

TRANSPORTATION ANALYSIS

For

OTAY MESA COMMUNITY PLAN UPDATE

Prepared for

THE CITY OF SAN DIEGO

Final Report, June 14, 2012
[with corrections dated August 30, 2013](#)
[on four pages \(ES-21, ES-38, ES-67, and 5-32\).](#)

© URBAN SYSTEMS ASSOCIATES, INC.
TRAFFIC PLANNING & ENGINEERING, MARKETING & PROJECT SUPPORT
CONSULTANTS TO INDUSTRY AND GOVERNMENT
4540 Kearny Villa Road, Suite 106
San Diego, CA 92123-1573
(858) 560-4911

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- B. Adopted Community Plan
- C. Scenario 3B With La Media Road
- D. Scenario 3B Without La Media Road

ES. EXECUTIVE SUMMARY

In support of the Otay Mesa Community Plan Update, this traffic study was prepared to evaluate existing and future traffic conditions at buildout of the community for three scenarios, the Adopted Community Plan, Scenario 3B With La Media Road, and Scenario 3B Without La Media Road.

No Project Scenario / Adopted Community Plan: The adopted Otay Mesa Community Plan concentrates residential development in the western third of Otay Mesa with industrial and commercial uses planned for the central and eastern portions of the community. The original 1981 land use map anticipated the development of 18,200 dwelling units in Otay Mesa. However, a 1997 community plan amendment to incorporate the Multiple Species Conservation Program (MSCP) reduced the potential residential build-out units resulting in 12,206 dwelling units currently being anticipated by the Otay Mesa Community Plan. The traffic forecast for this alternate assumed 5,776,000 square feet of commercial uses and 64,465,000 square feet of industrial uses. The buildout of this plan would generate a total of 1,165,103 average daily vehicle trips.

Land Use Scenario 3B With La Media Road: Approximately 18,774 dwelling units could be developed under this plan by increasing the housing unit yield in the southwestern residential areas, creating Community Villages south of Airway Road, west of Cactus Road and in an area south of SR-905 and west of Britannia Boulevard. This plan would retain industrial and commercial uses between Otay Mesa Road and SR-905. A cross border facility is included in this plan. The traffic forecast for this alternative assumed 3,917,000 square feet of commercial uses and 54,461,000 square feet of industrial uses. The buildout of this plan would generate 1,045,025 average daily vehicle trips.

The City of Chula Vista is preparing a General Plan Amendment, anticipated in Spring 2012, that would delete the La Media Road bridge crossing the Otay River Valley from their General Plan, and has deleted this project from their facilities financing plan. Therefore, the “With La Media Road” connection to Chula Vista appears to no longer be a viable alternative. For this reason, the detailed analysis provided in Chapter 6 for the 3B With La Media Road alternative is not summarized here in the Executive Summary.

Land Use Scenario 3B Without La Media Road – Proposed Community Plan Buildout: The Adopted Community Plan includes the extension of La Media Road north of Lone Star Road to cross the Otay River Valley on a bridge. However, the City of Chula Vista has indicated that they will be deleting this crossing from their General Plan Circulation Element. The Scenario 3B land use assumptions remain unchanged, but the segment of La Media Road crossing the Otay River Valley has been deleted for this analysis. Approximately 18,774 dwelling units could be developed under this plan. The buildout of this plan would generate 1,045,025 average daily vehicle trips.

For buildout conditions this study evaluated 121 roadway segments, 17 freeway segments, 53 intersections, 14 freeway on-ramp meters, and queuing at 31 freeway interchange intersections.

I. EXISTING CONDITIONS

The existing Otay Mesa Community Plan land uses are only partially built out and the future street network is incomplete. The future SR-905 freeway is partially built and was opened to traffic in December 2010 from Britannia Boulevard to the international border, but has not yet been fully constructed from I-805 to Britannia Boulevard. The existing conditions analysis is based on data collected before SR-905 was opened to traffic from Britannia Boulevard to the international border.

Roadway Segments

Provided below is a summary of existing conditions on roadway segments that are operating at unacceptable levels of service “E” or “F”.

- Otay Mesa Road (SR-905 to Caliente Avenue) LOS F;
- Otay Mesa Road (Caliente Avenue to Corporate Center Drive) LOS F;
- Otay Mesa Road (Corporate Center Drive to Heritage Road) LOS E;
- Otay Mesa Road (Otay Mesa Center Road to La Media Road) LOS E;
- Otay Valley Road (Main Street to Avenida De Las Vistas) LOS F;
- Otay Valley Road / Heritage Road (Avenida De Las Vistas to Otay Mesa Road) LOS F;
- La Media Road (Airway Road to Siempre Viva Road) LOS F.

All other roadway segments evaluated operate acceptably, at levels of service better than “E” or “F”.

Freeway Segments

All study area freeway segments of Interstate I-805 and SR-905 operate acceptably.

Intersections

The following intersection currently operates unacceptably.

- Otay Mesa Road / Heritage Road – LOS E during AM peak hour.

Ramp Meters

Currently, the I-805 / Palm Avenue and the SR-905 / Siempre Viva Road interchange ramps do not have ramp meters installed. The other interchanges evaluated in the buildout scenarios did not exist at the time of existing traffic counts.

Freeway Interchange Queues

Freeway interchange intersection queues were not evaluated for existing conditions.

II. NO PROJECT SCENARIO / ADOPTED COMMUNITY PLAN BUILDOUT

Roadway Segments

Roadway segments at buildout were evaluated for levels of service based on the City of San Diego Street Design manual. The initial “without mitigation” classification of roadways is based on the existing functional classifications or the current Community Plan classification if the street did not exist in the existing conditions assessment or if analyzing the projected volumes on the existing facility would not be meaningful because it would not be possible to carry those volumes on the existing-sized facility due to its capacity. Segments that would be at level of service “E” or “F” are considered to be significantly impacted by implementation of the land use plan. **Table ES II-1** lists segments that would be at level of service “E” or “F”, without reclassification and construction to a higher standard, and the level of service after reclassification and construction to a higher standard.

TABLE ES II-1
Buildout Adopted Community Plan
Roadway Segments at LOS "E" or "F"

Street	Segment	#	(1) Class	LOS E ADT (2)	Segment ADT	LOS	New Class	New LOS	S?
Otay Mesa Road	Caliente Ave. to Corporate Center Dr.	2	6-PA	60,000	78,000	F	N	-	Y
	Heritage Rd. to Cactus Rd.	5	6-PA	60,000	74,000	F	N	-	Y
	Britannia Blvd. to Ailsa Ct.	7	6-PA	60,000	58,500	E	N	-	Y
	Ailsa Ct. to La Media Rd.	8	7-M	55,000	49,500	E	6-PA	C	N
	SR-125 to Harvest Rd.	11	4-M	40,000	42,500	F	6-PA	C	N
	Harvest Rd. to Sanyo Ave.	12	4-M	40,000	38,500	E	6-PA	C	N
Airway Road	Caliente Ave. to Heritage Rd.	15	4-M	40,000	59,000	F	6-PA	E	Y
	Heritage Rd. to Cactus Rd.	16	4-M	40,000	39,500	E	6-M	C	N
	Cactus Rd. to Britannia Blvd.	17	4-M	40,000	46,500	F	6-M	E	Y
	Britannia Blvd. to La Media Rd.	18	4-M	40,000	39,000	E	6-M	C	N
	La Media Rd. to Harvest Rd.	19	4-M	40,000	54,500	F	6-M	F	Y
	Harvest Rd. to Sanyo Ave.	20	4-M	40,000	49,500	F	6-M	E	Y
Siempre Viva Road	Caliente Ave. to East Beyer Blvd.	25	4-M	40,000	47,000	F	N	-	Y
	Otay Center Dr. to SR-905	31	6-PA	60,000	64,500	F	N	-	Y
	SR-905 to Paseo de las Americas	32	6-PA	60,000	72,000	F	N	-	Y
Palm Avenue	I-805 to Dennery Rd.	37	7-PA	65,000	69,500	F	N	-	Y
Caliente Avenue	Airway Rd. to Siempre Viva Rd.	43	4-M	40,000	48,000	F	6-M	E	Y
Heritage Road/ Otay Valley Road	Main St. to Avenida De Las Vistas**	46	6-PA	60,000	87,000	F	N	-	Y
	Avenida De Las Vistas to Datsun St.	47	6-M	50,000	77,500	F	6-PA	F	Y
	Datsun St. to Otay Mesa Rd.	48	6-M	50,000	47,500	E	6-PA	C	N
	SR-905 to Airway Rd.	50	6-M	50,000	52,000	F	6-PA	D	N
	Airway Rd. to Siempre Viva Rd.	51	6-M	50,000	58,000	F	6-PA	E	Y
Cactus Road	Otay Mesa Rd. to Airway Rd.	52	4-CL	30,000	35,000	F	4-M	D	N
	Siempre Viva Rd. to South End	54	4-CL	30,000	29,500	E	N	-	Y
Britannia Boulevard	SR-905 to Airway Rd.	56	4-M	40,000	52,000	F	6-PA	D	N
	Siempre Viva Rd. to South End	58	2-C	8,000	32,500	F	4-M	D	N
La Media Road	Birch Rd. to Lone Star Rd.**	59	6-PA	60,000	93,000	F	N	-	Y
	Lone Star Rd. to Aviator Rd.	60	6-PA	60,000	64,500	F	N	-	Y
	Aviator Rd. to Otay Mesa Rd.	61	6-PA	60,000	64,500	F	N	-	Y
	SR-905 to Airway Rd.	63	6-PA	60,000	75,500	E	N	-	Y
Harvest Road	Otay Center Dr. to Siempre Viva Rd.	67	4-M	40,000	38,000	E	N	-	Y

= Segment Number

**Segment is in Chula Vista

(1) = Current Community Plan Classification unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N). - Shading indicates a significant impact.

N = New Classification is not proposed.

New LOS = LOS after change in classification.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB / 2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

TABLE ES II-1

Buildout Adopted Community Plan

Roadway Segments at LOS "E" or "F"

Street	Segment	#	(1) Class	LOS E ADT (2)	Segment ADT	LOS	New Class	New LOS	S?
Lone Star Road	La Media Rd. to SR-125	71	4-M	40,000	38,000	E	6-PA	C	N
	SR-125 to Piper Ranch Rd.	72	4-M	40,000	55,000	F	6-PA	D	N
	Piper Ranch Rd. to City / County Boundary	73	4-M	40,000	54,500	F	6-PA	D	N
Aviator Road	Heritage Rd. to La Media Rd. (3)	74	2-C	8,000	15,500	F	4-CL	C	N
Dennery Road	Red Coral Ln. to Black Coral Ln.	78	2-CL	15,000	15,000	E	N	-	Y
	Black Coral Ln. to East End	79	2-CN	10,000	21,500	F	N	-	Y
Avenida De Las Vistas	Vista Santo Domingo to Dennery Rd.	81	2-CN	10,000	25,000	F	N	-	Y
Del Sol Boulevard	Surf Crest Dr. to Riviera Pointe	83	2-CN	10,000	26,000	F	N	-	Y
	Riviera Pointe to Dennery Rd.	84	2-CL	15,000	26,000	F	N	-	Y
Old Otay Mesa Road	Crescent Bay Dr. to Beyer Blvd.	89	2-C	8,000	21,500	F	N	-	Y
Corporate Center Drive	Progressive Ave. to Innovative Dr.	93	2-C	8,000	13,000	F	2-CL	D	N
Sanyo Avenue	Otay Mesa Rd. to Airway Rd. (4)	97	4-C	15,000	43,000	F	4-M	F	Y
Heinrich Hertz Drive	Airway Rd. to Paseo de las Americas (4)	98	2-CL	15,000	27,000	F	N	-	Y
Paseo de las Americas	Airway Rd. to Siempre Viva Rd.	99	2-C	8,000	33,500	F	4-M	D	N
	Siempre Viva Rd. to Marconi Dr.	100	2-C	8,000	16,000	F	4-CL	C	N
Marconi Drive	Paseo de las Americas to Enrico Fermi Dr.	101	2-C	8,000	16,500	F	2-CL	F	Y
Otay Center Drive	Harvest Rd. to Siempre Viva Rd. (4)	102	4-C	15,000	14,000	E	4-CL	B	N
St. Andrews Avenue	Otay Mesa Center Rd. To La Media Rd.	105	2-C	8,000	20,500	F	4-CL	D	N
Gailes Boulevard	Otay Mesa Rd. to St. Andrews Ave.	107	2-C	8,000	9,000	F	4-C	C	N
Camino Maquiladora	Heritage Rd. to Pacific Rim Ct.	108	2-C	8,000	7,500	E	N	-	Y
Progressive Avenue	Corporate Center Dr. to Innovative Dr.	112	2-C	8,000	17,000	F	N	-	Y
Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	113	2-C	8,000	36,500	F	4-M	E	Y
Datsun Street	Innovative Dr. to Heritage Rd. (3)	114	2-C	8,000	31,000	F	4-CL	F	Y
Avenida Costa Azul	Otay Mesa Rd. to St. Andrews Ave.(3)	115	2-CL	15,000	18,000	F	4-CL	C	N
Excellante Street	Airway Rd. to Gigantic St.	116	4-C	15,000	19,500	F	N	-	Y
Gigantic Street	Excellante St. to Centurion St.	117	4-C	15,000	19,500	F	N	-	Y
Centurion Street	Airway Rd. to Gigantic St.	118	4-C	15,000	18,500	F	N	-	Y
Exposition Way / Vista Santo Domingo	Avenida De Las Vistas to Corporate Center Dr. (3) (4)	119	2-CN	10,000	17,000	F	N	-	Y

= Segment Number

(1) = Current Community Plan Classification unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N). - Shading indicates a significant impact.

N = New classification is not proposed.

New LOS = LOS after change in classification.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB / 2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

As shown in this table 59 roadway segments would operate at level of service “E” or “F” with the assumed initial classification or “without mitigation”. After reclassification and construction to a higher standard, 38 segments would operate at “E” or “F” and remain significantly impacted, as indicated with a “Y” in the last column with the (S?) heading.

Figure ES II-1 shows recommended roadway classifications and also segments highlighted in red that are proposed to be classified to a higher standard.

Refer to Chapter 5, page 5-11 for the discussion of the proposed mitigations and / or explanation of why the significant impact is not proposed to be fully mitigated.

A comparison of the Buildout Adopted Community Plan significantly impacted roadway segments to the 3B Without La Media Road Scenario is provided below, based on the listing of impacted roadway segments shown in **Table ES II-2**.

The Adopted Community Plan Scenario has 38 roadway segments that would remain significantly impacted after mitigation.

The 3B Without La Media Road Scenario would have 24 roadway segments that would remain significantly impacted after mitigation.

The following 19 roadway segments would remain significantly impacted under both scenarios.

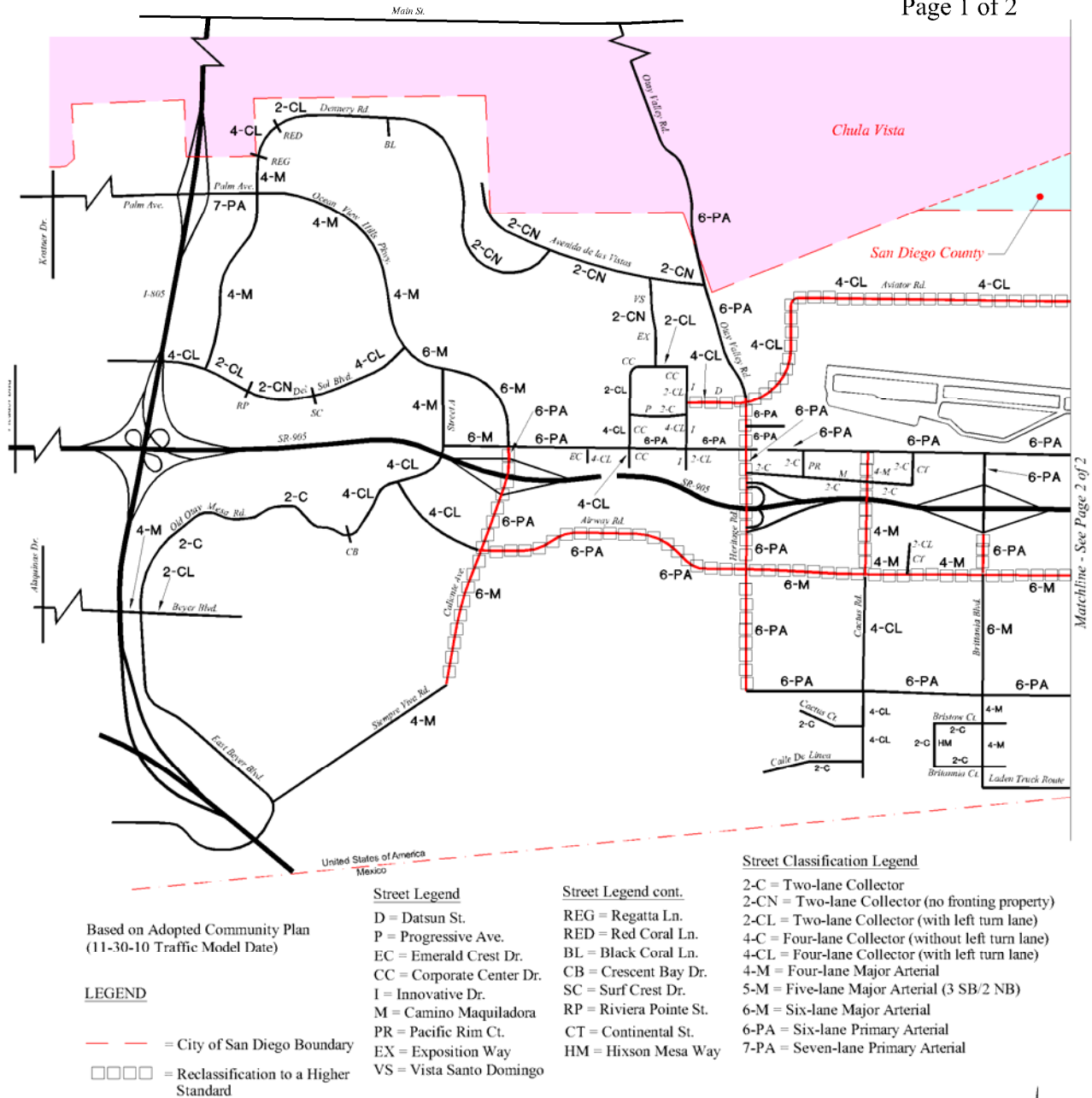


FIGURE ES - II - 1
Adopted Community Plan Land Use Scenario
With Proposed Roadway Classification Recommendations
(Mitigation / Reclassification to a Higher Standard shown in Red)

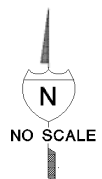


FIGURE ES - II -1

Adopted Community Plan Land Use Scenario
With Proposed Roadway Classification Recommendations
(Mitigation / Reclassification to a Higher Standard shown in Red)



TABLE ES II-2
Comparison Of
Buildout Adopted Community Plan To
3B Without La Media Road Scenario
Roadway Segment Significant Impacts After Mitigation

Street	Segment	#	ACP (1) S?	3B W/Out La Media (2) S?
Otay Mesa	Caliente Ave. to Corporate Center Dr.	2	Y	Y
	Heritage Rd. to Cactus Rd.	5	Y	Y
	Britannia Blvd. to Ailsa Ct.	7	Y	N
Airway Road	Caliente Ave. to Heritage Rd.	15	Y	Y
	Heritage Rd. to Cactus Rd.	16	N	Y
	Cactus Rd. to Britannia Blvd.	17	Y	N
	La Media Rd. to Harvest Rd.	19	Y	N
	Harvest Rd. to Sanyo Ave.	20	Y	N
Siempre Viva Road	Caliente Ave. to East Beyer Blvd.	25	Y	N
	Otay Center Dr. to SR-905	31	Y	Y
	SR-905 to Paseo de las Americas	32	Y	Y
Palm Avenue	I-805 to Dennery Rd.	37	Y	N
Caliente Avenue	Airway Rd. to Siempre Viva Rd.	43	Y	Y
	Beyer Blvd. to Siempre Viva Rd.	43A	Y	Y
Heritage Road/ Otay Valley Road	Main St. to Avenida De Las Vistas**	46	Y	Y
	Avenida De Las Vistas to Datsun St.	47	Y	Y
Cactus Road	Otay Mesa Rd. to Airway Rd.	52	N	Y
	Airway Rd. to Siempre Viva Rd.	53	N	Y
	Siempre Viva Rd. to South End	54	Y	N
Britannia Boulevard	SR-905 to Airway Rd.	56	N	Y
La Media Road	Birch Rd. to Lone Star Rd.**	59	Y	N
	Lone Star Rd. to Aviator Rd.	60	Y	N
	Aviator Rd. to Otay Mesa Rd.	61	Y	N
	SR-905 to Airway Rd.	63	Y	Y
Harvest Road	Otay Center Dr. to Siempre Viva Rd.	67	Y	N
Dennery Road	Red Coral Ln. to Black Coral Ln.	78	Y	N
	Black Coral Ln. to East End	79	Y	Y
Avenida De Las Vistas	Vista Santo Domingo to Dennery Rd.	81	Y	Y
Del Sol Boulevard	Surf Crest Dr. to Riviera Pointe	83	Y	Y
	Riviera Pointe to Dennery Rd.	84	Y	Y
Old Otay Mesa Road	Crescent Bay Dr. to Beyer Blvd.	89	Y	Y
Sanyo Avenue	Otay Mesa Rd. to Airway Rd.	97	Y	N
Heinrich Hertz Drive	Airway Rd. to Paseo de las Americas	98	Y	N
Marconi Drive	Paseo de las Americas to Enrico Fermi Dr.	101	Y	N
Camino Maquiladora	Heritage Rd. to Pacific Rim Ct.	108	Y	Y
	Pacific Rim Ct. to Cactus Rd.	109	N	Y
Progressive Avennue	Corporate Center Dr. to Innovative Dr.	112	Y	Y
Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	113	Y	N
Datsun Street	Innovative Dr. to Heritage Rd.	114	Y	Y
Excellante Street	Airway Rd. to Gigantic St.	116	Y	N
Gigantic Street	Excellante St. to Centurion St.	117	Y	N
Centurion Street	Airway Rd. to Gigantic St.	118	Y	N
Exposition Way / Vista Santo Domingo	Avenida De Las Vistas to Corporate Center Dr.	119	Y	Y

= Segment Number

** = Segment in Chula Vista.

S? = Significant impact, Yes (Y) or No (N).

(1) = Significant impact in the Adopted Community Plan Scenario.

(2) = Significant impact in the 3B Without La Media Road Scenario.

Y = Shading indicates a significant impact.

- Otay Mesa Road (Caliente Avenue to Corporate Center Drive);
- Otay Mesa Road (Heritage Road to Cactus Road);
- Airway Road (Caliente Avenue to Heritage Road);
- Siempre Viva Road (Otay Center Drive to SR-905)
- Siempre Viva Road / SR-905 to Paseo de las Americas);
- Caliente Avenue (Airway Road to Siempre Viva Road);
- Caliente Avenue (Beyer Boulevard to Siempre Viva Road);
- Heritage Road / Otay Valley Road (Main Street to Avenida de las Vistas);
- Heritage Road / Otay Valley Road (Avenida de las Vistas to Datsun Street);
- La Media Road (SR-905 to Airway Road);
- Dennery Road (Black Coral Lane to East End);
- Avenida de las Vistas (Vista Santo Domingo to Dennery Road);
- Del Sol Boulevard (Surf Crest Drive to Riviera Pointe);
- Del Sol Boulevard (Riviera Pointe to Dennery Road);
- Old Otay Mesa Road (Crescent Bay Drive to Airway Road);
- Camino Maquiladora (Heritage Road to Pacific Rim Court);
- Progressive Avenue (Corporate Center Drive to Innovative Drive);
- Datsun Street (Innovative Drive to Heritage Road);
- Exposition Way / Vista Santo Domingo (Avenida de las Vista to Corporate Center Drive).

The following 19 roadway segments would remain significantly impacted after mitigation in the Adopted Community Plan land use scenario, but not in the 3B Without La Media Road scenario:

- Otay Mesa Road (Britannia Boulevard to Ailsa Court);
- Airway Road (Cactus Road to Britannia Boulevard);
- Airway Road (La Media Road to Harvest Road);
- Airway Road (Harvest Road to Sanyo Avenue);
- Siempre Viva Road (Caliente Avenue to East Beyer Boulevard);
- Palm Avenue (I-805 to Dennery Road);
- Cactus Road (Siempre Viva Road to South End);
- La Media Road (Birch Road to Lone Star Road); (No segment in 3B Without La Media Road);
- La Media Road (Lone Star Road to Aviator Road);
- La Media Road (Aviator Road to Otay Mesa Road);
- Harvest Road (Otay Center Drive to Siempre Viva Road);
- Dennery Road (Red Coral Lane to Black Coral Lane);
- Sanyo Avenue (Otay Mesa Road to Airway Road)
- Heinrich Hertz Drive (Airway Road to Paseo de las Americas);
- Marconi Drive (Paseo de las Americas to Enrico Fermi Drive);
- Otay Mesa Center Road (Otay Mesa Road to St. Andrews Avenue);
- Excellante Street (Airway Road to Gigantic Street);
- Gigantic Street (Excellante Street to Centurion Street);
- Centurion Street (Airway Road to Gigantic Street).

The following roadway segments would remain significantly impacted after mitigation in the 3B Without La Media Road land use scenario but not in the Adopted Community Plan scenario.

- Airway Road (Heritage Road to Cactus Road);
- Cactus Road (Otay Mesa Road to Airway Road);
- Cactus Road (Airway Road to Siempre Viva Road);
- Britannia Boulevard (SR-905 to Airway Road);
- Camino Maquiladora (Pacific Rim Court to Cactus Road).

Figure ES II-2 shows the Adopted Community Plan land use scenario roadway segments that would remain at level of service “E” or “F” after mitigation.

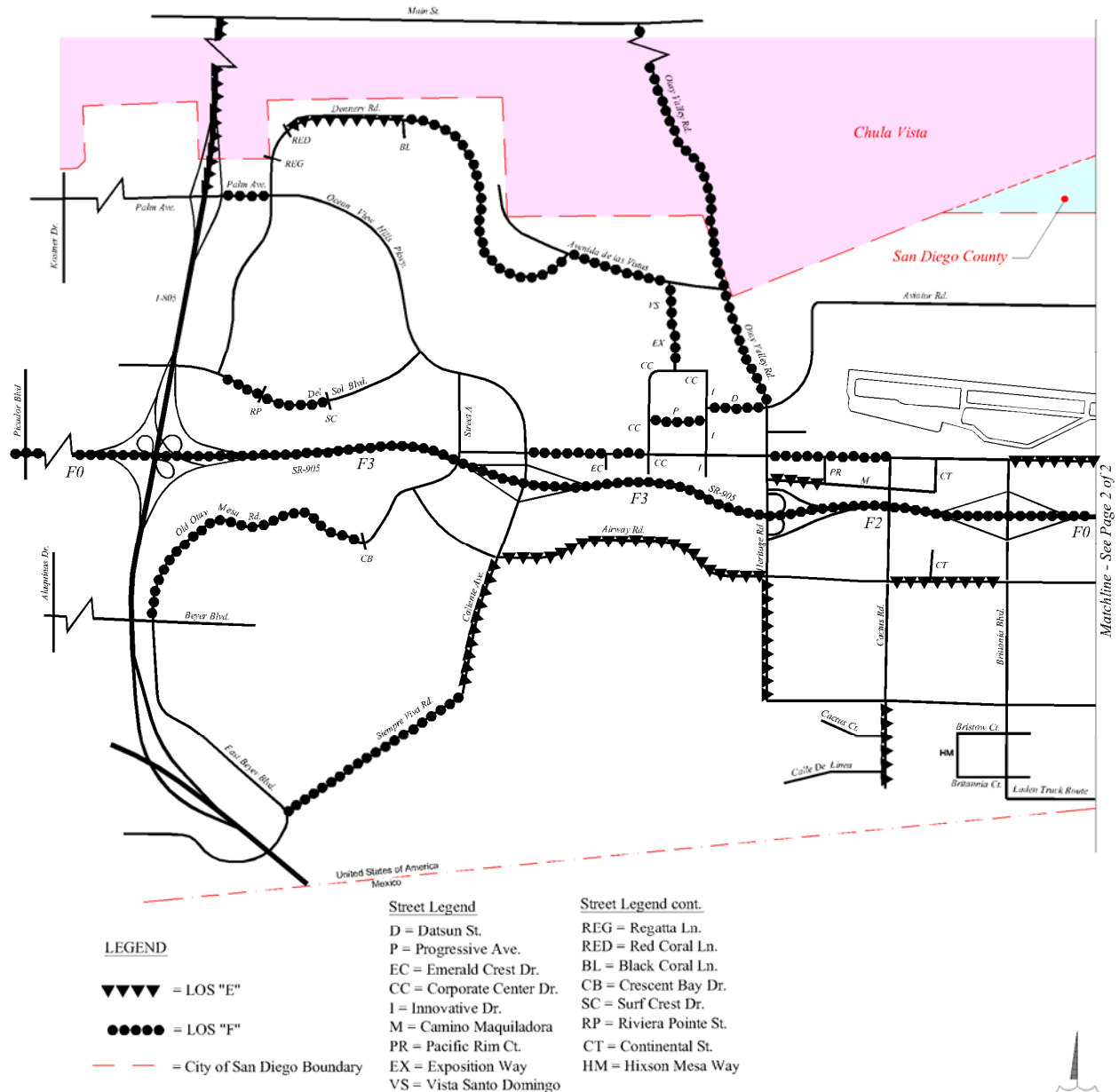
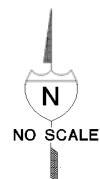


FIGURE ES - II - 2

Adopted Community Plan Land Use Scenario Roadway Segments Remaining at LOS "E" or "F" After Mitigation





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Freeway Segments

Table ES II-3 lists freeway segments evaluated for the “No Project” buildout Adopted Community Plan scenario.

Interstate 805

Segments of Interstate 805 north of State Route 905 are projected to be significantly impacted by buildout of the Adopted Otay Mesa Community Plan and regional cumulative traffic. With existing lanes and an additional northbound auxiliary lane currently being constructed between SR-905 and Palm Avenue, the segment of I-805 north of SR-905 are expected to be at level of service “F”. The Adopted SANDAG 2050 Regional Transportation Plan (RTP) includes two managed lanes on I-805 in each direction north of SR-905. With these additional lanes, the segment of I-805 between Main Street and Palm Avenue would be at level of service “E”. The segment between Palm Avenue and SR-905 would be at level of service “D” during peak hours.

Table ES II-4 shows freeway levels of service with HOV lanes added to segments at level of service “F”.

State Route 905 is assumed with six lanes and auxiliary lanes as is being constructed by Caltrans. Impacts would be significant and unmitigated between Picador Boulevard and La Media Road. State Route 905 has been designed so that median High Occupancy Vehicle (HOV) lanes could be installed in the future, but are not currently planned or funded by Caltrans or SANDAG. The addition of HOV lanes would provide partial mitigation for local and regional cumulative impacts, but would not provide acceptable levels of service.

TABLE ES II-3

Buildout Adopted Community Plan Freeway Segment Levels of Service

	Segment	Lanes (1-Way)	Cap.	ADT (1)	Peak Volume	V/C	LOS (2)
SR-905	Picador Blvd. to I-805 (3)	2 + AUX	6,500	144,500	7,707	1.19	F0
	I-805 to Caliente Ave. (4)	3 + CL	8,550	249,000	13,280	1.55	F3
	Caliente Ave. to Heritage Rd.	3	7,050	220,500	11,760	1.67	F3
	Heritage Rd. to Britannia Blvd.	3	7,050	192,000	10,240	1.45	F2
	Britannia Blvd. to La Media Rd.	3	7,050	165,000	8,800	1.25	F0
	La Media Rd. to SR-125	3	7,050	119,500	6,373	0.90	D
	SR-125 to Siempre Viva Rd.	3	7,050	106,500	5,680	0.81	D
	Siempre Viva Rd. to Border	3	7,050	71,000	3,787	0.54	B
I-805	Main St. to Palm Ave.	4+AUX	11,200	264,000	14,080	1.26	F1
	Palm Ave. to SR-905	4+AUX	11,200	234,500	12,507	1.12	F0
	SR-905 to I-5	4	9,400	119,000	6,347	0.68	C
	I-5 to Border	6	14,100	143,500	7,653	0.54	B
SR-125	Birch Rd. to Lone Star Rd.	4 (Toll)	9,400	97,000	5,173	0.55	B
	Lone Star Rd. to SR-905	4 (Toll)	9,400	71,500	3,813	0.41	A
SR – 11	SR-905 to Enrico Fermi Dr.	2	4,700	49,500	2,640	0.56	B
	Enrico Fermi Dr. to Siempre Viva Rd	2	4,700	25,500	1,360	0.29	A
	Siempre Viva Rd. to Border	2	4,700	43,500	2,320	0.49	B

Legend

Cap = Capacity of Segment
Mainlane Cap. @ 2,350 VPHPL
Auxillary Lane Cap. @ 1,800 VPHPL
HOV Lane Cap. @ 1,600 VPHPL
Climbing Lane Cap. @ 1,500 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

 = Shading indicates a significant impact.

Note:

- (1) Buildout Forecast Volume, Average Daily Traffic Volume (11-30-10 Run Date, Series 11)
(2) Caltrans District 11 LOS Estimation Procedures, See Table 2-3
(3) = 2 Mainlanes + Auxillary Lane
(4) = EB: 3 Mainlanes + Climbing Lane
WB: 3 Mainlanes + Auxillary Lane

TABLE ES II-4

**Buildout Adopted Community Plan Freeway Segment Levels of Service
(With HOV Lanes Added To LOS F Segments)**

Segment		ADD HOV	Lanes (1Way)	Cap.	ADT (1)	Peak Volume	V/C	LOS (2)
SR-905	Picador Blvd. to I-805 (3)	+H	2 + AUX	8,100	144,500	7,707	0.95	E
	I-805 to Caliente Ave. (4)	+H	3 + CL	10,150	249,000	13,280	1.31	F1
	Caliente Ave. to Heritage Rd.	+H	3	8,650	220,500	11,760	1.36	F2
	Heritage Rd. to Britannia Blvd.	+H	3	8,650	192,000	10,240	1.18	F0
	Britannia Blvd. to La Media Rd.	+H	3	8,650	165,000	8,800	1.02	F0
I-805	Main St. to Palm Ave,	+2H	4+AUX	14,400	264,000	14,080	0.98	E
	Palm Ave. to SR-905	+2H	4+AUX	14,400	234,500	12,507	0.87	D

Legend

Cap = Capacity of Segment

Mainlane Cap. @ 2,350 VPHPL

Auxillary Lane Cap. @ 1,800 VPHPL

HOV Lane Cap. @ 1,600 VPHPL

Climbing Lane Cap. @ 1,500 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service



= Shading indicates a significant impact.

+H = Add HOV lane in each direction.

+2H = Add two HOV lanes in each direction.

Note:

(1) Buildout Forecast Volume, Average Daily Traffic Volume (11-30-10 Run Date, Series 11)

(2) Caltrans District 11 LOS Estimation Procedures, See Table 2-3

(3) = 2 Mainlanes + Auxillary Lane

(4) = EB: 3 Mainlanes + Climbing Lane

WB: 3 Mainlanes + Auxillary Lane

SR-905 HOV lanes are not currently in the Regional Transportation Plan, and are not funded.

A comparison of the Buildout Adopted Community Plan significantly impacted freeway segments to the 3B Without La Media Road Scenario is provided below, based on the listing of impacted freeway segments shown in **Table ES II-5**.

The Adopted Community Plan Scenario has six freeway segments that would remain significantly impacted after mitigation.

The 3B Without La Media Road Scenario has three freeway segments that would remain significantly impacted after mitigation.

The following three freeway segments would remain significantly impacted under both scenarios:

- SR-905 (I-805 to Caliente Avenue);
- SR-905 (Caliente Avenue to Heritage Road);
- SR-905 (Heritage Road to Britannia Boulevard).

The following three freeway segments would remain significantly impacted under the Adopted Community Plan Scenario but not the 3B Without La Media Road Scenario:

- SR-905 (Picador Boulevard to I-805);
- SR-905 (Britannia Boulevard to La Media Road);
- I-805 (Main Street to Palm Avenue).

TABLE ES II-5

Comparison of

Buildout Community Plan to 3B Without La Media Road Scenario

Freeway Segment Significant Impacts After Mitigation

(With HOV Lanes Added)


Segment		ADD HOV	Lanes (1Way)	LOS (1)	LOS (2)
SR-905	Picador Blvd. to I-805	+H	2 + AUX	E	D
	I-805 to Caliente Ave.	+H	3 + CL	F1	F0
	Caliente Ave. to Heritage Rd.	+H	3	F2	F0
	Heritage Rd. to Britannia Blvd.	+H	3	F0	F0
	Britannia Blvd. to La Media Rd.	+H	3	F0	D
I-805	Main St. to Palm Ave,	+2H	4+AUX	E	D

Legend

LOS = Level of Service

(1) = Adopted Community Plan land use scenario.

(2) = 3B Without La Media Road land use scenario.

 = Shading indicates a significant impact.

+H = Add HOV lane in each direction.

+2H = Add two HOV lanes in each direction.

Note:

SR-905 HOV lanes are not currently in the Regional Transportation Plan, and are not funded.

Intersections

Intersections projected to operate at level of service “E” or “F” are considered to be significantly impacted by implementation of the land use plan. **Table ES II-6** shows intersection levels of service. Of the 53 intersections evaluated at Buildout in the No Project / Adopted Community Plan scenario, four would be at level of service “E” and 42 would be at level of service “F” during the AM peak hour. During the PM peak hour, five would be at level of service “E” and 43 would be at level of service “F”. A total of 49 intersections would operate at level of service “E” or “F” during the morning and / or evening peak hour.

With proposed mitigation, two would be at level of service “E” and 33 would be at level of service “F” during the AM peak hour. During the PM peak hour, ~~five~~ six would be at level of service “E” and 31 would be at level of service “F”. With proposed mitigation, a total of ~~39~~ 40 intersections would operate at level of service “E” or “F” during the morning and / or evening peak hour.

Several interchange intersections that can be designed for acceptable levels of service are included as significantly impacted due to upstream queues extending through the intersection causing increased delay and a degraded level of service, as footnoted in this table.

Intersection lane configurations without mitigation are assumed to be as shown in the City of San Diego Street Design Manual for the roadway classification at the intersection approaches. The Design Manual requires widening for an additional 10 feet at approaches to intersecting four or six lane streets for a two lane left turn, and this additional width is not considered mitigation. Therefore, dual left turns are to be assumed at all four or six lane major and primary arterials, before mitigation, unless a supporting traffic

TABLE ES II-6

Buildout Adopted Community Plan Intersection Levels of Service

Intersection		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		CD	LOS	CD	LOS	CD	LOS	CD	LOS
1	Palm Ave. / I-805 SB Ramps	64.8	E	111.7	F	36.6	D	71.5	E
2	Palm Ave. / I-805 NB Ramps	167.1	F	172.8	F	5.6	A	8.9	(1) A
3	Palm Ave. / Dennerly Rd.	36.0	D	69.4	E	-	-	-	-
4	Otay Mesa Rd. / Caliente Ave.	359.8	F	201.6	F	236.3	F	102.0	F
5	Caliente Ave. / SR-905 WB Ramps	154.1	F	162.7	F	64.7	E	57.4	E
6	Caliente Ave. / SR-905 EB Ramps	225.9	F	214.7	F	92.9	F	56.8	E
7	Caliente Ave. / Airway Rd.	347.1	F	510.6	F	326.2	F	396.2	F
8	Caliente Ave. / Siempre Viva Rd.	86.4	F	82.0	F	-	-	-	-
9	Otay Mesa Rd. / Heritage Rd.	350.5	F	286.1	F	285.8	F	155.8	F
10	Heritage Rd. / SR-905 WB Ramps	36.8	(1) D	240.9	F	14.6	B	13.2	B
11	Heritage Rd. / SR-905 EB Ramps	64.3	E	127.7	F	50.4	(1) D	45.7	(1) D
12	Heritage Rd. / Airway Rd.	457.0	F	555.0	F	143.3	F	225.6	F
13	Heritage Rd. / Siempre Viva Rd.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14	Otay Mesa Rd. / Cactus Rd.	481.3	F	302.6	F	249.9	F	166.0	F
15	Airway Rd. / Cactus Rd.	212.3	F	319.4	F	115.2	F	100.7	F
16	Siempre Viva Rd. / Cactus Rd.	269.6	F	290.1	F	127.9	F	108.2	F
17	Otay Mesa Rd. / Britannia Blvd.	63.8	E	72.0	E	24.0	(1) C	54.1	(1) D
18	Britannia Blvd. / SR-905 WB Ramps	191.8	F	298.2	F	46.7	(1) D	187.9	F
19	Britannia Blvd. / SR-905 EB Ramps	290.0	F	283.7	F	276.0	F	124.5	F
20	Britannia Blvd. / Airway Rd.	453.3	F	490.5	F	218.1	F	206.7	F
21	Siempre Viva Rd. / Britannia Blvd.	502.4	F	494.6	F	208.2	F	302.3	F
22	Otay Mesa Rd. / La Media Rd.	484.5	F	495.7	F	148.3	F	128.0	F

Note: #13 is a right angle intersection (as assumed in the traffic model) with only two approaches.

Legend

CD = Control Delay

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

F = Shading indicates a significant impact

TABLE ES II-6 (Continued)

Buildout Adopted Community Plan Intersection Levels of Service

Intersection		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		CD	LOS	CD	LOS	CD	LOS	CD	LOS
23	La Media Rd. / SR-905 WB Ramps	257.6	F	335.2	F	117.7	F	195.7	F
24	La Media Rd. / SR-905 EB Ramps	319.2	F	224.8	F	218.5	F	157.6	F
25	La Media Rd. / Airway Rd.	786.8	F	654.3	F	236.9	F	338.7	F
26	La Media Rd. / Siempre Viva Rd.	303.0	F	238.6	F	90.6	F	102.7	F
27	La Media Rd. / Lone Star Rd.	547.7	F	755.8	F	399.5	F	492.2	F
28	Lone Star Rd. / SR-125 SB Off Ramp	52.4	(1) D	14.4	(1) B	-	-	-	-
29	Lone Star Rd. / SR-125 NB On Ramp	3.3	(1) A	7.2	(1) A	-	-	-	-
30	Lone Star Rd. / Piper Ranch Rd.	67.5	E	15.4	B	43.2	D	15.2	B
31	Otay Mesa Rd. / Piper Ranch Rd.	274.0	F	284.6	F	89.7	F	165.7	F
32	Otay Mesa Rd. / SR-125 SB Off Ramp	40.2	(1) D	7.9	(1) A	16.5	(1) B	7.3	A
33	Otay Mesa Rd. / SR-125 NB On Ramp	3.3	(1) A	14.9	(1) B	-	-	-	-
34	Otay Mesa Rd. / Harvest Rd.	132.3	F	87.2	F	34.1	C	41.9	(1) D
35	Siempre Viva Rd. / Otay Center Dr.	298.0	F	471.8	F	235.5	F	225.9	F
36	Siempre Viva Rd. / SR-905 SB to EB Ramp	149.3	F	248.1	F	-	-	-	-
36A	Siempre Viva Rd. / SR-905 SB to WB Ramp	(2) 4,196	F	(2) 899.3	F	292.5	F	40.4	(1) D
37	Siempre Viva Rd. / SR-905 NB Ramps	150.8	F	431.7	F	144.1	F	355.8	F
38	Siempre Viva Rd. / Paseo de las Americas	648.7	F	751.1	F	352.0	F	430.7	F
39	Dennerly Rd. / Del Sol Blvd.	104.7	F	72.2	E	-	-	-	-
40	Ocean View Hills Pkwy. / Del Sol Blvd.	172.7	F	192.2	F	68.2	E	132.4	F
41	Ocean View Hills Pkwy. / Street A	162.6	F	258.4	F	49.8	D	51.9	D
42	Old Otay Mesa Rd. / Beyer Blvd.	623.1	F	638.2	F	47.7	D	46.0	D
43	Otay Mesa Rd. / Corporate Center Dr.	146.2	F	125.8	F	103.7	F	96.5	F
44	Otay Mesa Rd. / Innovative Dr.	96.4	F	64.8	E	82.8	F	36.2	D

Legend

CD = Control Delay

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

(2) Unsignalized: SB to WB Right Turn at LOS F (AM and PM Peak Hours);

F = Shading indicates a significant impact.

TABLE ES II-6 (Continued)

Buildout Adopted Community Plan Intersection Levels of Service

Intersection		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		CD	LOS	CD	LOS	CD	LOS	CD	LOS
45	Harvest Rd. / Airway Rd.	41.1	D	238.9	F	38.1	D	101.5	F
46	Harvest Rd. / Siempre Viva Rd.	239.9	F	230.4	F	203.8	F	221.1	F
47	Otay Mesa Rd. / Sanyo Ave.	296.7	F	424.5	F	109.9	F	113.5	F
48	Airway Rd. / Sanyo Ave.	740.3	F	371.4	F	178.8	F	131.1	F
49	Paseo de las Americas / Heinrich Hertz Dr.	(3) 196.9	F	(3) 440.2	F	10.4	B	15.0	B
50	Paseo de las Americas / Marconi Dr.	(4) 57.8	F	(4) 268.1	F	4.6	A	60.6	E
51	Heritage Rd. / Otay Valley Rd. / Datsun St.	531.8	F	676.7	F	181.3	F	290.3	F
52	Aviator Rd. / La Media Rd.	159.9	F	79.4	E	102.4	F	54.4	D
53	Otay Valley Rd. / Avenida De Las Vistas	850.4	F	361.8	F	-	-	-	-

Note: Control delay results should be considered unreliable at delay values higher than two times the LOS E value of 80.0 seconds.

Legend

CD = Control Delay

LOS = Level of Service

(3) Unsignalized: Northbound Left, Eastbound Left and Right Turns at LOS F (AM and PM Peak Hours)

(4) Unsignalized: Southbound Left, Westbound Left Turns at LOS F (AM Peak Hour);

Westbound Right Turn at LOS F (PM Peak Hour).

For unsignalized intersections, LOS F is at greater than 50.0 seconds delay / vehicle.

F = Shading indicates a significant impact.

