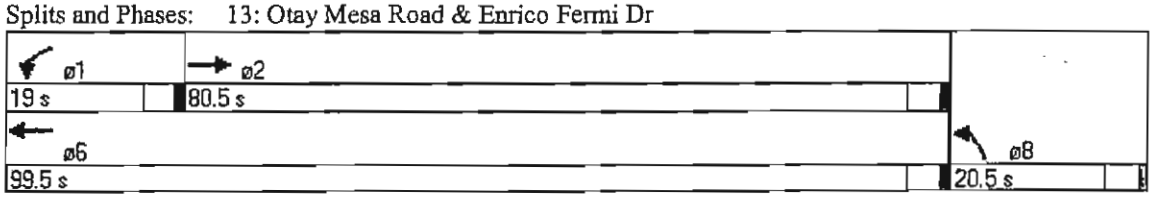


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1848	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1848	0	1770	1863	1770	1583
Satd. Flow (RTOR)	5					270
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	929	56	174	276	49	248
Adj. Flow (vph)	1093	66	205	325	58	292
Lane Group Flow (vph)	1159	0	205	325	58	292
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	80.5	0.0	19.0	99.5	20.5	20.5
Act Effct Green (s)	72.7		14.8	91.5	10.3	10.3
Actuated g/C Ratio	0.66		0.13	0.83	0.09	0.09
v/c Ratio	0.95		0.86	0.21	0.35	0.74
Control Delay	34.1		80.2	2.5	54.1	20.2
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	34.1		80.2	2.5	54.1	20.2
LOS	C		F	A	D	C
Approach Delay	34.1			32.5	25.8	
Approach LOS	C			C	C	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 109.9
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 32.3 — Intersection LOS: C
Intersection Capacity Utilization 75.3% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

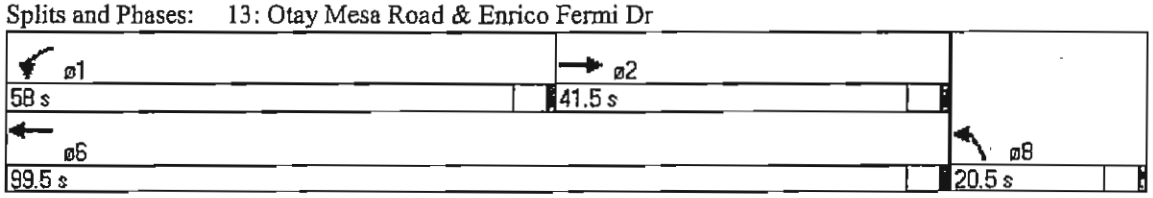


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1848	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1848	0	1770	1863	1770	1583
Satd. Flow (RTOR)	3					89
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	368	25	581	853	74	76
Adj. Flow (vph)	433	29	684	1004	87	89
Lane Group Flow (vph)	462	0	684	1004	87	89
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	41.5	0.0	58.0	99.5	20.5	20.5
Act Effct Green (s)	26.8		38.8	70.2	10.8	10.8
Actuated g/C Ratio	0.30		0.43	0.78	0.12	0.12
v/c Ratio	0.84		0.90	0.69	0.41	0.33
Control Delay	46.2		40.7	7.4	50.3	13.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	46.2		40.7	7.4	50.3	13.8
LOS	D		D	A	D	B
Approach Delay	46.2			20.9	31.8	
Approach LOS	D			C	C	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 26.8 — Intersection LOS: C
Intersection Capacity Utilization 67.2% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	445	445	653	0	150	0	207	6	0	0	9	162
Peak Hour Factor	0.95	0.95	0.92	0.92	0.95	0.95	0.92	0.92	0.92	0.95	0.92	0.95
Hourly flow rate (vph)	468	468	710	0	158	0	225	7	0	0	10	171

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	1647	158	232	180
Volume Left (vph)	468	0	225	0
Volume Right (vph)	710	0	0	171
Hadj (s)	-0.17	0.03	0.23	-0.53
Departure Headway (s)	5.5	6.5	6.8	6.3
Degree Utilization, x	2.50	0.29	0.44	0.31
Capacity (veh/h)	666	520	499	542
Control Delay (s)	692.9	12.1	15.1	12.2
Approach Delay (s)	692.9	12.1	15.1	12.2
Approach LOS	F	B	C	B

Intersection Summary			
Delay	518.2		
HCM Level of Service	F		
Intersection Capacity Utilization	131.5%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	46	209	287	0	452	0	619	19	0	0	19	417
Peak Hour Factor	0.95	0.95	0.92	0.92	0.95	0.95	0.92	0.92	0.92	0.95	0.92	0.95
Hourly flow rate (vph)	48	220	312	0	476	0	673	21	0	0	21	439

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	580	476	693	460
Volume Left (vph)	48	0	673	0
Volume Right (vph)	312	0	0	439
Hadj (s)	-0.27	0.03	0.23	-0.54
Departure Headway (s)	9.3	9.6	9.8	9.0
Degree Utilization, x	1.50	1.27	1.89	1.15
Capacity (veh/h)	399	381	373	403
Control Delay (s)	261.6	168.6	431.4	122.9
Approach Delay (s)	261.6	168.6	431.4	122.9
Approach LOS	F	F	F	F