Control Delay	LOS
0.0 - 10.0	A
10.1 - 20.0	B
20.1 - 35.0	C
35.1 - 55.0	D
55.1 - 80.0	E
Over 80.0	F
<i>Source: 2000 Highway Capacity Manual</i>	

study documents that a single left turn would be sufficient. Overlapping left-turn / right-turn phases are recommended at the high volume right turns during the traffic signal design stage.

Separate single or dual turn lanes at new intersections should be designed with appropriate right of way widths. At retrofit locations additional lanes have been reviewed for initial feasibility by on-site observations and aerial photography. In some cases additional right of way will be needed, but only during the design phase will the required widths be determined.

Improvements are recommended at the interchange ramps for SR-905 / Caliente Avenue, SR-905 / Future Heritage Road, SR-905 / Britannia Boulevard; SR-905 / La Media Rd.; SR-905 / Siempre Viva Road. Subsequent design requirements from Caltrans may change the recommended lane configurations.

All locations are signalized. Lane configurations with and without mitigation are shown in **Figure ES II-3**.

Figure ES II-4 shows graphically the intersection levels of service after mitigation.

Refer to Chapter 5, page 5-41 for discussion of the proposed mitigation and / or explanation of why the significant impact is not proposed to be fully mitigated.

A comparison of the Buildout Adopted Community Plan Scenario significantly impacted intersections after mitigation to the 3B Without La Media Road Scenario is provided below, based on the listing of remaining significantly impacted intersections shown in **Table ES II-7**.

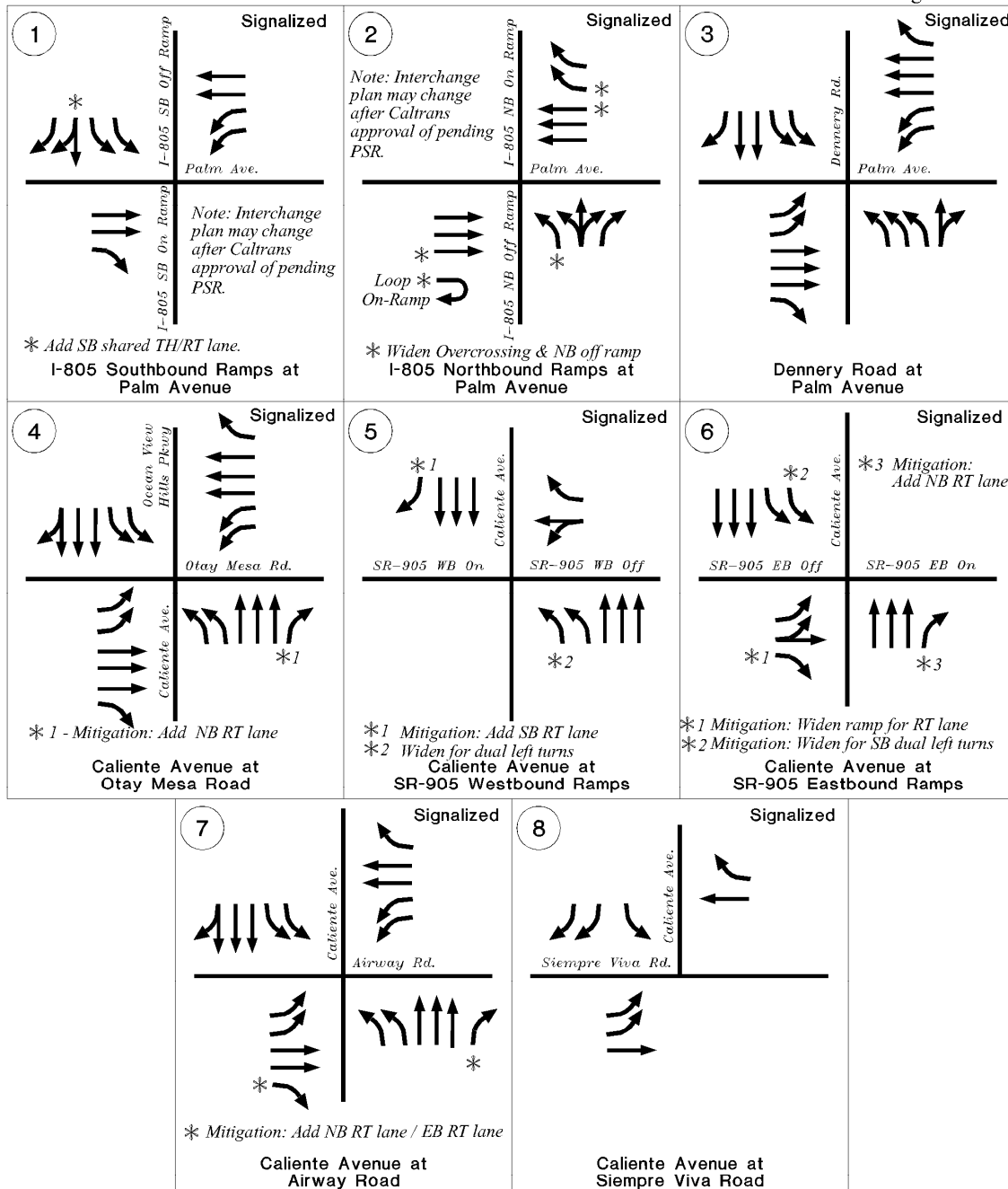


FIGURE ES-II-3
Buildout Recommended Lane Configurations - Adopted Community Plan
(With Mitigation)

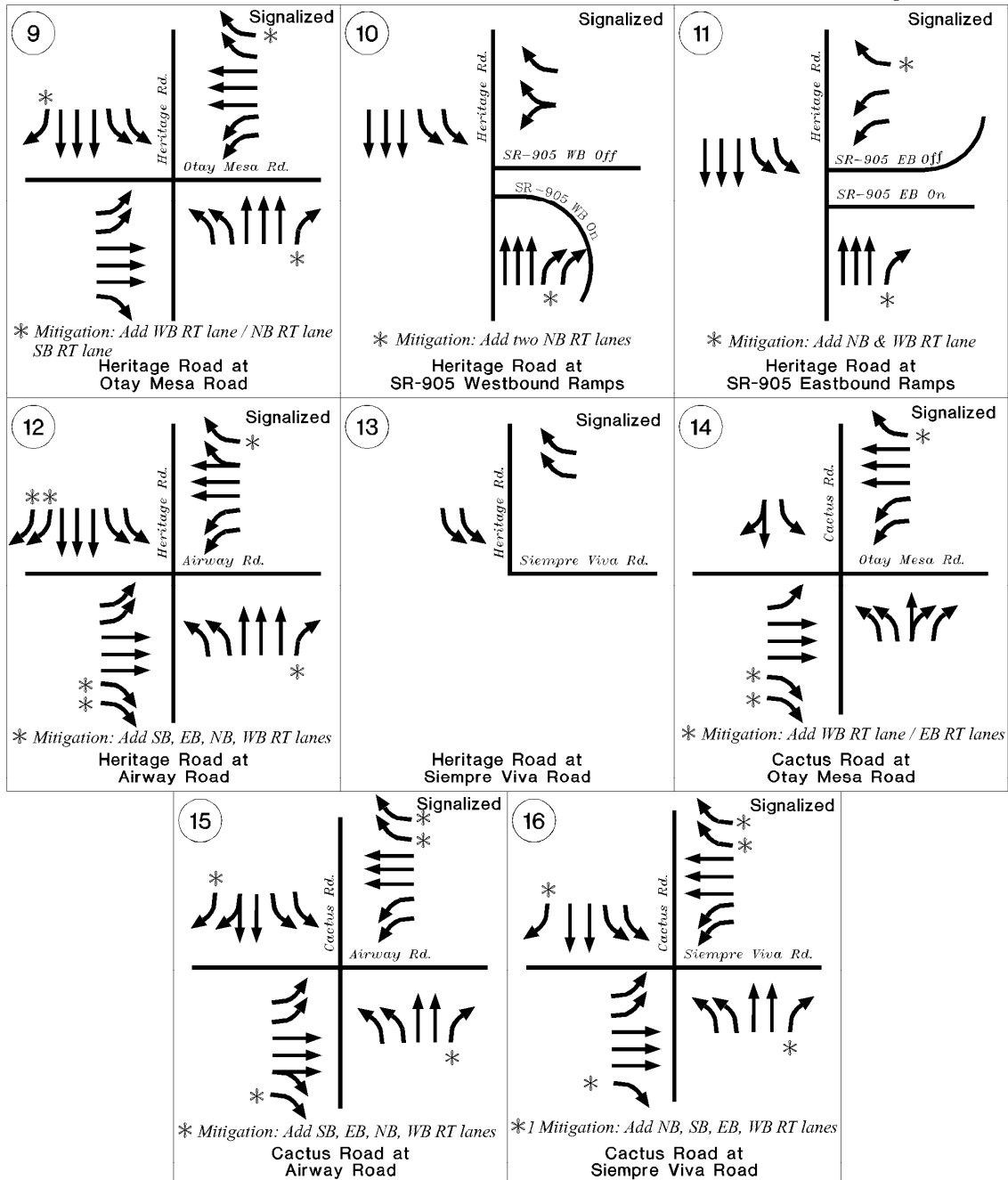


FIGURE ES-II-3
Buildout Recommended Lane Configurations - Adopted Community Plan
(With Mitigation)

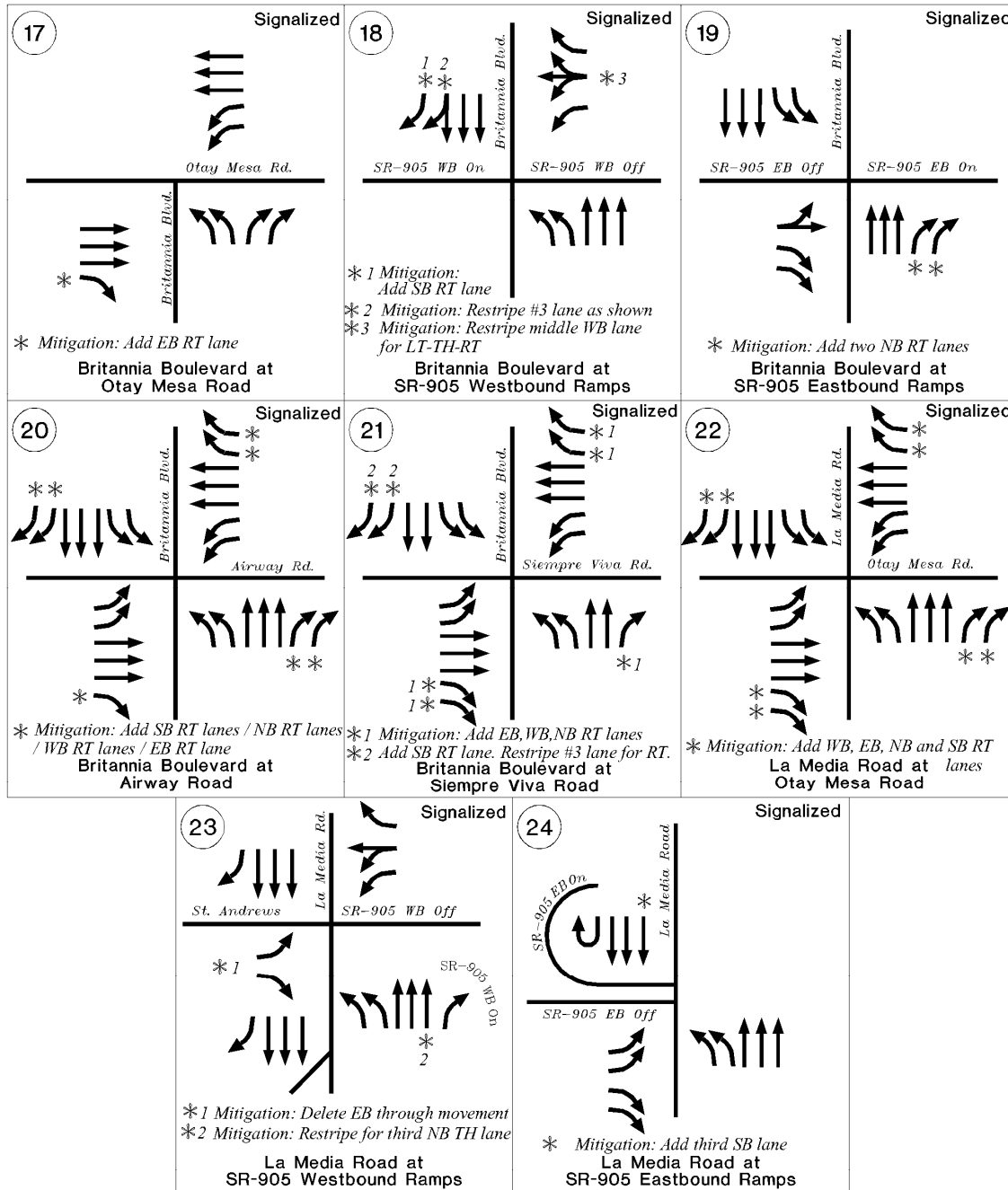


FIGURE ES-II-3
Buildout Recommended Lane Configurations - Adopted Community Plan
(With Mitigation)

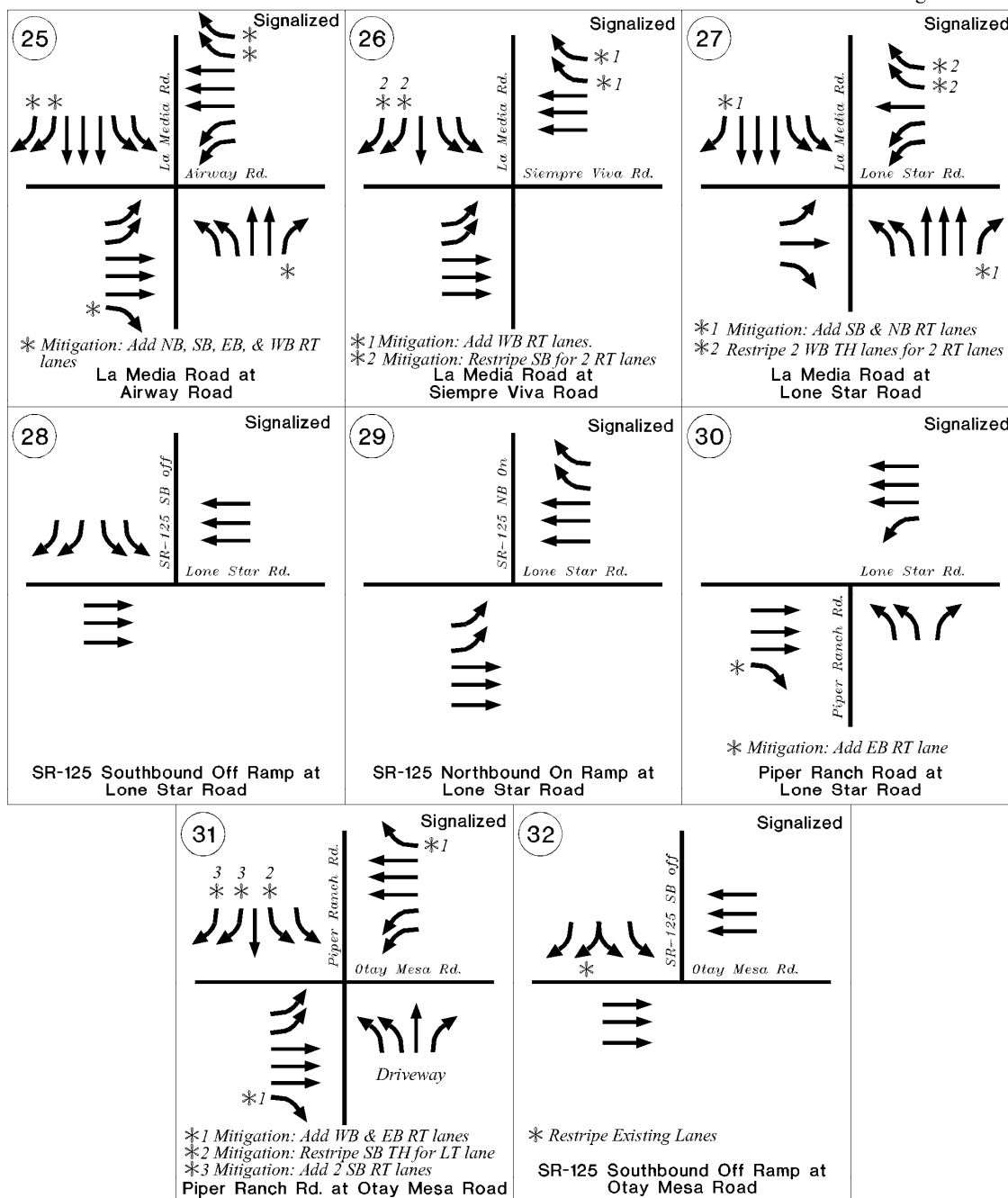


FIGURE ES-II-3
Buildout Recommended Lane Configurations - Adopted Community Plan
(With Mitigation)

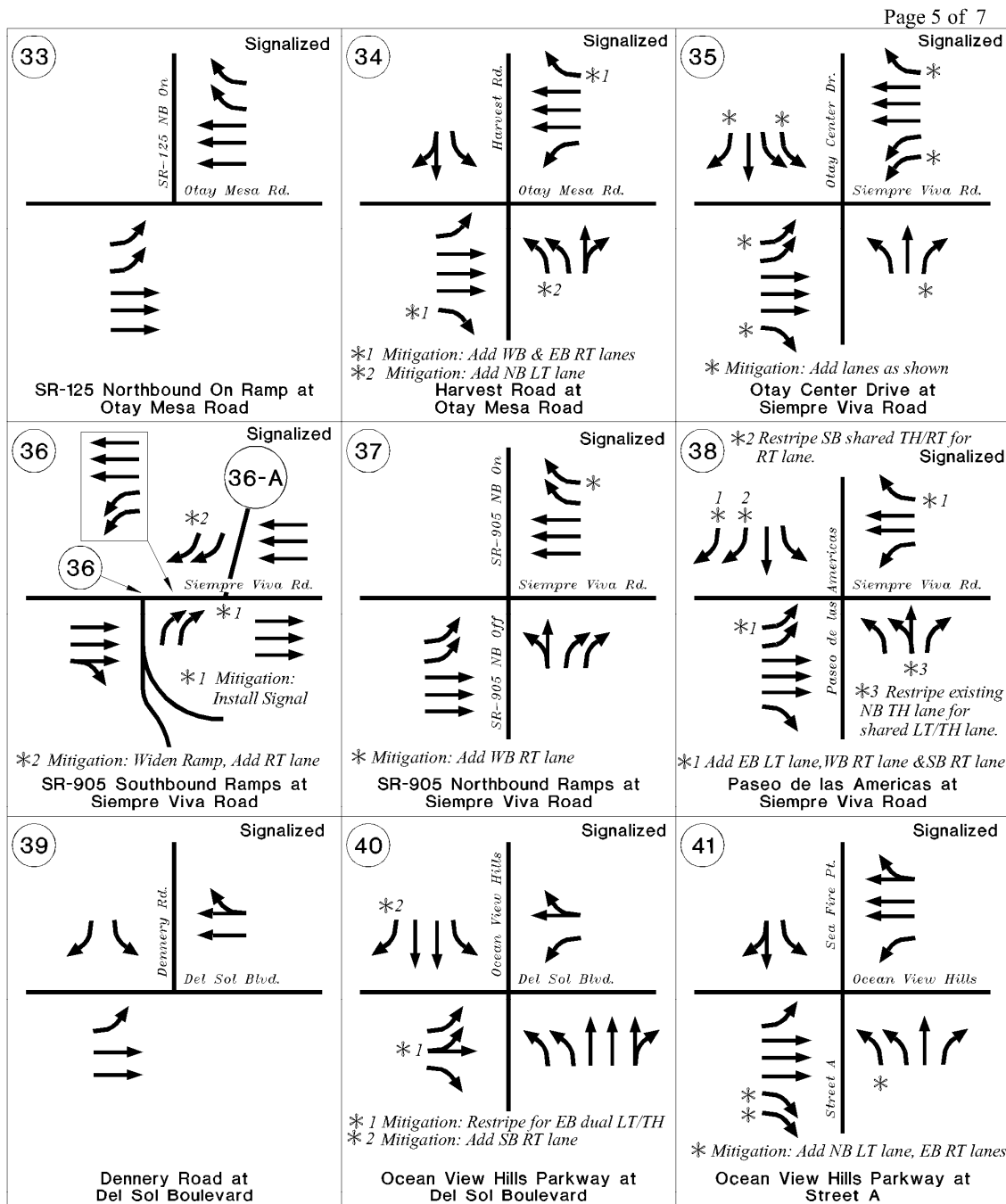


FIGURE ES-II-3
Buildout Recommended Lane Configurations - Adopted Community Plan
(With Mitigation)

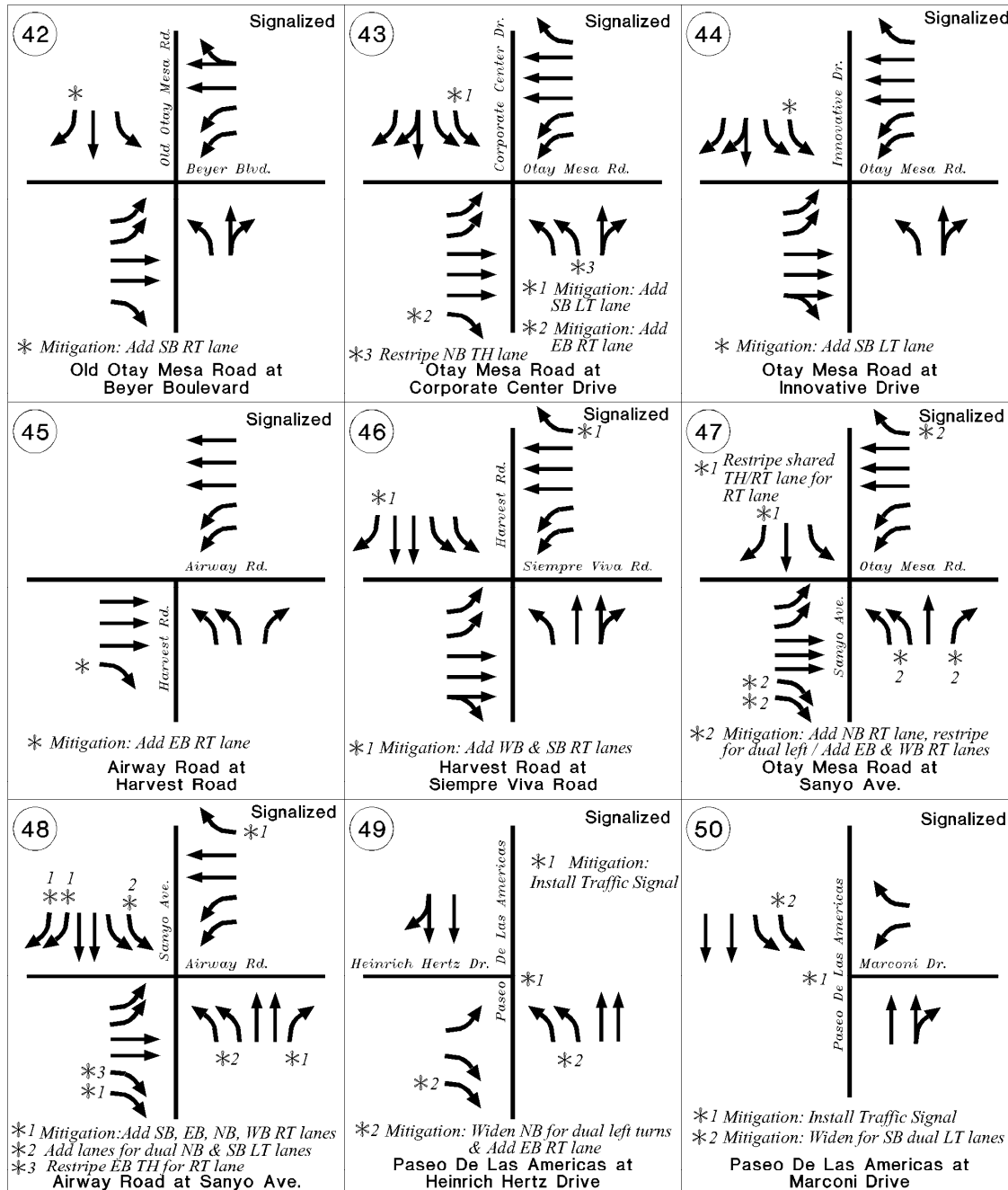


FIGURE ES-II-3

Buildout Recommended Lane Configurations - Adopted Community Plan (With Mitigation)

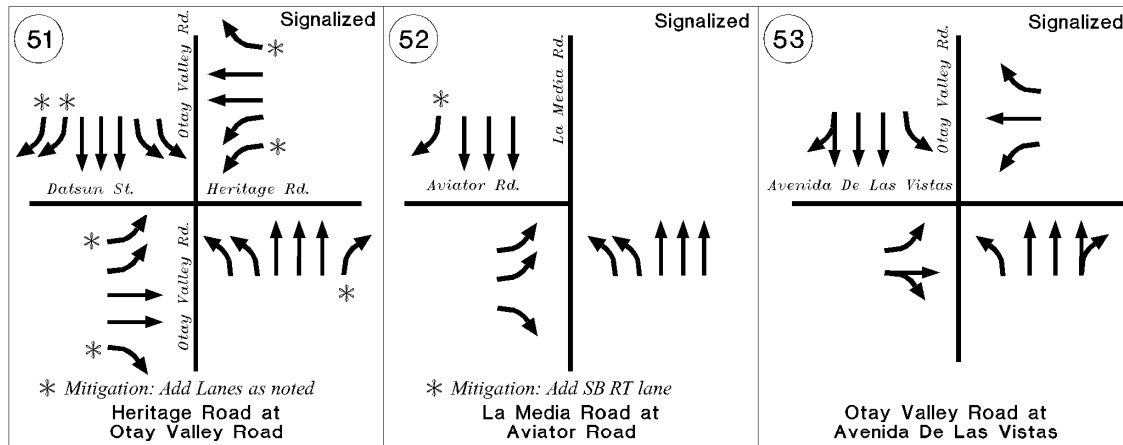


FIGURE ES-II-3
Buildout Recommended Lane Configurations - Adopted Community Plan
(With Mitigation)

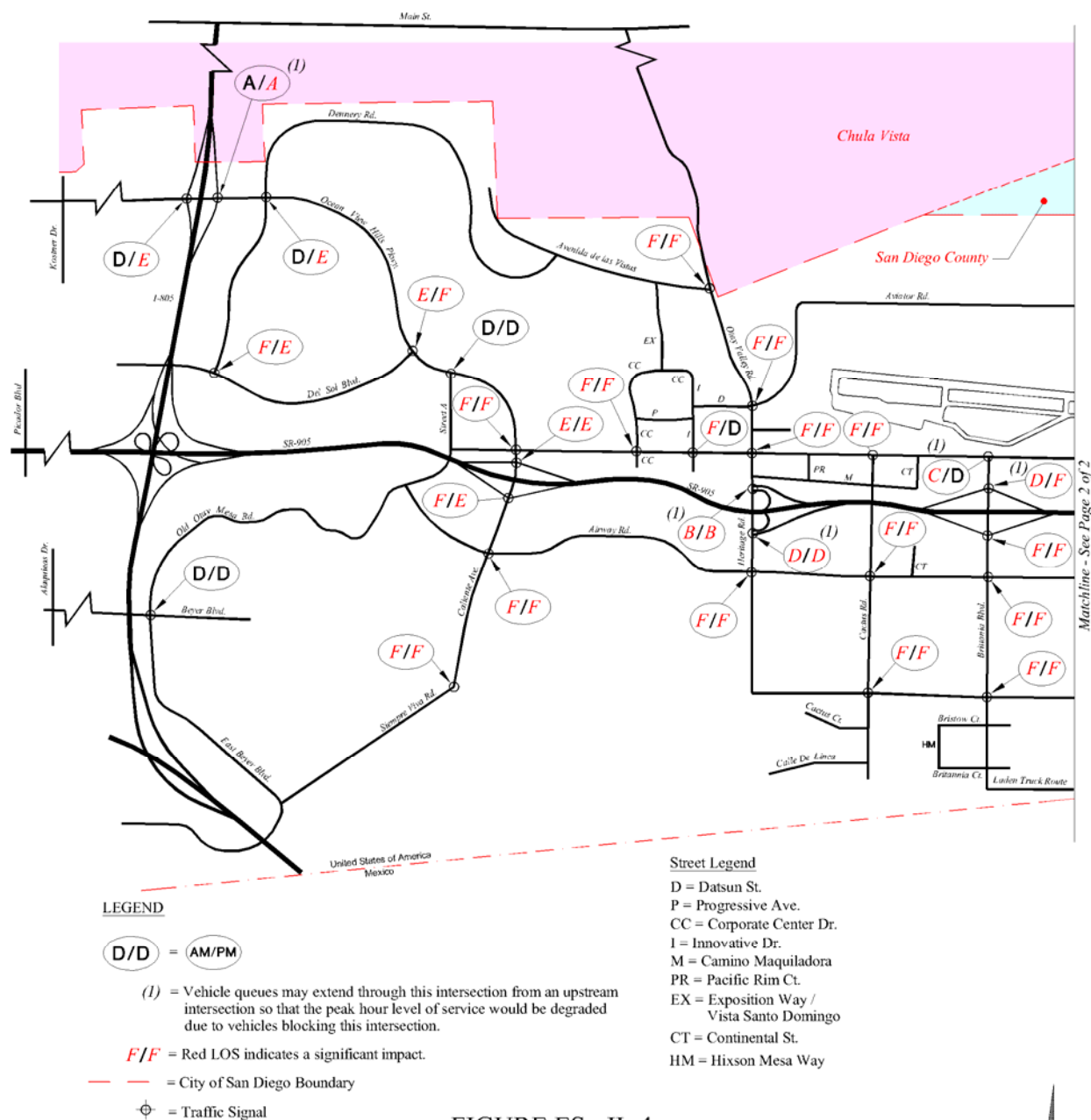


FIGURE ES - II -4
Adopted Community Plan
Intersection Levels of Service (With Mitigation)



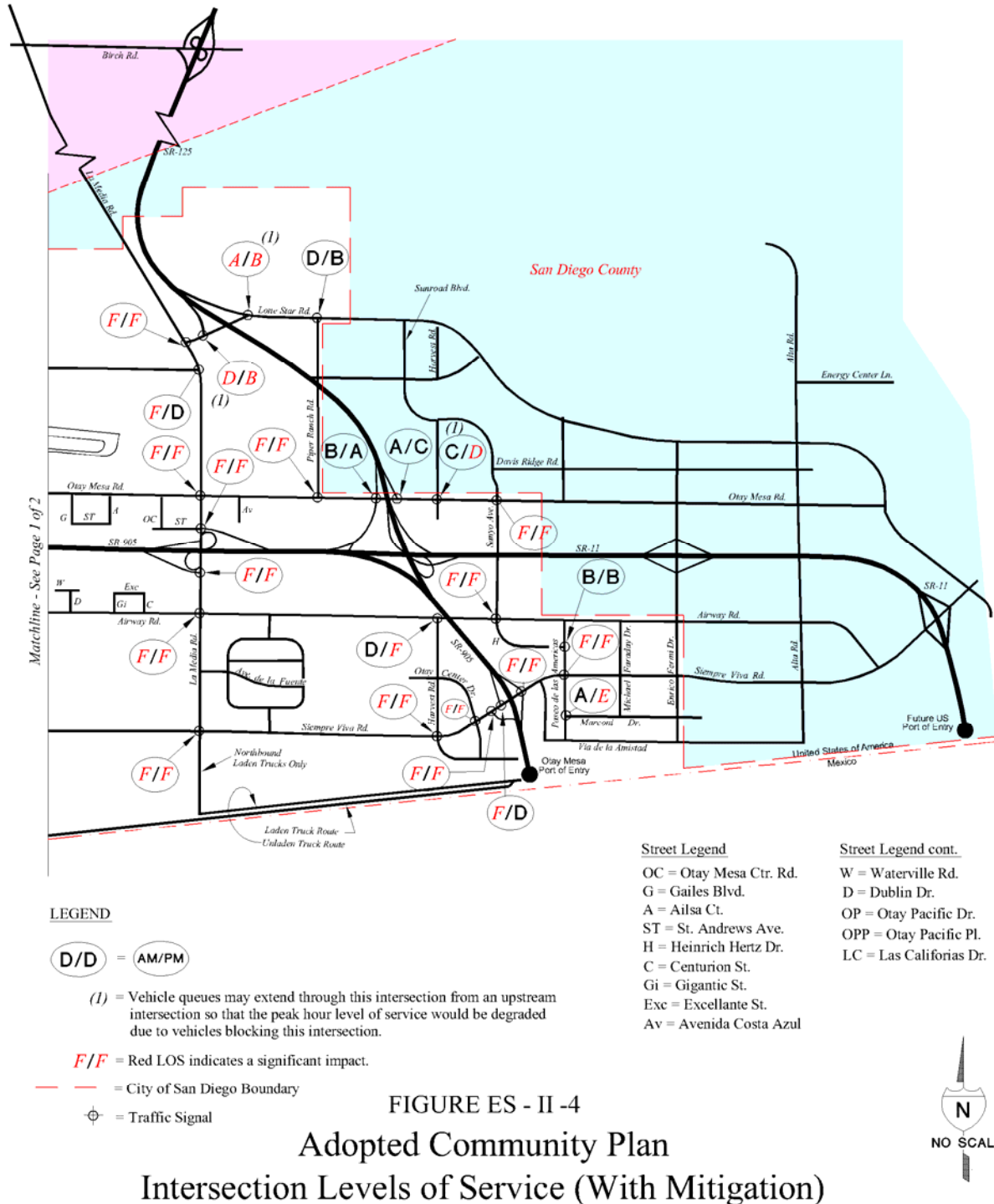


TABLE ES II-7

**Comparison Of
Buildout Adopted Community Plan To
3B Without La Media Road Scenario
Intersection Significant Impacts After Mitigation**

		Adopted Community Plan		3B Without La Media Road	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Intersection		LOS	LOS	LOS	LOS
1	Palm Ave. / I-805 SB Ramps	D	E	C	D
2	Palm Ave. / I-805 NB Ramps	A	(1) A	A	A
3	Palm Ave. / Dennery Rd.	D	E	C	E
4	Otay Mesa Rd. / Caliente Ave.	F	F	F	F
5	Caliente Ave. / SR-905 WB Ramps	E	E	(1) C	(1) C
6	Caliente Ave. / SR-905 EB Ramps	F	E	E	E
7	Caliente Ave. / Airway Rd.	F	F	F	F
8	Caliente Ave. / Siempre Viva Rd.	F	F	F	F
9	Otay Mesa Rd. / Heritage Rd.	F	F	F	F
10	Heritage Rd. / SR-905 WB Ramps	B	B	(1) B	(1) C
11	Heritage Rd. / SR-905 EB Ramps	(1) D	(1) D	(1) D	(1) C
12	Heritage Rd. / Airway Rd.	F	F	F	F
13	Heritage Rd. / Siempre Viva Rd.	N/A	N/A	N/A	N/A
14	Otay Mesa Rd. / Cactus Rd.	F	F	F	F
15	Airway Rd. / Cactus Rd.	F	F	F	F
16	Siempre Viva Rd. / Cactus Rd.	F	F	D	F
17	Otay Mesa Rd. / Britannia Blvd.	(1) C	(1) D	E	D
18	Britannia Blvd. / SR-905 WB Ramps	(1) D	F	E	F
19	Britannia Blvd. / SR-905 EB Ramps	F	F	F	E
20	Britannia Blvd. / Airway Rd.	F	F	F	F
21	Siempre Viva Rd. / Britannia Blvd.	F	F	F	F
22	Otay Mesa Rd. / La Media Rd.	F	F	F	F

Note: #13 is a right angle intersection (as assumed in the traffic model) with only two approaches.

Legend

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

F = Shading indicates a significant impact

TABLE ES II-7 (Continued)

**Comparison Of
Buildout Adopted Community Plan To
3B Without La Media Road Scenario
Intersection Significant Impacts After Mitigation**

		Adopted Community Plan		3B Without La Media Road	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Intersection		LOS	LOS	LOS	LOS
23	La Media Rd. / SR-905 WB Ramps	F	F	F	F
24	La Media Rd. / SR-905 EB Ramps	F	F	F	(1) D
25	La Media Rd. / Airway Rd.	F	F	F	F
26	La Media Rd. / Siempre Viva Rd.	F	F	F	D
27	La Media Rd. / Lone Star Rd.	F	F	N/A	N/A
28	Lone Star Rd. / SR-125 SB Off Ramp	(1) D	(1) B	E	F
29	Lone Star Rd. / SR-125 NB On Ramp	(1) A	(1) A	(1) A	F
30	Lone Star Rd. / Piper Ranch Rd.	D	B	A	(1) A
31	Otay Mesa Rd. / Piper Ranch Rd.	F	F	D	D
32	Otay Mesa Rd. / SR-125 SB Off Ramp	(1) B	(1) A	C	(1) B
33	Otay Mesa Rd. / SR-125 NB On Ramp	(1) A	(1) B	A	C
34	Otay Mesa Rd. / Harvest Rd.	C	(1) D	B	(1) D
35	Siempre Viva Rd. / Otay Center Dr.	F	F	F	F
36	Siempre Viva Rd. / SR-905 SB to EB Ramp	F	F	(1) C	F
36A	Siempre Viva Rd. / SR-905 SB to WB Ramp	F	(1) D	F	(1) B
37	Siempre Viva Rd. / SR-905 NB Ramps	F	F	(1) D	F
38	Siempre Viva Rd. / Paseo de las Americas	F	F	E	F
39	Dennery Rd. / Del Sol Blvd.	F	E	D	D
40	Ocean View Hills Pkwy. / Del Sol Blvd.	E	F	D	D
41	Ocean View Hills Pkwy. / Street A	D	D	D	C
42	Old Otay Mesa Rd. / Beyer Blvd.	D	D	F	F
43	Otay Mesa Rd. / Corporate Center Dr.	F	F	E	F
44	Otay Mesa Rd. / Innovative Dr.	F	D	F	F

Legend

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

F = Shading indicates a significant impact.

TABLE ES II-7 (Continued)

Comparison Of Buildout Adopted Community Plan To 3B Without La Media Road Scenario Intersection Significant Impacts After Mitigation

Intersection		Adopted Community Plan		3B Without La Media Road	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
		LOS	LOS	LOS	LOS
45	Harvest Rd. / Airway Rd.	D	F	D	B
46	Harvest Rd. / Siempre Viva Rd.	F	F	C	D
47	Otay Mesa Rd. / Sanyo Ave.	F	F	F	F
48	Airway Rd. / Sanyo Ave.	F	F	D	D
49	Paseo de las Americas / Heinrich Hertz Dr.	B	B	A	B
50	Paseo de las Americas / Marconi Dr.	A	E	B	B
51	Heritage Rd. / Otay Valley Rd. / Datsun St.	F	F	F	F
52	Aviator Rd. / La Media Rd.	F	D	C	B
53	Otay Valley Rd. / Avenida De Las Vistas	F	F	F	F

Legend

F = Shading indicates a significant impact.

The Adopted Community Plan Scenario has 42 intersections during the AM peak hour and ~~44~~ 46 during the PM peak hour that would remain significantly impacted after mitigation.

The 3B Without La Media Road Scenario has 34 intersections during the AM peak hour and 37 during the PM peak hour that would remain significantly impacted after mitigation.

The following 35 intersections would remain significantly impacted under both scenarios:

- Palm Avenue / Dennerly Road (PM);
- Otay Mesa Road / Caliente Avenue (AM & PM);
- Caliente Avenue / SR-905 WB Ramps (AM & PM);
- Caliente Avenue / SR-905 EB Ramps (AM & PM);
- Caliente Avenue / Airway Road (AM & PM);
- Caliente Avenue / Siempre Viva Road (AM & PM);
- Otay Mesa Road / Heritage Road (AM & PM);
- Heritage Road / SR-905 EB Ramps (AM & PM);
- Heritage Road / Airway Road (AM & PM);
- Otay Mesa Road / Cactus Road (AM & PM);
- Airway Road / Cactus Road (AM & PM);
- Siempre Viva Road / Cactus Road (PM);
- Otay Mesa Road / Britannia Boulevard (AM);
- Britannia Boulevard / SR-905 WB Ramps (AM & PM);
- Britannia Boulevard / SR-905 EB Ramps (AM & PM);
- Britannia Boulevard / Airway Road (AM & PM);

- Siempre Viva Road / Britannia Boulevard (AM & PM);
- Otay Mesa Road / La Media Road (AM & PM);
- La Media Road / SR-905 WB Ramps (AM & PM);
- La Media Road / SR-905 EB Ramps (AM);
- La Media Road / Airway Road (AM & PM);
- La Media Road / Siempre Viva Road (AM);
- Lone Star Road / SR-125 SB Off Ramp (PM);
- Lone Star Road / SR-125 NB On Ramp (PM);
- Otay Mesa Road / Harvest Road (PM);
- Siempre Viva Road / Otay Center Drive (AM & PM);
- Siempre Viva Road / SR-905 SB to EB Ramp(PM);
- Siempre Viva Road / SR-905 SB to WB Ramp (AM & PM);
- Siempre Viva Road / SR-905 NB Ramps (PM);
- Siempre Viva Road / Paseo de las Americas (AM & PM);
- Otay Mesa Road / Corporate Center Drive (AM & PM);
- Otay Mesa Road / Innovative Drive (AM);
- Otay Mesa Road / Sanyo Avenue (AM & PM);
- Heritage Road / Otay Valley Road / Datsun Street (AM & PM);
- Otay Valley Road / Avenida De Las Vistas (AM & PM).

The following 11 intersections would remain significantly impacted under the Adopted Community Plan Scenario, but not the 3B Without La Media Road Scenario:

- Palm Avenue / I-805 SB Ramps;
- Palm Avenue / I-805 NB Ramps;
- Otay Mesa Road / SR-125 NB On-Ramp;
- Otay Mesa Road / Piper Ranch Road;
- Dennery Road / Del Sol Boulevard;
- Ocean View Hills Parkway / Del Sol Boulevard;
- Harvest Road / Airway Road;
- Harvest Road / Siempre Viva Road;
- Airway Road / Sanyo Avenue;
- Paseo de las Americas / Marconi Drive;
- Aviator Road / La Media Road.

The following three intersections would remain significantly impacted under the 3B Without La Media Road Scenario, but not the Adopted Community Plan Scenario:

- Heritage Road / SR-905 WB Ramps;
- Lone Star Road / Piper Ranch Road;
- Old Otay Mesa Road / Beyer Boulevard.

Ramp Meters

There are currently no freeway on-ramp traffic metering signals in operation at the 14 locations evaluated. Future freeway on-ramp meter operations were evaluated for the No Project / Adopted Community Plan scenario at the fourteen future on-ramp meters. The likely most restrictive ramp meter rate as provided by Caltrans was used for this evaluation.

The City of San Diego Traffic Impact Study Manual and the Regional SANTEC / ITE Traffic Impact Study Guidelines state that levels of service do not apply to ramp meters, but that ramp meter delays above 15 minutes are considered excessive. The 14 ramp meters were evaluated for the AM and PM peak hours. Ramp meter delays above 15 minutes would occur at six ramps during the AM peak hours and 11 ramps during the PM peak hours. Ramp meter delays above 15 minutes would occur during a total of 17 peak hours during the AM and PM peak hours.

Ramp meter delays above 15 minutes are considered significant impacts if downstream freeways are operating at level of service “E” or “F”. The following five ramp locations would be significantly impacted using this significance criteria:

- SR-905 / Caliente Avenue Westbound on-ramp (AM and PM);
- SR-905 / Heritage Road Westbound on-ramp (PM);
- SR-905 Britannia Boulevard Westbound on-ramp (AM and PM);
- SR-905 / Britannia Boulevard Eastbound on-ramp (PM);
- SR-905 / La Media Road Westbound on-ramp (AM and PM).

Figure ES II-5 shows the intersections that would be significantly impacted by ramp meter delays.

A comparison of the Adopted Community Plan land use scenario to the 3B Without La Media Road land use scenario indicates that the significantly impacted ramp meter locations above would be the same under the 3B Scenario, except with the addition of:

- SR-905 / Heritage Road Westbound On-Ramp (AM).

Ramp meter queues are also tabulated. Considering the queues that would exceed the ramp storage length, there are estimated to be 17 times queues would exceed the ramp storage length during the 28 peak hours evaluated at the 11 ramps listed below:

- I-805 / Palm Avenue Northbound On-ramp (AM and PM);
- SR-905 / Caliente Avenue Westbound On-ramp (AM and PM);
- SR-905 / Heritage Road Westbound On-ramp (PM);
- SR-905 / Britannia Boulevard Westbound On-ramp (AM and PM);
- SR-905 / Britannia Boulevard Eastbound On-ramp (PM);
- SR-905 / La Media Road Westbound On-ramp (AM and PM);
- SR-905 / La Media Road Eastbound On-ramp (PM);
- SR-905 / Siempre Viva Road Northbound On-ramp (AM and PM);
- SR-905 / Siempre Viva Road Southbound On-ramp (PM);
- SR-125 / Otay Mesa Road Northbound On-ramp (PM);
- SR-125 / Lone Star Road Northbound On-ramp (AM and PM).

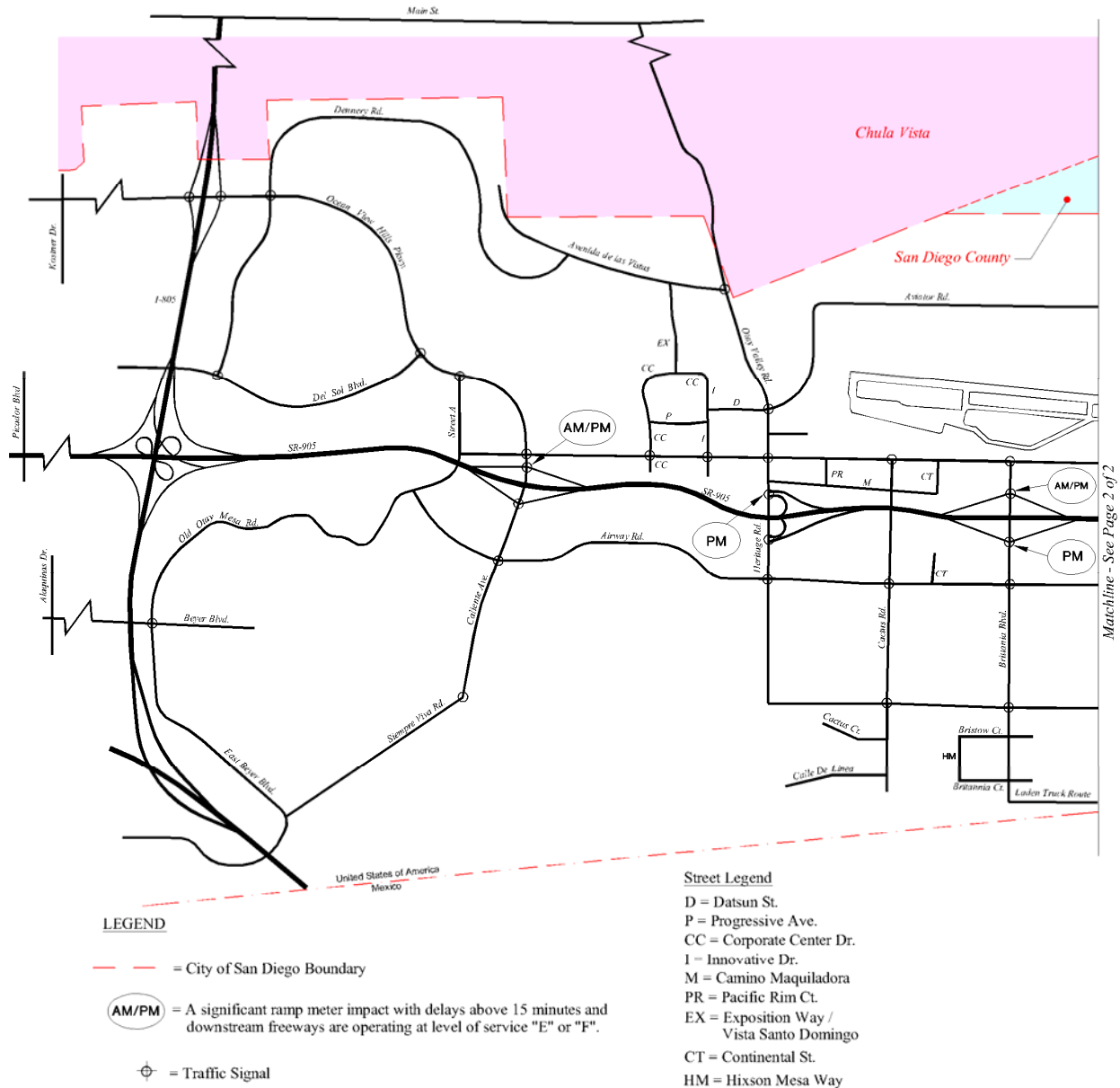
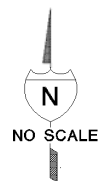


FIGURE ES - II -5
Adopted Community Plan
Significant Ramp Meter Delays



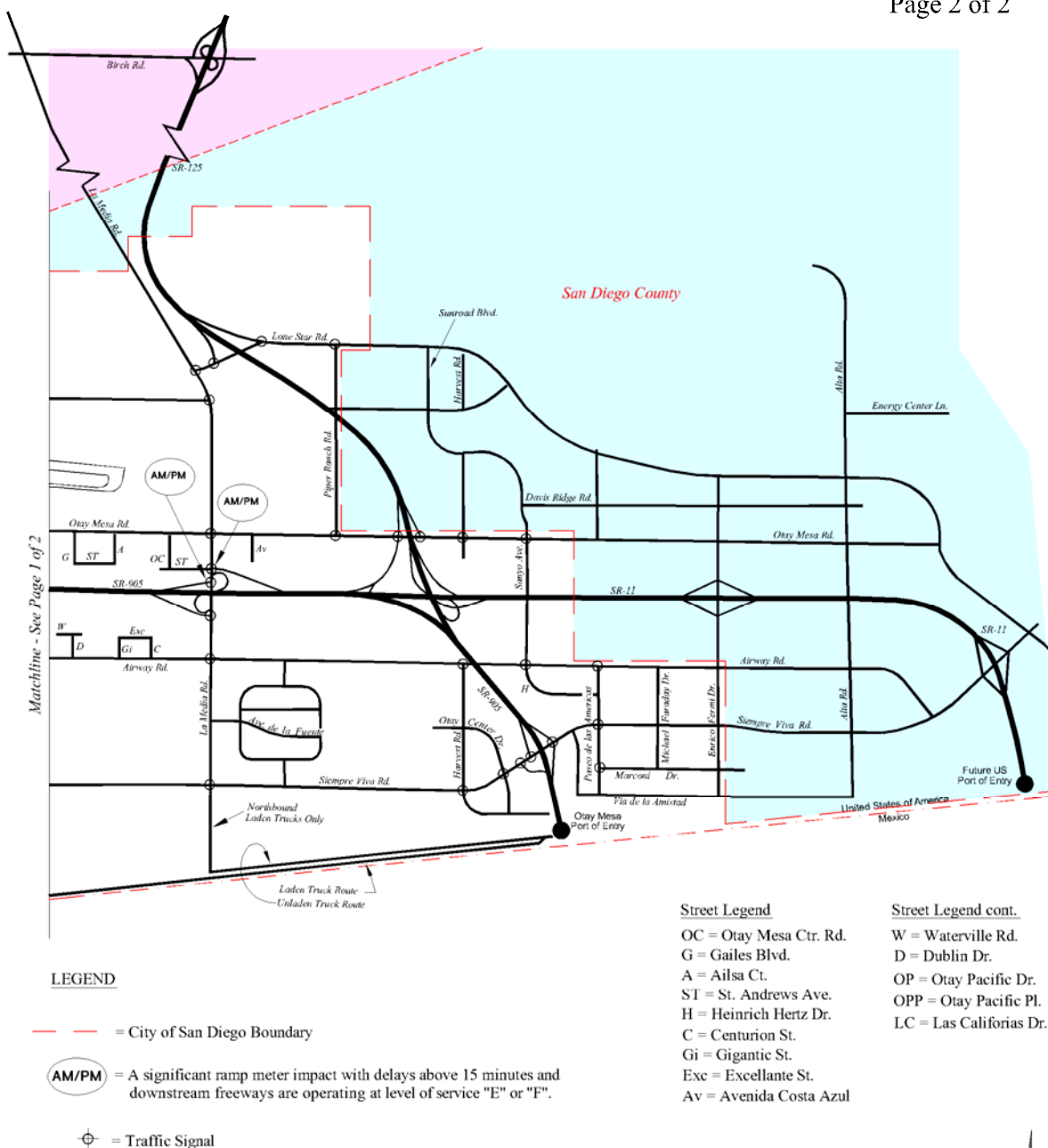
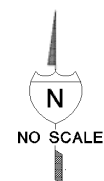


FIGURE ES - II -5
Adopted Community Plan
Significant Ramp Meter Delays



A comparison of the Adopted Community Plan land use scenario to the 3B Without La Media Road land use scenario indicates the locations would be the same for each scenario, but the peak hours would change with the Adopted Community Plan as listed below:

- SR-905 / Heritage Road Westbound On-Ramp (AM & PM);
- SR-125 / Otay Mesa Road Northbound On-Ramp (AM & PM);
- SR-125 / Lone Star Road Northbound On-Ramp (PM Only).

Freeway Interchange Queues

A queue analysis was prepared at the interchange ramp intersections plus closely spaced adjacent intersections within the study area, without and with the recommended intersection mitigation.

The queue analysis was provided to indicate the locations that might need queue storage enhancements such as extending right or left turn storage lengths, if feasible, during design and to ensure that any intersection with excessive queues was not reported as operating acceptably.

Of the 166 queues evaluated without intersection mitigation, during AM and PM peak hours, 92 are expected to exceed the available storage between these closely spaced intersections at freeway interchange ramps. With intersection mitigation, 192 queues were evaluated and 76 are expected to exceed the available storage length extending through the adjacent intersection. **Table ES II-8** lists the locations of the excessive queues.

Table ES II-8

Buildout Adopted Community Plan

Queue Analysis With Mitigation

Queue Locations North / South	AM PEAK HOUR					
Location	Excess Queue (Feet)			Excess Queue (Feet)		
	Southbound			Northbound		
	RT	TH	LT	LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	None	None	7,380
Caliente Ave. / SR-905 WB Ramps	428	50	-	315	None	-
Caliente Ave. / SR-905 EB Ramps	-	None	140	-	1,448	None
Caliente Ave. / Airway Rd.	-	225	2,500	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	None	None	None
Heritage Rd. / SR-905 WB Ramps	-	None	None	-	None	None
Heritage Rd. / SR-905 EB Ramps	-	75	None	-	650	None
Heritage Rd. / Airway Rd.	None	1,550	1,328	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	None	-	None
Britannia Blvd. / SR-905 WB Ramps	-	None	-	560	None	-
Britannia Blvd. / SR-905 EB Ramps	-	618	None	-	193	-
Britannia Blvd. / Airway Rd.	628	1,390	2,750	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	1,973	905	135
La Media Rd. / SR-905 WB Ramps	None	2,450	-	None	1,548	-
La Media Rd. / SR-905 EB Ramps	None	3,100	-	None	1,308	-
La Media Rd. / Airway Rd.	1,198	1,378	3,650	-	-	-

Queue Locations North / South	PM PEAK HOUR					
Location	Excess Queue (Feet)			Excess Queue (Feet)		
	Southbound			Northbound		
	RT	TH	LT	LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	250	33	2,775
Caliente Ave. / SR-905 WB Ramps	12	150	-	1,005	1,335	-
Caliente Ave. / SR-905 EB Ramps	-	None	None	-	1,570	None
Caliente Ave. / Airway Rd.	-	968	2,500	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	None	None	None
Heritage Rd. / SR-905 WB Ramps	-	None	None	-	None	None
Heritage Rd. / SR-905 EB Ramps	-	None	None	-	1,775	None
Heritage Rd. / Airway Rd.	288	None	None	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	None	-	None
Britannia Blvd. / SR-905 WB Ramps	-	110	-	4,425	None	-
Britannia Blvd. / SR-905 EB Ramps	-	None	None	-	2,000	None
Britannia Blvd. / Airway Rd.	None	None	90	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	640	745	None
La Media Rd. / SR-905 WB Ramps	3	2,425	-	None	None	-
La Media Rd. / SR-905 EB Ramps	None	1,725	-	360	1,950	-
La Media Rd. / Airway Rd.	None	None	2,325	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

■ = Shading indicates excess queue.

Table ES II-8

Buildout Adopted Community Plan

Queue Analysis With Mitigation

Queue Locations East / West	AM PEAK HOUR					
Location	Excess Queue (Feet)			Excess Queue (Feet)		
	Eastbound			Westbound		
	RT	TH	LT	LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	None	None	-
Palm Ave. / I-805 NB Ramps	None	None	-	-	None	None
Palm Ave. Dennerly Rd.	None	None	None	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	None	5,300	None
Siempre Viva Rd. / SR-905 SB Ramps	-	1,140	-	None	None	-
Siempre Viva Rd. / SR-905 NB Ramps	-	2,325	943	-	1,375	None
Siempre Viva Rd. / Paseo de las Americas	2,350	33	3,100	-	-	-
La Media Rd. / Lone Star Rd.	-	-	-	485	130	None
Lone Star Rd. / SR-125 SB Off Ramp	-	1,488	-	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	None	-	None	None
Lone Star Rd. / Piper Ranch Rd.	None	1,875	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	None	None	None
Otay Mesa Rd. / SR-125 SB Off Ramp	-	None	-	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	None	-	None	None
Otay Mesa Rd. / Harvest Rd.	None	1,015	None	-	-	-

Queue Locations East / West	PM PEAK HOUR					
Location	Excess Queue (Feet)			Excess Queue (Feet)		
	Eastbound			Westbound		
	RT	TH	LT	LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	None	None	-
Palm Ave. / I-805 NB Ramps	None	None	-	-	None	None
Palm Ave. Dennerly Rd.	1,383	None	None	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	553	None	None
Siempre Viva Rd. / SR-905 SB Ramps	-	5,650	-	1,593	None	-
Siempre Viva Rd. / SR-905 NB Ramps	-	None	6,000	-	None	4,225
Siempre Viva Rd. / Paseo de las Americas	None	None	2,750	-	-	-
La Media Rd. / Lone Star Rd.	-	-	-	193	None	3,725
Lone Star Rd. / SR-125 SB Off Ramp	-	None	-	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	None	-	None	298
Lone Star Rd. / Piper Ranch Rd.	None	None	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	None	None	None
Otay Mesa Rd. / SR-125 SB Off Ramp	-	None	-	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	None	-	None	608
Otay Mesa Rd. / Harvest Rd.	None	None	None	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

■ = Shading indicates excess queue.

Figure ES II-6 shows the interchange intersections that would be affected by excessive queues. Vehicle queues will extend through these intersections from an upstream intersection so that any acceptable peak hour level of service will be at level of service “F” due to vehicles blocking this intersection. The intersection level of service table (**Table ES II-6**) includes this condition as footnoted.

III. SCENARIO 3B WITHOUT LA MEDIA ROAD (PROPOSED COMMUNITY PLAN BUILDOUT)

Roadway Segments

Roadway segments at buildout were evaluated for levels of service based on the City of San Diego Street Design manual. The initial “without mitigation” classification of roadways is based on the existing functional classifications or the current Community Plan classification if the street did not exist in the existing conditions assessment or if analyzing the projected volumes on the existing facility would not be meaningful because it would not be possible to carry those volumes on the existing-sized facility due to its capacity. Segments that would be at level of service “E” or “F” are considered to be significantly impacted by implementation of the land use plan. **Table ES III-1** lists segments that would be at level of service “E” or “F” for this scenario, without reclassification and construction to a higher standard, and the level of service after reclassification and construction to a higher standard.

As shown in this table, 41 roadway segments would operate at level of service “E” or “F” with the assumed initial classification. After reclassification and construction to a higher standard, 24 segments would operate at “E” or “F” and remain significantly impacted, as indicated with a “Y” in the last column with the (S?) heading. For comparison, the No Project Scenario has 59 segments at level of service “E” or “F” initially and 38 segments that remain significantly impacted.

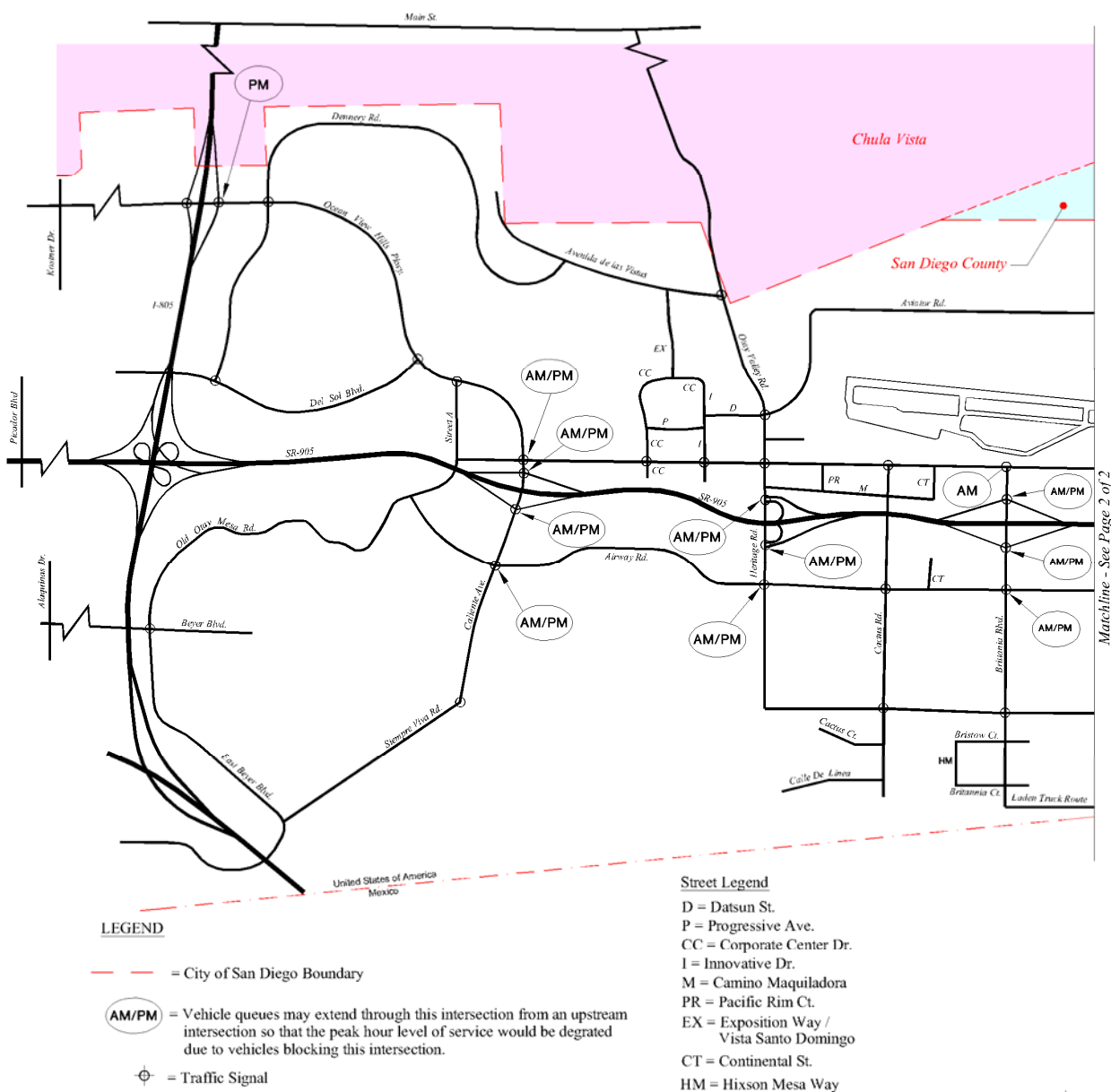
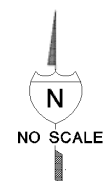


FIGURE ES - II -6
Adopted Community Plan
Interchange and Adjacent Intersection Queueing Impacts



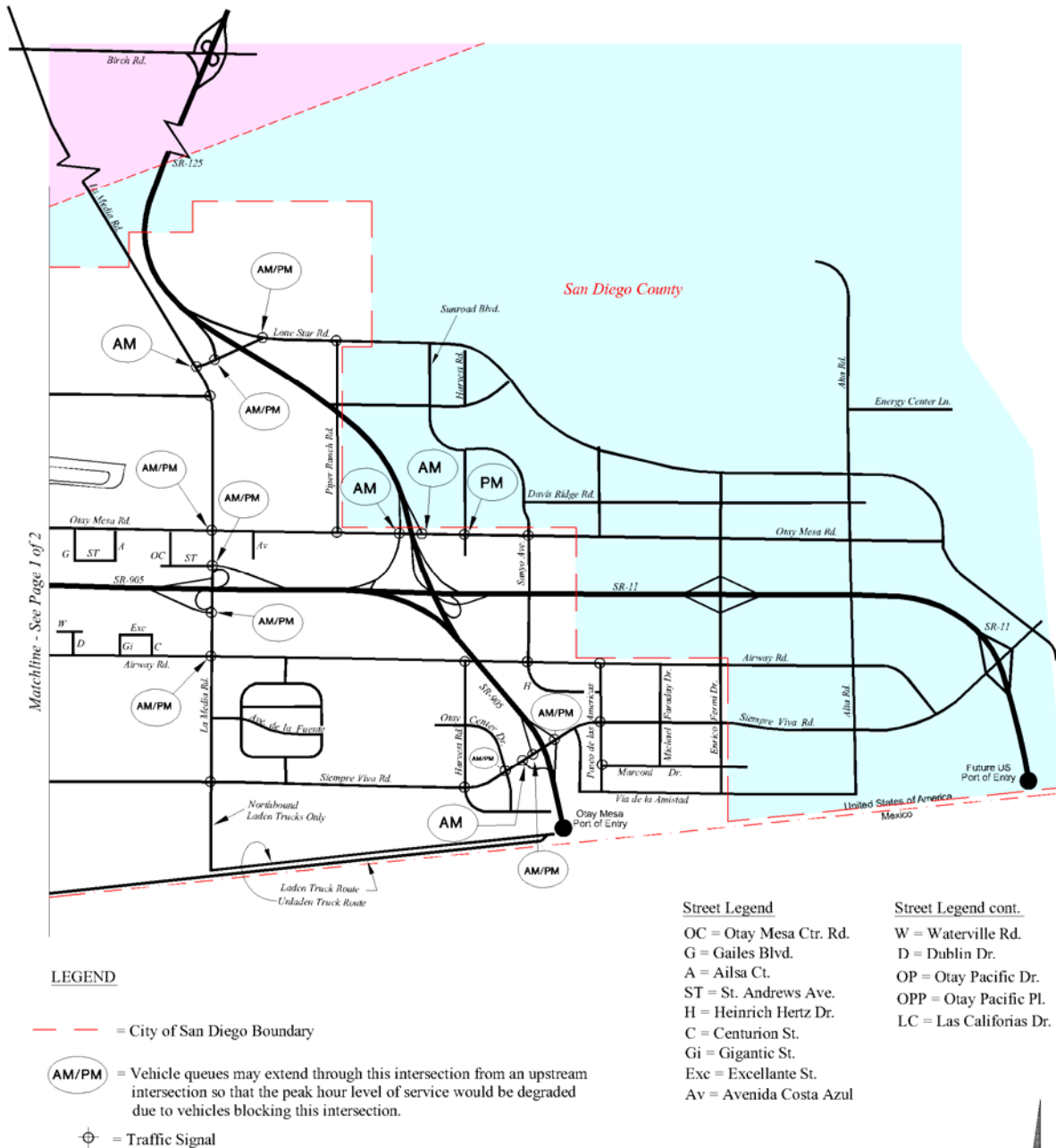


FIGURE ES - II -6
Adopted Community Plan
Interchange and Adjacent Intersection Queueing Impacts



TABLE ES III-1

Buildout Scenario 3B Without La Media Rd.

Roadway Segments at LOS "E" or "F"

Street	Segment	#	(1) Class	LOS E ADT (2)	Segment ADT	LOS	New Class	NEW LOS	S?
Otay Mesa Road	Caliente Ave. to Corporate Center Dr.	2	6-PA	60,000	72,500	F	N	-	Y
	Heritage Rd. to Cactus Rd.	5	6-PA	60,000	76,500	F	N	-	Y
	SR-125 to Harvest Rd.	11	4-M	40,000	36,000	E	6-PA	C	N
Airway Road	Caliente Ave. to Heritage Rd.	15	4-M	40,000	38,000	E	N	-	Y
	Heritage Rd. to Cactus Rd.	16	4-M	40,000	60,500	F	6-PA	F	Y
	Cactus Rd. to Britannia Blvd.	17	4-M	40,000	44,500	F	6-M	D	N
Siempre Viva Road	Otay Center Dr. to SR-905	31	6-PA	60,000	60,000	E	N	-	Y
	SR-905 to Paseo de las Americas	32	6-PA	60,000	63,000	F	N	-	Y
Caliente Avenue	Airway Rd. to Beyer Blvd.	43	4-M	40,000	46,000	F	6-M	E	Y
	Beyer Blvd. to Siempre Viva Rd.	43A	4-M	40,000	41,000	F	N	-	Y
Heritage Road/ Otay Valley Road	Main St. to Avenida De Las Vistas	46	6-PA	60,000	83,000	F	N	-	Y
	Avenida De Las Vistas to Datsun St.	47	6-M	50,000	75,500	F	6-PA	F	Y
	Datsun St. to Otay Mesa Rd.	48	6-M	50,000	48,000	E	6-PA	C	N
Cactus Road	Otay Mesa Rd. to Airway Rd.	52	4-CL	30,000	40,500	F	4-M	F	Y
	Airway Rd. to Siempre Viva Rd.	53	4-CL	30,000	40,500	F	4-M	F	Y
Britannia Boulevard	SR-905 to Airway Rd.	56	4-M	40,000	63,000	F	6-PA	F	Y
	Airway Rd. to Siempre Viva Rd.	57	4-M	40,000	44,500	F	6-M	D	N
	Siempre Viva Rd. to South End	58	2-C	8,000	22,000	F	4-CL	D	N
La Media Road	SR-905 to Airway Rd.	63	6-PA	60,000	64,000	F	N	-	Y

= Segment Number

** = Segment is in Chula Vista.

(1) = Current Community Plan Classification unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

N = New classification is not proposed.

New LOS = LOS after change in classification.

■ = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB /2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

2-CL = 2-lane Collector (with continuous left turn lane)

2-CN = 2-lane Collector (no fronting property)

2-C = 2-lane Collector (without continuous left turn lane)

TABLE ES III-1

Buildout Scenario 3B Without La Media Rd.

Roadway Segments at LOS "E" or "F"

Street	Segment	#	(1) Class	LOS E ADT (2)	Segment ADT	LOS	New Class	NEW LOS	S?
Lone Star Road	Piper Ranch Rd. to City / County Boundary	73	4-M	40,000	36,000	E	6-PA	C	N
Aviator Road	Heritage Rd. to La Media Rd. (3)	74	2-C	8,000	23,000	F	4-CL	D	N
Dennery Road	Black Coral Ln. to East End	79	2-CN	10,000	16,500	F	N	-	Y
Avendia De Las Vistas	Vista Santo Domingo to Dennery Rd.	81	2-CN	10,000	19,500	F	N	-	Y
Del Sol Boulevard	Surf Crest Dr. to Riviera Pointe Riviera Pointe to Dennery Rd.	83 84	2-CN 2-CL	10,000 15,000	23,000 23,000	F F	N N	- -	Y Y
Old Otay Mesa Road	Crescent Bay Dr. to Beyer Blvd.	89	2-C	8,000	16,000	F	N	-	Y
Corporate Center Drive	Progressive Ave. to Innovative Dr.	93	2-C	8,000	8,000	E	2-CL	C	N
Sanyo Avenue	Otay Mesa Rd. to Airway Rd. (4)	97	4-C	15,000	24,500	F	4-CL	D	N
Paseo de las Americas	Airway Rd. to Siempre Viva Rd. Siempre Viva Rd. to Marconi Dr.	99 100	2-C 2-C	8,000 8,000	16,500 15,000	F F	4-CL 4-CL	C C	N N
Marconi Drive	Paseo de las Americas to Enrico Fermi Dr.	101	2-C	8,000	8,000	E	2-CL	C	N
Otay Center Drive	Harvest Rd. to Siempre Viva Rd. (3)	102	4-C	15,000	15,500	F	4-CL	C	N
St. Andrews Avenue	Otay Mesa Center Rd. to La Media Rd.	105	2-C	8,000	13,500	F	4-CL	C	N
Gailes Boulevard	Otay Mesa Rd. to St. Andrews Ave.	107	2-C	8,000	12,500	F	4-C	D	N
Camino Maquiladora	Heritage Rd. to Pacific Rim Ct. Pacific Rim Ct. to Cactus Rd.	108 109	2-C 2-C	8,000 8,000	9,500 7,500	F E	N N	- -	Y Y
Progressive Avenue	Corporate Center Dr. to Innovative Dr.	112	2-C	8,000	11,500	F	N	-	Y
Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	113	2-C	8,000	24,000	F	4-CL	D	N
Datsun Street	Innovative Dr. to Heritage Rd. (3)	114	2-C	8,000	30,000	F	4-CL	E	Y
Avenida Costa Azul	Otay Mesa Rd. to St. Andrews Ave. (3)	115	2-CL	15,000	19,000	E	4-CL	B	N
Exposition Way / Vista Santo Domingo	Avenida De Las Vistas to Corporate Center Dr. (4)	119	2-CN	10,000	12,500	F	N	-	Y

= Segment Number

(1) = Current Community Plan Classification unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

N = New classification is not proposed.

New LOS = LOS after change in classification.

■ = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB /2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

2-CL = 2-lane Collector (with continuous left turn lane)

2-CN = 2-lane Collector (no fronting property)

2-C = 2-lane Collector (without continuous left turn lane)

Figure ES III-1 shows recommended roadway classifications and also segments highlighted in red that are proposed to be classified to a higher standard.

Refer to Chapter 7, page 7-11 for discussion of the proposed mitigation and / or explanation of why the significant impact is not proposed to be fully mitigated.

A comparison of the 3B Without La Media Road land use plan significantly impacted roadway segments to the Buildout Adopted Community Plan Scenario is provided below, based on the listing of impacted roadway segments shown in **Table ES III-2**.

The 3B Without La Media Road Scenario has 24 roadway segments that would remain significantly impacted after mitigation.

The Adopted Community Plan Scenario has 38 roadway segments that would remain significantly impacted after mitigation.

The following 19 roadway segments would remain significantly impacted under both scenarios.



FIGURE ES - III -1

Scenario 3B Without La Media Road Land Use Scenario
With Proposed Roadway Classification Recommendations
(Mitigation / Reclassification to a Higher Standard shown in Red)

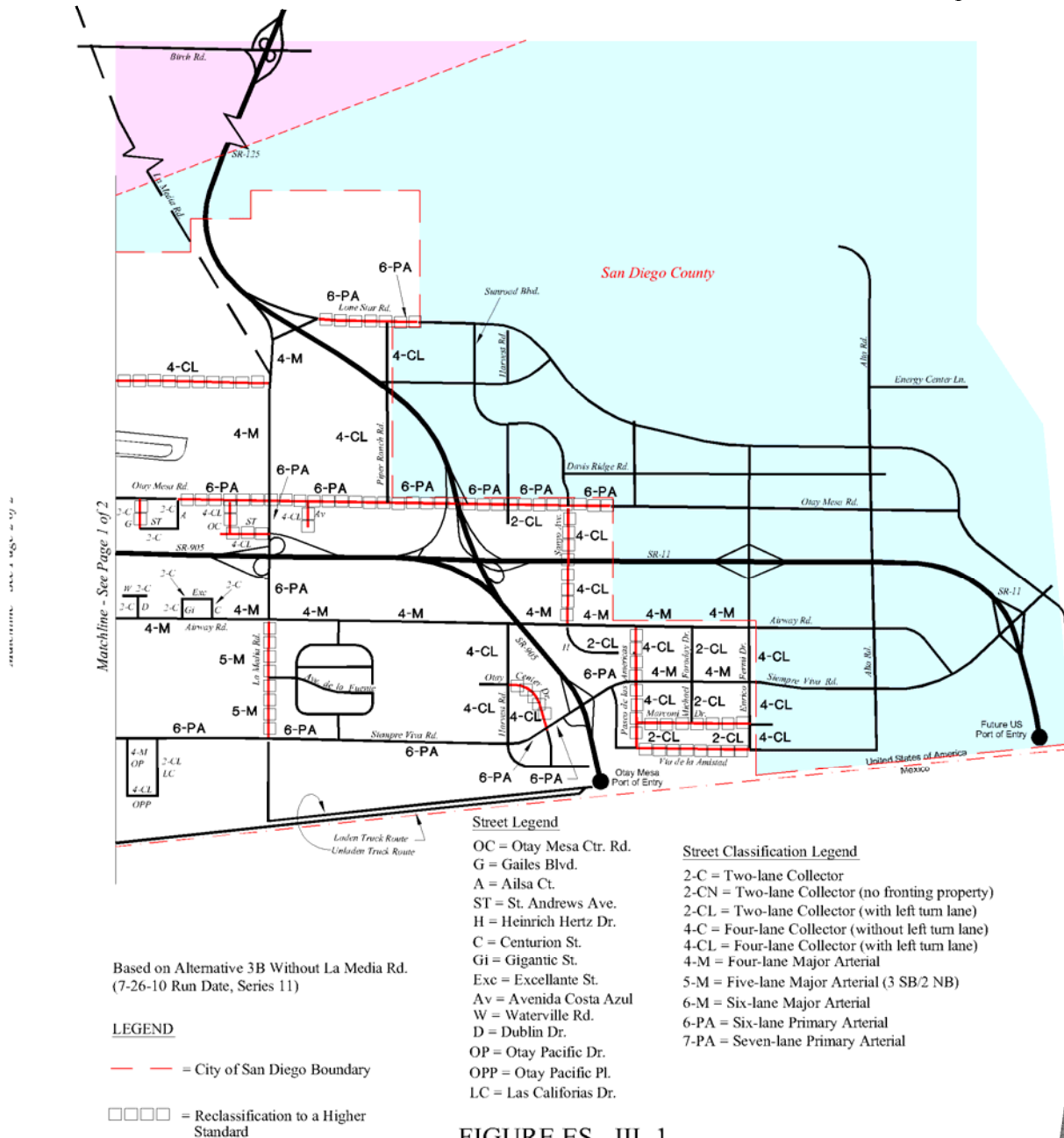


FIGURE ES - III -1

Scenario 3B Without La Media Road Land Use Scenario
With Proposed Roadway Classification Recommendations
(Mitigation / Reclassification to a Higher Standard shown in Red)

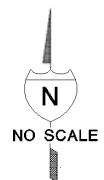


TABLE ES III-2
Comparison Of
Buildout 3B Without La Media Road Scenario To
Adopted Community Plan
Roadway Segments Significant Impacts After Mitigation

Street	Segment	#	ACP (1) S?	3B W/Out La Media (2) S?
Otay Mesa	Caliente Ave. to Corporate Center Dr.	2	Y	Y
	Heritage Rd. to Cactus Rd.	5	Y	Y
	Britannia Blvd. to Ailsa Ct.	7	Y	N
Airway Road	Caliente Ave. to Heritage Rd.	15	Y	Y
	Heritage Rd. to Cactus Rd.	16	N	Y
	Cactus Rd. to Britannia Blvd.	17	Y	N
	La Media Rd. to Harvest Rd.	19	Y	N
	Harvest Rd. to Sanyo Ave.	20	Y	N
Siempre Viva Road	Caliente Ave. to East Beyer Blvd.	25	Y	N
	Otay Center Dr. to SR-905	31	Y	Y
	SR-905 to Paseo de las Americas	32	Y	Y
Palm Avenue	I-805 to Dennery Rd.	37	Y	N
Caliente Avenue	Airway Rd. to Siempre Viva Rd.	43	Y	Y
	Beyer Blvd. to Siempre Viva Rd.	43A	Y	Y
Heritage Road/ Otay Valley Road	Main St. to Avenida De Las Vistas**	46	Y	Y
	Avenida De Las Vistas to Datsun St.	47	Y	Y
Cactus Road	Otay Mesa Rd. to Airway Rd.	52	N	Y
	Airway Rd. to Siempre Viva Rd.	53	N	Y
	Siempre Viva Rd. to South End	54	Y	N
Britannia Boulevard	SR-905 to Airway Rd.	56	N	Y
La Media Road	Birch Rd. to Lone Star Rd.**	59	Y	N/A
	Lone Star Rd. to Aviator Rd.	60	Y	N
	Aviator Rd. to Otay Mesa Rd.	61	Y	N
	SR-905 to Airway Rd.	63	Y	Y
Harvest Road	Otay Center Dr. to Siempre Viva Rd.	67	Y	N
Dennery Road	Red Coral Ln. to Black Coral Ln.	78	Y	N
	Black Coral Ln. to East End	79	Y	Y
Avenida De Las Vistas	Vista Santo Domingo to Dennery Rd.	81	Y	Y
Del Sol Boulevard	Surf Crest Dr. to Riviera Pointe	83	Y	Y
	Riviera Pointe to Dennery Rd.	84	Y	Y
Old Otay Mesa Road	Crescent Bay Dr. to Beyer Blvd.	89	Y	Y
Sanyo Avenue	Otay Mesa Rd. to Airway Rd.	97	Y	N
Heinrich Hertz Drive	Airway Rd. to Paseo de las Americas	98	Y	N
Marconi Drive	Paseo de las Americas to Enrico Fermi Dr.	101	Y	N
Camino Maquiladora	Heritage Rd. to Pacific Rim Ct.	108	Y	Y
	Pacific Rim Ct. to Cactus Rd.	109	N	Y
Progressive Avenue	Corporate Center Dr. to Innovative Dr.	112	Y	Y
Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	113	Y	N
Datsun Street	Innovative Dr. to Heritage Rd.	114	Y	Y
Excellante Street	Airway Rd. to Gigantic St.	116	Y	N
Gigantic Street	Excellante St. to Centurion St.	117	Y	N
Centurion Street	Airway Rd. to Gigantic St.	118	Y	N
Exposition Way / Vista Santo Domingo	Avenida De Las Vistas to Corporate Center Dr.	119	Y	Y

= Segment Number

** = Segment in Chula Vista.

S? = Significant impact, Yes (Y) or No (N).

(1) = Significant impact in the Adopted Community Plan Scenario.

(2) = Significant impact in the 3B Without La Media Road Scenario.

Y = Shading indicates a significant impact.

- Otay Mesa Road (Caliente Avenue to Corporate Center Drive);
- Otay Mesa Road (Heritage Road to Cactus Road);
- Airway Road (Caliente Avenue to Heritage Road);
- Siempre Viva Road (Otay Center Drive to SR-905)
- Siempre Viva Road / SR-905 to Paseo de las Americas);
- Caliente Avenue (Airway Road to Siempre Viva Road);
- Caliente Avenue (Beyer Boulevard to Siempre Viva Road);
- Heritage Road / Otay Valley Road (Main Street to Avenida de las Vistas);
- Heritage Road / Otay Valley Road (Avenida de las Vistas to Datsun Street);
- La Media Road (SR-905 to Airway Road);
- Dennery Road (Black Coral Lane to East End);
- Avenida de las Vistas (Vista Santo Domingo to Dennery Road);
- Del Sol Boulevard (Surf Crest Drive to Riviera Pointe);
- Del Sol Boulevard (Riviera Pointe to Dennery Road);
- Old Otay Mesa Road (Crescent Bay Drive to Airway Road);
- Camino Maquiladora (Heritage Road to Pacific Rim Court);
- Progressive Avenue (Corporate Center Drive to Innovative Drive);
- Datsun Street (Innovative Drive to Heritage Road);
- Exposition Way / Vista Santo Domingo (Avenida de las Vista to Corporate Center Drive).

The following 19 roadway segments would remain significantly impacted after mitigation in the Adopted Community Plan land use scenario, but not in the 3B Without La Media Road scenario:

- Otay Mesa Road (Britannia Boulevard to Ailsa Court);
- Airway Road (Cactus Road to Britannia Boulevard);
- Airway Road (La Media Road to Harvest Road);
- Airway Road (Harvest Road to Sanyo Avenue);
- Siempre Viva Road (Caliente Avenue to East Beyer Boulevard);
- Palm Avenue (I-805 to Dennery Road);
- Cactus Road (Siempre Viva Road to South End);
- La Media Road (Birch Road to Lone Star Road); (No segment in 3B Without La Media Road);
- La Media Road (Lone Star Road to Aviator Road);
- La Media Road (Aviator Road to Otay Mesa Road);
- Harvest Road (Otay Center Drive to Siempre Viva Road);
- Dennery Road (Red Coral Lane to Black Coral Lane);
- Sanyo Avenue (Otay Mesa Road to Airway Road)
- Heinrich Hertz Drive (Airway Road to Paseo de las Americas);
- Marconi Drive (Paseo de las Americas to Enrico Fermi Drive);
- Otay Mesa Center Road (Otay Mesa Road to St. Andrews Avenue);
- Excellante Street (Airway Road to Gigantic Street);
- Gigantic Street (Excellante Street to Centurion Street);
- Centurion Street (Airway Road to Gigantic Street).

The following roadway segments would remain significantly impacted after mitigation in the 3B Without La Media Road land use scenario but not in the Adopted Community Plan scenario.

- Airway Road (Heritage Road to Cactus Road);
- Cactus Road (Otay Mesa Road to Airway Road);
- Cactus Road (Airway Road to Siempre Viva Road);
- Britannia Boulevard (SR-905 to Airway Road);
- Camino Maquiladora (Pacific Rim Court to Cactus Road);

Figure ES III-2 shows the 3B Without La Media Road use scenario roadway segments that would remain at level of service “E” or “F” after mitigation.

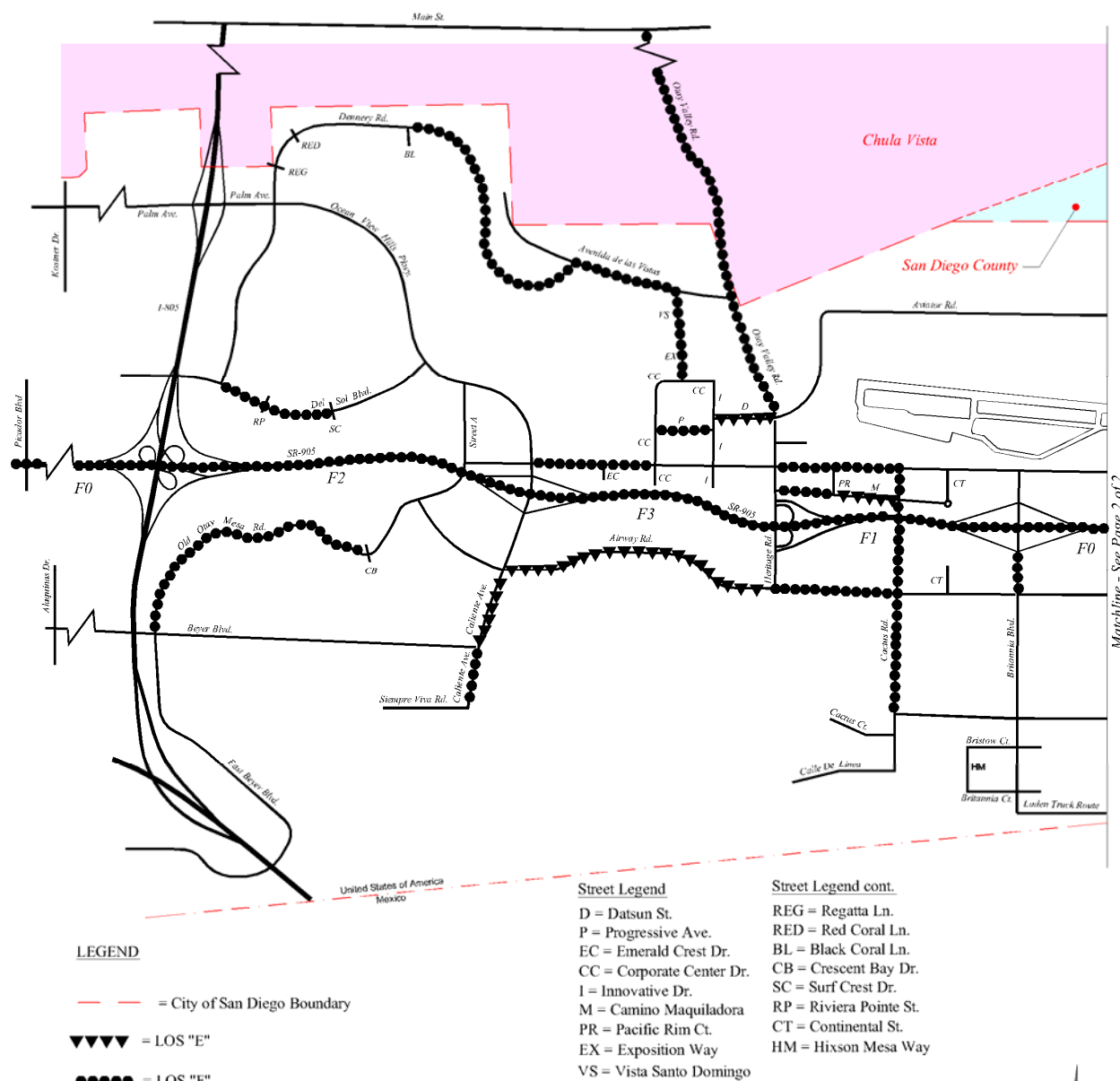


FIGURE ES - III -2
Scenario 3B Without La Media Road Land Use Scenario
Roadway Segments Remaining at LOS "E" or "F" After Mitigation

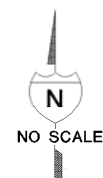


FIGURE ES - III -2

Scenario 3B Without La Media Road Land Use Scenario

Roadway Segments Remaining at LOS "E" or "F" After Mitigation

Freeway Segments

Table ES III-3 lists freeway segments evaluated for the 3B Without La Media Road scenario.

Interstate 805

Segments of Interstate 805 north of State Route 905 are projected to be significantly impacted by buildout of the proposed Otay Mesa Community Plan (Scenario 3B Without La Media Road scenario) and regional cumulative traffic. With existing lanes and an additional northbound auxiliary lane currently being constructed between SR-905 and Palm Avenue, the segments of I-805 north of SR-905 are expected to be at level of service “F”. The Adopted SANDAG 2050 Regional Transportation Plan (RTP) includes two managed lanes on I-805 in each direction north of SR-905. With these additional lanes, the segments of I-805 between Main Street and Palm Avenue and the segment between Palm Avenue and SR-905 would be at level of service “D” during peak hours.

Table ES III-4 shows freeway levels of service with HOV lanes added to segments at level of service “F”.

State Route 905 is assumed with six lanes and auxiliary lanes as is being constructed by Caltrans. Impacts would be significant and unmitigated between Picador Boulevard and La Media Road. State Route 905 has been designed so that median High Occupancy Vehicle (HOV) lanes could be installed in the future, but are not currently planned or funded by Caltrans. The addition of HOV lanes would provide partial mitigation for local and regional cumulative impacts, but would not provide acceptable levels of service.