Intersection Summary			
Delay	266.0		
HCM Level of Service	F		
Intersection Capacity Utilization	130.3%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	~~Free~~ STOP		Stop	Stop	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	0	597	189	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	649	205	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		0	0	649	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		0	0	649	0
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	100		80	100	100	100
cM capacity (veh/h)	1623		1023	896	389	1085

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	0	649	205	0	0
Volume Left	0	0	205	0	0
Volume Right	0	649	0	0	0
cSH	1700	1700	1023	1700	1700
Volume to Capacity	0.00	0.38	0.20	0.00	0.00
Queue Length 95th (ft)	0	0	19	0	0
Control Delay (s)	0.0	0.0	9.4	0.0	0.0
Lane LOS			A	A	A
Approach Delay (s)	0.0		9.4		0.0
Approach LOS			A		A

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	40.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	~~Free~~ Stop		Stop	Stop	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	0	263	556	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	286	604	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0		0	0	286	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0		0	0	286	0
tC, single (s)	4.1		7.1	6.5	6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2		3.5	4.0	4.0	3.3
p0 queue free %	100		41	100	100	100
cM capacity (veh/h)	1623		1023	896	624	1085

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total	0	286	604	0	0
Volume Left	0	0	604	0	0
Volume Right	0	286	0	0	0
cSH	1700	1700	1023	1700	1700
Volume to Capacity	0.00	0.17	0.59	0.00	0.00
Queue Length 95th (ft)	0	0	100	0	0
Control Delay (s)	0.0	0.0	13.5	0.0	0.0
Lane LOS			B	A	A
Approach Delay (s)	0.0		13.5		0.0
Approach LOS			B		A

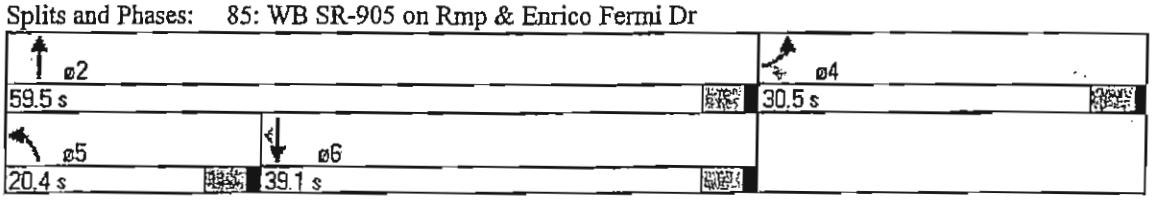
Intersection Summary			
Average Delay	9.1		
Intersection Capacity Utilization	34.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950			
Satd. Flow (prot)	1863	1583	1770	1863	1863	1583
Flt Permitted			0.950			
Satd. Flow (perm)	1863	1583	1770	1863	1863	1583
Satd. Flow (RTOR)		837				59
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	117	39	467	117	54
Adj. Flow (vph)	0	127	42	508	127	59
Lane Group Flow (vph)	0	127	42	508	127	59
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Total Split (s)	30.5	30.5	20.4	59.5	39.1	39.1
Act Effct Green (s)		7.1	7.9	31.7	28.6	28.6
Actuated g/C Ratio		0.15	0.14	0.68	0.62	0.62
v/c Ratio		0.13	0.16	0.40	0.11	0.06
Control Delay		0.3	14.2	4.6	6.2	3.3
Queue Delay		0.0	0.0	0.0	0.0	0.0
Total Delay		0.3	14.2	4.6	6.2	3.3
LOS		A	B	A	A	A
Approach Delay				5.4	5.3	
Approach LOS				A	A	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 46.3
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.40
Intersection Signal Delay: 4.6 — Intersection LOS: A
Intersection Capacity Utilization 27.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 85: WB SR-905 on Rmp & Enrico Fermi Dr

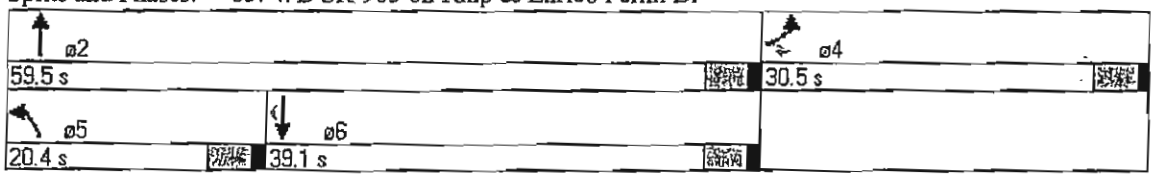


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950			
Satd. Flow (prot)	1863	1583	1770	1863	1863	1583
Flt Permitted			0.950			
Satd. Flow (perm)	1863	1583	1770	1863	1863	1583
Satd. Flow (RTOR)		824				209
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	124	48	196	124	192
Adj. Flow (vph)	0	135	52	213	135	209
Lane Group Flow (vph)	0	135	52	213	135	209
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Total Split (s)	30.5	30.5	20.4	59.5	39.1	39.1
Act Effct Green (s)		7.3	8.3	33.0	27.1	27.1
Actuated g/C Ratio		0.15	0.16	0.74	0.61	0.61
v/c Ratio		0.14	0.18	0.15	0.12	0.20
Control Delay		0.3	12.8	3.0	7.9	2.8
Queue Delay		0.0	0.0	0.0	0.0	0.0
Total Delay		0.3	12.8	3.0	7.9	2.8
LOS		A	B	A	A	A
Approach Delay				4.9	4.8	
Approach LOS				A	A	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 44.3
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.20
Intersection Signal Delay: 4.0 — Intersection LOS: A
Intersection Capacity Utilization 21.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 85: WB SR-905 on Rmp & Enrico Fermi Dr