TABLE ES III-3

**Scenario 3B Freeway Segment Levels of Service
Without La Media Road**

Segment		Lanes (1-Way)	Cap.	ADT (1)	Peak Volume	V/C	LOS (2)
SR-905	Picador Blvd. to I-805 (3)	2 + AUX	6,500	128,500	6,853	1.05	F0
	I-805 to Caliente Ave. (4)	3 + CL	8,550	221,000	11,787	1.38	F2
	Caliente Ave. to Heritage Rd.	3	7,050	196,000	10,453	1.48	F3
	Heritage Rd. to Britannia Blvd.	3	7,050	173,000	9,227	1.31	F1
	Britannia Blvd. to La Media Rd.	3	7,050	154,000	8,213	1.16	F0
	La Media Rd. to SR-125	3	7,050	103,500	5,520	0.78	C
	SR-125 to Siempre Viva Rd.	3	7,050	99,000	5,280	0.75	C
	Siempre Viva Rd. to Border	3	7,050	64,500	3,440	0.49	B
I-805	Main St. to Palm Ave.	4+AUX	11,200	248,000	13,227	1.18	F0
	Palm Ave. to SR-905	4+AUX	11,200	222,000	11,840	1.06	F0
	SR-905 to I-5	4	9,400	122,000	6,507	0.69	C
	I-5 to Border	6	14,100	135,500	7,227	0.51	B
SR-125	Birch Rd. to Lone Star Rd.	4 (Toll)	9,400	155,500	8,293	0.88	D
	Lone Star Rd. to SR-905	4(Toll)	9,400	115,500	6,160	0.66	C
SR – 11	SR-905 to Enrico Fermi Dr.	2	4,700	47,000	2,507	0.53	B
	Enrico Fermi Dr. to Siempre Viva Rd	2	4,700	24,500	1,307	0.28	A
	Siempre Viva Rd. to Border	2	4,700	39,500	2,107	0.45	B

Legend

Cap = Capacity of Segment
Mainlane Cap. @ 2,350 VPHPL
Auxillary Lane Cap. @ 1,800 VPHPL
HOV Lane Cap. @ 1,600 VPHPL
Climbing Lane Cap. @ 1,500 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

F0

= Shading indicates a significant impact.

Note:

- (1) Buildout Forecast Volume, Average Daily Traffic Volume (7-26-10 Run Date, Series 11)
- (2) Caltrans District 11 LOS Estimation Procedures, See Table 2-3
- (3) = 2 Mainlanes + Auxillary Lane
- (4) = EB: 3 Mainlanes + Climbing Lane
WB: 3 Mainlanes + Auxillary Lane

TABLE ES III-4

Scenario 3B Without La Media Road Freeway Segment Levels of Service
(With HOV Lanes Added To LOS F Segments)

Segment		ADD HOV	Lanes (1Way)	Cap.	ADT (1)	Peak Volume	V/C	LOS (2)
SR-905	Picador Blvd. to I-805 (3)	+H	2 + AUX	8,100	128,500	6,853	0.83	D
	I-805 to Caliente Ave. (4)	+H	3 + CL	10,150	221,000	11,787	1.13	F0
	Caliente Ave. to Heritage Rd.	+H	3	8,650	196,000	10,453	1.18	F0
	Heritage Rd. to Britannia Blvd.	+H	3	8,650	173,000	9,227	1.04	F0
	Britannia Blvd. to La Media Rd.	+H	3	8,650	154,000	8,213	.92	D
I-805	Main St. to Palm Ave,	+2H	4+AUX	14,400	248,000	13,227	.92	D
	Palm Ave. to SR-905	+2H	4+AUX	14,400	222,000	11,840	.82	D

Legend

Cap = Capacity of Segment

Mainlane Cap. @ 2,350 VPHPL

Auxillary Lane Cap. @ 1,800 VPHPL


HOV Lane Cap. @ 1,600 VPHPL

Climbing Lane Cap. @ 1,500 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

 = Shading indicates a significant impact.

+H = Add HOV lane in each direction.

+2H = Add two HOV lanes in each direction.

Note:

(1) Buildout Forecast Volume, Average Daily Traffic Volume (07-26-10 Run Date, Series 11)

(2) Caltrans District 11 LOS Estimation Procedures, See Table 2-3

(3) = 2 Mainlanes + Auxillary Lane

(4) = EB: 3 Mainlanes + Climbing Lane
WB: 3 Mainlanes + Auxillary Lane

SR-905 HOV lanes are not currently in the Regional Transportation Plan, and are not funded.

A comparison of the 3B Without La Media Road Scenario significantly impacted freeway segments to the Adopted Community Plan Scenario is provided below, based on the listing of impacted freeway segments shown in **Table ES III-5**.

The Adopted Community Plan Scenario has six freeway segments that would remain significantly impacted after mitigation.

The 3B Without La Media Road Scenario has three freeway segments that would remain significantly impacted after mitigation.

The following three freeway segments would remain significantly impacted under both scenarios:

- SR-905 (I-805 to Caliente Avenue);
- SR-905 (Caliente Avenue to Heritage Road);
- SR-905 (Heritage Road to Britannia Boulevard).

The following three freeway segments would remain significantly impacted under the Adopted Community Plan Scenario but not the 3B Without La Media Road Scenario:

- SR-905 (Picador Boulevard to I-805);
- SR-905 (Britannia Boulevard to La Media Road);
- I-805 (Main Street to Palm Avenue).

TABLE ES III-5

**Comparison of
Buildout 3B Without La Media Road To
Adopted Community Plan
Freeway Segment Significant Impacts After Mitigation
(With HOV Lanes Added)**


Segment		ADD HOV	Lanes (1Way)	LOS (1)	LOS (2)
SR-905	Picador Blvd. to I-805	+H	2 + AUX	E	D
	I-805 to Caliente Ave.	+H	3 + CL	F1	F0
	Caliente Ave. to Heritage Rd.	+H	3	F2	F0
	Heritage Rd. to Britannia Blvd.	+H	3	F0	F0
	Britannia Blvd. to La Media Rd.	+H	3	F0	D
I-805	Main St. to Palm Ave,	+2H	4+AUX	E	D

Legend

LOS = Level of Service

(1) = Adopted Community Plan land use scenario.

(2) = 3B Without La Media Road land use scenario.

 = Shading indicates a significant impact.

+H = Add HOV lane in each direction.

+2H = Add two HOV lanes in each direction.

Note:

SR-905 HOV lanes are not currently in the Regional Transportation Plan, and are not funded.

Intersections

Intersections operating at level of service “E” or “F” are considered to be significantly impacted by implementation of the land use plan. **Table ES III-6** shows intersection levels of service. Of the 52 intersections evaluated at Buildout in the 3B Without La Media Road scenario, four would be at level of service “E” and ~~38~~ 37 would be at level of service “F” during the AM peak hour. During the PM peak hour, four would be at level of service “E” and 40 would be at level of service “F”. A total of ~~47~~ 48 intersections would operate at level of service “E” or “F” during the morning and / or evening peak hour. In comparison, the No Project Scenario would have a total of 49 intersections at level of service “E” or “F” before mitigation.

With mitigation, six would be at level of service “E” and 22 would be at level of service “F” during the AM peak hour. During the PM peak hour, three would be at level of service “E” and 26 would be at level of service “F”. With mitigation, a total of ~~36~~ 33 intersections would operate at level of service “E” or “F” during the morning and / or evening peak hour. In comparison, the No Project Scenario would have a total of 40 intersections at level of service “E” or “F” after mitigation.

Several interchange intersections that can be designed for acceptable levels of service are included as significantly impacted due to upstream queues extending through the intersection causing increased delay and a degraded level of service, as footnoted in this table.

TABLE ES III-6

Buildout Scenario 3B Without La Media Road Intersection Levels of Service

Intersection	Without Mitigation				With Mitigation			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	CD	LOS	CD	LOS	CD	LOS	CD	LOS
1 Palm Ave. / I-805 SB Ramps	48.9	D	51.3	D	24.8	C	35.7	D
2 Palm Ave. / I-805 NB Ramps	116.1	F	122.6	F	4.6	A	5.5	A
3 Palm Ave. / Dennerly Rd.	33.5	C	67.2	E	-	-	-	-
4 Otay Mesa Rd. / Caliente Ave.	263.5	F	146.0	F	205.9	F	87.2	F
5 Caliente Ave. / SR-905 WB Ramps	83.1	F	43.2	(1) D	34.0	(1) C	34.0	(1) C
6 Caliente Ave. / SR-905 EB Ramps	165.7	F	150.5	F	55.0	E	70.2	E
7 Caliente Ave. / Airway Rd.	228.5	F	223.0	F	143.0	F	200.5	F
8 Caliente Ave. / Beyer Blvd.	252.0	F	429.8	F	212.7	F	122.4	F
9 Otay Mesa Rd. / Heritage Rd.	367.5	F	257.4	F	272.0	F	161.2	F
10 Heritage Rd. / SR-905 WB Ramps	69.9	E	81.1	F	15.9	(1) B	28.4	(1) C
11 Heritage Rd. / SR-905 EB Ramps	113.0	F	86.4	F	39.5	(1) D	25.5	(1) C
12 Heritage Rd. / Airway Rd.	162.7	F	402.8	F	144.5	F	88.3	F
13 Heritage Rd. / Siempre Viva Rd.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14 Otay Mesa Rd. / Cactus Rd.	437.9	F	290.5	F	139.6	F	199.7	F
15 Airway Rd. / Cactus Rd.	361.5	F	437.7	F	188.6	F	306.2	F
16 Siempre Viva Rd. / Cactus Rd.	48.7	D	127.7	F	47.6	D	117.3	F
17 Otay Mesa Rd. / Britannia Blvd.	108.5	F	117.2	F	63.1	E	47.5	D
18 Britannia Blvd. / SR-905 WB Ramps	240.5	F	577.4	F	65.0	E	547.1	F
19 Britannia Blvd. / SR-905 EB Ramps	353.3	F	235.1	F	305.9	F	67.1	E
20 Britannia Blvd. / Airway Rd.	618.2	F	615.8	F	184.9	F	241.1	F
21 Siempre Viva Rd. / Britannia Blvd.	363.3	F	362.8	F	177.5	F	143.2	F
22 Otay Mesa Rd. / La Media Rd.	457.1	F	443.8	F	131.9	F	126.2	F

Legend

CD = Control Delay

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

F = Shading indicates significant impact.

TABLE ES III-6 (Continued)

Buildout Scenario 3B Without La Media Road Intersection Levels of Service

Intersection	Without Mitigation				With Mitigation			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	CD	LOS	CD	LOS	CD	LOS	CD	LOS
23 La Media Rd. / SR-905 WB Ramps	266.1	F	227.2	F	129.8	F	112.7	F
24 La Media Rd. / SR-905 EB Ramps	234.7	F	84.7	F	162.2	F	48.5	(1) D
25 La Media Rd. / Airway Rd.	496.6	F	507.9	F	182.5	F	212.5	F
26 La Media Rd. / Siempre Viva Rd.	244.0	F	112.1	F	81.6	F	37.1	D
27 La Media Rd. / Lone Star Rd.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28 Lone Star Rd. / SR-125 SB Off Ramp	63.6	E	96.8	F	-	-	-	-
29 Lone Star Rd. / SR-125 NB On Ramp	2.1	(1) A	147.8	F	-	-	-	-
30 Lone Star Rd. / Piper Ranch Rd.	8.1	A	9.3	(1) A	-	-	-	-
31 Otay Mesa Rd. / Piper Ranch Rd.	129.2	F	166.2	F	44.6	D	47.5	D
32 Otay Mesa Rd. / SR-125 SB Off Ramp	82.9	F	13.0	(1) B	30.4	C	11.0	(1) B
33 Otay Mesa Rd. / SR-125 NB On Ramp	4.8	A	22.0	C	-	-	-	-
34 Otay Mesa Rd. / Harvest Rd.	37.9	D	133.7	F	11.8	B	38.9	(1) D
35 Siempre Viva Rd. / Otay Center Dr.	276.0	F	213.0	F	83.0	F	85.4	F
36 Siempre Viva Rd. / SR-905 SB to EB Ramp	29.0	(1) C	146.2	F	-	-	-	-
36A Siempre Viva Rd. / SR-905 SB to WB Ramp	(2) 2,641	F	(2) 205.7	F	382.0	F	16.3	(1) B
37 Siempre Viva Rd. / SR-905 NB Ramps	47.2	(1) D	262.7	F	39.3	(1) D	250.4	F
38 Siempre Viva Rd. / Paseo de las Americas	188.8	F	367.1	F	78.8	E	159.5	F
39 Dennery Rd. / Del Sol Blvd.	49.3	D	49.4	D	-	-	-	-
40 Ocean View Hills Pkwy. / Del Sol Blvd.	67.8	E	67.3	E	50.5	D	53.3	D
41 Ocean View Hills Pkwy. / Street A	48.2	D	57.9	E	35.5	D	34.6	C
42 Old Otay Mesa Rd. / Beyer Blvd.	381.2	F	396.5	F	194.3	F	181.8	F
43 Otay Mesa Rd. / Corporate Center Dr.	119.3	F	184.3	F	78.6	E	140.6	F
44 Otay Mesa Rd. / Innovative Dr.	114.4	F	108.9	F	113.7	F	89.8	F

Legend

CD = Control Delay

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

(2) = Unsignalized: SB to WB right turn at LOS F (AM and PM Peak Hours)

F = Shading indicates a significant impact.

TABLE ES III-6 (Continued)

Buildout Scenario 3B Without La Media Road Intersection Levels of Service

Intersection	Without Mitigation				With Mitigation			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	CD	LOS	CD	LOS	CD	LOS	CD	LOS
45 Harvest Rd. / Airway Rd.	116.7	F	13.8	B	42.5	D	13.5	B
46 Harvest Rd. / Siempre Viva Rd.	76.6	E	69.2	E	28.7	C	51.5	D
47 Otay Mesa Rd. / Sanyo Ave.	263.3	F	276.6	F	106.7	F	89.0	F
48 Airway Rd. / Sanyo Ave.	225.6	F	229.8	F	49.7	D	38.6	D
49 Paseo de las Americas / Heinrich Hertz Dr.	(3) 988.3	F	(3) 244.6	F	8.9	A	13.0	B
50 Paseo de las Americas / Marconi Dr.	(4) 869.6	F	(4) 108.0	F	11.5	B	13.4	B
51 Heritage Rd. / Otay Valley Rd.	516.4	F	837.9	F	178.7	F	382.7	F
52 Aviator Rd. / La Media Rd.	105.1	F	38.0	D	27.7	C	18.3	B
53 Otay Valley Rd. / Avenida De Las Vistas	764.4	F	298.6	F	-	-	-	-

Note: Control delay results should be considered unreliable at delay volumes higher than two times the LOS E delay of 80.0 seconds.

Legend

CD = Control Delay

LOS = Level of Service

(3) Unsignalized: eastbound left turn at LOS F (AM Peak Hour);
eastbound left and right turns at LOS F (PM Peak Hour).

(4) Unsignalized: westbound left turn at LOS F (AM and PM Peak Hours);
westbound right turn at LOS F (PM Peak Hour).

F = Shading indicates a significant impact.

Control Delay	LOS
0.0 - 10.0	A
10.1 - 20.0	B
20.1 - 35.0	C
35.1 - 55.0	D
55.1 - 80.0	E
Over 80.0	F
<i>Source: 2000 Highway Capacity Manual</i>	

Intersection lane configurations without mitigation are assumed to be as shown in the City of San Diego Street Design Manual for the roadway classification at the intersection approaches. The Design Manual requires widening for an additional 10 feet at approaches to intersecting four or six lane streets for a two lane left turn, and this additional width is not considered mitigation. Therefore, dual left turns are to be assumed at all four or six lane major and primary arterials, before mitigation, unless a supporting traffic study documents that a single left turn would be sufficient. Overlapping left-turn / right-turn phases are recommended at the high volume right turns during the traffic signal design stage.

Separate single or dual right turn lanes at new intersections should be designed with appropriate right of way widths. At retrofit locations additional lanes have been reviewed for initial feasibility by on-site observations and aerial photography. In some cases additional right of way will be needed, but only during the design phase will the required widths be determined.

Improvements are recommended at the interchange ramps for SR-905 / Caliente Avenue, SR-905 / Future Heritage Road, SR-905 / Britannia Boulevard; SR-905 / La Media Rd.; SR-905 / Siempre Viva Road. Subsequent design requirements from Caltrans may change the recommended lane configurations.

All intersections are planned to be signalized. Lane configurations with and without mitigation are shown in **Figure ES III-3**

Figure ES III-4 shows graphically the intersection levels of service after mitigation.

Refer to Chapter 7 page 7-30 for the discussion of the proposed mitigations and / or explanation of why the significant impact is not proposed to be fully mitigated.

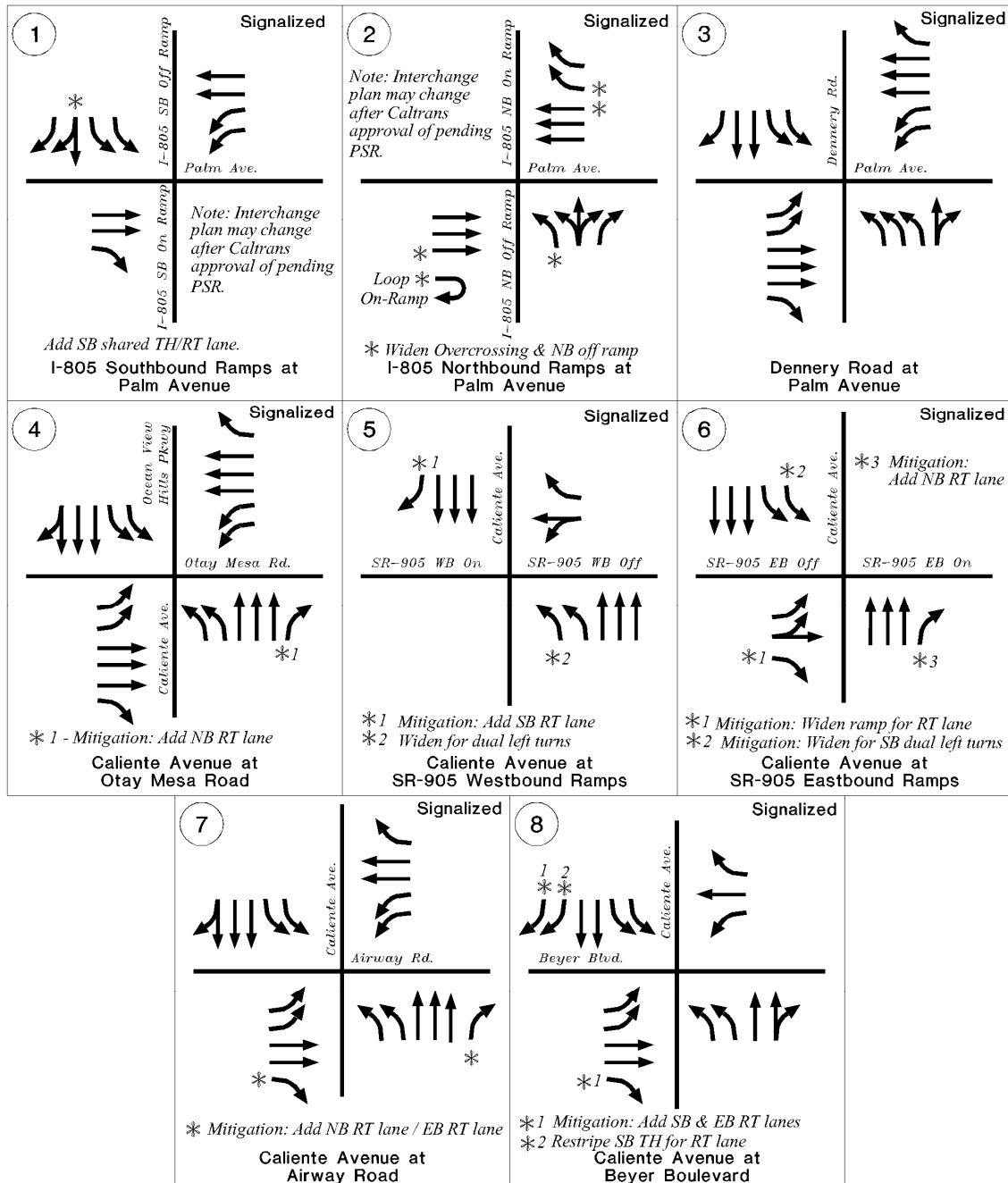


FIGURE ES-III-3

Buildout Recommended Lane Configurations - Alternative 3-B Without La Media Road (With Mitigation)

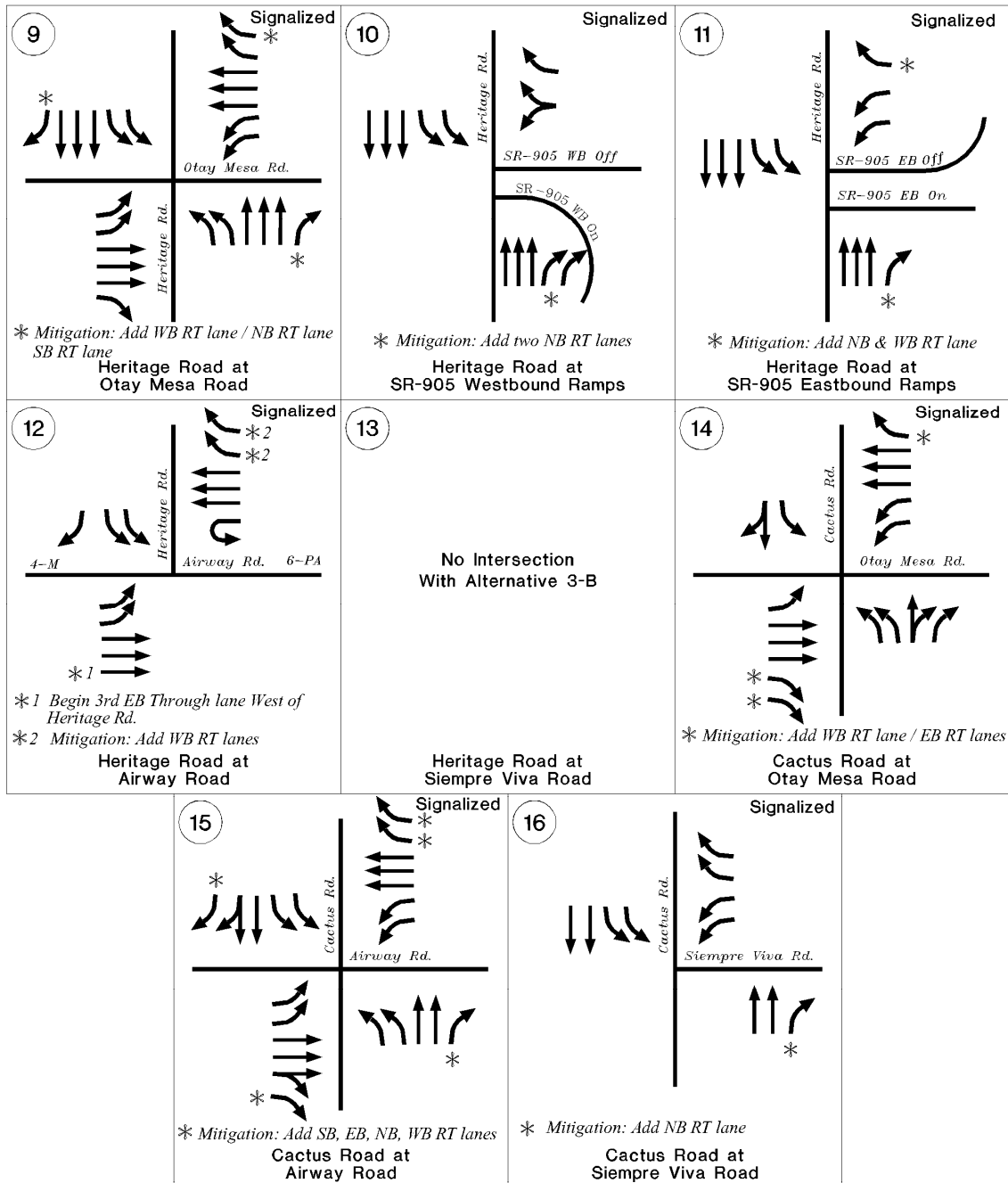


FIGURE ES-III-3
Buildout Recommended Lane Configurations - Alternative 3-B
Without La Media Road (With Mitigation)

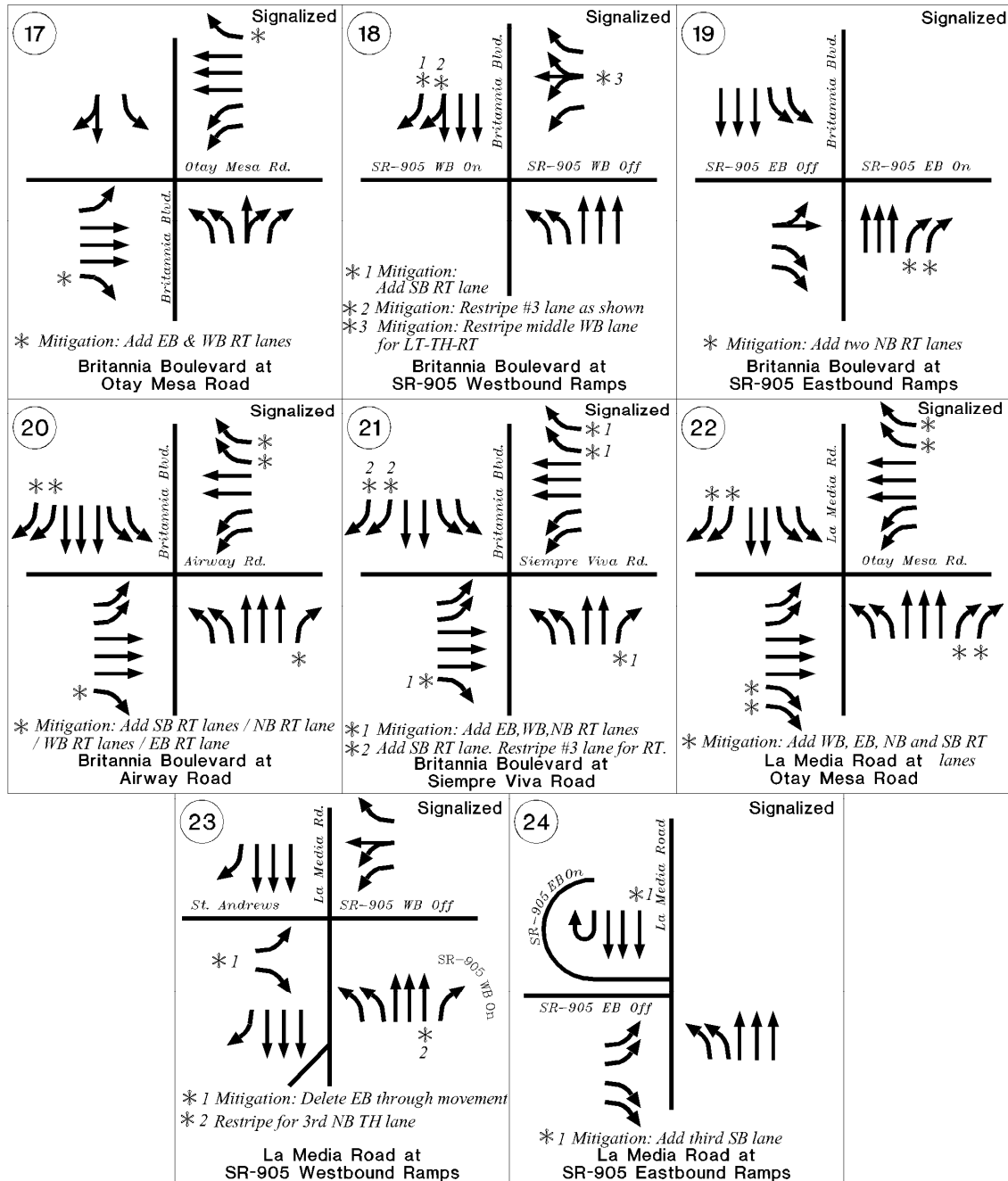


FIGURE ES-III-3
Buildout Recommended Lane Configurations - Alternative 3-B
Without La Media Road (With Mitigation)

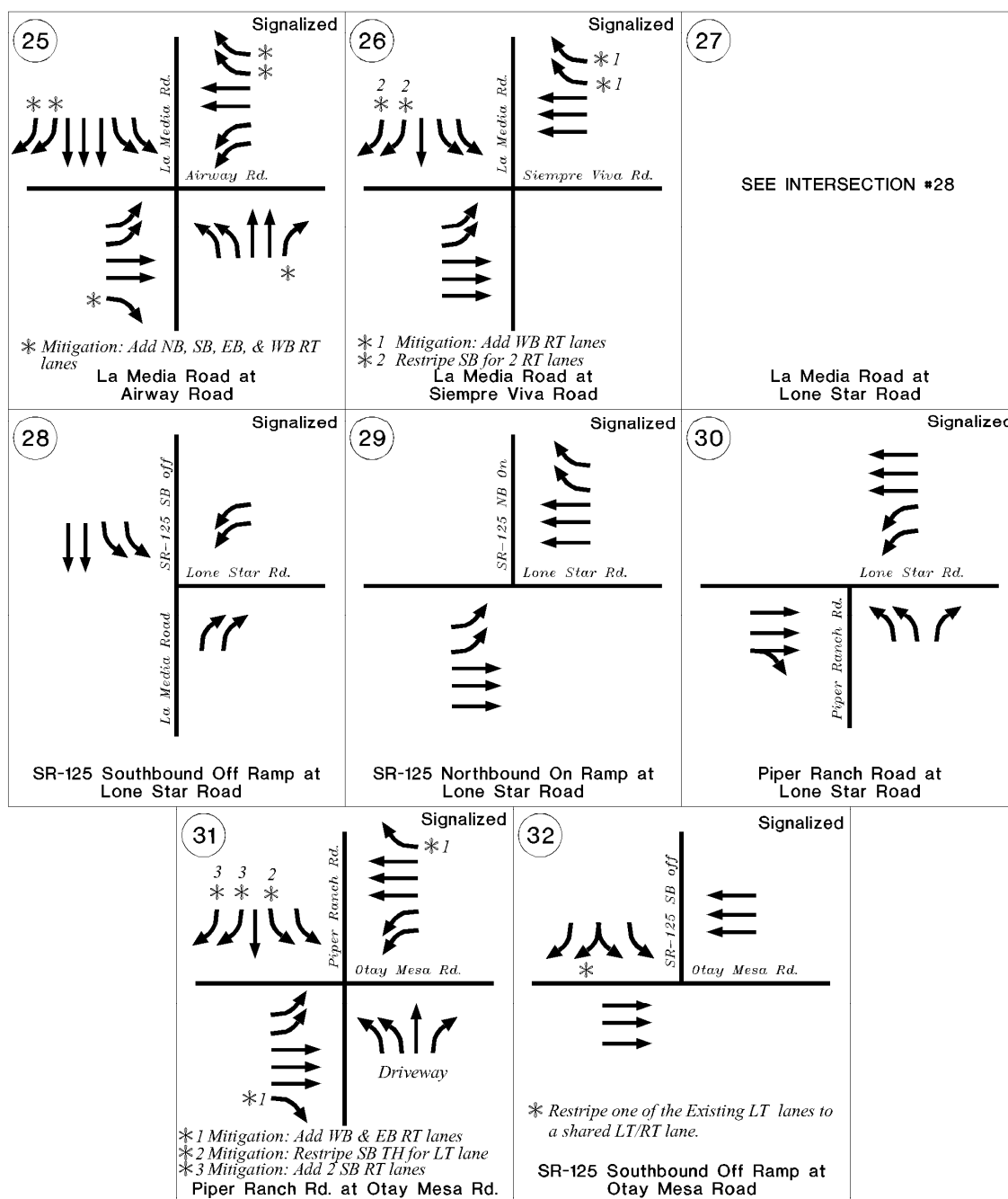


FIGURE ES-III-3

Buildout Recommended Lane Configurations - Alternative 3-B

Without La Media Road (With Mitigation)

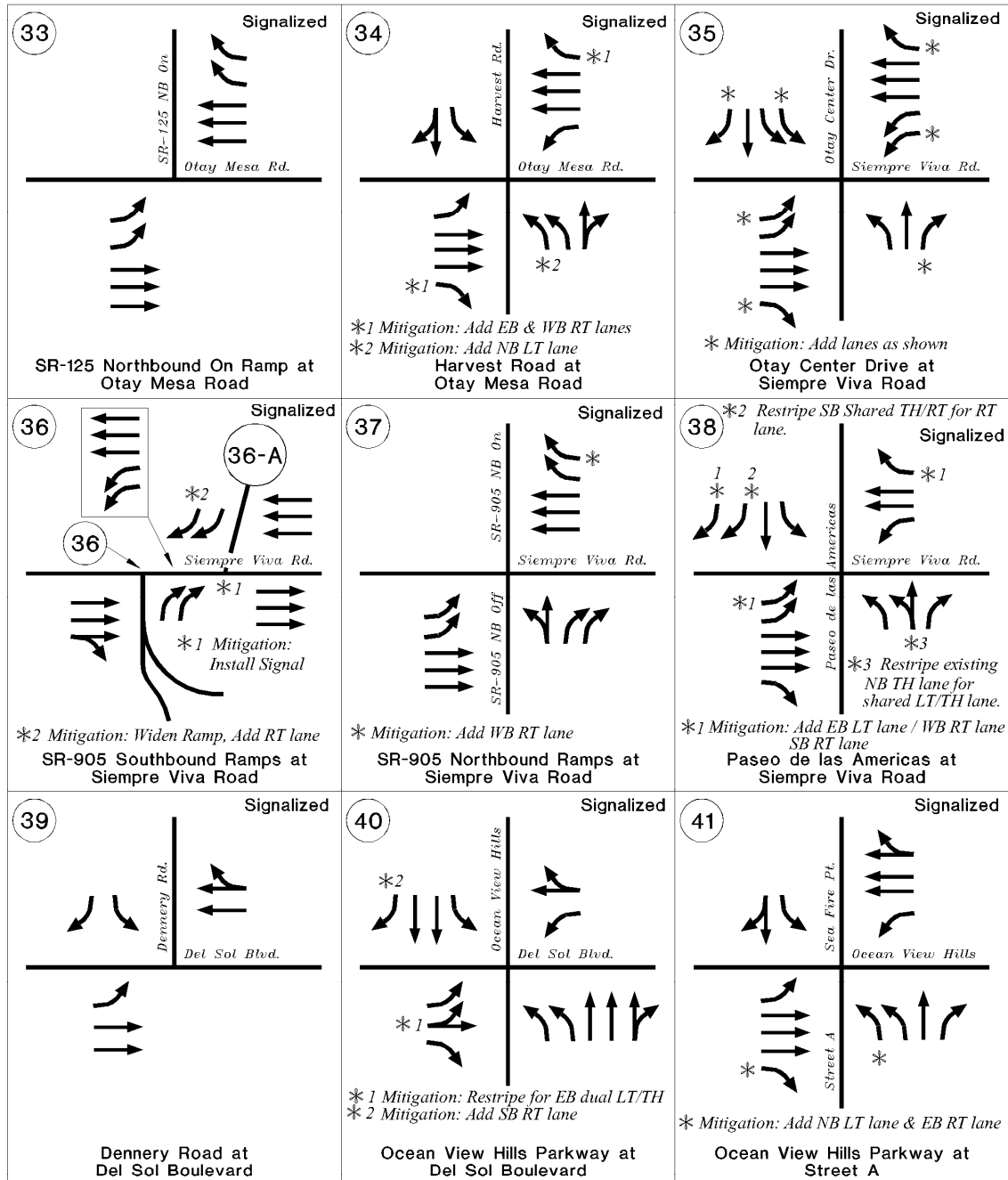


FIGURE ES-III-3

Buildout Recommended Lane Configurations - Alternative 3-B Without La Media Road (With Mitigation)

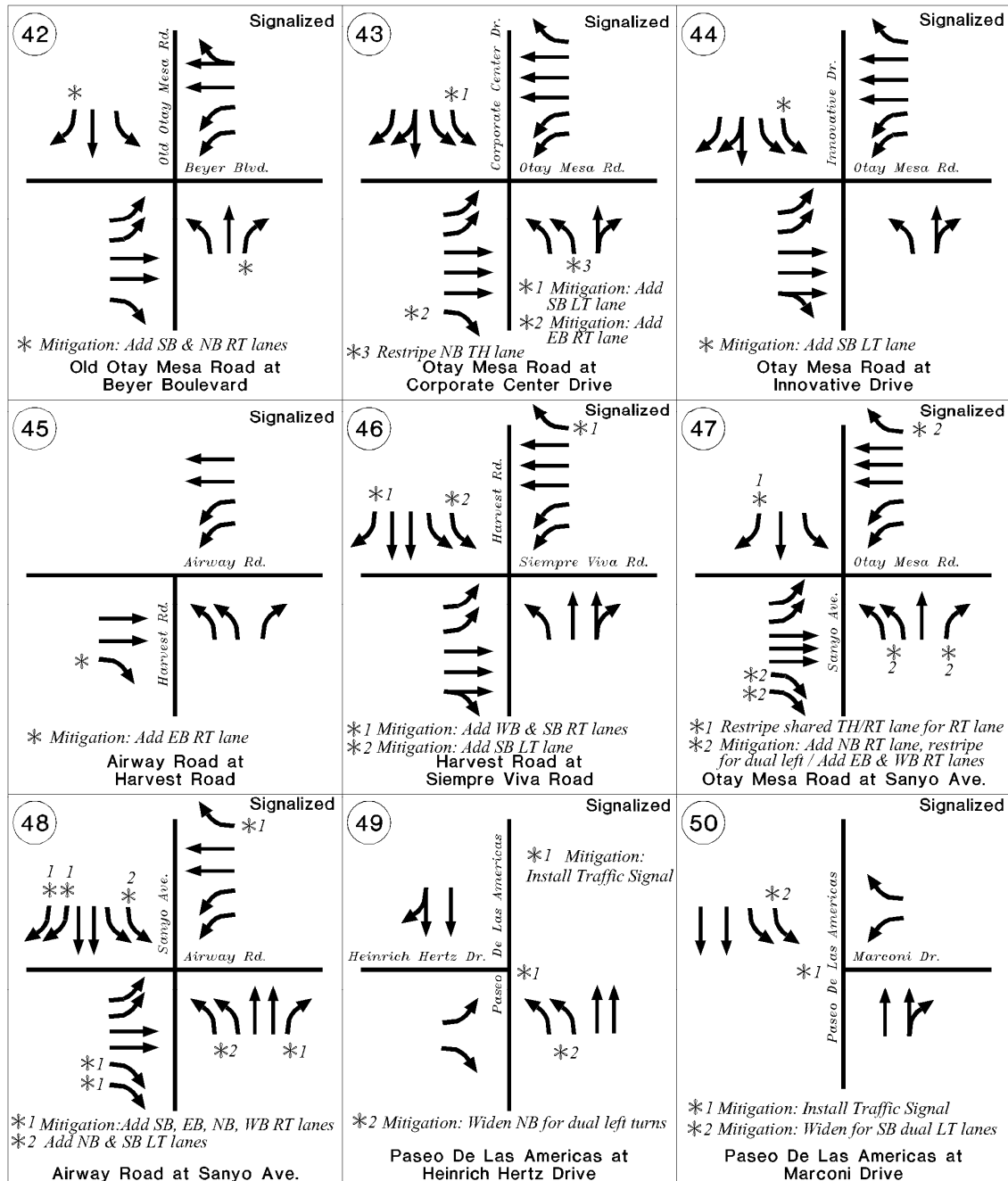


FIGURE ES-III-3

Buildout Recommended Lane Configurations - Alternative 3-B Without La Media Road (With Mitigation)

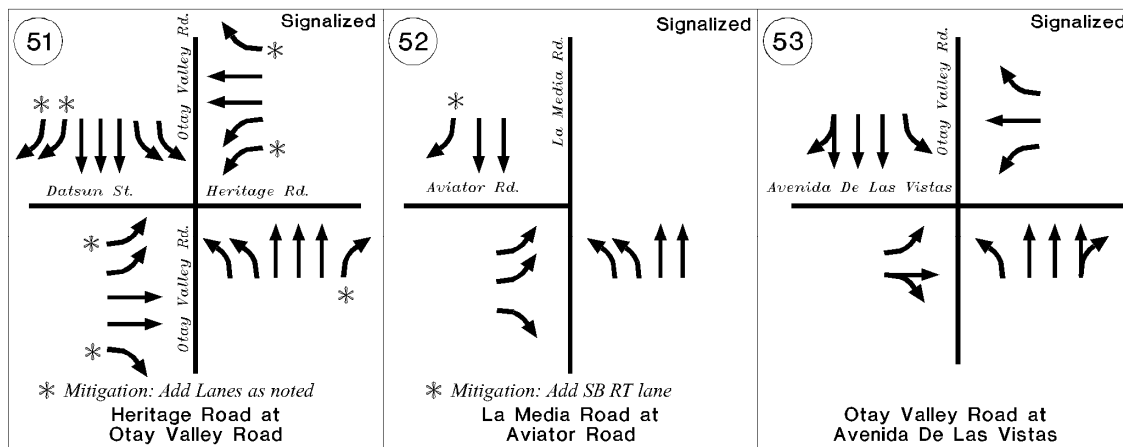


FIGURE ES-III-3
Buildout Recommended Lane Configurations - Alternative 3-B
Without La Media Road (With Mitigation)

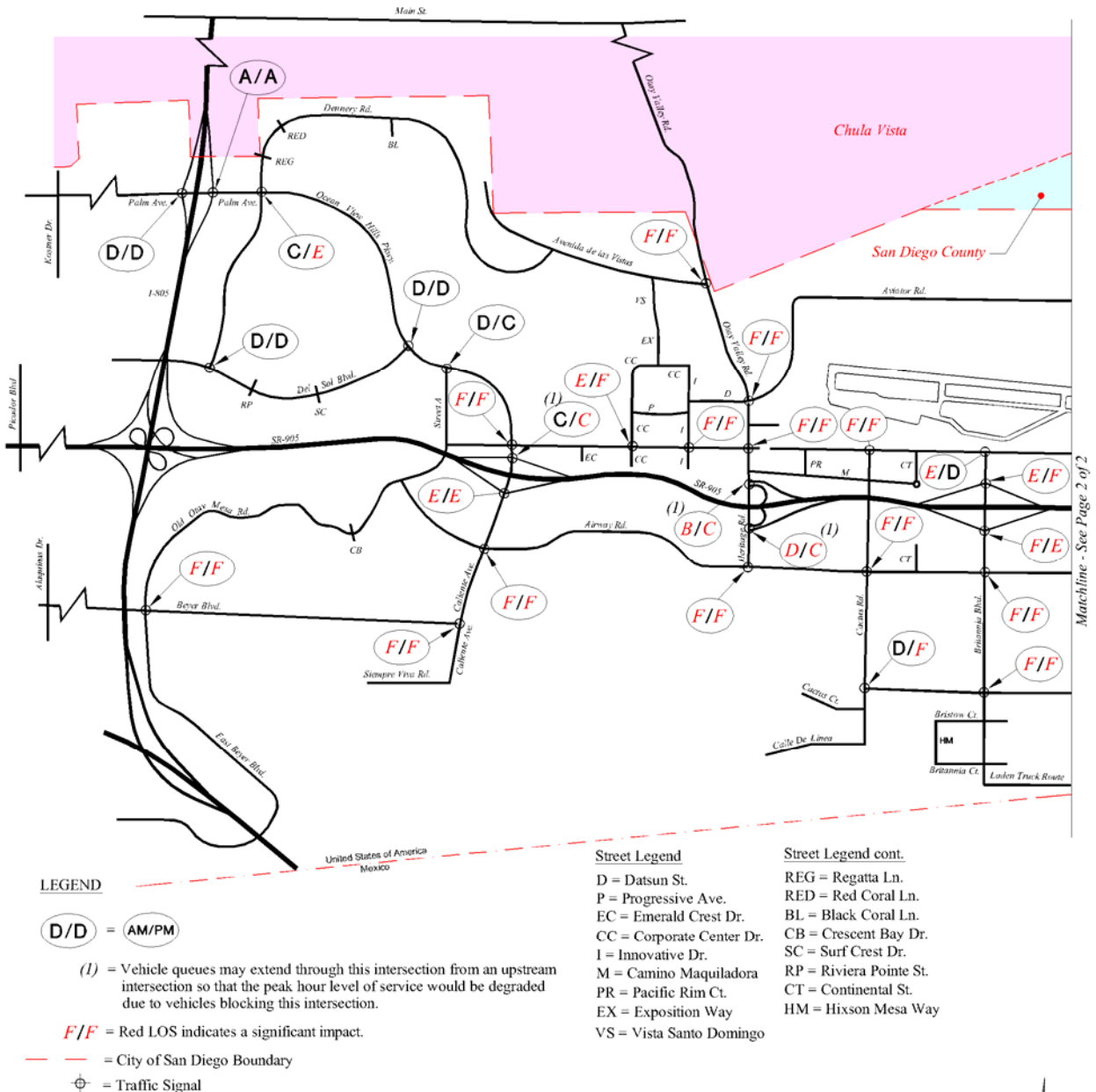
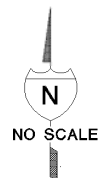


FIGURE ES - III -4
Buildout 3B Without La Media Road Scenario
Intersection Levels of Service (With Mitigation)



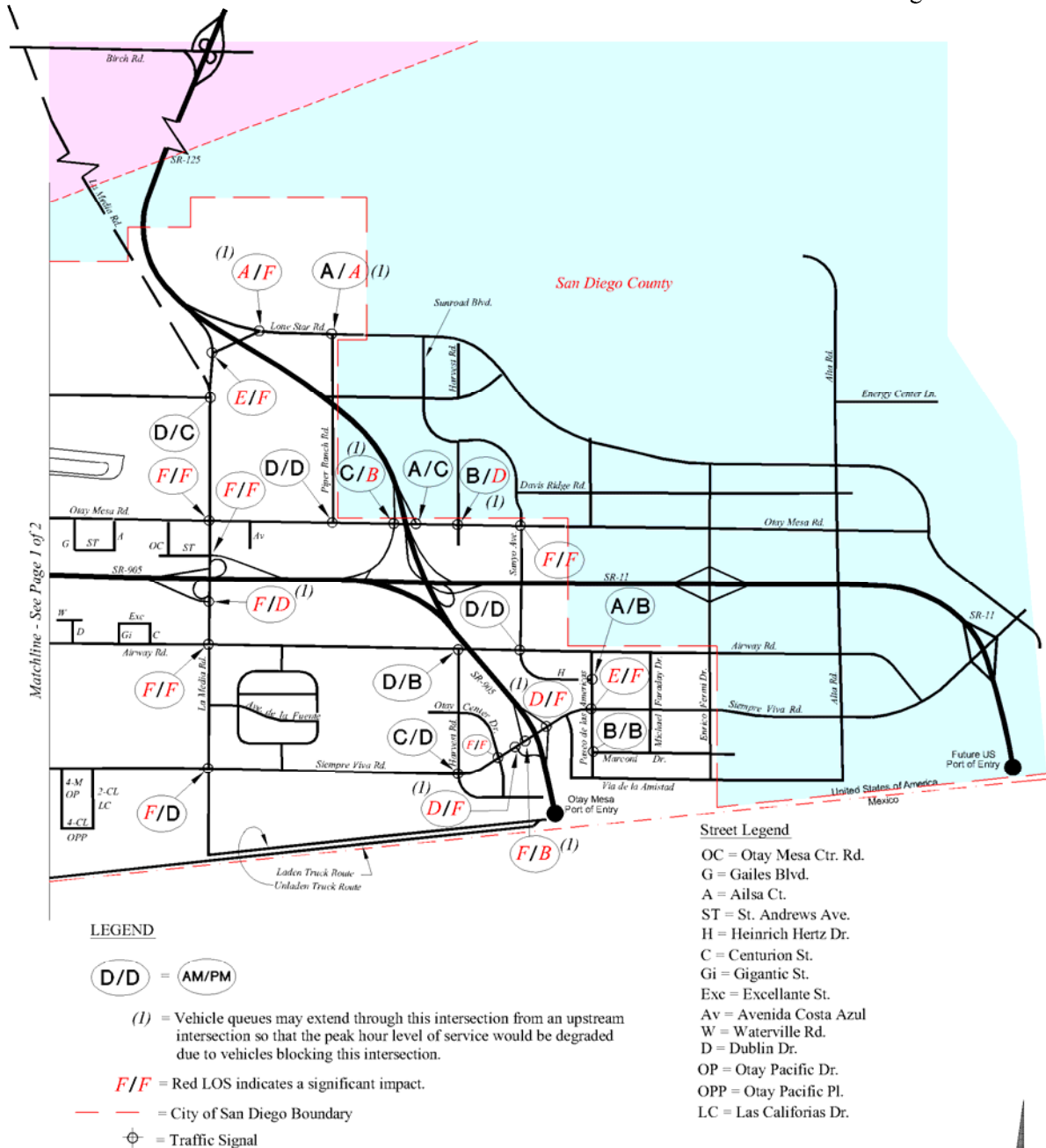
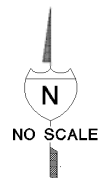


FIGURE ES - III -4
Buildout 3B Without La Media Road Scenario
Intersection Levels of Service (With Mitigation)



A comparison of the Buildout 3B Without La Media Road Scenario significantly impacted intersections after mitigation to the Adopted Community Plan Scenario is provided below, based on the listing of remaining significantly impacted intersections shown in **Table III-7**.

The 3B Without La Media Road Scenario has 34 intersections during the AM peak hour and 37 during the PM peak hour that would remain significantly impacted after mitigation.

The Adopted Community Plan Scenario has 42 intersections during the AM peak hour and 44 during the PM peak hour that would remain significantly impacted after mitigation.

The following 36 intersections would remain significantly impacted under both scenarios:

- Palm Avenue / Dennerly Road (PM);
- Otay Mesa Road / Caliente Avenue (AM & PM);
- Caliente Avenue / SR-905 WB Ramps (AM & PM);
- Caliente Avenue / SR-905 EB Ramps (AM & PM);
- Caliente Avenue / Airway Road (AM & PM);
- Caliente Avenue / Siempre Viva Road (AM & PM);
- Otay Mesa Road / Heritage Road (AM & PM);
- Heritage Road / SR-905 WB Ramps (AM & PM);
- Heritage Road / SR-905 EB Ramps (AM & PM);
- Heritage Road / Airway Road (AM & PM);
- Otay Mesa Road / Cactus Road (AM & PM);
- Airway Road / Cactus Road (AM & PM);
- Siempre Viva Road / Cactus Road (PM);
- Otay Mesa Road / Britannia Boulevard (AM);
- Britannia Boulevard / SR-905 WB Ramps (AM & PM);

TABLE ES III-7

Comparison Of Buildout 3B Without La Media Road To Buildout Adopted Community Plan Intersection Significant Impacts After Mitigation

		Adopted Community Plan		3B Without La Media Road	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Intersection		LOS	LOS	LOS	LOS
1	Palm Ave. / I-805 SB Ramps	D	E	C	D
2	Palm Ave. / I-805 NB Ramps	A	(1) A	A	A
3	Palm Ave. / Dennerly Rd.	D	E	C	E
4	Otay Mesa Rd. / Caliente Ave.	F	F	F	F
5	Caliente Ave. / SR-905 WB Ramps	E	E	(1) C	(1) C
6	Caliente Ave. / SR-905 EB Ramps	F	E	E	E
7	Caliente Ave. / Airway Rd.	F	F	F	F
8	Caliente Ave. / Siempre Viva Rd.	F	F	F	F
9	Otay Mesa Rd. / Heritage Rd.	F	F	F	F
10	Heritage Rd. / SR-905 WB Ramps	B	B	(1) B	(1) C
11	Heritage Rd. / SR-905 EB Ramps	(1) D	(1) D	(1) D	(1) C
12	Heritage Rd. / Airway Rd.	F	F	F	F
13	Heritage Rd. / Siempre Viva Rd.	N/A	N/A	N/A	N/A
14	Otay Mesa Rd. / Cactus Rd.	F	F	F	F
15	Airway Rd. / Cactus Rd.	F	F	F	F
16	Siempre Viva Rd. / Cactus Rd.	F	F	D	F
17	Otay Mesa Rd. / Britannia Blvd.	(1) C	(1) D	E	D
18	Britannia Blvd. / SR-905 WB Ramps	(1) D	F	E	F
19	Britannia Blvd. / SR-905 EB Ramps	F	F	F	E
20	Britannia Blvd. / Airway Rd.	F	F	F	F
21	Siempre Viva Rd. / Britannia Blvd.	F	F	F	F
22	Otay Mesa Rd. / La Media Rd.	F	F	F	F

Note: #13 is a right angle intersection (as assumed in the traffic model) with only two approaches.

Legend

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

F = Shading indicates a significant impact

TABLE ES III-7 (Continued)

**Comparison Of
Buildout 3B Without La Media Road To
Buildout Adopted Community Plan
Intersection Significant Impacts After Mitigation**

Intersection		Adopted Community Plan		3B Without La Media Road	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
		LOS	LOS	LOS	LOS
23	La Media Rd. / SR-905 WB Ramps	F	F	F	F
24	La Media Rd. / SR-905 EB Ramps	F	F	F	(1) D
25	La Media Rd. / Airway Rd.	F	F	F	F
26	La Media Rd. / Siempre Viva Rd.	F	F	F	D
27	La Media Rd. / Lone Star Rd.	F	F	N/A	N/A
28	Lone Star Rd. / SR-125 SB Off Ramp	(1) D	(1) B	E	F
29	Lone Star Rd. / SR-125 NB On Ramp	(1) A	(1) A	(1) A	F
30	Lone Star Rd. / Piper Ranch Rd.	D	B	A	(1) A
31	Otay Mesa Rd. / Piper Ranch Rd.	F	F	D	D
32	Otay Mesa Rd. / SR-125 SB Off Ramp	(1) B	A	C	(1) B
33	Otay Mesa Rd. / SR-125 NB On Ramp	(1) A	B	A	C
34	Otay Mesa Rd. / Harvest Rd.	C	(1) D	B	(1) D
35	Siempre Viva Rd. / Otay Center Dr.	F	F	F	F
36	Siempre Viva Rd. / SR-905 SB to EB Ramp	F	F	(1) C	F
36A	Siempre Viva Rd. / SR-905 SB to WB Ramp	F	(1) D	F	(1) B
37	Siempre Viva Rd. / SR-905 NB Ramps	F	F	(1) D	F
38	Siempre Viva Rd. / Paseo de las Americas	F	F	E	F
39	Dennery Rd. / Del Sol Blvd.	F	E	D	D
40	Ocean View Hills Pkwy. / Del Sol Blvd.	E	F	D	D
41	Ocean View Hills Pkwy. / Street A	D	D	D	C
42	Old Otay Mesa Rd. / Beyer Blvd.	D	D	F	F
43	Otay Mesa Rd. / Corporate Center Dr.	F	F	E	F
44	Otay Mesa Rd. / Innovative Dr.	F	D	F	F

Legend

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

F = Shading indicates a significant impact.

TABLE ES III-7 (Continued)

**Comparison Of
Buildout 3B Without La Media Road To
Buildout Adopted Community Plan
Intersection Significant Impacts After Mitigation**

		Adopted Community Plan		3B Without La Media Road	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Intersection		LOS	LOS	LOS	LOS
45	Harvest Rd. / Airway Rd.	D	F	D	B
46	Harvest Rd. / Siempre Viva Rd.	F	F	C	D
47	Otay Mesa Rd. / Sanyo Ave.	F	F	F	F
48	Airway Rd. / Sanyo Ave.	F	F	D	D
49	Paseo de las Americas / Heinrich Hertz Dr.	B	B	A	B
50	Paseo de las Americas / Marconi Dr.	A	E	B	B
51	Heritage Rd. / Otay Valley Rd. / Datsun St.	F	F	F	F
52	Aviator Rd. / La Media Rd.	F	D	C	B
53	Otay Valley Rd. / Avenida De Las Vistas	F	F	F	F

Legend

F = Shading indicates a significant impact.

- Britannia Boulevard / SR-905 EB Ramps (AM & PM);
- Britannia Boulevard / Airway Road (AM & PM);
- Siempre Viva Road / Britannia Boulevard (AM & PM);
- Otay Mesa Road / La Media Road (AM & PM);
- La Media Road / SR-905 WB Ramps (AM & PM);
- La Media Road / SR-905 EB Ramps (AM);
- La Media Road / Airway Road (AM & PM);
- La Media Road / Siempre Viva Road (AM);
- Lone Star Road / SR-125 SB Off Ramp (PM);
- Lone Star Road / SR-125 NB On Ramp (PM);
- Otay Mesa Road / Harvest Road (PM);
- Siempre Viva Road / Otay Center Drive (AM & PM);
- Siempre Viva Road / SR-905 SB to EB Ramp(PM);
- Siempre Viva Road / SR-905 SB to WB Ramp (AM & PM);
- Siempre Viva Road / SR-905 NB Ramps (PM);
- Siempre Viva Road / Paseo de las Americas (AM & PM);
- Otay Mesa Road / Corporate Center Drive (AM & PM);
- Otay Mesa Road / Innovative Drive (AM);
- Otay Mesa Road / Sanyo Avenue (AM & PM);
- Heritage Road / Otay Valley Road / Datsun Street (AM & PM);
- Otay Valley Road / Avenida De Las Vistas (AM & PM).

The following 11 intersections would remain significantly impacted under the Adopted Community Plan Scenario, but not the 3B Without La Media Road Scenario:

- Palm Avenue / I-805 SB Ramps;
- Palm Avenue / I-805 NB Ramps;
- Otay Mesa Road / SR-125 NB On-Ramp;
- Otay Mesa Road / Piper Ranch Road;
- Dennery Road / Del Sol Boulevard;
- Ocean View Hills Parkway / Del Sol Boulevard;
- Harvest Road / Airway Road;
- Harvest Road / Siempre Viva Road;
- Airway Road / Sanyo Avenue;
- Paseo de las Americas / Marconi Drive;
- Aviator Road / La Media Road.

The following three intersections would remain significantly impacted under the 3B Without La Media Road Scenario, but not the Adopted Community Plan Scenario:

- Heritage Road / SR-905 WB Ramps;
- Lone Star Road / Piper Ranch Road;
- Old Otay Mesa Road / Beyer Boulevard.

Ramp Meters

There are currently no freeway on-ramp traffic metering signals in operation at the 14 locations evaluated. Future freeway on-ramp meter operations were evaluated for the 3B Without La Media Road scenario at the fourteen future on-ramp meters. The likely most restrictive ramp meter rate as provided by Caltrans was used for this evaluation.

The City of San Diego Traffic Impact Study Manual and the Regional SANTEC / ITE Traffic Impact Study Guidelines state that levels of service do not apply to ramp meters, but that ramp meter delays above 15 minutes are considered excessive. The 14 future ramp meters were evaluated for the AM and PM peak hours. Ramp meter delays above 15 minutes would occur at five ramps during the AM peak hour and 11 ramps during the PM peak hour. Ramp meter delays above 15 minutes would occur during a total of 16 peak hours.

Ramp meter delays above 15 minutes are considered significant impacts if downstream freeways are operating at level of service “E” or “F”. The following five ramp locations would be significantly impacted using this significance criteria:

- SR-905 / Caliente Avenue Westbound on-ramp (AM and PM);
- SR-905 / Heritage Road Westbound on-ramp (AM and PM);
- SR-905 Britannia Boulevard Westbound on-ramp (AM and PM);
- SR-905 / Britannia Boulevard Eastbound on-ramp (PM);
- SR-905 / La Media Road Westbound on-ramp (AM and PM).

Figure ES III-5 shows the intersections that would be significantly impacted by ramp meter delays.

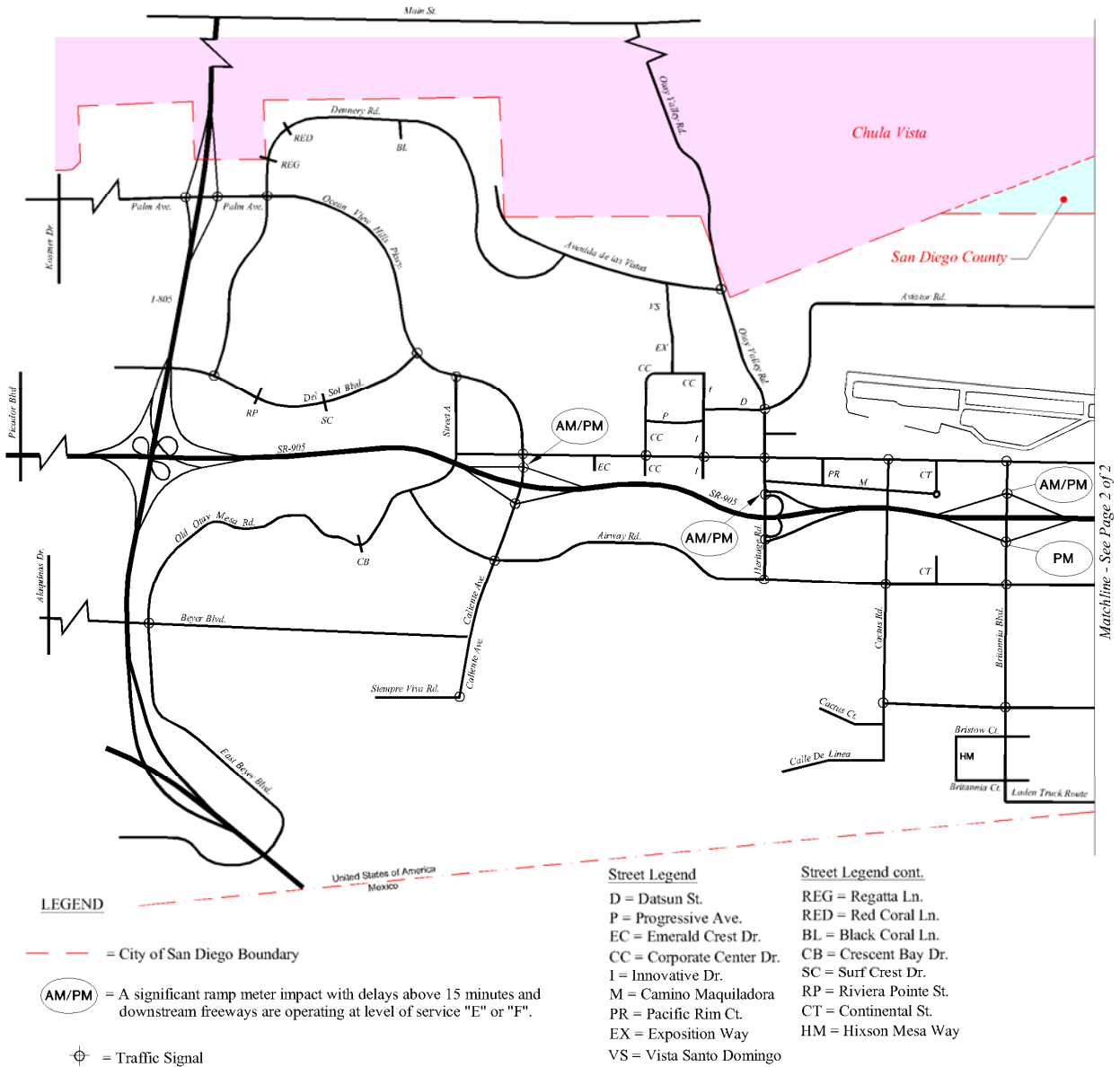


FIGURE ES - III -5
Buildout 3B Without La Media Road Scenario
Significant Ramp Meter Delays



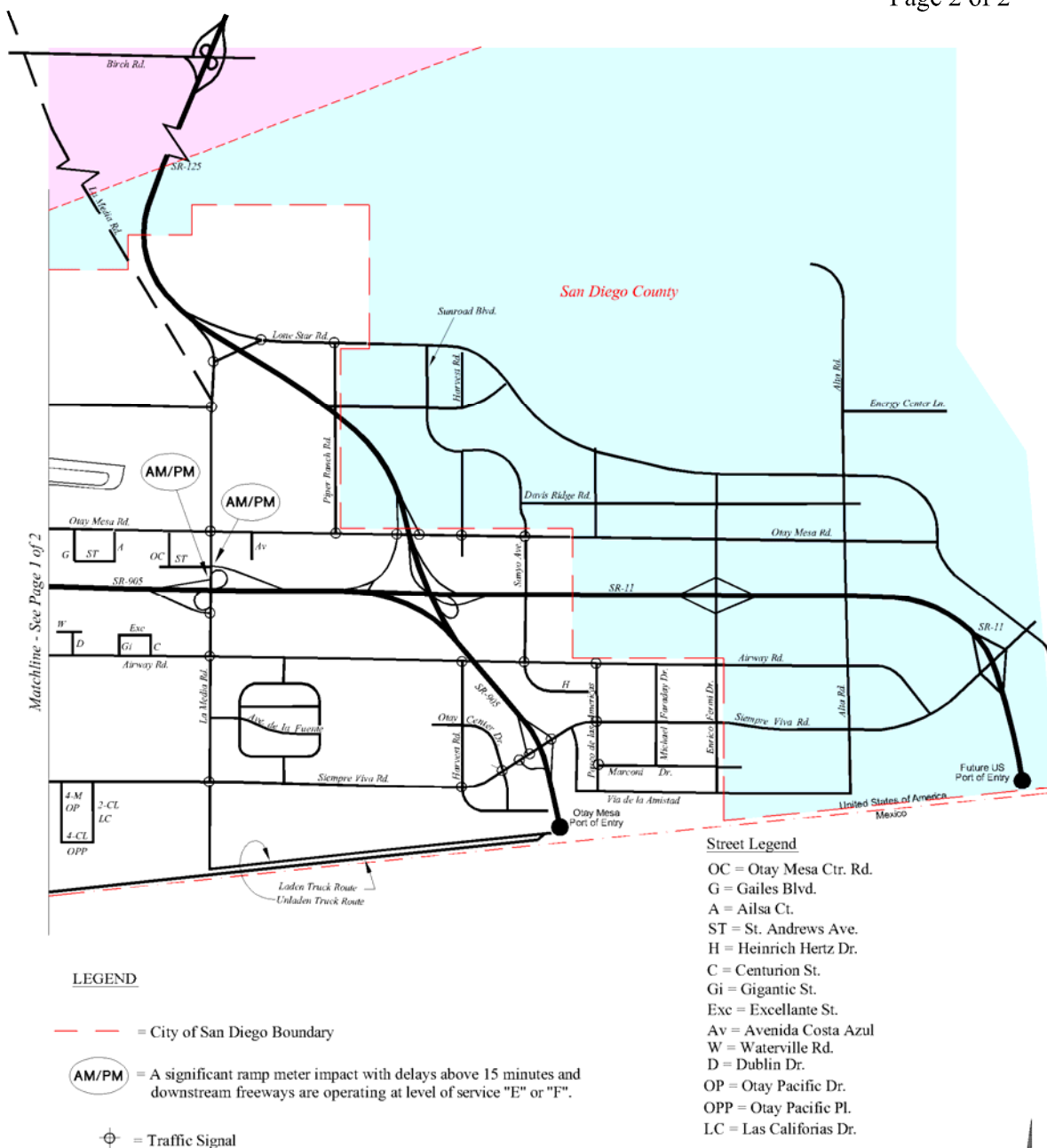


FIGURE ES - III -5
Buildout 3B Without La Media Road Scenario
Significant Ramp Meter Delays



Ramp meter queues are also tabulated. Considering the queues that would exceed the ramp storage length, there are estimated to be 18 times queues would exceed the ramp storage length during the 28 peak hours evaluated, at the 11 ramps listed below:

I-805 / Palm Avenue Northbound On-Ramp (From Westbound) (AM and PM);

SR-905 / Caliente Avenue Westbound On-Ramp (AM and PM);

SR-905 / Heritage Road Westbound On-Ramp (AM and PM);

SR-905 / Britannia Boulevard Westbound On-Ramp (AM and PM);

SR-905 / Britannia Boulevard Eastbound On-Ramp (PM);

SR-905 / La Media Road Westbound On-Ramp (AM and PM);

SR-905 / La Media Road Eastbound On-Ramp (PM);

SR-905 / Siempre Viva Road Northbound On-Ramp (AM and PM);

SR-905 / Siempere Viva Road Southbound On-Ramp (PM);

SR-125 / Otay Mesa Road Northbound On-Ramp (AM and PM);

SR-125 / Lone Star Road Northbound On-Ramp (PM).

A comparison of the 3B Without La Media Road land use scenario to the Adopted Community Plan land use scenario indicates the locations would be the same for each scenario, but the peak hours would change with the Adopted Community Plan Scenario as listed below:

- SR-905 / Heritage Road Westbound On-Ramp (PM Only);
- SR-125 / Otay Mesa Road Northbound On-Ramp (PM Only);
- SR-125 / Lone Star Road Northbound On-Ramp (AM & PM).

Freeway Interchange Queues

A queue analysis was prepared at the interchange ramp intersections plus closely spaced adjacent intersections within the study area, without and with the recommended intersection mitigation.

The queue analysis was provided to indicate the locations that might need queue storage enhancements, such as extending right or left turn storage lengths, if feasible, during design and to ensure that any intersection with excessive queues was not report as operating acceptably. The interchange intersections that are designed to operate acceptably, but will have excessive queues due to upstream queues, have been footnoted accordingly in the intersection levels of service tables.

Of the 158 queues evaluated without intersection mitigation, during AM and PM peak hours, 80 are expected to exceed the available vehicle storage between these closely spaced intersections at freeway interchange ramps. With intersection mitigation, 188 queues were evaluated and 63 are expected to exceed available storage, extending through the adjacent intersection. **Table ES III-8** lists the locations of the excessive queues.

Figure ES III-6 shows interchange intersection locations that would be affected by excessive queues. Vehicle queues will extend through these intersections from an upstream intersection so that any acceptable peak hour level of service will be at a degraded level of service due to vehicles blocking the intersection.

Table ES III-8

Alternative 3B Without La Media Road

Buildout Queue Analysis With Mitigation

Queue Locations North / South	AM PEAK HOUR					
Location	Excess Queue (Feet)			Excess Queue (Feet)		
	Southbound			Northbound		
	RT	TH	LT	LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	None	None	2,425
Caliente Ave. / SR-905 WB Ramps	35	None	-	155	1135	-
Caliente Ave. / SR-905 EB Ramps	-	None	45	-	395	None
Caliente Ave. / Airway Rd.	None	50	1,273	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	None	None	510
Heritage Rd. / SR-905 WB Ramps	-	None	None	-	None	None
Heritage Rd. / SR-905 EB Ramps	-	None	None	-	893	None
Heritage Rd. / Airway Rd.	None	-	2,225	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	None	90	185
Britannia Blvd. / SR-905 WB Ramps	None	None	-	805	None	-
Britannia Blvd. / SR-905 EB Ramps	-	710	None	-	None	none
Britannia Blvd. / Airway Rd.	2,100	2,225	895	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	1,183	520	423
La Media Rd. / SR-905 WB Ramps	None	1,120	-	None	None	-
La Media Rd. / SR-905 EB Ramps	None	1,775	-	188	None	-
La Media Rd. / Airway Rd.	470	715	2,375	-	-	-

Queue Locations North / South	PM PEAK HOUR					
Location	Excess Queue (Feet)			Excess Queue (Feet)		
	Southbound			Northbound		
	RT	TH	LT	LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	160	None	None
Caliente Ave. / SR-905 WB Ramps	None	48	-	None	745	-
Caliente Ave. / SR-905 EB Ramps	-	None	None	-	685	None
Caliente Ave. / Airway Rd.	None	1,330	185	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	None	None	None
Heritage Rd. / SR-905 WB Ramps	-	None	393	-	None	398
Heritage Rd. / SR-905 EB Ramps	-	None	None	-	450	None
Heritage Rd. / Airway Rd.	None	-	2,425	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	None	None	None
Britannia Blvd. / SR-905 WB Ramps	None	None	-	6,975	None	-
Britannia Blvd. / SR-905 EB Ramps	-	None	None	-	1,725	None
Britannia Blvd. / Airway Rd.	None	None	330	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	340	None	150
La Media Rd. / SR-905 WB Ramps	None	2,125	-	None	None	-
La Media Rd. / SR-905 EB Ramps	None	410	-	263	None	-
La Media Rd. / Airway Rd.	None	None	None	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

■ = Shading indicates excess queue.

Table ES III-8

Alternative 3B Without La Media Road

Buildout Queue Analysis With Mitigation

Queue Locations East / West	AM PEAK HOUR					
Location	Excess Queue (Feet)			Excess Queue (Feet)		
	Eastbound			Westbound		
	RT	TH	LT	LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	None	None	-
Palm Ave. / I-805 NB Ramps	None	None	-	-	None	None
Palm Ave. Dennerly Rd.	None	None	None	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	None	2,350	1,298
Siempre Viva Rd. / SR-905 SB Ramps	-	383	-	None	-	None
Siempre Viva Rd. / SR-905 NB Ramps	-	None	143	-	None	180
Siempre Viva Rd. / Paseo de las Americas	1,020	None	None	-	-	-
Lone Star Rd. / SR-125 SB Off Ramp	-	-	-	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	None	-	None	None
Lone Star Rd. / Piper Ranch Rd.	-	50	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	None	None	None
Otay Mesa Rd. / SR-125 SB Off Ramp	-	None	-	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	None	None	-	None	None
Otay Mesa Rd. / Harvest Rd.	None	None	None	-	-	-

Queue Locations East / West	PM PEAK HOUR					
Location	Excess Queue (Feet)			Excess Queue (Feet)		
	Eastbound			Westbound		
	RT	TH	LT	LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	None	None	-
Palm Ave. / I-805 NB Ramps	None	None	-	-	None	None
Palm Ave. Dennerly Rd.	1,383	None	None	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	None	15	None
Siempre Viva Rd. / SR-905 SB Ramps	-	3,375	-	835	-	-
Siempre Viva Rd. / SR-905 NB Ramps	-	None	3,825	-	None	1,750
Siempre Viva Rd. / Paseo de las Americas	None	None	None	-	-	-
Lone Star Rd. / SR-125 SB Off Ramp	-	-	-	508	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	1,615	-	None	2,150
Lone Star Rd. / Piper Ranch Rd.	-	None	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	None	None	None
Otay Mesa Rd. / SR-125 SB Off Ramp	-	None	-	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	None	225	-	None	618
Otay Mesa Rd. / Harvest Rd.	None	None	None	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

■ = Shading indicates excess queue.

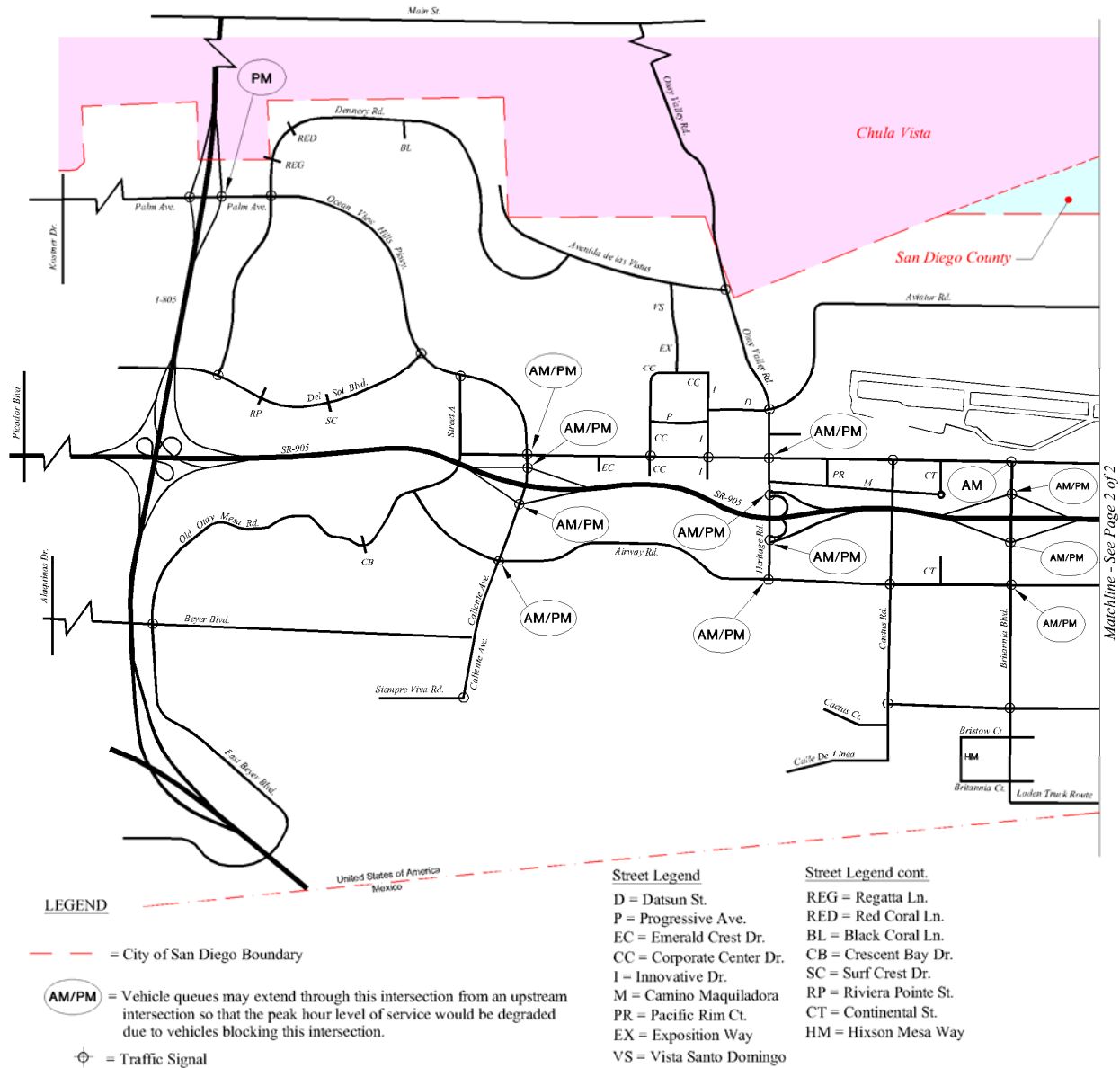
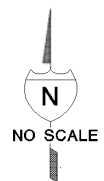
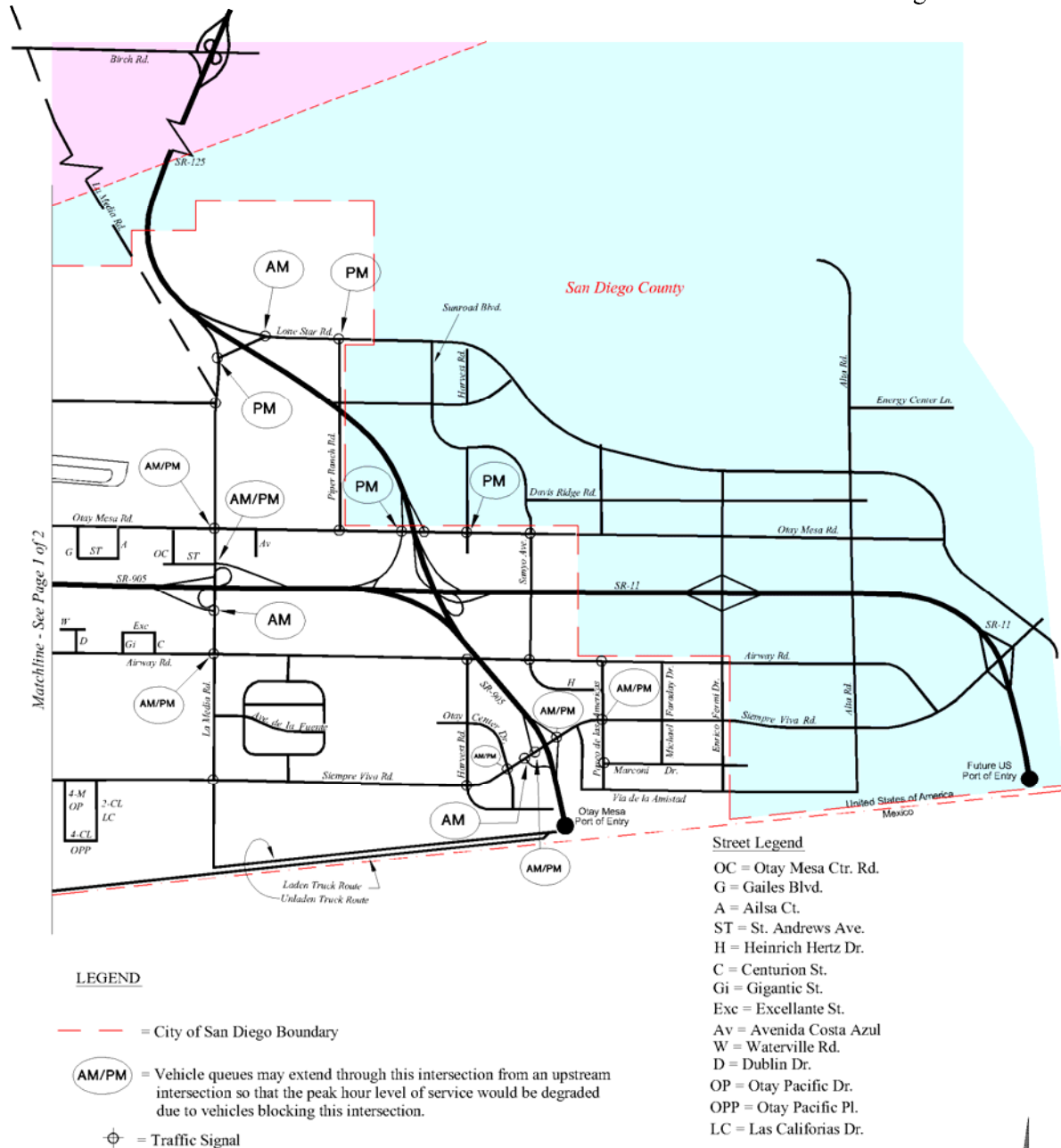


FIGURE ES - III -6
Buildout 3B Without La Media Road Scenario
Interchange and Adjacent Intersection Queueing Impacts





1.0 INTRODUCTION

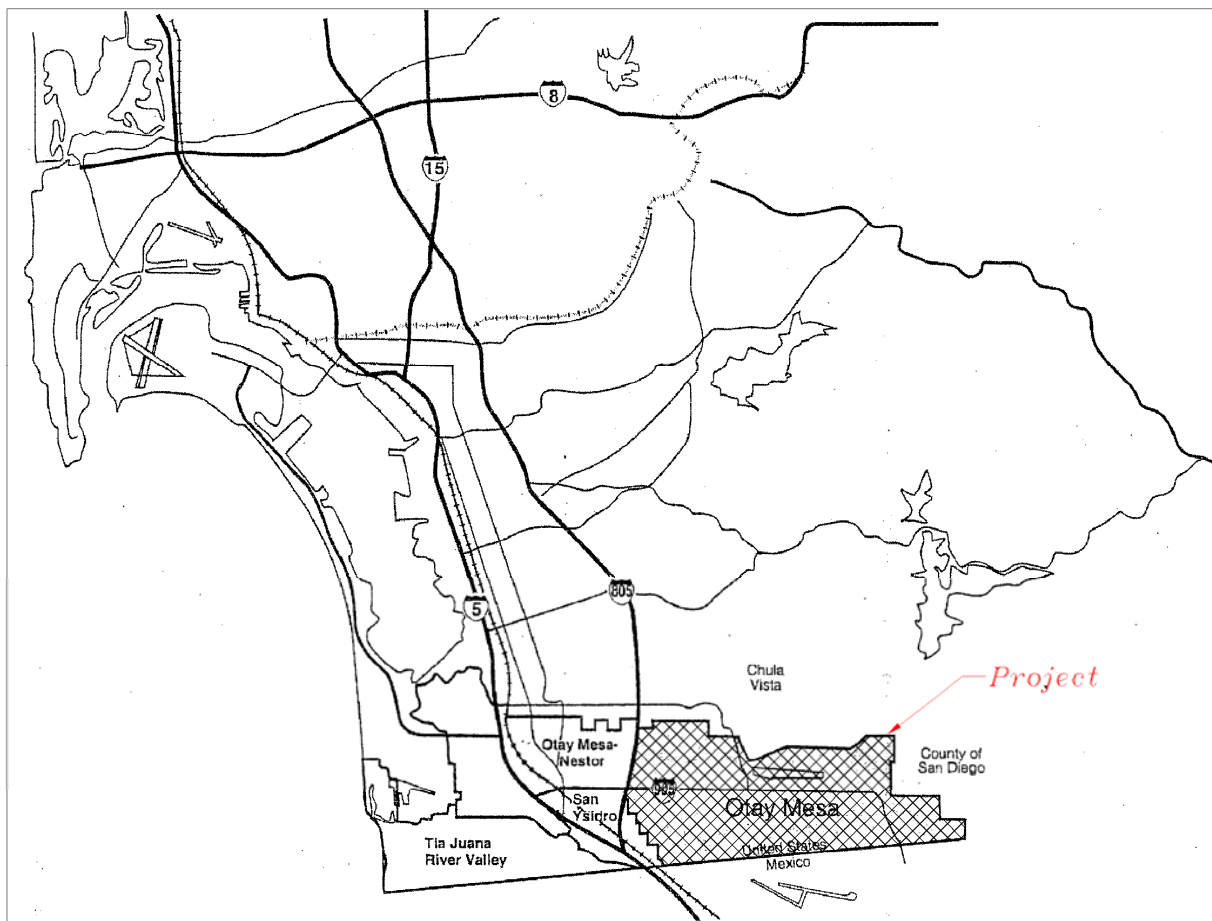
The City of San Diego is responsible for transportation planning activities related to all dedicated, non-freeway facilities within San Diego City limits. The Mobility Planning Section identifies future travel demand for both urbanized and urbanizing communities in an ongoing effort to ensure an adequate circulation system for future development.

A community plan is a comprehensive plan for development which consists of many elements such as land use, open space, public facilities, and mobility. This Traffic Study is the supporting documentation for the Mobility Element of the Otay Mesa Community Plan. This Study identifies the roadway network throughout the community necessary to accommodate traffic generated by existing and future land uses on the street system.

Otay Mesa is bounded by the city Chula Vista to the north, the Mexican border to the south, Interstate 805 to the west and the San Diego County limits to the east. **Figure 1-1** shows the Otay Mesa vicinity map.

Much of the land in Otay Mesa is undeveloped. The current land use is primarily residential on the western portion of the community and industrial on the eastern portion. A significant amount of land is dedicated to the Multiple Species Conservation Program (MSCP). Private parties have also purchased land in Otay Mesa as mitigation for their development projects elsewhere.

The border crossing between the U.S. and Mexico is located at the southeast corner of Otay Mesa and where State Route 905 terminates. A second border crossing facility also exists east of Enrico Fermi Drive. This point of entry is primarily used by commercial truck traffic that is predominant throughout the community.



SOURCE

Base Map Provided By:
City of San Diego Planning Department
Otay Mesa Existing Conditions Report



FIGURE 1-1
Project Location Map

2.0 IMPACT ANALYSIS

2.1 Forecast Model

The travel forecast model used for this traffic study was calibrated in Otay Mesa from the San Diego Association of Governments (SANDAG) Series 11 Regional Transportation Model. The SANDAG model incorporates land use, population, and employment data estimated for the year 2030 in the future. Land uses within the Otay Mesa Community Planning area are assumed to be built out within the traffic model. The SANDAG regional transportation network includes the future improvements that are in the Adopted Community Plan and are assumed to be completed, and includes Year 2030 Regional Transportation Plan “Reasonably Expected” projects in the region. The Otay Mesa model has been modified to include a half-diamond interchange at SR-125 / Lone Star Road. Also, a portion of SR-125 has been assumed as a toll facility and modeled to approximate toll conditions.

2.2 Study Area

The study area is defined by the Otay Mesa Community Plan area boundaries and extends to those areas immediately outside the Community Plan boundary to roads that are common to other jurisdictions such as the City of Chula Vista to the north and the County of San Diego to the east.

Intersections within the Otay Mesa Community Plan boundary identified for evaluation are based on the following criteria:

- 1) Any new/future major intersections (not existing today);
- 2) All freeway on/off ramps;
- 3) All intersections adjacent to freeway on/off ramps;
- 4) Intersections of arterial and major circulation element roadways.

2.3 Methodologies

The following describes the analytical techniques used to derive study findings, conclusions, and recommendations. These evaluations were performed in accordance with Caltrans and City of San Diego requirements. Definitions of level of service, peak traffic hours, and detailed information on roadway segments and intersection analysis methods, standards, and thresholds are discussed in the following sections.

2.3a Roadway Segment Level of Service Standards

The roadway level of service standards and thresholds the City of San Diego incorporates within its jurisdiction provide the basis for analyzing arterial roadway segment performance. The analysis of roadway segment level of service is based on the functional classification of the roadway, the maximum desirable capacity, roadway geometrics, and existing or forecasted average daily traffic (ADT) volumes. **Table 2-1** presents the roadway segment capacity and level of service standards used to analyze arterial roadways.

These standards are generally used as long-range planning guidelines to determine the functional classifications of roadways. The actual capacity of roadway facilities can vary due to a number of actual characteristics including, but not limited to, pavement width, access to cross streets and driveways, intersection signal timing, geometry, and on-street parking. The actual functional capacity is based on the ability of arterial intersections to accommodate peak hour volumes. Level of service D is considered acceptable for roadway segments.

TABLE 2-1
Roadway Classifications, Levels of Service (LOS) and Average Daily Traffic (ADT)

Street Classification	Lanes	LEVEL OF SERVICE				
		A	B	C	D	E
Expressway	6	30,000	42,000	60,000	70,000	80,000
Prime Arterial	6	25,000	35,000	50,000	55,000	60,000
Major Arterial	6	20,000	28,000	40,000	45,000	50,000
Major Arterial	4	15,000	21,000	30,000	35,000	40,000
Collector	4	10,000	14,000	20,000	25,000	30,000
Collector (no center lane) (continuous left turn lane)	4 2	5,000	7,000	10,000	13,000	15,000
Collector (no fronting property)	2	4,000	5,500	7,500	9,000	10,000
Collector (commercial-industrial fronting)	2	2,500	3,500	5,000	6,500	8,000
Collector (multi-family)	2	2,500	3,500	5,000	6,500	8,000
Sub-Collector (single-family)	2	--	--	2,200	--	--

Approximate recommended ADT based on the City of San Diego Street Design Manual. The volumes and the average daily level of service listed above are only intended as a general planning guideline. Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not to carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

2.3b Peak Hour Intersection Level of Service Standards

The analysis of peak hour intersection performance was conducted using the Highway Capacity Manual analysis software program, which uses the “operational analysis” procedure for signalized intersections as defined in the Highway Capacity Manual (HCM). These procedures establish the maximum saturation flow of a single lane at an intersection. This saturation flow rate is adjusted to account for lane width, on-street parking, conflicting pedestrian flow, traffic composition (i.e., percent of trucks) and shared lane movements (e.g., through and right-turn movements from the same lane). Level of service for signalized intersections is based on the average time (seconds) that vehicles entering an intersection are delayed by intersection controls. **Table 2-2** lists the HCM level of service/delay criteria for signalized intersections.

TABLE 2-2
Signalized Intersection Level of Service

The operational analysis method for evaluation of signalized intersections presented in the 2000 Highway Capacity Manual defines level of service in terms of delay, or more specifically, average control delay per vehicle. Delay is a measure of driver and/or passenger discomfort, frustration, fuel consumption, and lost travel time.

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

Source: 2000 Highway Capacity Manual, TRB Special Report 209

2.3c Impact Significance Criteria

For program level traffic analysis, a project is considered to generate a significant impact if intersections or street segments operate at level of service E or F.

2.3d Freeway Level of Service

Freeway segments were analyzed using standard Caltrans methodologies. The procedures for calculating freeway level of service involved estimating a peak hour volume to capacity (V/C) ratio. Peak hour volumes are estimated from the application of design hour (“K”), directional (“D”) and truck (“T”) factors to Average Daily Traffic (ADT) volumes. The truck factors (percent trucks) were obtained from the historical Caltrans data, local truck counts, and projections of future volumes at the border crossings. The resulting V/C ratio is then compared with accepted ranges of V/C values corresponding to the various levels of service. The corresponding level of service represents an approximation of existing or forecasted freeway operating conditions during the peak hour.

Table 2-3 shows the Freeway segment analysis methods used by Caltrans District 11. As the table shows, Caltrans has developed four levels of freeway congestion within level of service F, ranging from F (0) (considered congestion) to F (3) (gridlock). Any facility operating at level of service E or F is considered to have a significant impact.

TABLE 2-3
Freeway Segment Level of Service Definition

Caltrans District 11			
Freeway Level of Service Definitions			
<i>LOS</i>	<i>V/C</i>	<i>Congestion/Delay</i>	<i>Traffic Description</i>
Used for freeways, expressways, and conventional highways			
A	≤0.41	None	Free Flow
B	0.42-0.62	None	Free to stable flow, light to moderate volumes
C	0.63-0.80	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted
D	0.81-0.92	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver
E	0.93-1.00	Significant	Extremely unstable slow, maneuverability and psychological comfort extremely poor
Used for freeways and expressways			
F0	1.01-1.25	Considerable 0-1 hour delay	Forced flow, heavy congestion, long queues form behind breakdown points, stop and go
F1	1.26-1.35	Severe 1-2 hour delay	Very heavy congestion, very long queues
F2	1.36-1.45	Very severe 2-3 hour delay	Extremely heavy congestion, longer queues, more numerous breakdown points, longer stop periods
F3	>1.46	Extremely severe 3+ hours of delay	Gridlock

Source: Caltrans, 1992

2.4 Mitigation

Mitigation for significant traffic impacts would be in the form of either the Otay Mesa Community Plan Public Facilities Financing Plan (PFFP) or a fair share contribution to improvements identified, full funding, or construction of improvements deemed project related. However, some improvements identified may not fully mitigate traffic operations to acceptable levels of service. In this instance, significant traffic impacts would remain unmitigated.