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	0	1863	1863	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	0	1863	1863	0
Satd. Flow (RTOR)		43				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	226	40	0	280	234	0
Adj. Flow (vph)	246	43	0	304	254	0
Lane Group Flow (vph)	246	43	0	304	254	0
Turn Type		Perm				
Protected Phases	4			2	6	
Permitted Phases		4				
Total Split (s)	44.3	44.3	0.0	45.7	45.7	0.0
Act Effct Green (s)	11.2	11.2		18.4	18.4	
Actuated g/C Ratio	0.30	0.30		0.52	0.52	
v/c Ratio	0.47	0.09		0.31	0.26	
Control Delay	10.8	3.6		7.9	7.5	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	10.8	3.6		7.9	7.5	
LOS	B	A		A	A	
Approach Delay	9.8			7.9	7.5	
Approach LOS	A			A	A	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 35.5
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.47
Intersection Signal Delay: 8.4 Intersection LOS: A
Intersection Capacity Utilization 33.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 88: EB SR-905 Off Rmp & Enrico Fermi Dr

ø2 45.7 s	ø4 44.3 s
ø6 45.7 s	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	0	1863	1863	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	0	1863	1863	0
Satd. Flow (RTOR)		36				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	58	33	0	186	248	0
Adj. Flow (vph)	63	36	0	202	270	0
Lane Group Flow (vph)	63	36	0	202	270	0
Turn Type		Perm				
Protected Phases	4			2	6	
Permitted Phases		4				
Total Split (s)	45.5	45.5	0.0	44.5	44.5	0.0
Act Effct Green (s)	10.3	10.3		38.4	38.4	
Actuated g/C Ratio	0.17	0.17		0.67	0.67	
v/c Ratio	0.21	0.12		0.16	0.22	
Control Delay	8.7	4.2		4.2	4.5	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	8.7	4.2		4.2	4.5	
LOS	A	A		A	A	
Approach Delay	7.0			4.2	4.5	
Approach LOS	A			A	A	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 57.7
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.22
Intersection Signal Delay: 4.8 — Intersection LOS: A
Intersection Capacity Utilization 23.1% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 90: EB SR-905 OFF Rmp & Enrico Fermi Dr

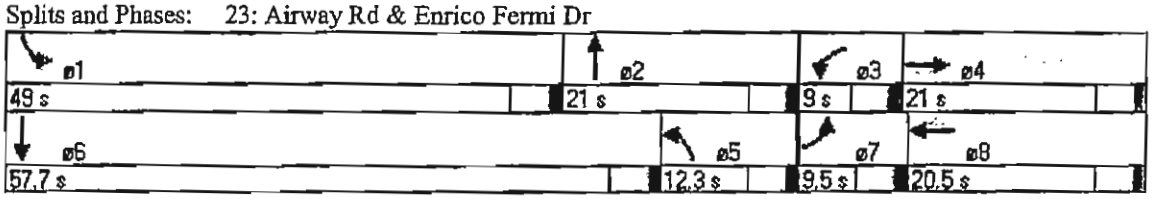
ø2 44.5 s	ø4 45.5 s
ø6 44.5 s	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.876	0.850			0.850		0.998			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1550	1504	1770	1863	1583	1770	3532	0	1770	3511	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1550	1504	1770	1863	1583	1770	3532	0	1770	3511	0
Satd. Flow (RTOR)		19	20			4		1			8	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	7	4	31	6	2	4	58	171	3	3	107	6
Adj. Flow (vph)	9	4	39	7	2	4	72	214	3	3	134	8
Lane Group Flow (vph)	9	23	20	7	2	4	72	217	0	3	142	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	9.5	21.0	21.0	9.0	20.5	20.5	12.3	21.0	0.0	49.0	57.7	0.0
Act Effct Green (s)	6.9	8.4	8.4	6.3	8.3	8.3	9.7	44.1		7.7	39.6	
Actuated g/C Ratio	0.11	0.13	0.13	0.10	0.13	0.13	0.15	0.76		0.12	0.69	
v/c Ratio	0.05	0.10	0.09	0.04	0.01	0.02	0.27	0.08		0.01	0.06	
Control Delay	16.9	8.8	8.2	17.2	14.0	11.0	13.6	5.8		16.0	8.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	16.9	8.8	8.2	17.2	14.0	11.0	13.6	5.8		16.0	8.3	
LOS	B	A	A	B	B	B	B	A		B	A	
Approach Delay		10.0			14.8			7.7			8.4	
Approach LOS		A			B			A			A	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 57.8
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.27
Intersection Signal Delay: 8.4 — Intersection LOS: A
Intersection Capacity Utilization 22.4% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 23: Airway Rd & Enrico Fermi Dr