3.0 EXISTING CONDITIONS

This section of the report evaluates existing average daily traffic (ADT) volumes on important study area street segments (between intersections) and at major intersections during AM and PM peak hours. Traffic volumes are based on recent daily roadway traffic counts and peak period manual traffic counts at intersections.

3.1 Existing Circulation System

Much of the land in Otay Mesa is undeveloped. As a result, the street system is disjointed and incomplete. Interstate 805 and SR-125, known as the South Bay Expressway, provide major access to and from the north of Otay Mesa.

State Route 905 and Palm Avenue provide east-west connections from the community to Interstate 805. Conventional highway SR-905 / Otay Mesa Road provides connection from the Otay Mesa Port of Entry (POE) and community surface streets with regional freeway I-805. Freeway SR-905 is under construction parallel to conventional highway SR-905 / Otay Mesa Road. Phase 1-A of the project has been partially completed which includes segments from the Otay Mesa POE to Britannia Boulevard. The Phase 1-B connection to I-805 is currently under construction. Although the partial interchanges at La Media Road and Britannia Boulevard have recently been open for use, traffic counts at those locations are not included in this section.

State Route 125 toll highway is a privately operated toll highway extending from the State Route 54 / State Route 125 junction to Otay Mesa Road.

The following are general descriptions of key roadways within the community divided into three categories; roads that provide access to and from the community, roads within residential area, and roads within industrial areas.

Community Access Roads

Old Otay Mesa Road – a two-lane Collector (without left turn lane) connecting Otay Mesa with San Ysidro. It extends along the rim of a canyon and intersects with SR-905 / Otay Mesa Road.

SR-905 – a four-lane freeway that extends into Otay Mesa for a mile from its interchange with I-805 and transitions into Otay Mesa Road, a six-lane Primary Arterial.

Del Sol Boulevard – a four-lane Collector (with left turn lane) as it crosses under I-805 from Otay Mesa-Nestor. It intersects Dennery Road and then continues for approximately a quarter-mile as a two-lane Collector (with left turn lane).

Palm Avenue – crosses over I-805 from Otay Mesa-Nestor on a four-lane bridge with double left-turn-lanes at the interchange of Palm Avenue and I-805. Palm Avenue transitions to a six-lane Primary Arterial, and intersects with Dennery Road.

Otay Valley Road – a six-lane major road, Main Street, at I-805 in the City of Chula Vista. Otay Valley Road crosses at the Otay River on a two-lane bridge with a center turn lane and continues as a two-lane Collector (without left turn lane) into the City of San Diego.

Otay Mesa Road – From the terminus of SR-905, Otay Mesa Road is constructed as a six-lane Primary Arterial to Otay Center Road. It is constructed as a seven-lane Major Arterial between Otay Center Road and La Media Road. It transitions to a four-lane Major Arterial east of La Media Road and intersects with the SR-125 southbound off-ramp and northbound on-ramp, and continues east into County of San Diego lands.

Otay Mesa Border Crossing and Port of Entry – a second border crossing between the U.S. and Mexico located at the southeast corner of Otay Mesa. This point of entry allows automobiles but is primarily used for truck traffic which is predominant throughout the community of Otay Mesa.

Roads within Residential Areas

Dennery Road – is constructed as a four-lane Major Arterial between Del Sol Boulevard and Palm Avenue. North of Palm Avenue, the road transitions to a four-lane Collector (with left turn lane) and eventually transitions to a 2-lane Collector (without fronting property).

Ocean View Hills Parkway – is a four-lane Major Arterial road extending from Dennery Road to Del Sol Boulevard. South of Del Sol Boulevard this roadway is constructed as a six-lane Major Arterial and intersects with conventional highway SR-905 / Otay Mesa Road.

Avenida de las Vistas – is a two-lane Collector (without fronting property) extending west of Otay Valley Road. The residential development along Avenida de las Vistas can be accessed via Otay Valley Road to the north or Otay Mesa Road from the south.

Caliente Avenue – is a partially built four-lane Major Arterial extending south from Otay Mesa Road, intersecting with Airway Road. This segment will be constructed as six-lanes as part of the SR-905 interchange currently under construction at this location.

Beyer Boulevard – is a four-lane Major Arterial extending from Old Otay Mesa Road westerly into the San Ysidro community plan area, and provides access to the nearby Beyer Blvd. transit station.

Roads Within Industrial Areas

Airway Road – is an east-west, partially built roadway varying in width that runs parallel with Otay Mesa Road from Britannia Boulevard to the County boundary. The western segment of Airway Road is a three-lane Collector (2 lanes eastbound, 1 lane westbound) between Old Otay Mesa Road and Caliente Avenue, and provides access to San Ysidro High School.

Siempre Viva Road – is an east-west, partially built roadway varying in width between Cactus Road and La Media Road. East of La Media Road, Siempre Viva Road is a six-lane Primary Arterial with an interchange at SR-905 and then transitions to a four-lane Major Arterial from Paseo de las Americas to the County boundary.

Heritage Road – is a north-south, partially built roadway varying in width from Otay Valley Road to its terminus south of Gateway Park Drive.

Cactus Road – is a north-south, four-lane Collector (with left turn lane) south of Otay Mesa Road, ending at the SR-905 right of way. South of SR-905 it is partially constructed with two lanes.

Britannia Boulevard – is a north-south, partially built Major Arterial roadway extending between Otay Mesa Road and Siempre Viva Road. The SR-905 interchange is under construction between Otay Mesa Road and Airway Road. South of Airway Road, portions are built as a four-lane Major Arterial, while some segments are only constructed to half-width.

La Media Road – is a north-south, partially built Major Arterial extending from north of Otay Mesa Road to Siempre Viva Road. The SR-905 interchange is under construction between Otay Mesa Road and Airway Road. South of Airway Road only two lanes are built, extending to a truck only road extending to the east Otay Mesa inspection facility. This road is currently the designated southbound truck route for laden (carrying cargo) trucks from conventional highway SR-905 / Otay Mesa Road to the east Otay Mesa inspection facility.

3.2 Street Segments

Figure 3-1 shows existing average daily traffic volumes on street segments within the study area. These volumes were taken from recent traffic counts conducted by Caltrans, the City of San Diego, or recently counted for other project study purposes, but were obtained before the opening of SR-905 Phase 1-A improvements from the partial Britannia Boulevard interchange to east of the La Media Road partial interchange.

Figure 3-2 shows the intersection number key.

Table 3-1 includes existing street segment levels of service based on the City of San Diego Traffic Impact Study Manual, **Table 2**. The current functional roadway classifications are listed. As shown, most street segments operate acceptably (at LOS “D” or better) except Otay Mesa Road, which operates at level of service “E” or “F” between the terminus of freeway SR-905 and Heritage Road, and level of service “E” between Otay Mesa Center Road and La Media Road.

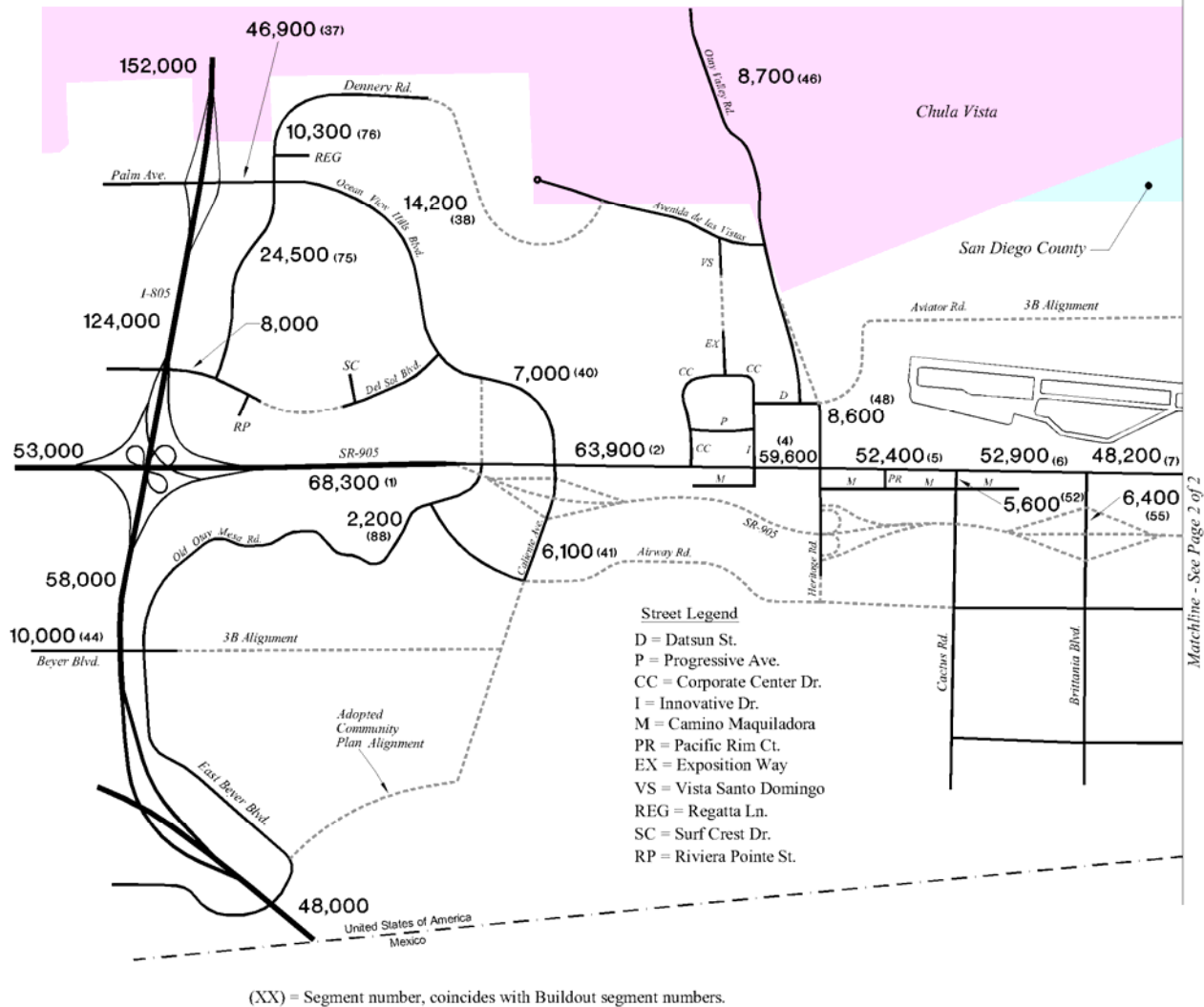
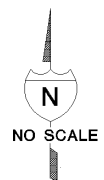


FIGURE 3-1
Existing Average Daily Traffic Volumes (2005 - 2010)



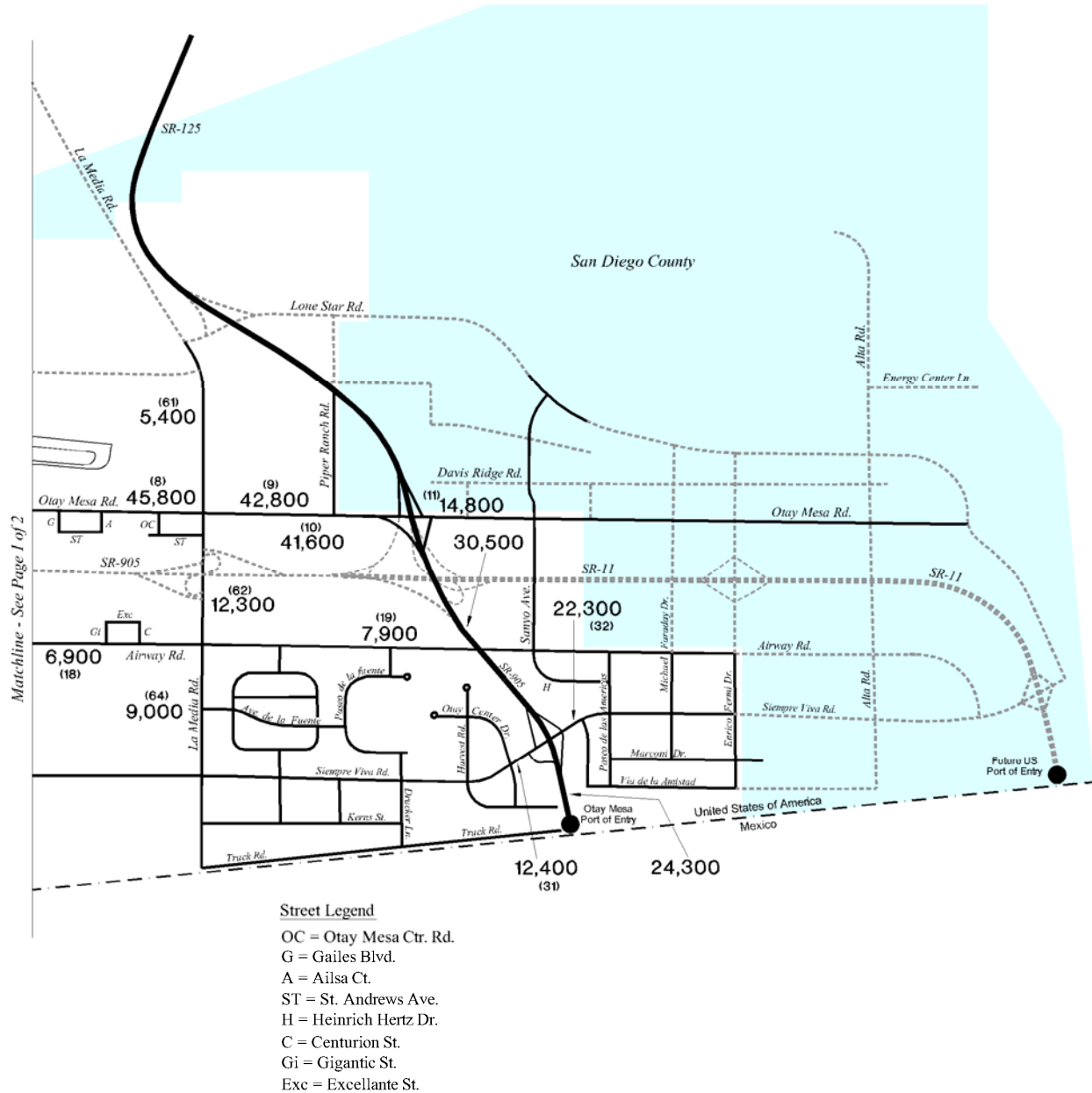
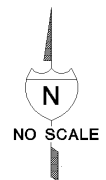


FIGURE 3-1
Existing Average Daily Traffic Volumes (2005 - 2010)



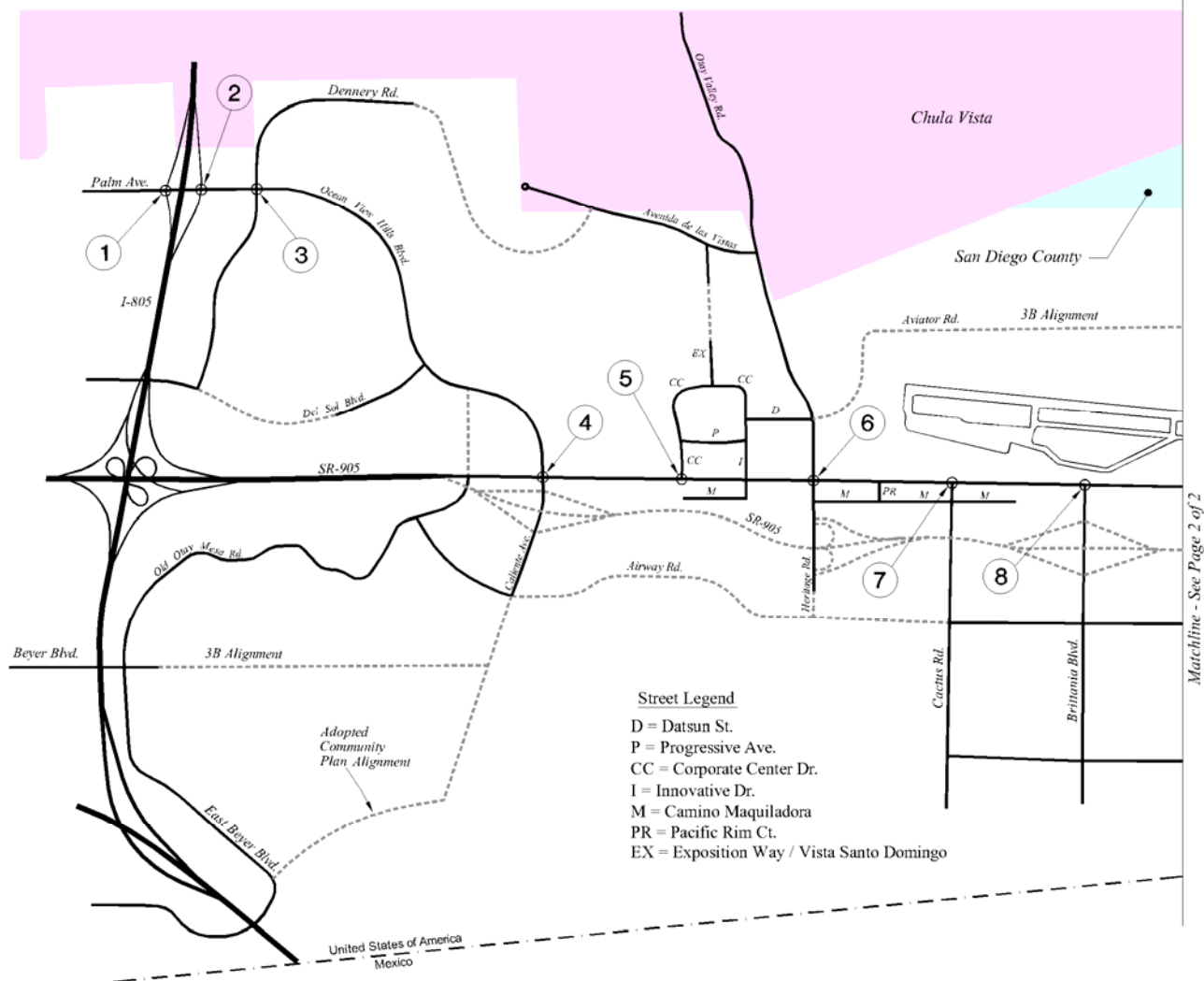
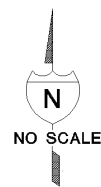


FIGURE 3-2
Existing Intersection Key



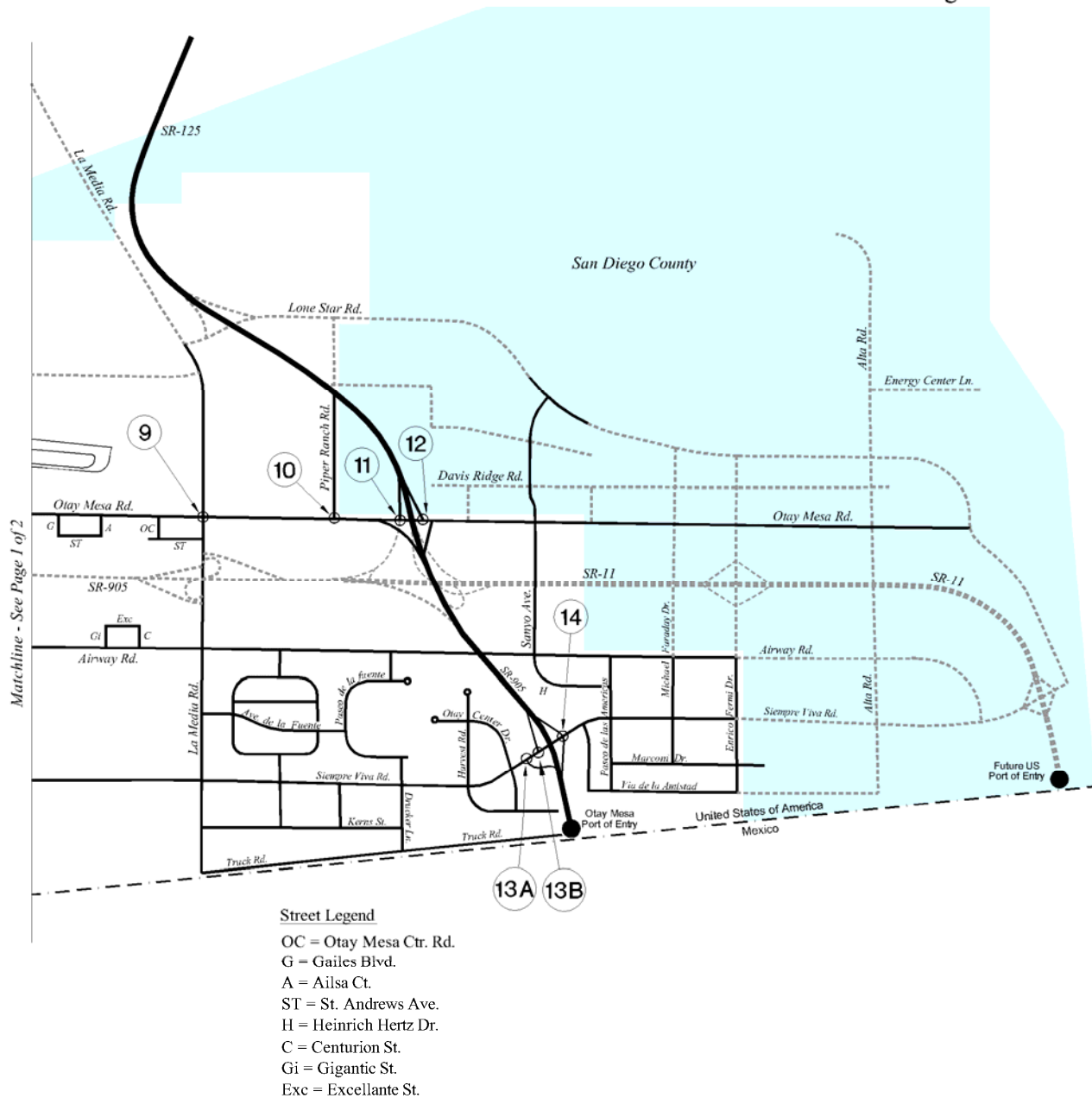


FIGURE 3-2
Existing Intersection Key

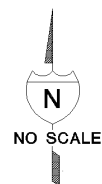


TABLE 3-1

Existing (2005 to 2010) Average Daily Traffic & Level of Service

Street	Segment	#	Class (1)	LOS E ADT (2)	Segment ADT	V/C	LOS	Traffic Count Date
Otay Mesa Road	SR-905 to Caliente Ave.	1	6-PA	60,000	68,300	1.14	F	2009 ①
	Caliente Ave. to Corporate Center Dr.	2	6-PA	60,000	63,900	1.07	F	2009 ①
	Corporate Center Dr. to Heritage Rd.	4	6-PA	60,000	59,600	0.99	E	2009 ①
	Heritage Rd. to Cactus Rd.	5	6-PA	60,000	52,400	0.87	D	2009 ①
	Cactus Rd. to Britannia Blvd.	6	6-PA	60,000	52,900	0.88	D	2009 ①
	Britannia Blvd. to Otay Mesa Center Rd.	7	6-PA	60,000	48,200	0.80	C	2009 ①
	Otay Mesa Center Rd. to La Media Rd.	8	7-M	55,000	45,800	0.84	E	2009 ①
	La Media Rd. to SR-125 SB Ramps	9	5-PA	55,000	42,800	0.78	C	2009 ①
	SR-125 NB Ramps to Sanyo Ave.	11	4-M	40,000	14,800	0.37	A	2009 ①
Airway Road	Britannia Blvd. to La Media Rd.	18	2-CL	15,000	6,900	0.46	B	2010①
	La Media Rd. to Sanyo Ave.	19	2-CL	15,000	7,900	0.53	C	2010①
Siempre Viva Rd. Road	Harvest Rd. to SR-905 SB Ramps	31	6-PA	60,000	12,400	0.21	A	2009 ②
	SR-905 NB Ramps to Paseo de las Americas	32	6-PA	60,000	22,300	0.37	A	2009 ②
Palm Ave.	I-805 NB Ramps to Dennergy Rd.	37	6-PA	60,000	46,900	0.78	C	2010 ③
Ocean View Hills Pkwy.	Dennergy Rd. to Del Sol Blvd.	38	4-M	40,000	14,200	0.36	A	2010 ③
	Del Sol Blvd. to Otay Mesa Rd.	40	6-M	50,000	7,000	0.14	A	2010①
Caliente Avenue	Otay Mesa Rd. to Airway Rd.	41	4-M	40,000	6,100	0.15	A	2010①
Old Otay Mesa Road	Otay Mesa Rd. to Airway Rd.	88	2-C	8,000	2,200	0.28	A	2009 ②
Beyer Boulevard	Smythe Ave. to Old Otay Mesa Rd.	44	4-M	40,000	10,000	0.24	A	2007③
Heritage Road/ Otay Valley Road	Main St. to Avenida De Las Vistas	46	2-C	8,000	8,700	1.09	F	2010①
	Avenida De Las Vistas to Otay Mesa Rd.	48	2-C	8,000	8,600	1.08	F	2010①
Cactus Road	Otay Mesa Rd. to SR-905.	52	4-CL	30,000	5,600	0.19	A	2010①
Britannia Boulevard	Otay Mesa Rd. to Airway Rd.	55	4-M	40,000	6,400	0.16	A	2009①

TABLE 3-1 (Cont.)

Street	Segment	#	Class (1)	LOS E ADT (2)	Segment ADT	V/C	LOS	Traffic Count Date
La Media Road	North of to Otay Mesa Rd.	61	2-CL	15,000	5,400	0.36	B	2010①
	Otay Mesa Rd. to Airway Rd.	62	2-CL	15,000	12,300	0.82	D	2010①
	Airway Rd. to Siempre Viva Rd.	64	2-C	8,000	9,000	1.13	F	2010①
Dennerly Road	Palm Ave. to Regatta Ln.	76	4-M	40,000	10,300	0.26	A	2005④
	Palm Ave. to Walmart Dr.	75	4-M	40,000	24,500	0.61	C	2005④
Del Sol Boulevard	West of Dennerly Rd.	85	4-C	15,000	8,000	0.53	C	2010①

(1) Functional Classification, as currently built.

(2) Source: City of San Diego Traffic Impact Study Manual, Table 2.

= Segment number, coincides with buildout segment number.

Legend

Sources of Traffic Volumes

7-M = 7-Lane Major Arterial

① = Rick Engineering Company

6-PA = 6-Lane Primary Arterial

② = LSA Associates, Inc.

6-M = 6-Lane Major

③ = Kimley-Horn & Associates, Inc.

4-M = 4-Lane Major

④ = Urban Systems Associates, Inc. / TSI

5-PA = Lane Primary Arterial

4-CL = 4-Lane Collector (With Left Lane Turn Lane).

4-C = 4-Lane Collector (Without Left Turn Lane).

2-CL = 2-Lane Collector (With Left Turn Lane).

2-C = 2-Lane Collector (Without Left Turn Lane, Industrial Fronting).

The segments of Otay Valley Road / Heritage Road between Main Street in Chula Vista and Otay Mesa Road are at levels of service “F”. La Media Road between Airway Road and Siempre Viva Road is at level of service “F”.

Table 3-2 shows freeway segment levels of service. Freeway segments of I-805 and SR-905 are shown to operate acceptably at LOS “D” or better.

3.3 Intersections

Figure 3-3 includes existing lane configurations at major intersections.

Figure 3-4 shows existing AM and PM peak hour traffic volumes at the study area intersections.

Intersection levels of service for the AM and PM peak hours were calculated using Highway Capacity Manual procedures. **Table 3-3** includes the results of the intersection level of service evaluation for existing conditions. **Figure 3-5** also shows intersection levels of service graphically. The study area intersections are shown to be operating at acceptable levels of service (“D” or better LOS) for existing conditions, except at one location. The Otay Mesa Road / Heritage Avenue intersection operates at level of service “E” during the AM peak hour.

3.4 Ramp Meters

Currently, the I-805 / Palm Avenue and SR-905 / Siempre Viva Road interchange freeway on ramps do not have ramp meters installed.

Appendix A includes additional existing conditions information, traffic counts, traffic signal timing sheets, and levels of service worksheets.

TABLE 3-2

Existing Freeway Segment Levels of Service

Freeway Segment	Lanes (1-Way)	Cap.	ADT (1)	Peak Hour %	Direction Split	Truck Factor	Peak Volume	V/C	LOS (2)
Interstate 805									
Otay Valley Rd. - Palm Ave.	4+AUX	11,200	152,000	0.08	0.60	0.90	8,107	0.72	C
Palm Ave. - SR-905	4	9,400	124,000	0.08	0.60	0.90	6,613	0.70	C
SR-905 - San Ysidro Blvd.	4	9,400	58,000	0.08	0.60	0.90	3,093	0.33	A
SR-905									
Picador Blvd. - I-805	2	4,700	53,000	0.08	0.60	0.90	2,827	0.60	B
I-805 – Caliente Ave.	2	4,700	58,300	0.08	0.60	0.90	3,109	0.66	C
Otay Mesa Rd. - Siempre Viva Rd.	2	4,700	30,500	0.08	0.60	0.90	1,600	0.34	A
Siempre Viva Rd. - Border	3	4,700	24,300	0.08	0.60	0.90	1,296	0.28	A

LEGEND:

Cap. = Capacity in one direction

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

Peak Hour % = % of ADT in Peak Hour

Freeway Mainlane Capacity = 2,350 VPHPL

Auxillary Lane Capacity (AUX) = 1,800 VPHPL

Direction Split = % of Peak Hour in Peak Direction

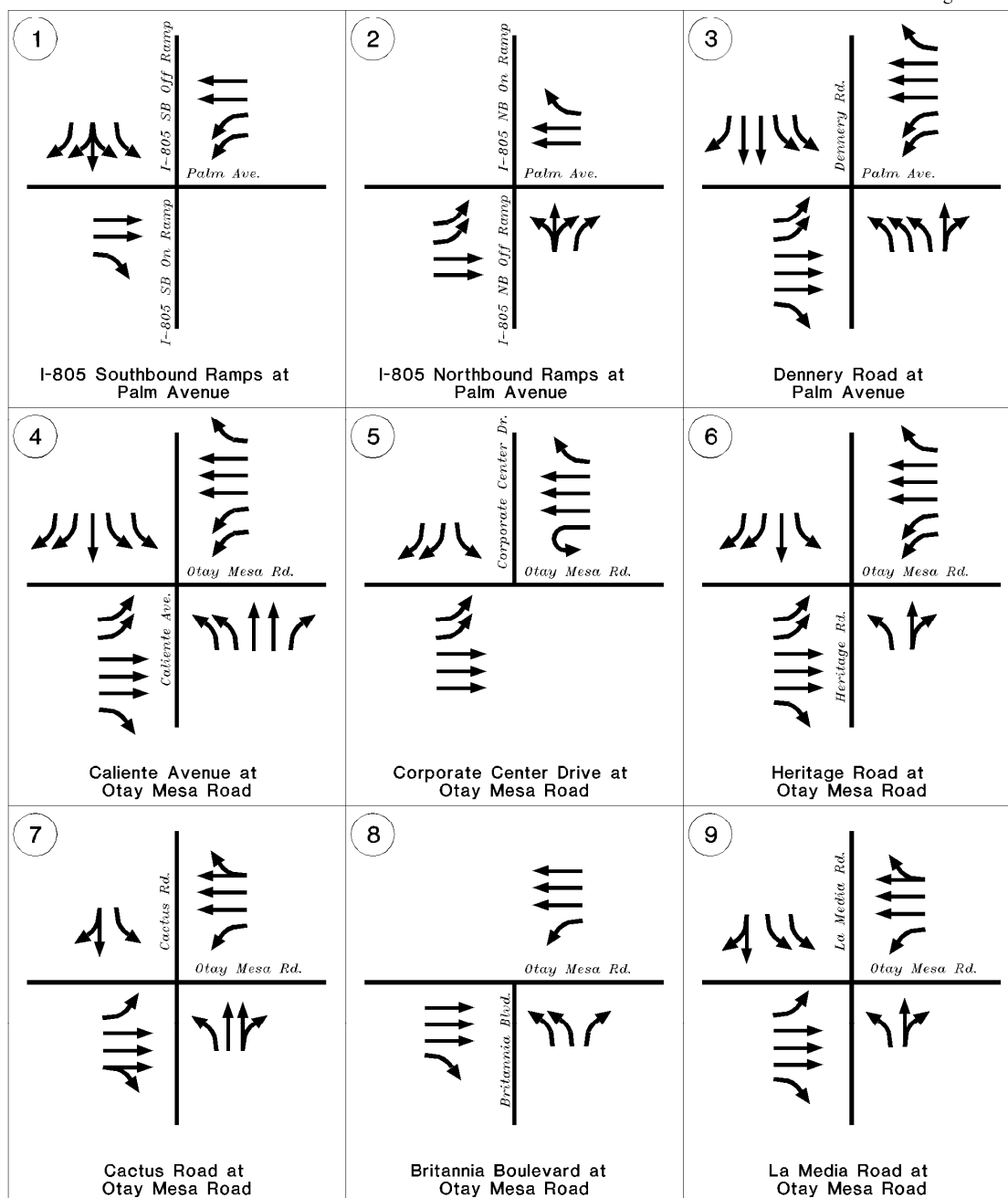
Truck Factor = Represents Capacity Reduction for
Heavy Vehicles (Trucks at 10% of ADT)

NOTES:

(1) Caltrans District 11, 2009.

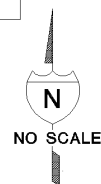
(2) Caltrans District 11 LOS Estimation Procedures,

See Appendix A



Note: All Locations Signalized

FIGURE 3-3
Existing Lane Configurations



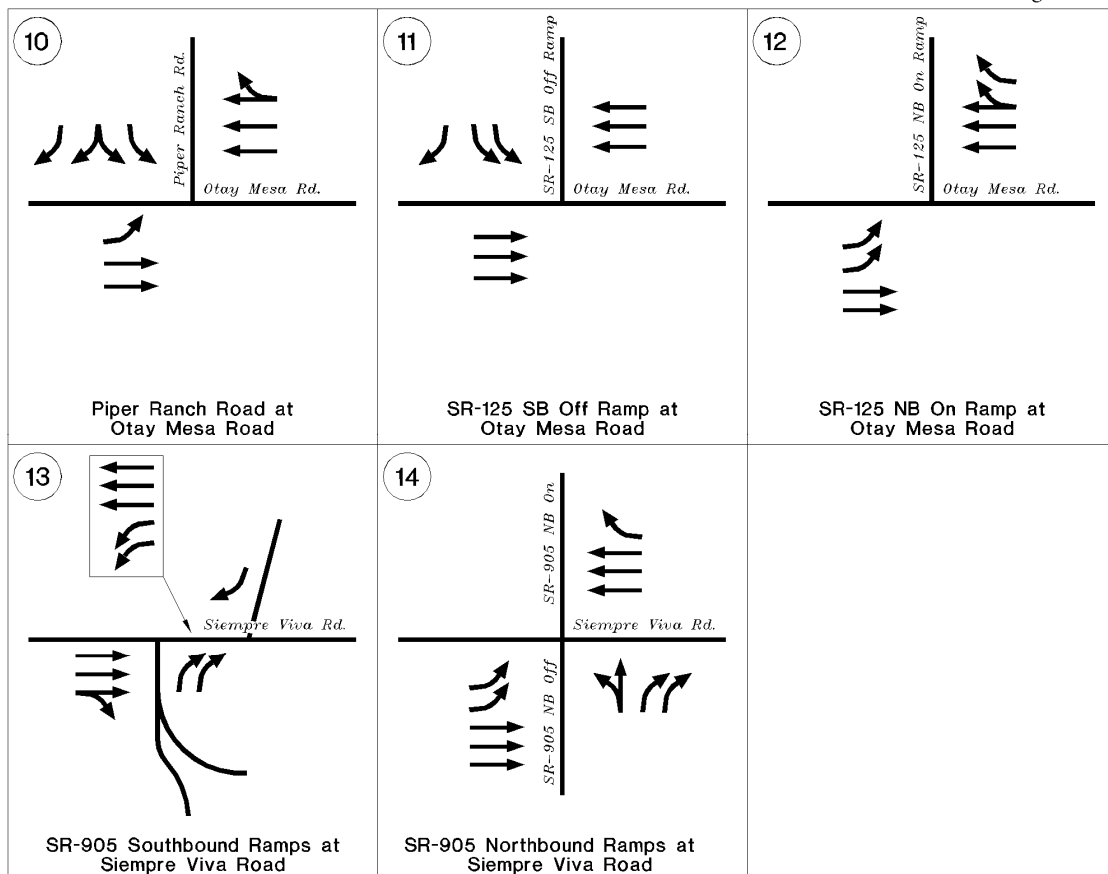
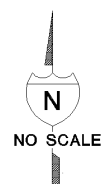


FIGURE 3-3
Existing Lane Configurations



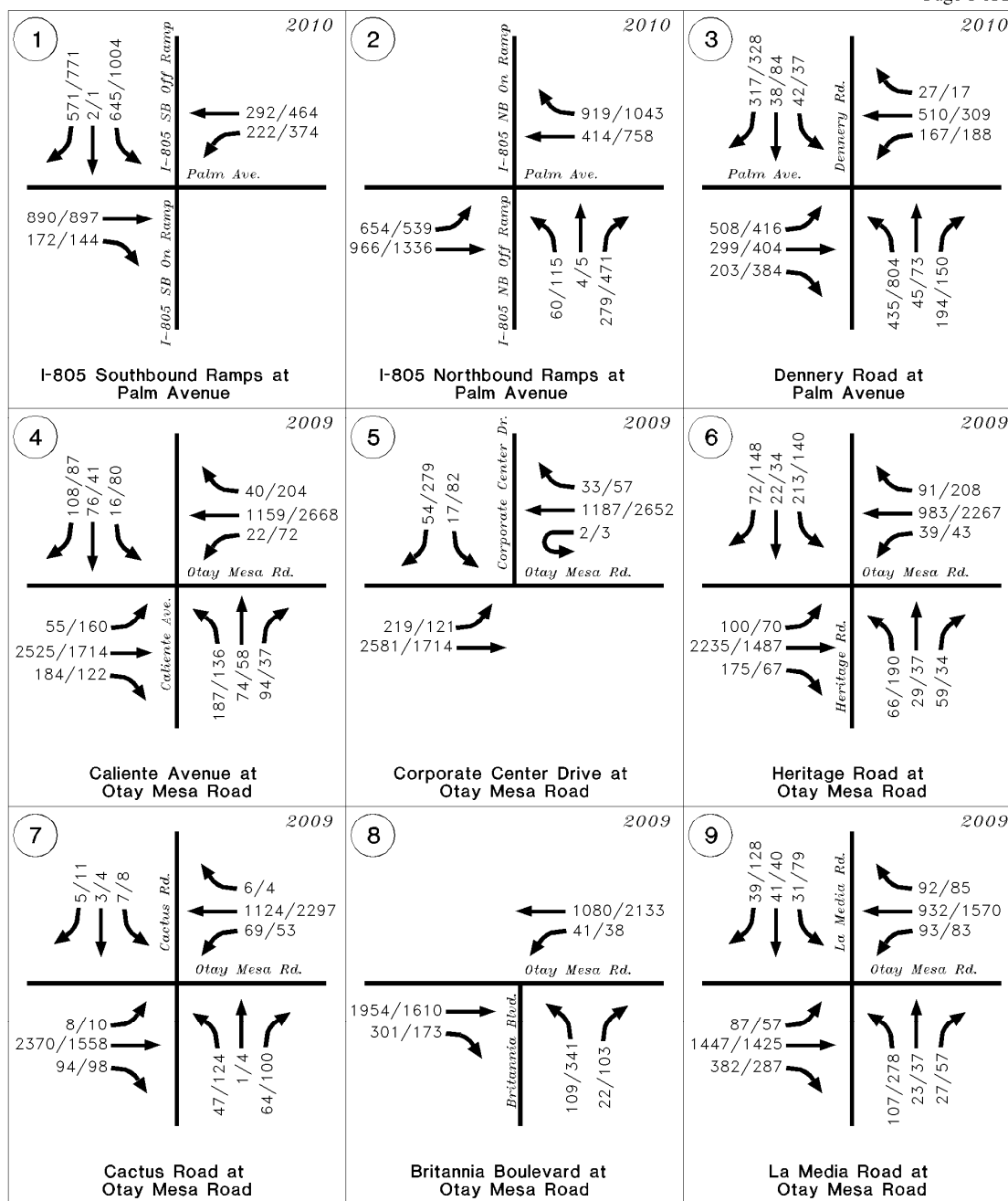
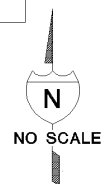


FIGURE 3-4
Existing AM/PM Peak Hour Traffic Volumes



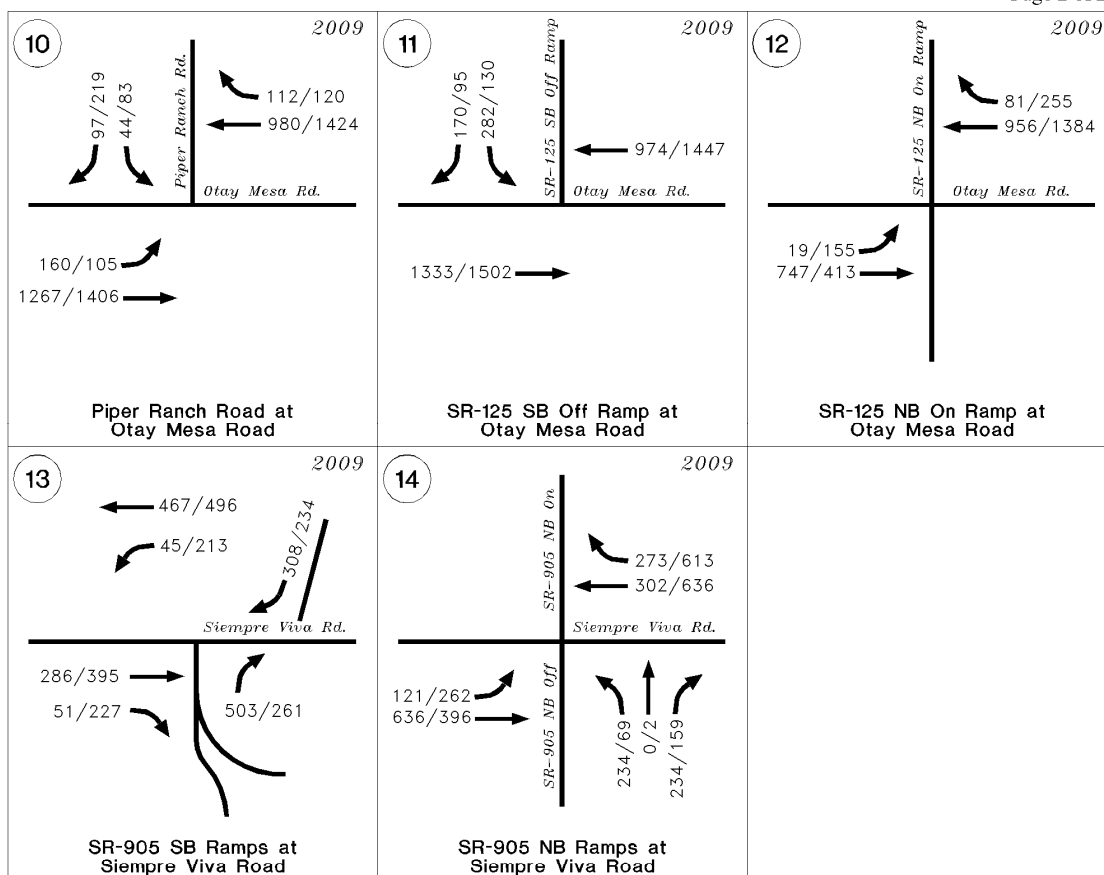


FIGURE 3-4
Existing AM/PM Peak Hour Traffic Volumes

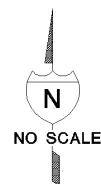


TABLE 3-3
Existing 2010 Intersection Levels of Service

Intersection		AM Peak Hour		PM Peak Hour	
		CD	LOS	CD	LOS
1	Palm Ave. / I-805 SB Ramps	27.5	C	45.4	D
2	Palm Ave. / I-805 NB Ramps	33.4	C	51.0	D
3	Palm Ave. / Dennerly Rd.	34.9	C	37.9	D
4	Otay Mesa Rd. / Caliente Ave.	44.4	D	40.2	D
5	Otay Mesa Rd. / Corporate Center Dr.	35.7	D	35.0	D
6	Otay Mesa Rd. / Heritage Rd.	60.5	E	42.6	D
7	Otay Mesa Rd. / Cactus Rd.	33.4	C	31.6	C
8	Otay Mesa Rd. / Britannia Blvd.	7.3	A	11.4	B
9	Otay Mesa Rd. / La Media Rd.	15.8	B	43.2	D
10	Otay Mesa Rd. / Piper Ranch Rd.	8.3	A	9.4	A
11	Otay Mesa Rd. / SR-125 SB Off-Ramp.	7.6	A	3.7	A
12	Otay Mesa Rd. / SR-125 NB On-Ramp	0.8	A	3.2	A
13A	Siempre Viva Rd. / SR-905 SB Ramps	16.1	B	11.6	B
13B	SR-905 SB Off Ramp to WB Siempre Viva Rd. ①	14.3	B	14.4	B
14	Siempre Viva Rd. / SR-905 NB Ramps	14.5	B	14.6	B

Legend

Note: All locations signalized, except 13B.

CD = Control Delay in seconds

LOS = Level of Service

① = Stop sign facing SB to WB traffic. LOS is for the SB to WB right-turn.

Control Delay	LOS
0.0 - 10.0	A
10.1 - 20.0	B
20.1 - 35.0	C
35.1 - 55.0	D
55.1 - 80.0	E
Over 80.0	F
<i>Source: 2000 Highway Capacity Manual</i>	

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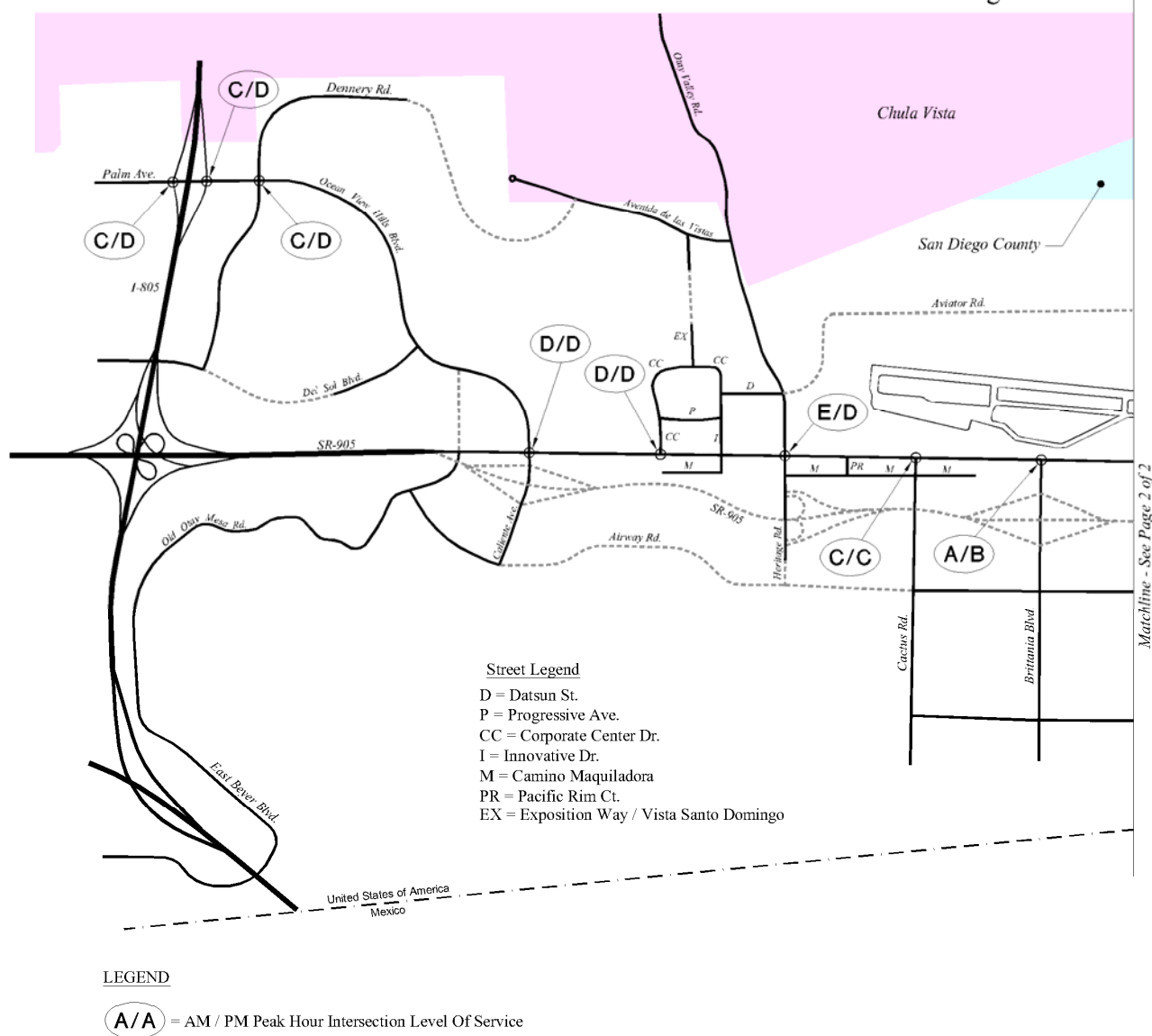
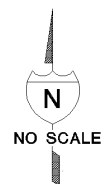


FIGURE 3-5
Existing AM/PM Intersection Levels of Service



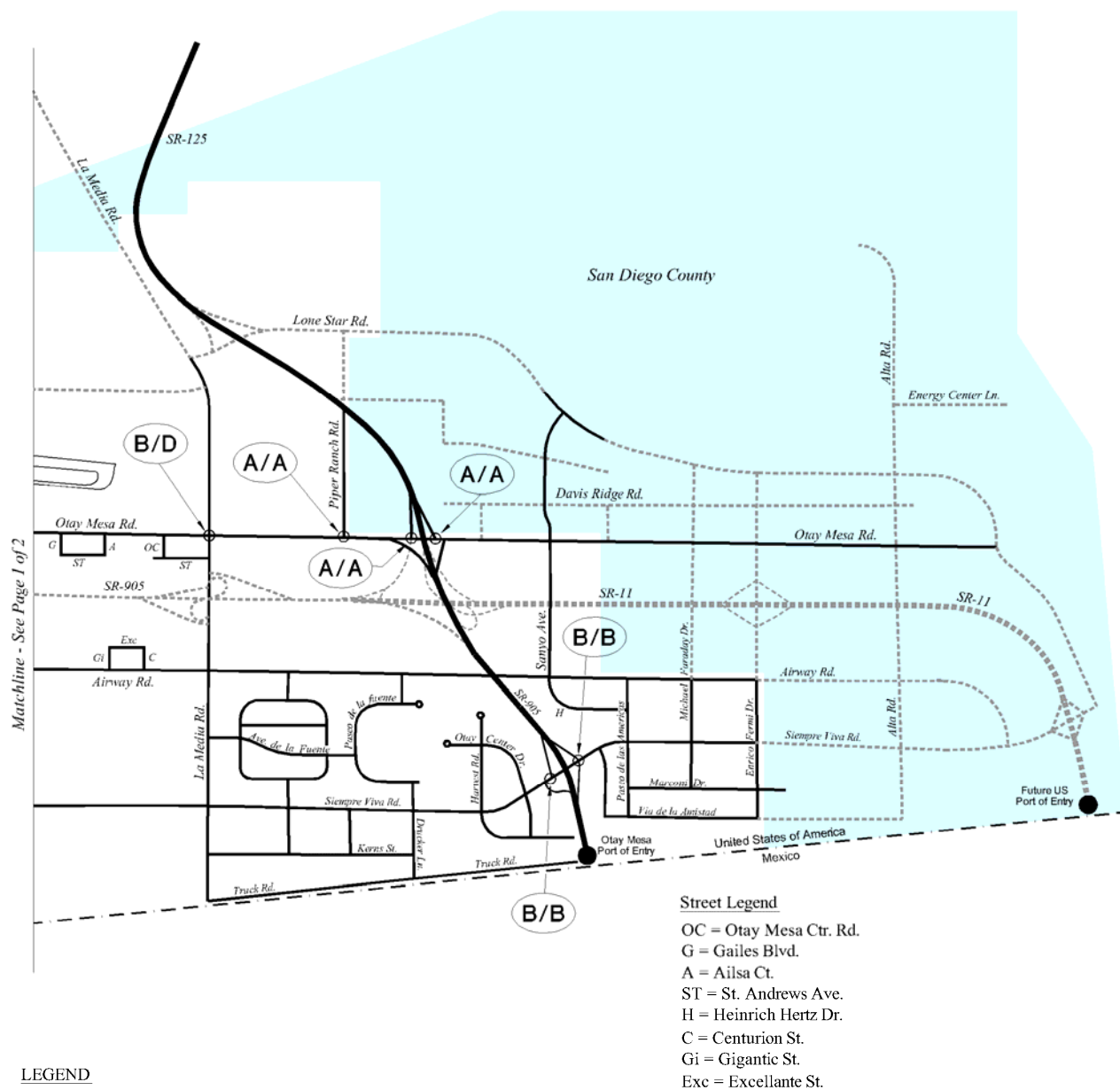
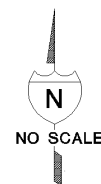


FIGURE 3-5
Existing AM/PM Intersection Levels of Service



4.0 OVERVIEW

The two land use scenarios, the Adopted Community Plan and Land Use Scenario 3B, analyzed for this study include different levels of land use intensity of future residential, commercial (retail and office), and industrial uses. Some of the principal ideas portrayed in the scenario 3B land use include multiple land uses to induce interaction with one another to create a single interconnected community. In both project scenarios, residential development would be concentrated in the western portion of Otay Mesa with some new residential areas located in other areas of the community. Different from the Adopted Community Plan a mixed-use designation – which typically allows residential, office, retail, recreational and/or civic uses - has been applied in areas of the community for the Scenario 3B land use.

No Project Scenario/Adopted Community Plan: The adopted Otay Mesa Community Plan concentrates residential development in the western third of Otay Mesa with industrial uses planned for the central and eastern portions of the community. The original 1981 land use map anticipated the development of 18,200 dwelling units in Otay Mesa. However, a 1997 community plan amendment to incorporate the Multiple Species Conservation Program (MSCP) reduced the potential residential build-out units resulting in 12,206 currently being anticipated by the Otay Mesa Community Plan. The traffic forecast for this alternative assumed 5,776,000 square feet of commercial uses and 64,465,000 square feet of industrial uses. The buildout of this plan would generate a total of 1,165,103 average daily vehicle trips.

Land Use Scenario 3B With La Media Road: Approximately 18,774 dwelling units could be developed under this plan by increasing the housing unit yield in the southwestern residential areas, creating Community Villages south of Airway Road, west of Cactus Road and in an area south of SR-905 and west of Britannia Boulevard. This plan would retain industrial and commercial uses between Otay Mesa

Road and SR-905. The traffic forecast for this alternative assumed 3,917,000 square feet of commercial uses and 54,461,000 square feet of industrial uses. A cross border facility is included in this plan. The buildout of this plan would generate 1,045,025 average daily vehicle trips.

The City of Chula Vista is preparing a General Plan Amendment, anticipated in Spring 2012, that would delete the La Media Road bridge crossing the Otay River Valley from their General Plan, and has deleted this project from their facilities financing plan. Therefore, the “With La Media Road” connection to Chula Vista is no longer a viable alternative.

Land Use Scenario 3B Without La Media Road: The Adopted Community Plan includes the extension of La Media Road north of Lone Star Road to cross the Otay River Valley on a bridge. However, the City of Chula Vista has indicated that they will be deleting this crossing from their General Plan Circulation Element. The Scenario 3B land use assumptions remain unchanged, but the segment of La Media Road crossing the Otay River Valley has been deleted for this analysis.

5.0 NO PROJECT

5.1 Assumed Land Use and Transportation Network

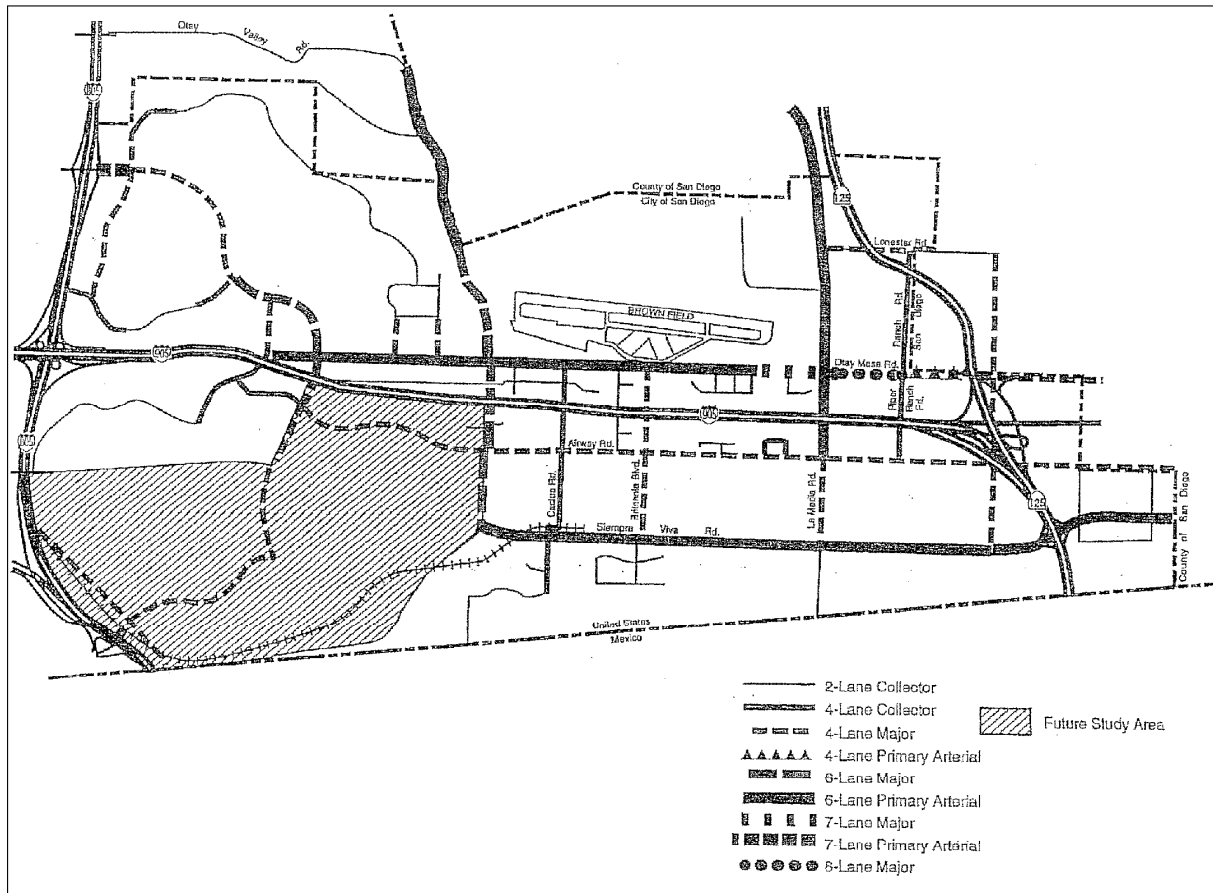
The circulation element roadways and land use for this scenario remains consistent with the existing adopted Otay Mesa Community Plan (November 23, 1999), shown in **Figure 5-1**. Adopted updates on land uses and transportation improvements as of 2004 were also included in this scenario. **Appendix B** includes the detailed land uses assumed in the traffic model for this scenario. Under this scenario, the circulation network was updated in the transportation model to more accurately represent the latest amendments, additions and changes made to the street system since the latest Community Plan approval. Some of the updates from the latest Community Plan amendments include the following roadway additions to the traffic model circulation network. These roadway classifications are not necessarily the recommended classifications after the evaluation of the traffic model results for each scenario.

-Addition of Sanyo Avenue/Heinrich Hertz Drive as a four-lane collector, between Otay Mesa Road and Paseo De las Americas.

-Addition of Via de la Amistad as a two-lane Collector (without left turn lane), between Paseo de las Americas to Enrico Fermi Drive.

-Addition of Marconi Drive as a two-lane Collector (without left turn lane) from Paseo de las Americas east to Enrico Fermi Drive

-Deletion of Harvest Road from north of Airway Road to north of the SR-905 right of way.



SOURCE

City of San Diego Planning Department
Otay Mesa Existing Conditions Report
Approved November 23, 1999



FIGURE 5-1
Adopted Circulation Plan

-Addition of Otay Center Drive as a four-lane Collector (without left turn lane) east from Harvest Road, south to Siempre Viva Road, and south of Siempre Viva Road to Custom House Plaza.

-Addition of Custom House Plaza as a four-lane Collector (without left turn lane) extending south from Siempre Viva Road and curving east to Otay Center Drive.

-Addition of Avenida de la Fuente, Avenida Costa Norte, Avenida Costa Sur, Avenida Costa Este, Avenida Blanca, and Avenida del Sol which form a self-contained street system as two-lane Collectors (without left turn lane) with access to Airway Road, La Media Road, and Siempre Viva Road.

-Addition of Saint Andrews Avenue as a two-lane Collector (without left turn lane) connecting Otay Mesa Center Drive to La Media Road.

-Addition of Avenida de las Vistas as a two-lane Collector (without left turn lane) connecting to Otay Valley Road.

5.2 Segment Level of Service

Figure 5-2 shows the projected buildout average daily traffic trips generated on the street system due to the land uses assumed under the “No Project” scenario. **Table 5-1** indicates the roadway segment level of service for numerous roadway segments as a result of the projected average daily traffic and the capacity of the roadway. The highest forecasted volumes between circulation element roads were used for analysis. Also shown are recommended reclassifications of roadways. The initial “without mitigation”

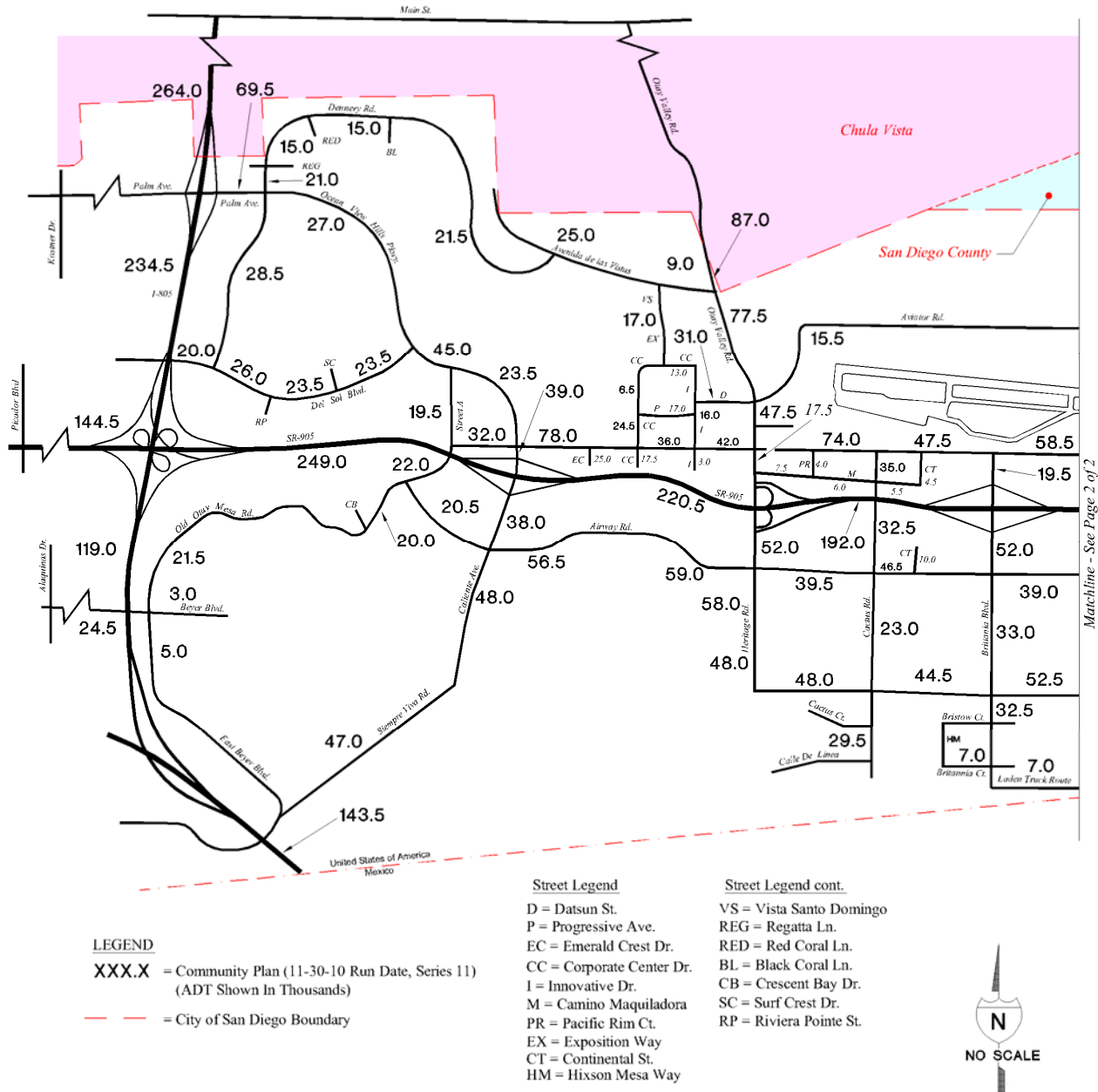


FIGURE 5-2

Buildout Community Plan Average Daily Traffic

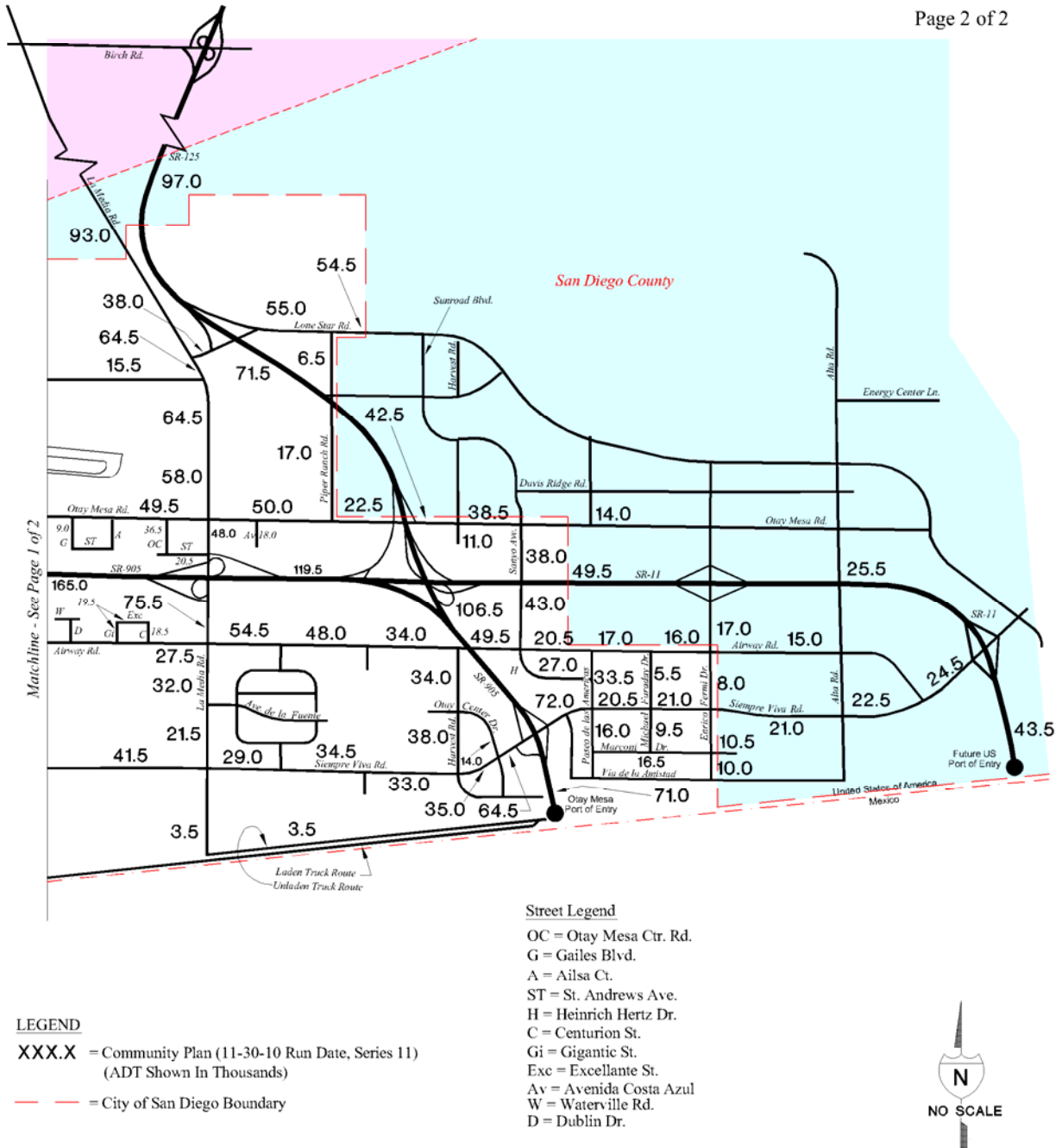


FIGURE 5-2
Buildout Community Plan Average Daily Traffic

TABLE 5-1

Buildout Adopted Community Plan

Average Daily Traffic & Levels of Service

Street	Segment	#	(1) Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	NEW LOS	S?
Otay Mesa Road	Street A to Caliente Ave.	1	6-PA	60,000	32,000	0.53	B	6-M	0.64	C	N
	Caliente Ave. to Corporate Center Dr.	2	6-PA	60,000	78,000	1.30	F	N	-	-	Y
	Corporate Center Dr. to Innovative Dr.	3	6-PA	60,000	36,000	0.60	C	N	-	-	N
	Innovative Dr. to Heritage Rd.	4	6-PA	60,000	42,000	0.70	C	N	-	-	N
	Heritage Rd. to Cactus Rd.	5	6-PA	60,000	74,000	1.23	F	N	-	-	Y
	Cactus Rd. to Britannia Blvd.	6	6-PA	60,000	47,500	0.78	C	N	-	-	N
	Britannia Blvd. to Ailsa Ct.	7	6-PA	60,000	58,500	0.98	E	N	-	-	Y
	Ailsa Ct. to La Media Rd.	8	7-M	55,000	49,500	0.90	E	6-PA	0.83	C	N
	La Media Rd. to Piper Ranch Rd.	9	8-M	70,000	50,000	0.71	C	6-PA	0.83	C	N
	Piper Ranch Rd. to SR-125	10	4-P	45,000	22,500	0.50	C	6-PA	0.38	A	N
	SR-125 to Harvest Rd.	11	4-M	40,000	42,500	1.06	F	6-PA	0.71	C	N
	Harvest Rd. to Sanyo Ave.	12	4-M	40,000	38,500	0.96	E	6-PA	0.64	C	N
	Sanyo Ave. to Enrico Fermi Dr.	13	4-M	40,000	14,000	0.35	A	6-PA	0.23	A	N
Airway Road	Old Otay Mesa Rd. to Caliente Ave.	14	4-CL	30,000	20,500	68.00	D	N	-	-	N
	Caliente Ave. to Heritage Rd.	15	4-M	40,000	59,000	1.48	F	6-PA	0.98	E	Y
	Heritage Rd. to Cactus Rd.	16	4-M	40,000	39,500	0.99	E	6-M	0.79	C	N
	Cactus Rd. to Britannia Blvd.	17	4-M	40,000	46,500	1.16	F	6-M	0.93	E	Y
	Britannia Blvd. to La Media Rd.	18	4-M	40,000	39,000	0.98	E	6-M	0.78	C	N
	La Media Rd. to Harvest Rd.	19	4-M	40,000	54,500	1.36	F	6-M	1.09	F	Y
	Harvest Rd. to Sanyo Ave.	20	4-M	40,000	49,500	1.24	F	6-M	0.99	E	Y
	Sanyo Ave. to Paseo de las Americas	21	4-M	40,000	20,500	0.51	B	N	-	-	N
	Paseo de las Americas to Michael Faraday Dr.	22	4-M	40,000	17,000	0.43	B	N	-	-	N
	Michael Faraday Dr. to Enrico Fermi Dr.	23	4-M	40,000	16,000	0.40	B	N	-	-	N
	Enrico Fermi Dr. to Siempre Viva Rd.*	24	4-M	40,000	15,000	0.38	A	N	-	-	N
Siempre Viva Road	Caliente Ave. to East Beyer Blvd.	25	4-M	40,000	47,000	1.18	F	N	-	-	Y
	Heritage Rd. to Cactus Rd.	26	6-PA	60,000	48,000	0.80	C	N	-	-	N
	Cactus Rd. to Britannia Blvd.	27	6-PA	60,000	44,500	0.74	C	N	-	-	N
	Britannia Blvd. to La Media Rd.	28	6-PA	60,000	52,500	0.88	D	N	-	-	N
	La Media Rd. to Harvest Rd.	29	6-PA	60,000	34,500	0.58	B	N	-	-	N
	Harvest Rd. to Otay Center Dr.	30	6-PA	60,000	35,000	0.58	B	N	-	-	N
	Otay Center Dr. to SR-905	31	6-PA	60,000	64,500	1.08	F	N	-	-	Y
	SR-905 to Paseo de las Americas	32	6-PA	60,000	72,000	1.20	F	N	-	-	Y
	Paseo de las Americas to Michael Faraday Dr.	33	4-M	40,000	20,500	0.51	B	N	-	-	N
	Michael Faraday Dr. to Enrico Fermi Dr.	34	4-M	40,000	21,000	0.53	B	N	-	-	N
	Enrico Fermi Dr. to SR-11*	35	4-M	40,000	21,000	0.53	B	N	-	-	N

*Segment in County of San Diego

= Segment Number

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

N = New classification is not proposed.

New LOS = LOS after change in classification.

Y = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB / 2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

TABLE 5-1 (Continued)
Buildout Adopted Community Plan
Average Daily Traffic & Levels of Service

Street	Segment	#	(1) Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	NEW LOS	S?
Palm Avenue	I-805 to Dennerly Rd.	37	7-PA	65,000	69,500	1.07	F	N	-	-	Y
Ocean View Hills Parkway	Dennerly Rd. to Del Sol Blvd.	38	4-M	40,000	27,000	0.68	C	N	-	-	N
	Del Sol Blvd. to Street "A"	39	6-M	50,000	45,000	0.90	D	N	-	-	N
	Street "A" to Otay Mesa Rd.	40	6-M	50,000	23,500	0.47	B	N	-	-	N
Caliente Avenue	Otay Mesa Rd. to SR-905	41	6-M	50,000	39,000	0.78	C	6-PA	0.65	C	N
	SR-905 to Airway Rd.	42	6-M	50,000	38,000	0.76	C	6-PA	0.63	C	N
	Airway Rd. to Siempre Viva Rd.	43	4-M	40,000	48,000	1.20	F	6-M	0.96	E	Y
Beyer Boulevard	Alaquinias Dr. to Old Otay Mesa Rd.	44	4-M	40,000	24,500	0.61	C	N	-	-	N
	Old Otay Mesa Rd. to East End	45	4-M	40,000	3,000	0.08	A	2-CL	0.2	A	N
Heritage Road/ Otay Valley Road	Main St. to Avenida De Las Vistas**	46	6-PA	60,000	87,000	1.45	F	N	-	-	Y
	Avenida De Las Vistas to Datsun St.	47	6-M	50,000	77,500	1.55	F	6-PA	1.29	F	Y
	Datsun St. to Otay Mesa Rd.	48	6-M	50,000	47,500	0.95	E	6-PA	0.79	C	N
	Otay Mesa Rd. to SR-905	49	6-M	50,000	17,500	0.35	A	6-PA	0.29	A	N
	SR-905 to Airway Rd.	50	6-M	50,000	52,000	1.04	F	6-PA	0.87	D	N
	Airway Rd. to Siempre Viva Rd.	51	6-M	50,000	58,000	1.16	F	6-PA	0.97	E	Y
Cactus Road	Otay Mesa Rd. to Airway Rd.	52	4-CL	30,000	35,000	1.16	F	4-M	0.88	D	N
	Airway Rd. to Siempre Viva Rd.	53	4-CL	30,000	23,000	0.77	D	N	-	-	N
	Siempre Viva Rd. to South End	54	4-CL	30,000	29,500	0.98	E	N	-	-	Y
Britannia Boulevard	Otay Mesa Rd. to SR-905	55	4-M	40,000	19,500	0.49	B	6-PA	0.33	A	N
	SR-905 to Airway Rd.	56	4-M	40,000	52,000	1.30	F	6-PA	0.87	D	N
	Airway Rd. to Siempre Viva Rd.	57	4-M	40,000	33,000	0.83	D	6-M	0.66	C	N
	Siempre Viva Rd. to South End	58	2-C	8,000	32,500	4.01	F	4-M	0.81	D	N
La Media Road	Birch Rd. to Lone Star Rd.**	59	6-PA	60,000	93,000	1.55	F	N	-	-	Y
	Lone Star Rd. to Aviator Rd.	60	6-PA	60,000	64,500	1.08	F	N	-	-	Y
	Aviator Rd. to Otay Mesa Rd.	61	6-PA	60,000	64,500	1.08	F	N	-	-	Y
	Otay Mesa Rd. to SR-905	62	6-PA	60,000	48,000	0.80	C	N	-	-	N
	SR-905 to Airway Rd.	63	6-PA	60,000	75,500	1.26	E	N	-	-	Y
	Airway Rd. to Siempre Viva Rd.	64	4-M	40,000	32,000	0.81	D	5-M	0.71	C	N
Harvest Road	South of Otay Mesa Rd.	65	4-M	40,000	11,000	0.28	A	2-CL	0.73	D	N
	Airway Rd. to Otay Center Dr.	66	4-M	40,000	34,000	0.85	D	N	-	-	N
	Otay Center Dr. to Siempre Viva Rd.	67	4-M	40,000	38,000	0.95	E	N	-	-	Y

*Segment in County of San Diego

Note: There is no segment #36.

**Segment in Chula Vista

= Segment Number

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

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N = New classification is not proposed.

New LOS = LOS after change in classification.

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Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB / 2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

TABLE 5-1 (Continued)
Buildout Adopted Community Plan
Average Daily Traffic & Levels of Service

Street	Segment	#	(1)Class	LOSE ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	NEW LOS	S?
Enrico Fermi Drive	SR-11 to Airway Rd.*	68	4-M	40,000	17,000	0.43	B	N	-	-	N
	Airway Rd. to Siempre Viva Rd.	69	4-M	40,000	8,000	0.20	A	4-CL	0.27	A	N
	Siempre Viva Rd. to Via de la Amistad	70	4-M	40,000	10,500	0.26	A	4-CL	0.35	B	N
Lone Star Road	La Media Rd. to SR-125	71	4-M	40,000	38,000	0.95	E	6-PA	0.63	C	N
	SR-125 to Piper Ranch Rd.	72	4-M	40,000	55,000	1.38	F	6-PA	0.92	D	N
	Piper Ranch Rd. to City / County Boundary	73	4-M	40,000	54,500	1.36	F	6-PA	0.91	D	N
Aviator Road	Heritage Rd. to La Media Rd. (3)	74	2-C	8,000	15,500	1.94	F	4-CL	0.52	C	N
Dennery Road	Palm Ave. to Del Sol Blvd.	75	4-M	40,000	28,500	0.71	C	N	-	-	N
	Palm Ave. to Regatta Ln.	76	4-M	40,000	21,000	0.53	B	N	-	-	N
	Regatta Ln. to Red Coral Ln.	77	4-CL	30,000	15,000	0.50	C	N	-	-	N
	Red Coral Ln. to Black Coral Ln.	78	2-CL	15,000	15,000	1.00	E	N	-	-	Y
	Black Coral Ln. to East End	79	2-CN	10,000	21,500	2.15	F	N	-	-	Y
Avendia De Las Vistas	Otay Valley Rd. to Vista Santo Domingo	80	2-CN	10,000	9,000	0.90	D	N	-	-	N
	Vista Santo Domingo to Dennery Rd.	81	2-CN	10,000	25,000	2.50	F	N	-	-	Y
Del Sol Boulevard	Ocean View Hills Pkwy. to Surf Crest Dr.	82	4-CL	30,000	23,500	0.78	D	N	-	-	N
	Surf Crest Dr. to Riviera Pointe	83	2-CN	10,000	26,000	2.60	F	N	-	-	Y
	Riviera Pointe to Dennery Rd.	84	2-CL	15,000	26,000	1.73	F	N	-	-	Y
	Dennery Rd. to I-805	85	4-CL	30,000	20,000	0.66	C	N	-	-	N
Street A	Ocean View Hills Pkwy. to Otay Mesa Rd.	86	4-M	40,000	19,500	0.49	B	N	-	-	N
Old Otay Mesa Road	Otay Mesa Rd. to Airway Rd.	87	4-CL	30,000	22,000	0.73	D	N	-	-	N
	Airway Rd. to Crescent Bay Dr.	88	4-CL	30,000	20,000	0.67	C	N	-	-	N
	Crescent Bay Dr. to Beyer Blvd.	89	2-C	8,000	21,500	2.69	F	N	-	-	Y
Emerald Crest Drive	Otay Mesa Rd. to South End (3)	90	4-CL	30,000	25,000	0.83	D	N	-	-	N
Corporate Center Drive	South End to Otay Mesa Rd. (3)	91	4-CL	30,000	17,500	0.58	C	N	-	-	N
	Otay Mesa Rd. to Progressive Ave.	92	4-CL	30,000	24,500	0.82	D	N	-	-	N
	Progressive Ave. to Innovative Dr.	93	2-C	8,000	13,000	1.63	F	2-CL	0.87	D	N
Innovative Drive	Otay Mesa Rd. to Corporate Center Dr.	94	4-CL	30,000	16,000	0.53	C	N	-	-	N
Piper Ranch Road	Lone Star Rd. to Otay Mesa Rd.	96	4-CL	30,000	17,000	0.57	C	N	-	-	N

*Segment in County of San Diego

= Segment Number

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

N = New classification is not proposed.

New LOS = LOS after change in classification.

Y = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB / 2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

TABLE 5-1 (Continued)
Buildout Adopted Community Plan
Average Daily Traffic & Levels of Service

Street	Segment	#	(1)Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	New LOS	S?
Sanyo Avenue	Otay Mesa Rd. to Airway Rd. (4)	97	4-C	15,000	43,000	2.87	F	4-M	1.08	F	Y
Heinrich Hertz Drive	Airway Rd. to Paseo de las Americas (4)	98	2-CL	15,000	27,000	1.80	F	N	-	-	Y
Paseo de las Americas	Airway Rd. to Siempre Viva Rd.	99	2-C	8,000	33,500	4.18	F	4-M	0.84	D	N
	Siempre Viva Rd. to Marconi Dr.	100	2-C	8,000	16,000	2.00	F	4-CL	0.53	C	N
Marconi Drive	Paseo de las Americas to Enrico Fermi Dr.	101	2-C	8,000	16,500	2.06	F	2-CL	1.10	F	Y
Otay Center Drive	Harvest Rd. to Siempre Viva Rd. (4)	102	4-C	15,000	14,000	0.93	E	4-CL	0.47	B	N
Michael Faraday Drive	Airway Rd. to Siempre Viva Rd. (4)	103	2-CL	15,000	9,500	0.63	C	N	-	-	N
	Siempre Viva Rd. to Marconi Dr. (4)	104	2-CL	15,000	5,500	0.37	B	N	-	-	N
St. Andrews Avenue	Otay Mesa Center Rd. To La Media Rd.	105	2-C	8,000	20,500	2.56	F	4-CL	0.68	D	N
Gailes Boulevard	Otay Mesa Rd. to St. Andrews Ave.	107	2-C	8,000	9,000	1.13	F	4-C	0.60	C	N
Camino Maquiladora	Heritage Rd. to Pacific Rim Ct.	108	2-C	8,000	7,500	0.94	E	N	-	-	Y
	Pacific Rim Ct. to Cactus Rd.	109	2-C	8,000	6,000	0.75	D	N	-	-	N
	Cactus Rd. to Continental St.	110	2-C	8,000	5,500	0.69	D	N	-	-	N
Pacific Rim Court	Otay Mesa Rd. to Camino Maquiladora	111	2-C	8,000	4,000	0.50	A	N	-	-	N
Progressive Avenue	Corporate Center Dr. to Innovative Dr.	112	2-C	8,000	17,000	2.13	F	N	-	-	Y
Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	113	2-C	8,000	36,500	4.56	F	4-M	0.91	E	Y
Datsun Drive	Innovative Dr. to Heritage Rd. (4)	114	2-C	8,000	31,000	3.88	F	4-CL	1.03	F	Y
Avenida Costa Azul	Otay Mesa Rd. to St. Andrews Ave.(3)	115	2-CL	15,000	18,000	1.20	F	4-CL	0.60	C	N
Excellante Street	Airway Rd. to Gigantic St.	116	4-C	15,000	19,500	1.30	F	N	-	-	Y
Gigantic Street	Excellante St. to Centurion St.	117	4-C	15,000	19,500	1.30	F	N	-	-	Y
Centurion Street	Airway Rd. to Gigantic St.	118	4-C	15,000	18,500	1.23	F	N	-	-	Y
Exposition Way / Vista Santo Domingo	Avenida De Las Vistas to Corporate Center Dr. (4)	119	2-CN	10,000	17,000	1.70	F	N	-	-	Y
Continental Street	South of Otay Mesa Rd.	120	2-C	8,000	4,500	0.56	C	N	-	-	N
	North of Airway Rd.	121	2-CL	15,000	10,000	0.67	C	N	-	-	N

*Segment in County of San Diego

= Segment Number

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

N = New classification is not proposed.

New LOS = LOS after change in classification.

Y = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB / 2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

2-CL = 2-lane Collector (with continuous left turn lane)

2-CN = 2-lane Collector (no fronting property)

2-C = 2-lane Collector (without continuous left turn lane)

classification of roadways is based on the existing functional classification. Or, if the street did not exist in the existing conditions assessment, or if analyzing the projected volumes on the existing facility would not be meaningful because it would not be possible to carry those volumes on the existing sized facility due to its capacity, then the Adopted Community Plan classification was used. Failing roadway segments at level of service “E” or “F” with significant traffic impacts are summarized below. All other roadway segments are projected to operate at a level of service “D” or better, without significant traffic impacts

Otay Mesa Road

-Caliente Avenue to Corporate Center Drive: level of service “F”.

-Heritage Road to Cactus Road: level of service “F”.

-Britannia Boulevard to Ailsa Court: level of service “E”.

A reclassification of these segments from a six lane Primary Arterial to eight lanes is not recommended. Widening to eight lanes would be costly, and intersections would be wider and less pedestrian friendly. Right turn only lanes at intersections are recommended to be lengthened to serve as auxiliary lanes between intersections. Without reclassification the significant impact would remain unmitigated.

-Ailsa Court to La Media Road: level of service “E”.

This segment is currently classified as a seven lane Major Arterial. A reclassification to a six lane Primary Arterial is recommended. As the property on the south side is redeveloped, parking and access will be restricted. The significant impact would be mitigated by this reclassification.

- Piper Ranch Road to State Route 125 Northbound Ramp intersection: level of service “C”.

A reclassification from a four lane Primary Arterial to a six lane Primary Arterial is recommended. Segments to the west and to the east are recommended to be six lanes. To maintain traffic lane continuity and to reduce congestion that could be caused by merging lanes, a continuous six lane roadway is recommended.

-State Route 125 Northbound Ramp intersection to Harvest Road: level of service “F”.

A reclassification to a six lane Primary Arterial is recommended. There are few driveways and developed parcels along this segment so restricting parking and access would have a minimal impact. The level of service would improve from “F” to “C”, and the significant impact would be fully mitigated.

-Harvest Road to Sanyo Avenue: level of service “E”.

A reclassification from a four lane Major Arterial to six lane Primary Arterial is recommended. There are few driveways and developed parcels along this segment so restricting parking and access would have a minimal impact. The significant impact would be mitigated by this reclassification. A reclassification to a six lane Primary Arterial is recommended for the entire length of Otay Mesa Road east of Sanyo Avenue to match the six lane classification within the County of San Diego, and maintain consistency in lane configurations.

Airway Road

-Airway Road is classified as a four lane Major Arterial from Caliente Avenue to the east City limit. The segments between Caliente Avenue and Sanyo Road are expected to be at levels of service “E” or “F”, and with significant traffic impacts.

The segment between Caliente Avenue and Heritage Road would have the highest volume along these segments. A reclassification to a six lane Primary Arterial for this segment is recommended. This reclassification results in improving the level of service from “F” to “E”, however, the significant impact

would remain unmitigated. This segment includes a bridge crossing an open space canyon so that a six lane bridge would be costly and an eight lane bridge obviously more costly, so is not recommended.

Of the remaining six segments between Heritage Road and Sanyo Avenue, a reclassification to a six lane Major Arterial is recommended. A Primary Arterial reclassification is not recommended since restricting parking and access would possibly discourage full development of adjacent light industrial uses. Two of the six significant impacts to segments would be mitigated and four would be partially mitigated.

Siempre Viva Road

-Caliente Avenue to East Beyer Boulevard: level of service “F”.

This segment of Siempre Viva Road would extend through the MSCP open space area. Retaining the four lane major arterial classification rather than reclassifying to six lanes would minimize costs and infringement into the MSCP area. The significant impact would remain unmitigated.

-Segments from Otay Center Drive to Paseo de las Americas: level of service “F”.

A reclassification from six to eight lanes is not recommended since a costly widening of the SR-905 / Siempre Viva Road interchange would be needed. The significant impact to these segments would be unmitigated.

Palm Avenue

-I-805 to Dennerly Road: level of service “F”.

Both sides of this segment are built out, with medical offices and commercial to the north and a major shopping center to the south. In addition considerable residential development exists nearby to the east, north, and south. A reclassification to eight lanes is not recommended since a widening would be costly and a wider roadway would be less pedestrian friendly. In addition a FBA / PFFP project will widen the I-805 overcrossing adding lanes to the northbound ramp intersection. Ramp intersection levels of service are expected to be acceptable at level of service “D” with completion of this project, through buildout of the community. However, the segment significant impact would be unmitigated.

Caliente Avenue

-Otay Mesa Road to Airway Road:

Although not at level of service “E” or “F”, Caliente Avenue between Otay Mesa Road and Airway Road is recommended to be reclassified from a six lane Major Arterial to a six lane Primary Arterial, restricting access and parking adjacent to the closely spaced intersections, including SR-905 on and off ramp intersections with Caliente Avenue.

-Caliente Avenue between Airway Road and Siempre Viva Road: level of service “F”.

A reclassification from a four lane to a six lane Major Arterial is recommended. This segment extends through a future residential area so that a Prime Arterial restricting access is not recommended. The significant impact would be only partially mitigated.

Heritage Road / Otay Valley Road

-Otay Valley Road between Main Street in Chula Vista and Avenida de las Vista: level of service “F”.

A reclassification to more than the current six lane Primary Arterial would be a decision to be made by the City of Chula Vista. A wider roadway and bridge over the Otay River Valley would be costly and increase environmental impacts to the Otay River Valley and is not recommended. The significant impact to this segment would be unmitigated.

-Avenida de las Vistas to Datsun Street: level of service “F”.

A reclassification from a six lane Major Arterial to a six lane Primary Arterial is recommended. A wider classification would be costly to construct and is not recommended. The segment significant impact would be partially mitigated.