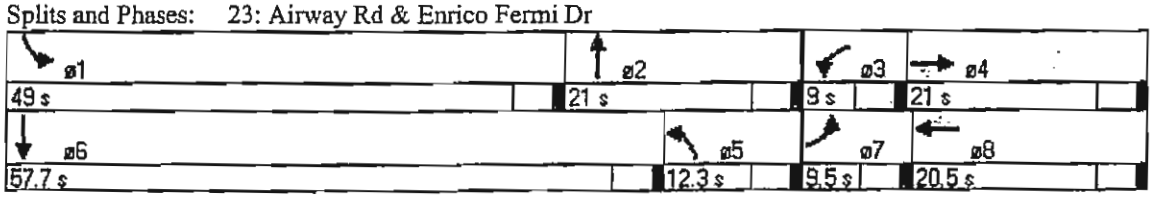


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.994			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1770	1504	1770	1863	1583	1770	3518	0	1770	3525	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1770	1504	1770	1863	1583	1770	3518	0	1770	3525	0
Satd. Flow (RTOR)			12			3		4			4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	7	3	10	6	5	3	67	132	6	5	153	4
Adj. Flow (vph)	9	3	12	7	5	3	84	165	7	5	191	5
Lane Group Flow (vph)	9	3	12	7	5	3	84	172	0	5	196	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Total Split (s)	9.5	21.0	21.0	9.0	20.5	20.5	12.3	21.0	0.0	49.0	57.7	0.0
Act Effct Green (s)	6.8	7.9	7.9	6.2	7.7	7.7	10.5	49.8		7.7	34.1	
Actuated g/C Ratio	0.10	0.12	0.12	0.09	0.12	0.12	0.17	0.85		0.12	0.58	
v/c Ratio	0.05	0.01	0.06	0.04	0.02	0.02	0.27	0.06		0.02	0.10	
Control Delay	16.0	14.7	9.5	16.3	14.8	11.7	12.1	4.9		14.8	7.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	16.0	14.7	9.5	16.3	14.8	11.7	12.1	4.9		14.8	7.5	
LOS	B	B	A	B	B	B	B	A		B	A	
Approach Delay		12.6			14.9			7.3			7.7	
Approach LOS		B			B			A			A	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 58.5
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.27
Intersection Signal Delay: 7.9 — Intersection LOS: A
Intersection Capacity Utilization 23.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 23: Airway Rd & Enrico Fermi Dr

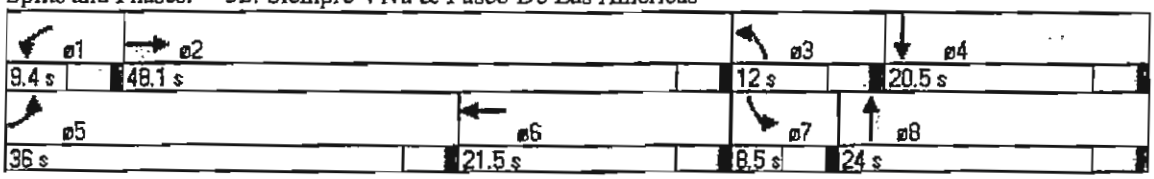


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.995				0.850		0.919	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3522	0	1770	3539	1583	1770	3253	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3522	0	1770	3539	1583	1770	3253	0
Satd. Flow (RTOR)			105		4				5		105	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	358	102	96	17	329	12	266	134	5	5	82	96
Adj. Flow (vph)	393	112	105	19	362	13	292	147	5	5	90	105
Lane Group Flow (vph)	393	112	105	19	375	0	292	147	5	5	195	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	36.0	48.1	48.1	9.4	21.5	0.0	12.0	24.0	24.0	8.5	20.5	0.0
Act Effct Green (s)	19.5	34.6	34.6	5.5	12.4		8.3	19.2	19.2	4.6	8.1	
Actuated g/C Ratio	0.30	0.53	0.53	0.08	0.19		0.13	0.30	0.30	0.06	0.12	
v/c Ratio	0.74	0.04	0.12	0.14	0.55		1.29	0.14	0.01	0.04	0.39	
Control Delay	23.6	7.7	2.5	38.4	26.5		190.0	21.8	16.6	37.6	15.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	23.6	7.7	2.5	38.4	26.5		190.0	21.8	16.6	37.6	15.8	
LOS	C	A	A	D	C		F	C	B	D	B	
Approach Delay		17.0			27.0			132.4			16.3	
Approach LOS		B			C			F			B	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 64.9
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.29
Intersection Signal Delay: 50.4 — Intersection LOS: D
Intersection Capacity Utilization 62.7% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 32: Siempre Viva & Paseo De Las Americas

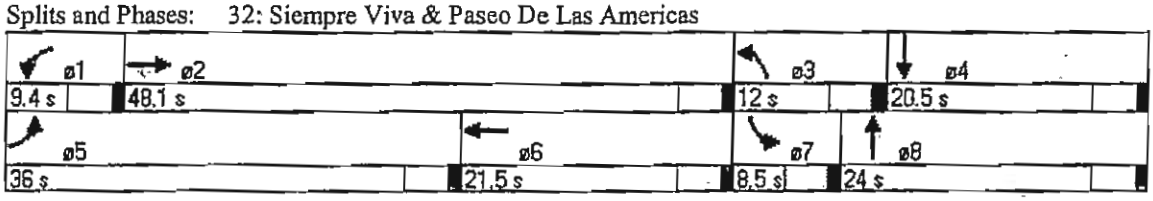


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.994				0.850		0.958	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	3518	0	1770	3539	1583	1770	3391	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	5085	1583	1770	3518	0	1770	3539	1583	1770	3391	0
Satd. Flow (RTOR)			125		4				4		54	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	382	204	114	8	179	7	88	31	4	54	192	74
Adj. Flow (vph)	420	224	125	9	197	8	97	34	4	59	211	81
Lane Group Flow (vph)	420	224	125	9	205	0	97	34	4	59	292	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Total Split (s)	36.0	48.1	48.1	9.4	21.5	0.0	12.0	24.0	24.0	8.5	20.5	0.0
Act Effct Green (s)	20.2	28.9	28.9	6.1	9.8		8.2	16.0	16.0	5.1	11.8	
Actuated g/C Ratio	0.33	0.48	0.48	0.09	0.16		0.13	0.26	0.26	0.08	0.20	
v/c Ratio	0.71	0.09	0.15	0.06	0.37		0.42	0.04	0.01	0.42	0.41	
Control Delay	22.2	9.1	2.8	37.1	27.7		36.9	23.3	16.5	45.8	22.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	22.2	9.1	2.8	37.1	27.7		36.9	23.3	16.5	45.8	22.5	
LOS	C	A	A	D	C		D	C	B	D	C	
Approach Delay		15.2			28.1			32.9			26.4	
Approach LOS		B			C			C			C	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 60.4
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 21.4 — Intersection LOS: C
Intersection Capacity Utilization 52.2% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 32: Siempre Viva & Paseo De Las Americas



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	16	56	11	12	135	8	29	10	0	3	5	18
Peak Hour Factor	0.84	0.92	0.84	0.92	0.92	0.92	0.84	0.84	0.92	0.92	0.84	0.84
Hourly flow rate (vph)	19	61	13	13	147	9	35	12	0	3	6	21
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1204			1315							
pX, platoon unblocked												
vC, conflicting volume	155			74			229	287	37	252	289	78
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	155			74			229	287	37	252	289	78
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			95	98	100	100	99	98
cM capacity (veh/h)	1422			1524			674	608	1027	660	606	967

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	19	41	33	13	98	58	46	9	21
Volume Left	19	0	0	13	0	0	35	3	0
Volume Right	0	0	13	0	0	9	0	0	21
cSH	1422	1700	1700	1524	1700	1700	656	624	967
Volume to Capacity	0.01	0.02	0.02	0.01	0.06	0.03	0.07	0.01	0.02
Queue Length 95th (ft)	1	0	0	1	0	0	6	1	2
Control Delay (s)	7.6	0.0	0.0	7.4	0.0	0.0	10.9	10.9	8.8
Lane LOS	A			A			B	B	A
Approach Delay (s)	1.5			0.6			10.9	9.4	
Approach LOS							B	A	

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	26.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	40	84	28	9	302	1	55	9	3	1	10	46
Peak Hour Factor	0.84	0.92	0.84	0.92	0.92	0.92	0.84	0.84	0.92	0.92	0.84	0.84
Hourly flow rate (vph)	48	91	33	10	328	1	65	11	3	1	12	55
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1204			1315							
pX, platoon unblocked												
vC, conflicting volume	329			125			448	552	62	498	568	165
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	329			125			448	552	62	498	568	165
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			99			85	97	100	100	97	94
cM capacity (veh/h)	1227			1460			437	420	989	430	411	851

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	48	61	64	10	219	111	79	13	55
Volume Left	48	0	0	10	0	0	65	1	0
Volume Right	0	0	33	0	0	1	3	0	55
cSH	1227	1700	1700	1460	1700	1700	445	413	851
Volume to Capacity	0.04	0.04	0.04	0.01	0.13	0.07	0.18	0.03	0.06
Queue Length 95th (ft)	3	0	0	1	0	0	16	2	5
Control Delay (s)	8.1	0.0	0.0	7.5	0.0	0.0	14.8	14.0	9.5
Lane LOS	A			A			B	B	A
Approach Delay (s)	2.2			0.2			14.8	10.4	
Approach LOS							B	B	

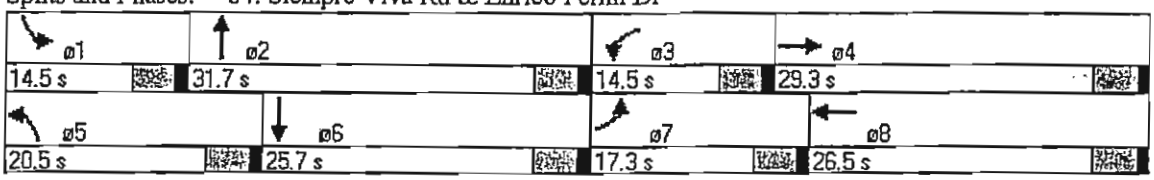
Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	32.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.941			0.925						0.896	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1753	0	1770	3274	0	1770	3539	0	1770	3171	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1753	0	1770	3274	0	1770	3539	0	1770	3171	0
Satd. Flow (RTOR)		11			10						50	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	120	16	10	7	9	9	89	31	0	1	20	46
Adj. Flow (vph)	130	17	11	8	10	10	97	34	0	1	22	50
Lane Group Flow (vph)	130	28	0	8	20	0	97	34	0	1	72	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Total Split (s)	17.3	29.3	0.0	14.5	26.5	0.0	20.5	31.7	0.0	14.5	25.7	0.0
Act Effct Green (s)	9.7	9.5		7.8	7.7		10.6	35.4		7.5	26.7	
Actuated g/C Ratio	0.17	0.17		0.13	0.13		0.19	0.67		0.12	0.50	
v/c Ratio	0.22	0.09		0.04	0.05		0.29	0.01		0.00	0.04	
Control Delay	13.4	12.3		18.6	14.4		14.7	8.9		19.0	8.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	13.4	12.3		18.6	14.4		14.7	8.9		19.0	8.2	
LOS	B	B		B	B		B	A		B	A	
Approach Delay		13.2			15.6			13.2			8.3	
Approach LOS		B			B			B			A	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 52.9
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.29
Intersection Signal Delay: 12.5 — Intersection LOS: B
Intersection Capacity Utilization 28.4% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 84: Siempre Viva Rd & Enrico Fermi Dr



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.900			0.948						0.873	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1676	0	1770	3355	0	1770	3539	0	1770	3090	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	1676	0	1770	3355	0	1770	3539	0	1770	3090	0
Satd. Flow (RTOR)		4			9						141	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	65	2	4	11	16	8	186	134	0	3	23	130
Adj. Flow (vph)	71	2	4	12	17	9	202	146	0	3	25	141
Lane Group Flow (vph)	71	6	0	12	26	0	202	146	0	3	166	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Total Split (s)	16.5	28.5	0.0	16.5	28.5	0.0	16.5	28.5	0.0	16.5	28.5	0.0
Act Effct Green (s)	7.8	7.6		7.2	7.1		12.5	35.0		7.0	16.1	
Actuated g/C Ratio	0.15	0.15		0.14	0.13		0.28	0.78		0.13	0.36	
v/c Ratio	0.14	0.02		0.05	0.06		0.41	0.05		0.01	0.14	
Control Delay	15.9	13.3		18.8	15.4		13.6	6.2		19.0	5.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.9	13.3		18.8	15.4		13.6	6.2		19.0	5.5	
LOS	B	B		B	B		B	A		B	A	
Approach Delay		15.7			16.5			10.5			5.7	
Approach LOS		B			B			B			A	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.41
Intersection Signal Delay: 10.2 — Intersection LOS: B
Intersection Capacity Utilization 33.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 84: Siempre Viva Rd & Enrico Fermi Dr

ø1	ø2	ø3	ø4
16.5 s	28.5 s	16.5 s	28.5 s
ø5	ø6	ø7	ø8
16.5 s	28.5 s	16.5 s	28.5 s

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.88
Frt						0.850
Flt Protected						
Satd. Flow (prot)	0	0	0	3539	0	2787
Flt Permitted						
Satd. Flow (perm)	0	0	0	3539	0	2787
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	0	0	852	0	270
Adj. Flow (vph)	0	0	0	926	0	293
Lane Group Flow (vph)	0	0	0	926	0	293
Sign Control	Free			Free	Stop	

Intersection Summary

Control Type: Unsignalized
Intersection Capacity Utilization 33.1% ICU Level of Service A
Analysis Period (min) 15

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.88
Frt						0.850
Flt Protected						
Satd. Flow (prot)	0	0	0	3539	0	2787
Flt Permitted						
Satd. Flow (perm)	0	0	0	3539	0	2787
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	0	0	375	0	785
Adj. Flow (vph)	0	0	0	408	0	853
Lane Group Flow (vph)	0	0	0	408	0	853
Sign Control	Free			Free	Stop	

Intersection Summary

Control Type: Unsignalized
Intersection Capacity Utilization 30.8% ICU Level of Service A
Analysis Period (min) 15

Lane Group	SBL	SBR	NEL	NET	SWT	SWR
Lane Configurations						
Lane Util. Factor	1.00	0.88	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected						
Satd. Flow (prot)	0	2787	0	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	2787	0	0	0	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	852	0	0	0	0
Adj. Flow (vph)	0	926	0	0	0	0
Lane Group Flow (vph)	0	926	0	0	0	0
Sign Control	Free			Free	Free	

Intersection Summary

Control Type: Unsignalized
Intersection Capacity Utilization 33.1% ICU Level of Service A
Analysis Period (min) 15

Lane Group	SBL	SBR	NEL	NET	SWT	SWR
Lane Configurations						
Lane Util. Factor	1.00	0.88	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected						
Satd. Flow (prot)	0	2787	0	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	2787	0	0	0	0
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	0	375	0	0	0	0
Adj. Flow (vph)	0	408	0	0	0	0
Lane Group Flow (vph)	0	408	0	0	0	0
Sign Control	Free			Free	Free	

Intersection Summary

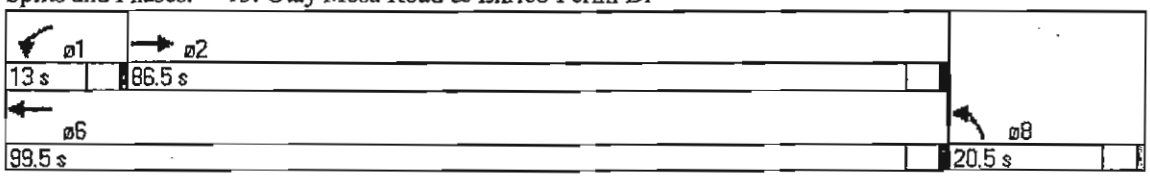
Control Type: Unsignalized
Intersection Capacity Utilization 30.8% ICU Level of Service A
Analysis Period (min) 15

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	1.00
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1848	0	3433	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1848	0	3433	1863	1770	1583
Satd. Flow (RTOR)	6					224
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	929	56	174	276	49	248
Adj. Flow (vph)	1093	66	205	325	58	292
Lane Group Flow (vph)	1159	0	205	325	58	292
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	86.5	0.0	13.0	99.5	20.5	20.5
Act Effct Green (s)	64.5		9.2	77.9	11.1	11.1
Actuated g/C Ratio	0.66		0.09	0.80	0.11	0.11
v/c Ratio	0.95		0.64	0.22	0.29	0.77
Control Delay	31.4		57.8	2.9	48.9	27.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	31.4		57.8	2.9	48.9	27.6
LOS	C		E	A	D	C
Approach Delay	31.4			24.1	31.2	
Approach LOS	C			C	C	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 97.6
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 29.5 Intersection LOS: C
Intersection Capacity Utilization 74.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

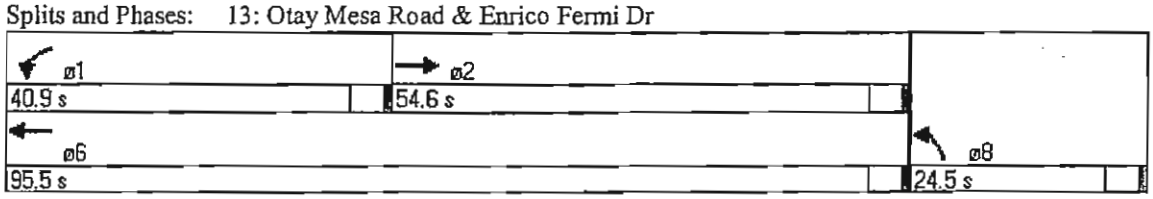


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	1.00
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1848	0	3433	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1848	0	3433	1863	1770	1583
Satd. Flow (RTOR)	3					87
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	368	25	581	853	76	74
Adj. Flow (vph)	433	29	684	1004	89	87
Lane Group Flow (vph)	462	0	684	1004	89	87
Turn Type			Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases						8
Total Split (s)	54.6	0.0	40.9	95.5	24.5	24.5
Act Effct Green (s)	20.6		18.3	43.3	9.4	9.4
Actuated g/C Ratio	0.33		0.30	0.70	0.15	0.15
v/c Ratio	0.75		0.67	0.77	0.33	0.27
Control Delay	27.3		23.9	10.3	32.2	10.7
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	27.3		23.9	10.3	32.2	10.7
LOS	C		C	B	C	B
Approach Delay	27.3			15.8	21.6	
Approach LOS	C			B	C	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 61.6
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 18.5 Intersection LOS: B
Intersection Capacity Utilization 55.8% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 13: Otay Mesa Road & Enrico Fermi Dr

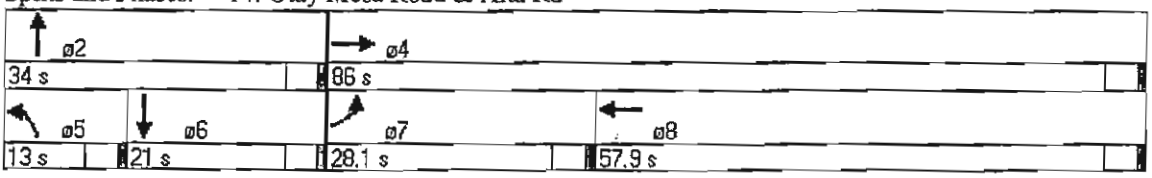


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt		0.910									0.872	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1695	0	1863	1863	0	3433	1863	0	0	1624	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1695	0	1863	1863	0	3433	1863	0	0	1624	0
Satd. Flow (RTOR)		144									171	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	445	445	653	0	150	0	207	6	0	0	9	162
Adj. Flow (vph)	468	468	710	0	158	0	225	7	0	0	10	171
Lane Group Flow (vph)	468	1178	0	0	158	0	225	7	0	0	181	0
Turn Type	Prot			Perm			Prot			Perm		
Protected Phases	7	4			8		5	2			6	
Permitted Phases				8						6		
Total Split (s)	28.1	86.0	0.0	57.9	57.9	0.0	13.0	34.0	0.0	21.0	21.0	0.0
Act Effct Green (s)	18.3	75.5			53.2		9.1	21.6			8.4	
Actuated g/C Ratio	0.17	0.72			0.51		0.09	0.21			0.08	
v/c Ratio	0.79	0.94			0.17		0.76	0.02			0.63	
Control Delay	52.0	26.9			16.1		66.1	35.8			19.2	
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	
Total Delay	52.0	26.9			16.1		66.1	35.8			19.2	
LOS	D	C			B		E	D			B	
Approach Delay		34.0			16.1			65.2			19.2	
Approach LOS		C			B			E			B	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 105.3
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 34.8 Intersection LOS: C
Intersection Capacity Utilization 96.5% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd

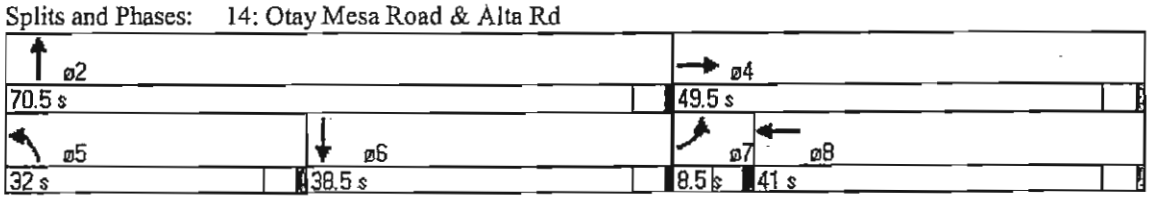


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt		0.912									0.871	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1699	0	1863	1863	0	3433	1863	0	0	1622	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	3433	1699	0	1863	1863	0	3433	1863	0	0	1622	0
Satd. Flow (RTOR)		69									149	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Volume (vph)	46	209	287	0	452	0	619	19	0	0	19	417
Adj. Flow (vph)	48	220	312	0	476	0	673	21	0	0	21	439
Lane Group Flow (vph)	48	532	0	0	476	0	673	21	0	0	460	0
Turn Type	Prot			Perm			Prot			Perm		
Protected Phases	7	4			8		5	2			6	
Permitted Phases				8						6		
Total Split (s)	8.5	49.5	0.0	41.0	41.0	0.0	32.0	70.5	0.0	38.5	38.5	0.0
Act Effct Green (s)	5.0	32.4			28.3		22.9	51.7			24.1	
Actuated g/C Ratio	0.05	0.35			0.30		0.24	0.55			0.26	
v/c Ratio	0.27	0.84			0.84		0.80	0.02			0.87	
Control Delay	57.8	38.7			48.5		44.9	12.0			42.2	
Queue Delay	0.0	0.0			0.0		0.0	0.0			0.0	
Total Delay	57.8	38.7			48.5		44.9	12.0			42.2	
LOS	E	D			D		D	B			D	
Approach Delay		40.3			48.5			43.9			42.2	
Approach LOS		D			D			D			D	

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 93.5
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 43.6 Intersection LOS: D
Intersection Capacity Utilization 83.0% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 14: Otay Mesa Road & Alta Rd



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	597	83	172	0	26	36	50	75	0	111	224	194
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	649	90	187	0	28	39	54	82	0	121	243	211

Direction, Lane #	SE 1	SE 2	NW 1	NW 2	NE 1	NE 2	SW 1	SW 2
Volume Total (vph)	433	493	14	53	95	41	364	211
Volume Left (vph)	433	216	0	0	54	0	121	0
Volume Right (vph)	0	187	0	39	0	0	0	211
Hadj (s)	0.53	-0.01	0.03	-0.48	0.32	0.03	0.20	-0.67
Departure Headway (s)	7.3	6.8	8.1	7.6	8.3	8.0	7.5	6.6
Degree Utilization, x	0.88	0.93	0.03	0.11	0.22	0.09	0.76	0.39
Capacity (veh/h)	483	522	406	443	421	433	473	529
Control Delay (s)	41.8	47.4	10.2	10.3	12.4	10.6	29.2	12.6
Approach Delay (s)	44.8		10.3		11.9		23.1	
Approach LOS	E		B		B		C	

Intersection Summary			
Delay	33.5		
HCM Level of Service	D		
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	252	48	75	0	79	104	161	214	0	37	99	273
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	274	52	82	0	86	113	175	233	0	40	108	297

Direction, Lane #	SE 1	SE 2	NW 1	NW 2	NE 1	NE 2	SW 1	SW 2
Volume Total (vph)	183	225	43	156	291	116	148	297
Volume Left (vph)	183	91	0	0	175	0	40	0
Volume Right (vph)	0	82	0	113	0	0	0	297
Hadj (s)	0.53	-0.02	0.03	-0.47	0.33	0.03	0.17	-0.67
Departure Headway (s)	7.8	7.3	7.8	7.3	7.5	7.2	7.3	6.5
Degree Utilization, x	0.40	0.45	0.09	0.31	0.61	0.23	0.30	0.54
Capacity (veh/h)	441	475	432	463	462	480	470	535
Control Delay (s)	14.7	15.0	10.3	12.3	20.1	11.1	12.3	15.5
Approach Delay (s)	14.9		11.9		17.6		14.5	
Approach LOS	B		B		C		B	

Intersection Summary			
Delay	15.1		
HCM Level of Service	C		
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		