-Datsun Street to Otay Mesa Road: level of service “F”.

A reclassification from a six lane Major Arterial to a six lane Primary Arterial is recommended. There are few developed driveways along this segment so that restricting parking and access would have minimal impacts to adjacent parcels. The segment significant impact would be mitigated.

-Otay Mesa Road to SR-905 is expected to operate acceptably as a six lane Major Arterial.

There will be close spacing between intersections from Datsun Street, crossing Otay Mesa Road, through the SR-905 interchange, and to Airway Road. A reclassification to a six lane Primary Arterial restricting parking and access is recommended for the entire length of Heritage Road. However, segment significant impacts south of Airway Road would be only partially mitigated.

-SR-905 to Airway Road: level of service "F".

A reclassification to a six lane Primary Arterial mitigates the significant segment impact.

-Airway Road to Siempre Viva Road: level of service "F".

A reclassification to a six lane Primary Arterial does not fully mitigate the significant segment impact. A wider roadway would be costly and is not recommended.

Cactus Road

- Otay Mesa Road to Airway Road: level of service "F".

A reclassification to a four lane Major Arterial is recommended. The significant segment impact would be mitigated.

- Siempre Viva Road to the southend: level of service "E".

A higher classification than the current four lane collector is not recommended. This extension will serve local traffic only, not through traffic. The significant segment impact would be unmitigated.

Britannia Boulevard

- SR-905 to Airway Road: level of service “F”.

Britannia Boulevard has been constructed with six lanes between Otay Mesa Road and the SR-905 eastbound ramps, and five lanes between the eastbound ramps and Airway Road. The Cross Border Facility project includes reclassifying and construction of this segment to six lanes as project mitigation. The SR-905 on and off ramp intersections are closely spaced so that parking and access should be restricted along these segments.

In addition Britannia Boulevard will also be the designated truck route for southbound laden trucks between SR-905 and the planned truck road parallel to the border.

Therefore, a reclassification to a six lane Primary Arterial is recommended for the segments between Otay Mesa Road and Airway Road. Between Airway Road and Siempre Viva Road, a six lane Major Arterial is recommended. The significant impact to these segments would be mitigated.

- Siempre Viva Road to Southend: level of service “F”.

A reclassification to a four lane Major Arterial is recommended. The significant impact to this segment would be mitigated.

La Media Road

-Birch Road to Lone Star Road: level of service “F”.

The City of Chula Vista is planning to remove the segment of La Media Road crossing the Otay River Valley within Chula Vista from the City of Chula Vista General Plan Circulation Element. However, the traffic volumes for this segment for this scenario are based on including this segment in the traffic model. Due to the need to construct a lengthy bridge through the Otay River Valley, the cost of this segment may be prohibitive so that a reclassification from six lanes to a wider roadway is not recommended. The significant impact to this segment would be unmitigated.

-Lone Star Road to Otay Mesa Road: level of service “F”.

Construction as an eight lane facility rather than six lanes would require encroachment into environmentally sensitive land and the Brown Field Airport on the west side, and is not recommended. The segment significant impact would be unmitigated.

- SR-905 to Airway Road: level of service “F”.

The addition of lanes to this currently classified six lane Primary Arterial would require a costly modification to the SR-905 interchange and is not recommended. The segment significant impact would be unmitigated.

- Airway Road to Siempre Viva Road: level of service “D”.

The northerly segment is recommended to be classified as a five lane Major Arterial. Three southbound lanes would transition to two lanes, with two northbound lanes. The southerly segment would remain as currently classified, a four lane Major Arterial.

Harvest Road

- Otay Center Drive to Siempre Viva Road: level of service “E”.

A reclassification from a four lane Major Arterial is not recommended for this segment. Widening to six lanes would not be cost effective. The significant impact to this segment would be unmitigated.

Lone Star Road

- La Media Road to SR-125: level of service “E”.
- SR-125 to City / County Boundary: level of service “F”

A reclassification to a six lane Primary Arterial is recommended. The significant segment impact would be mitigated.

Aviator Road

- Heritage Road to La Media Road: level of service “F”.

This segment is recommended to be added to the circulation element as a four lane Collector (without left turn lane). The significant segment impact would be mitigated.

Dennery Road

-Red Coral Lane to Black Coral Lane: level of service “E”.

-Black Coral Lane to East End: level of service “F”.

This street is completely constructed adjacent to residential areas.

A reclassification is not recommended. Retaining a two lane Collector (with left turn lane) classification between Red Coral and Black Coral Lanes, and a two lane Collector (with no fronting property) from Black Coral Lane to the east end would discourage speeding and through traffic not destined to the adjacent residential developments. The significant segment impact would be unmitigated.

Avenida De Las Vistas

- Vista Santo Domingo to Dennery Road: level of service “F”.

A reclassification is not recommended. This street is fully constructed and has adjacent single family residences. Retaining a two lane Collector (without fronting property) classification would discourage speeding and through traffic not destined to the adjacent residential developments. The significant segment impact would be unmitigated.

Del Sol Boulevard

- Surf Crest Drive to Riviera Pointe: level of service “F”.

This segment will pass through environmentally sensitive lands and is on a slope. Retaining the two lane Collector (without fronting property) classification would minimize impacts to the MSCP land and discourage speeding and through traffic not destined to the adjacent residential development.

- Riviera Pointe to Dennerly Road: level of service “E”.

This segment is fully constructed and surrounded by environmentally sensitive land and single family development. A reclassification to four lanes is not recommended. This significant segment would be unmitigated.

Old Otay Mesa Road

- Crescent Bay Drive to Beyer Boulevard: level of service “F”.

This segment of Old Otay Mesa Road is situated on a steep, rocky hillside that would be costly to widen. Therefore, no reclassification is recommended. The significant segment impact would remain unmitigated.

Corporate Center Drive

- Progressive Avenue to Innovative Drive: level of service “F”.

A reclassification is not recommended. This street is fully constructed with adjacent developments. Retaining a two lane industrial Collector (without left turn lane) classification would discourage through traffic not destined to / from the adjacent uses. The significant segment impact would be unmitigated.

Sanyo Avenue

- Otay Mesa Road to Airway Road: level of service “F”.

This segment is constructed as a four lane Collector (without left turn lane) and is to be added to the circulation plan. Widening to a four lane Major Arterial width would adversely affect adjacent development, but minor widening to accommodate a central left turn lane and a reclassification to a four lane Collector (with left turn lane) is recommended. The segment significant impact would remain significant and unmitigated.

Heinrich Hertz Drive

- Airway Road to Paseo de las Americas: level of service “E”.

This segment is constructed as a two lane Collector with left turn lanes at intersections and is to be added to the circulation plan as a two lane Collector (with left turn lane). Widening to a four lane Major Arterial

would adversely affect adjacent properties. The segment significant impact would remain significant and unmitigated.

Paseo De Las Americas

- Airway Road to Siempre Viva Road: level of service “F”.
- Siempre Viva Road to Marconi Drive: level of service “F”.

These segments are currently classified as a two lane Collector but are fully constructed with four lanes, including raised medians from Heinrich Hertz Drive to Siempre Viva Road and from Siempre Viva Road to Via de la Amistad. A reclassification to a four lane Major Arterial is recommended for the segment north of Siempre Viva Road and four lane Collector (with left turn lane) south of Siempre Viva Road. The significant segment impacts would be mitigated.

Marconi Drive

- Paseo de las Americas to Enrico Fermi Drive: level of service “F”.

This segment is constructed as a two lane industrial Collector, and is wide enough to be striped with two lanes and a continuous central left turn lane. Widening to a four lane Collector width would adversely affect adjacent properties. A two lane Collector (with left turn lane) classification is recommended. Although this restriping would add capacity, the segment significant impact would remain significant and unmitigated.

St. Andrews Avenue

- Otay Mesa Center Road to La Media Road: level of service “F”.

Although currently classified as a two lane Collector, this segment is constructed with four lanes. The segment significant impact would be mitigated with a change in classification to a four lane Collector (with left turn lane).

Gailes Boulevard

- Otay Mesa Road to St. Andrews Avenue: level of service “F”.

This street is constructed with four lanes and a raised median. A reclassification from a two lane Collector to a four lane Collector (without two-way left turn lane) is recommended and would mitigate the significant segment impact.

Camino Maquiladora

- Heritage Road to Pacific Rim Ct.: level of service “E”.

This segment serves adjacent industrial uses, but has diverted traffic from Otay Mesa Road. This segment is not meant to be a through traffic by-pass route and is not recommended for reclassification. The significant segment impact would be unmitigated.

Progressive Avenue

- Corporate Center Drive to Innovative Drive: level of service “F”.

This segment is constructed as a two lane industrial Collector (without left turn lane) and serves adjacent industrial uses, but has diverted traffic from Heritage Road. This segment is not meant to be a through traffic by-pass route. A reclassification to four lanes is not recommended. The significant segment impact would remain unmitigated.

Otay Mesa Center Road

- Otay Mesa Road to St. Andrews Avenue: level of service “F”.

This segment is classified as a two lane Collector but is constructed with four lanes without a two way left turn lane. A reclassification to a four lane Major Arterial is recommended. The significant segment impact would be mitigated.

Datsun Street

- Innovative Drive to Heritage Road: level of service “F”.

This segment is planned to serve the adjacent industrial uses, but has high volumes due to traffic diverted from Heritage Road. This segment is not meant to be a through traffic by-pass route. A classification as a four lane Collector (with left turn lane) is recommended, rather than a four lane Major Arterial. The significant segment impact would remain unmitigated.

Avenida Costa Azul

- Otay Mesa Road to St. Andrews Avenue: level of service “E”.

Add to circulation plan as a four lane Collector (with left turn lane). The significant segment impact would be mitigated by this classification.

Excellante Street / Gigantic Street / Centurion Street

- All segments at level of service “F”.

These streets are fully constructed four lane Collector (without left turn lane) loop streets that will serve adjacent development. No reclassification is recommended. The significant segment impacts would remain unmitigated.

Exposition Way / Vista Santo Domingo

- Avenida de las Vistas to Corporate Center Drive: level of service “F”.

This segment has high volumes due to diverted traffic from Otay Valley Road. Vista Santo Domingo is constructed as a two lane Collector (no fronting property) within a residential area and is not meant to be a by-pass route for through traffic, so that retaining this classification would discourage speeding, and through traffic not destined for the adjacent residential neighborhoods. A reclassification is not recommended. The significant segment impact would remain unmitigated.

Figure 5-3 shows recommended roadway classifications for the “No Project” buildout Community Plan scenario.

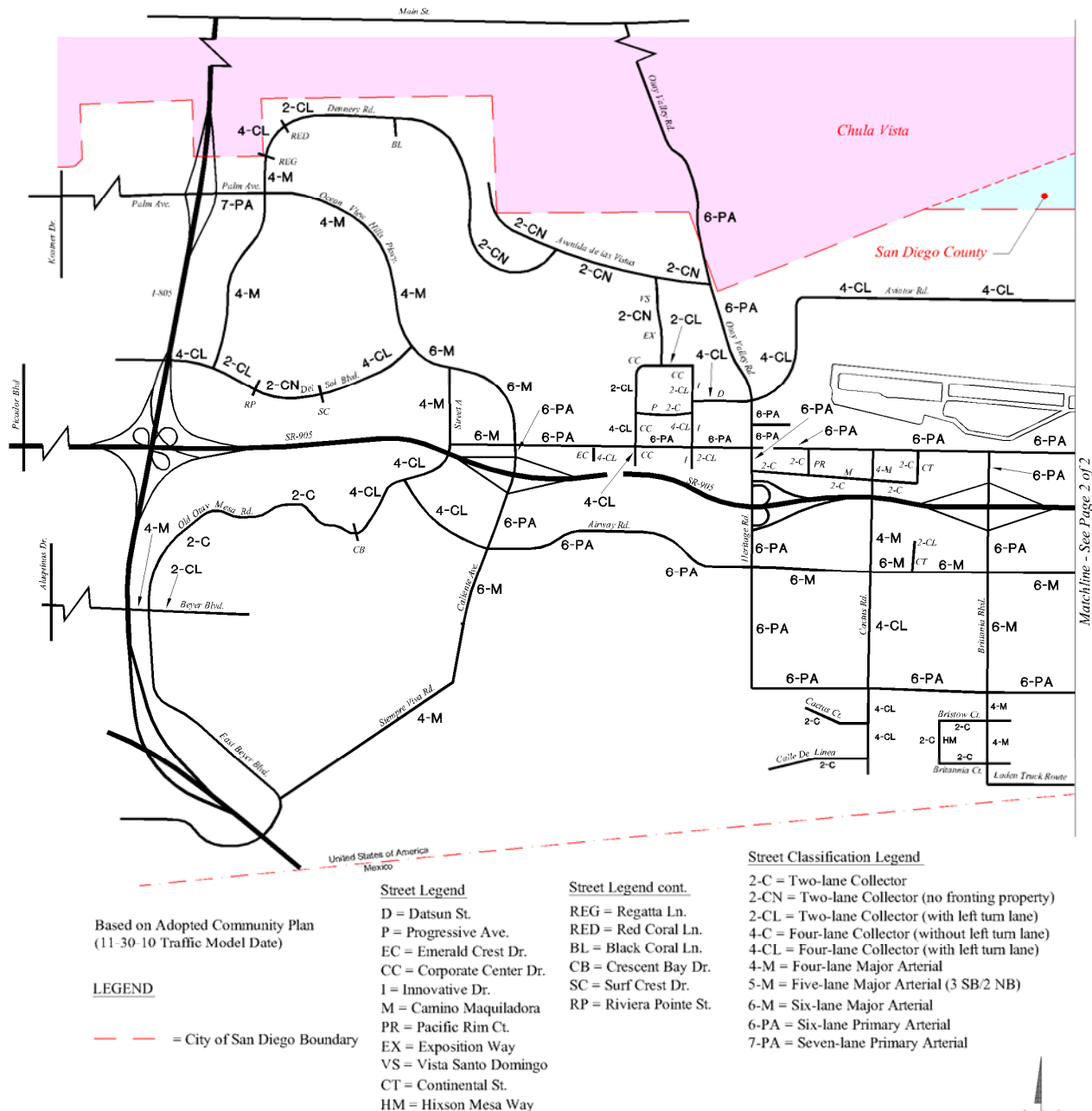
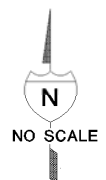


FIGURE 5-3
Adopted Community Plan Land Use Scenario
With Proposed Roadway Classification Recommendations



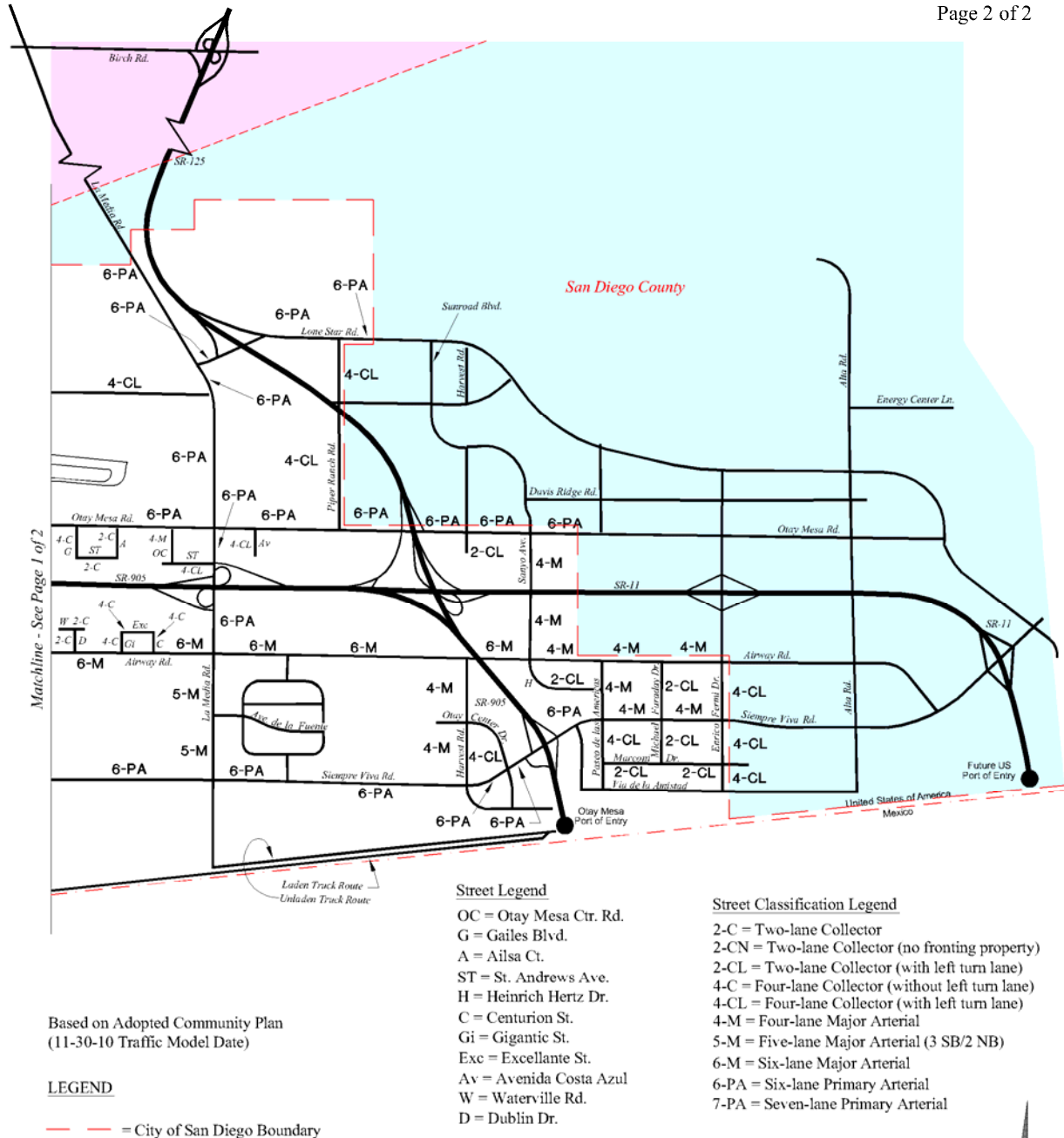


FIGURE 5-3
Adopted Community Plan Land Use Scenario
With Proposed Roadway Classification Recommendations

5.3 Freeway Levels of Service

Table 5-2 lists freeway segments evaluated for the “No Project” buildout Community Plan scenario.

Segments of Interstate 805 north of State Route 905 are projected to be significantly impacted by Otay Mesa Community Plan and regional cumulative traffic. With existing lanes and an additional northbound auxillary lane currently being constructed between SR-905 and Palm Avenue, the segment of I-805 north of SR-905 are expected to be at level of service “F”. The Adopted SANDAG 2050 Regional Transportation Plan (RTP) includes two managed lanes on I-805 in each direction north of SR-905. With these additional lanes, the segment of I-805 between Main Street and Palm Avenue would be at level of service “E”. The segment between Palm Avenue and SR-905 would be at level of service “D” during peak hours.

State Route 905 is assumed with six lanes and auxillary lanes as is being constructed by Caltrans. Impacts would be significant and unmitigated between Picador Boulevard and La Media Road. State Route 905 has been designed so that median High Occupancy Vehicle (HOV) lanes could be installed in the future, but are not currently planned or funded by Caltrans. The addition of HOV lanes would provide partial mitigation for local and regional cumulative impacts, but would not provide acceptable levels of service.

Table 5-2-A shows freeway levels of service with HOV lanes added to segments at level of service “F”.

TABLE 5-2

Buildout Adopted Community Plan Freeway Segment Levels of Service

Segment		Lanes (1-Way)	Cap.	ADT (1)	Peak Hour %(5)	Direction Split(5)	(6) Truck Factor	Peak Volume	V/C	LOS (2)
SR-905	Picador Blvd. to I-805 (3)	2 + AUX	6,300	144,500	0.08	0.6	0.90	7,707	1.22	F0
	I-805 to Caliente Ave. (4)	3 + CL	8,650	253,500	0.08	0.6	0.90	13,520	1.56	F3
	Caliente Ave. to Heritage Rd.	3	7,050	224,000	0.08	0.6	0.90	11,947	1.68	F3
	Heritage Rd. to Britannia Blvd.	3	7,050	193,000	0.08	0.6	0.90	10,293	1.46	F3
	Britannia Blvd. to La Media Rd.	3	7,050	167,000	0.08	0.6	0.90	8,907	1.26	F1
	La Media Rd. to SR-125	3	7,050	121,000	0.08	0.6	0.90	6,453	0.92	E
	SR-125 to Siempre Viva Rd.	3	7,050	103,000	0.08	0.6	0.90	5,493	0.78	C
	Siempre Viva Rd. to Border	3	7,050	64,500	0.08	0.6	0.90	3,440	0.48	B
I-805	Main St. to Palm Ave.	4	9,400	263,000	0.08	0.6	0.90	14,027	1.49	F3
	Palm Ave. to SR-905	4	9,400	232,500	0.08	0.6	0.90	12,400	1.32	F1
	SR-905 to I-5	4	9,400	107,500	0.08	0.6	0.90	5,733	0.60	B
	I-5 to Border	6	14,100	127,500	0.08	0.6	0.90	6,800	0.48	B
SR-125	Birch Rd. to Lone Star Rd.	4 (Toll)	9,700	102,500	0.08	0.6	0.90	5,467	0.56	E
	Lone Star Rd. to SR-905	4 (Toll)	9,700	76,000	0.08	0.6	0.90	4,053	0.42	C
SR – 11	SR-905 to Enrico Fermi Dr.	2	4,700	50,500	0.08	0.6	0.90	2,693	0.57	B
	Enrico Fermi Dr. to Siempre Viva Rd	2	4,700	25,000	0.08	0.6	0.90	1,333	0.28	A
	Siempre Viva Rd. to Border	2	4,700	39,500	0.08	0.6	0.90	2,107	0.45	B

Legend

Cap = Capacity of Segment
Mainlane Cap. @ 2,350 VPHPL
Auxillary Lane Cap. @ 1,800 VPHPL
HOV Lane Cap. @ 1,600 VPHPL
Climbing Lane Cap. @ 1,500 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

Direction Split = % of Peak Hour in Peak Direction

Truck Factor = Represents Capacity Reduction for Heavy Vehicles

Note:

(1) Year 2030 Forecast Volume, Average Daily Traffic Volume (9-30-10 Run Date, Series 11)

(2) Caltrans District 11 LOS Estimation Procedures, See Table 2-3

(3) = 2 Mainlanes + Auxillary Lane

(4) = EB: 3 Mainlanes + Climbing Lane
WB: 3 Mainlanes + Auxillary Lane

(5) = Source: Caltrans Traffic Volumes, Peak Hour Volume Data (existing average for I-805 & SR-905).

(6) Highway Capacity Manual (2000) EQN. (3-2); assume 10% trucks plus RV's.

F

= Shading indicates a significant impact.

TABLE 5-2-A
Buildout Adopted Community Plan
Freeway Segment Levels of Service
(With HOV Lanes Added To LOS F Segments)

Segment		ADD HOV	Lanes (1Way)	Cap.	ADT (1)	Peak Hour % (5)	Direction Split (5)	(6) Truck Factor	Peak Volume	V/C	LOS (2)
SR-905	Picador Blvd. to I-805 (3)	+H	2 + AUX	8,100	144,500	0.08	0.6	0.90	7,707	0.95	E
	I-805 to Caliente Ave. (4)	+H	3 + CL	10,150	249,000	0.08	0.6	0.90	13,280	1.31	F1
	Caliente Ave. to Heritage Rd.	+H	3	8,650	220,500	0.08	0.6	0.90	11,760	1.36	F2
	Heritage Rd. to Britannia Blvd.	+H	3	8,650	192,000	0.08	0.6	0.90	10,240	1.18	F0
	Britannia Blvd. to La Media Rd.	+H	3	8,650	165,000	0.08	0.6	0.90	8,800	1.02	F0
I-805	Main St. to Palm Ave,	+2H	4+AUX	14,400	264,000	0.08	0.6	0.90	14,080	0.98	E
	Palm Ave. to SR-905	+2H	4+AUX	14,400	234,500	0.08	0.6	0.90	12,507	0.87	D

Legend

Cap = Capacity of Segment

Mainlane Cap. @ 2,350 VPHPL

Auxillary Lane Cap. @ 1,800 VPHPL

HOV Lane Cap. @ 1,600 VPHPL

Climbing Lane Cap. @ 1,500 VPHPL


ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

Direction Split = % of Peak Hour in Peak Direction

Truck Factor = Represents Capacity Reduction for Heavy Vehicles

 = Shading indicates a significant impact.

+H = Add HOV lane in each direction.

+2H = Add two HOV lanes in each direction.

Note:

(1) Buildout Forecast Volume, Average Daily Traffic Volume (11-30-10 Run Date, Series 11)

(2) Caltrans District 11 LOS Estimation Procedures, See Table 2-3

(3) = 2 Mainlanes + Auxillary Lane

(4) = EB: 3 Mainlanes + Climbing Lane
WB: 3 Mainlanes + Auxillary Lane

(5) = Source: Caltrans Traffic Volumes, Peak Hour Volume Data (existing average for I-805 & SR-905).

(6) Highway Capacity Manual (2000) EQN. (3-2); assume 10% trucks plus RV's.

SR-905 HOV lanes are not currently in the Regional Transportation Plan and are not funded.

5.4 Intersection Levels of Service

Table 5-3 shows the “No Project” buildout Community Plan scenario intersection levels of service with and without recommended mitigation. **Figure 5-4** is the intersection number key showing locations of the listed intersections.

Intersection lane configurations without mitigation are assumed to be as shown in the City of San Diego Street Design Manual for the roadway classification at the intersection approaches. All intersections will be signalized. Lane configurations at intersections with mitigation identified are included in **Appendix B**. Also included are peak hour volumes at each intersection and intersection levels of service worksheets.

Mitigation beyond the lane configurations required in the City of San Diego Street Design Manual or at freeway ramps is recommended at 45 of 53 intersections evaluated.

Of the 53 intersections evaluated, 46 intersections are expected to be at level of service “E” or “F” during the AM peak hour and 48 during the PM peak hour. With feasible mitigation, 35 intersections would remain to operate unacceptably in the AM peak hour and ~~36~~ 37 intersections would remain to operate unacceptably in the PM peak hour. Several interchange intersections that can be designed for acceptable levels of service are included as significantly impacted due to upstream queues extending through the intersection causing increased delay and a degraded level of service, as footnoted in Table 5-3. **Table 5-4** shows lane configurations at each intersection and also shows lanes to be added after mitigation.

The SR-905 interchanges at Caliente Avenue and at La Media Road are recommended for major improvements. The Caltrans designs of these interchanges are based on forecasts of future traffic from the build out of only approximately fifty percent of Otay Mesa land uses. The Heritage Road interchange currently does not have a final, funded design, so that the lane configurations at the ramp intersections included in this report should be incorporated into the final design.

TABLE 5-3

**Buildout Adopted Community Plan
Intersection Levels of Service**

Intersection		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		CD	LOS	CD	LOS	CD	LOS	CD	LOS
1	Palm Ave. / I-805 SB Ramps	64.8	E	111.7	F	36.6	D	71.5	E
2	Palm Ave. / I-805 NB Ramps	167.1	F	172.8	F	5.6	A	8.9	(1) A
3	Palm Ave. / Dennerly Rd.	36.0	D	69.4	E	-	-	-	-
4	Otay Mesa Rd. / Caliente Ave.	359.8	F	201.6	F	236.3	F	102.0	F
5	Caliente Ave. / SR-905 WB Ramps	154.1	F	162.7	F	64.7	E	57.4	E
6	Caliente Ave. / SR-905 EB Ramps	225.9	F	214.7	F	92.9	F	56.8	E
7	Caliente Ave. / Airway Rd.	347.1	F	510.6	F	326.2	F	396.2	F
8	Caliente Ave. / Siempre Viva Rd.	86.4	F	82.0	F	-	-	-	-
9	Otay Mesa Rd. / Heritage Rd.	350.5	F	286.1	F	285.8	F	155.8	F
10	Heritage Rd. / SR-905 WB Ramps	36.8	(1) D	240.9	F	14.6	B	13.2	B
11	Heritage Rd. / SR-905 EB Ramps	64.3	E	127.7	F	50.4	(1) D	(1) 45.7	(1) D
12	Heritage Rd. / Airway Rd.	457.0	F	555.0	F	143.3	F	225.6	F
13	Heritage Rd. / Siempre Viva Rd.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14	Otay Mesa Rd. / Cactus Rd.	481.3	F	302.6	F	249.9	F	166.0	F
15	Airway Rd. / Cactus Rd.	212.3	F	319.4	F	115.2	F	100.7	F
16	Siempre Viva Rd. / Cactus Rd.	269.6	F	290.1	F	127.9	F	108.2	F
17	Otay Mesa Rd. / Britannia Blvd.	63.8	E	72.0	E	24.0	(1) C	54.1	(1) D
18	Britannia Blvd. / SR-905 WB Ramps	191.8	F	298.2	F	46.7	(1) D	187.9	F
19	Britannia Blvd. / SR-905 EB Ramps	290.0	F	283.7	F	276.0	F	124.5	F
20	Britannia Blvd. / Airway Rd.	453.3	F	490.5	F	218.1	F	206.7	F
21	Siempre Viva Rd. / Britannia Blvd.	502.4	F	494.6	F	208.2	F	302.3	F
22	Otay Mesa Rd. / La Media Rd.	484.5	F	495.7	F	148.3	F	128.0	F

Note: #13 is a right angle intersection (as assumed in the traffic model) with only two approaches.

Legend

CD = Control Delay

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

F = Shading indicates a significant impact.

TABLE 5-3 (Continued)

**Buildout Adopted Community Plan
Intersection Levels of Service**

Intersection	Without Mitigation				With Mitigation			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	CD	LOS	CD	LOS	CD	LOS	CD	LOS
23 La Media Rd. / SR-905 WB Ramps	257.6	F	335.2	F	117.7	F	195.7	F
24 La Media Rd. / SR-905 EB Ramps	319.2	F	224.8	F	218.5	F	157.6	F
25 La Media Rd. / Airway Rd.	786.8	F	654.3	F	236.9	F	338.7	F
26 La Media Rd. / Siempre Viva Rd.	303.0	F	238.6	F	90.6	F	102.7	F
27 La Media Rd. / Lone Star Rd.	547.7	F	755.8	F	399.5	F	492.2	F
28 Lone Star Rd. / SR-125 SB Off Ramp	52.4	(1) D	14.4	(1) B	-	-	-	-
29 Lone Star Rd. / SR-125 NB On Ramp	3.3	(1) A	7.2	(1) A	-	-	-	-
30 Lone Star Rd. / Piper Ranch Rd.	67.5	E	15.4	B	43.2	D	15.2	B
31 Otay Mesa Rd. / Piper Ranch Rd.	274.0	F	284.6	F	89.7	F	165.7	F
32 Otay Mesa Rd. / SR-125 SB Off Ramp	40.2	(1) D	7.9	(1) A	16.5	(1) B	7.3	A
33 Otay Mesa Rd. / SR-125 NB On Ramp	3.3	(1) A	14.9	(1) B	-	-	-	-
34 Otay Mesa Rd. / Harvest Rd.	132.3	F	87.2	F	34.1	C	41.9	(1) D
35 Siempre Viva Rd. / Otay Center Dr.	298.0	F	471.8	F	235.5	F	225.9	F
36 Siempre Viva Rd. / SR-905 SB to EB Ramp	149.3	F	248.1	F	-	-	-	-
36A Siempre Viva Rd. / SR-905 SB to WB Ramp	(2) 4,196	F	(2) 899.3	F	292.5	F	40.4	(1) D
37 Siempre Viva Rd. / SR-905 NB Ramps	150.8	F	431.7	F	144.1	F	355.8	F
38 Siempre Viva Rd. / Paseo de las Americas	648.7	F	751.0	F	352.0	F	430.7	F
39 Dennery Rd. / Del Sol Blvd.	104.7	F	72.2	E	-	-	-	-
40 Ocean View Hills Pkwy. / Del Sol Blvd.	172.7	F	192.2	F	68.2	E	132.4	F
41 Ocean View Hills Pkwy. / Street A	162.6	F	258.4	F	49.8	D	51.9	D
42 Old Otay Mesa Rd. / Beyer Blvd.	623.1	F	638.2	F	47.7	D	46.0	D
43 Otay Mesa Rd. / Corporate Center Dr.	146.2	F	125.8	F	103.7	F	96.5	F
44 Otay Mesa Rd. / Innovative Dr.	96.4	F	64.8	E	82.8	F	36.2	D

Legend

CD = Control Delay

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

(2) Unsignalized: SB to WB Right Turn at LOS F (AM and PM Peak Hours);

F = Shading indicates a significant impact.

TABLE 5-3 (Continued)

**Buildout Adopted Community Plan
Intersection Levels of Service**

Intersection		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		CD	LOS	CD	LOS	CD	LOS	CD	LOS
45	Harvest Rd. / Airway Rd.	41.1	D	238.9	F	38.1	D	101.5	F
46	Harvest Rd. / Siempre Viva Rd.	239.9	F	230.4	F	203.8	F	221.1	F
47	Otay Mesa Rd. / Sanyo Ave.	296.7	F	424.5	F	109.9	F	113.5	F
48	Airway Rd. / Sanyo Ave.	740.3	F	371.4	F	178.8	F	131.1	F
49	Paseo de las Americas / Heinrich Hertz Dr.	(3) 196.9	F	(3) 440.2	F	10.4	B	15.0	B
50	Paseo de las Americas / Marconi Dr.	(4) 57.8	F	(4) 268.1	F	4.6	A	60.6	E
51	Heritage Rd. / Otay Valley Rd. / Datsun St.	531.8	F	676.7	F	181.3	F	290.3	F
52	Aviator Rd. / La Media Rd.	159.9	F	79.4	E	102.4	F	54.4	D
53	Otay Valley Rd. / Avenida De Las Vistas	850.4	F	361.8	F	-	-	-	-

Note: Control delay results should be considered unreliable at delay values higher than two times the LOS E value of 80.0 seconds.

Legend

CD = Control Delay

LOS = Level of Service

(3) Unsignalized: Northbound Left, Eastbound Left and Right Turns at LOS F (AM and PM Peak Hours)

(4) Unsignalized: Southbound Left, Westbound Left Turns at LOS F (AM Peak Hour);

Westbound Right Turn at LOS F (PM Peak Hour).

For unsignalized intersections, LOS F is at greater than 50.0 seconds delay / vehicle.

F = Shading indicates a significant impact.

Control Delay	LOS
0.0 - 10.0	A
10.1 - 20.0	B
20.1 - 35.0	C
35.1 - 55.0	D
55.1 - 80.0	E
Over 80.0	F
<i>Source: 2000 Highway Capacity Manual</i>	

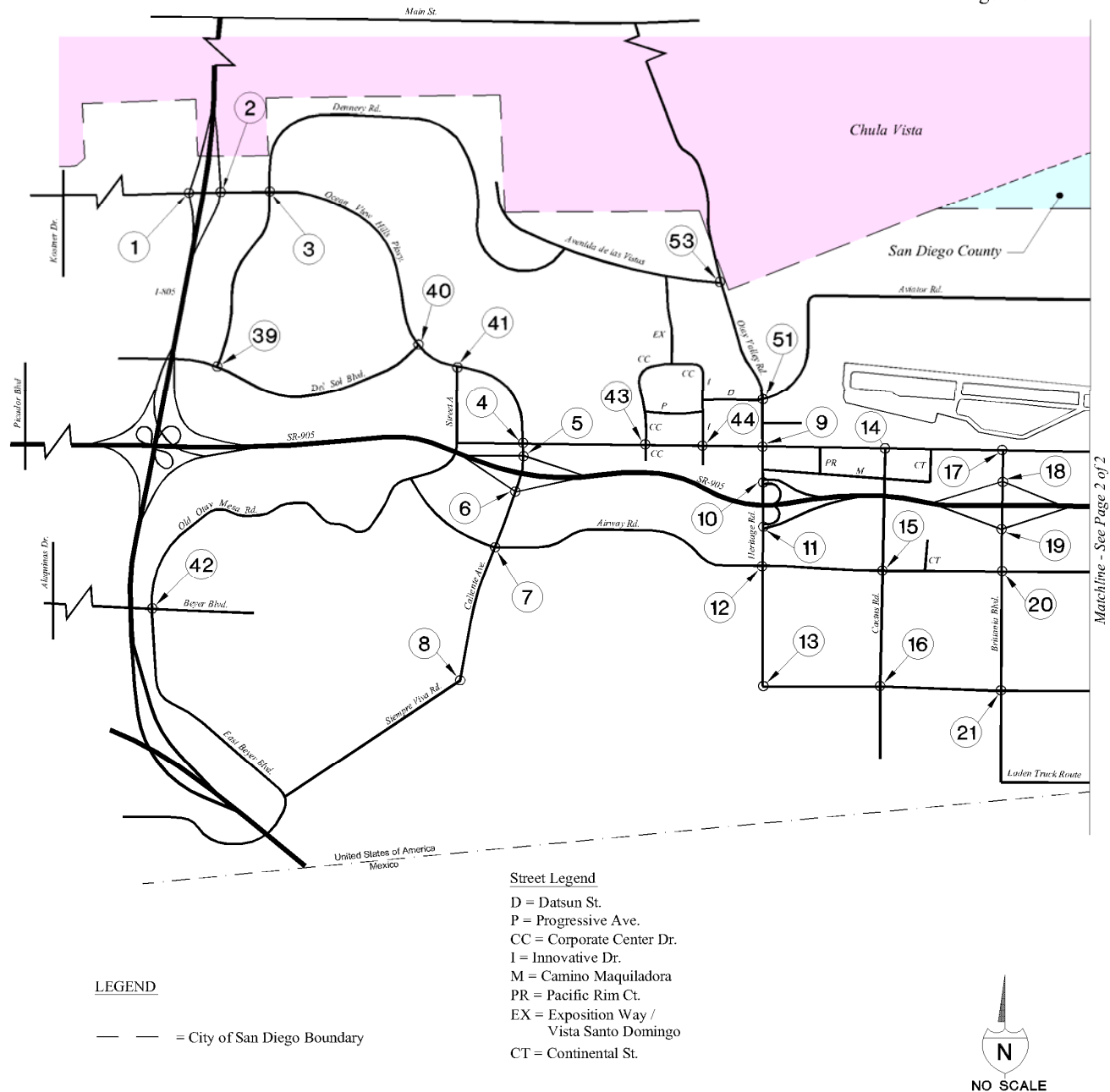


FIGURE 5-4
Adopted Community Plan
Intersection Number Key

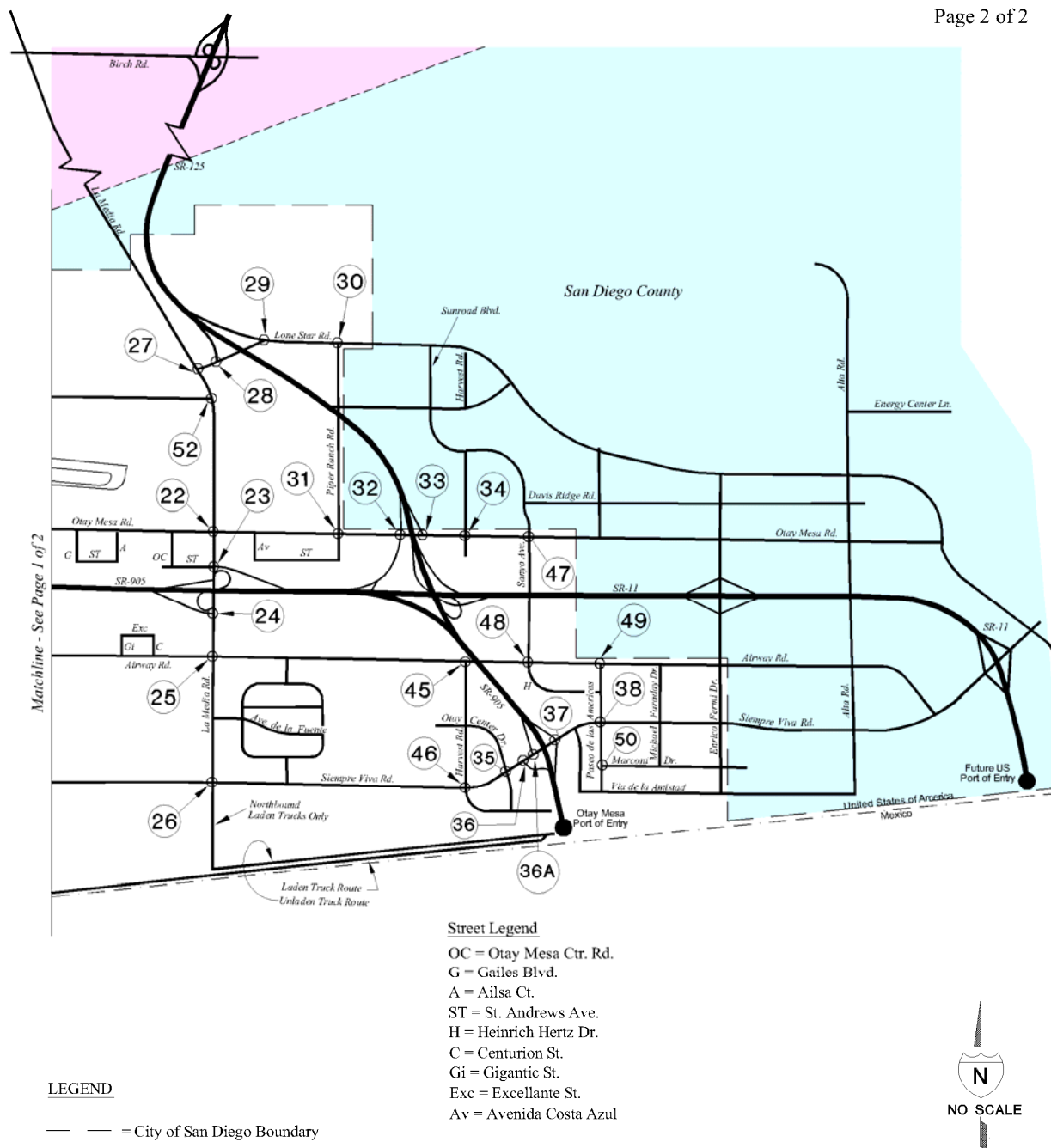


FIGURE 5-4
Adopted Community Plan
Intersection Number Key

TABLE 5-4

Intersection Mitigation Buildout Adopted Community Plan

Intersection	Without Mitigation												With Mitigation											
	NB			SB			EB			WB			NB			SB			EB			WB		
	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R
1 Palm Ave. / I-805 SB Ramps				1	1*	1		2	1	2	2					1	1*	2		2	1	2	2	
2 Palm Ave. / I-805 NB Ramps	S	1*	1				2	2			2	1	1	1*	1				3	1		3	2	
3 Palm Ave. / Dennerly Rd.	3	1	S	2	2	1	2	3	1	2	3	1												
4 Otay Mesa Rd. / Caliente Ave.	2	3	S	2	3	S	2	3	1	2	3	1	2	3	1	2	3	S	2	3	1	2	3	1
5 Caliente Ave. / SR-905 WB Ramps	1	3			3*	S					S	1	1	1		2	3		3	1		S	1	1
6 Caliente Ave. / SR-905 EB Ramps		3	S	1	3		1	1*	S							3	1	2	3		1	1*	1	
7 Caliente Ave. / Airway Rd.	2	3	S	2	3	S	2	2	S	2	2	1	2	3	1	2	3	S	2	2	1	2	2	1
8 Caliente Ave. / Siempre Viva Rd.				1		2	2	1				1	1											
9 Otay Mesa Rd. / Heritage Rd.	2	3	S	2	3	S	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	2
10 Heritage Rd. / SR-905 WB Ramps		3	S	2	3					S		2		3	2	2	3					S		2
11 Heritage Rd. / SR-905 EB Ramps		3	S	2	3						2	S		3	1	2	3					2		1
12 Heritage Rd. / Airway Rd.	2	3	S	2	3	S	2	3	S	2	3	S	2	3	1	2	3	2	2	3	2	2	3*	1
13 Heritage Rd. / Siempre Viva Rd.				2								2												
14 Otay Mesa Rd. / Cactus Rd.	2	1*	1	1	1	S	1	3	S	2	3	S	2	1*	1	1	1	S	1	3	2	2	3	1
15 Airway Rd. / Cactus Rd.	2	2	S	2	2	S	2	3	S	2	3	S	2	2	1	2	2*	1	2	3*	1	2	3	1
16 Siempre Viva Rd. / Cactus Rd.	2	2	S	2	2	S	2	3	S	2	3	S	2	2	1	2	2	1	2	3	1	2	3	2
17 Otay Mesa Rd. / Britannia Blvd.	2		2					3	S	2	3		2		2				3	1	2	3		
18 Britannia Blvd. / SR-905 WB Ramps	2	3			3	S				1	1*	1	2	3		3*	1					1	1*	1
19 Britannia Blvd. / SR-905 EB Ramps		3	S	2	3		S	1	2				3	2	2	3		S	1	2				
20 Britannia Blvd. / Airway Rd.	2	3	S	2	3	S	2	3	S	2	3	S	2	3	2	2	3	2	2	3	1	2	3	2
21 Siempre Viva Rd. / Britannia Blvd.	2	2	S	2	2	S	2	3	S	2	3	S	2	2	1	2	2	2	2	3	2	2	3	2
22 Otay Mesa Rd. / La Media Rd.	2	3	S	2	3	S	2	3	S	2	3	S	2	3	2	2	3	2	2	3	2	2	3	2

Legend

L = left turn lanes
T = through lanes
R = right turn lanes
S = shared lane

* Notes: #1-SB through is shared LTR without mitigation; shared LT with mitigation.

#2-NB through is shared LTR.

#4-WB lanes are restriped for 2T-2R.

#5-SB is 2T-TR-R without mitigation.

#6-EB through is shared LTR without mitigation, shared LT with mitigation.

#12-WB through has shared TR.

#14-NB through is shared TR.

#15-SB through is shared TR.

#15-EB through is shared TR.

#18-WB through is shared TR without mitigation..

#18-WB through is shared LTR with mitigation.

#18-SB RT lanes added, 3rd lane restriped for shared TR.

1 Highlighted indicates added lane mitigation or revised lane assignment by restriping, as noted.

TABLE 5-4 (Continued)

Intersection Mitigation Buildout Adopted Community Plan

Intersection	Without Mitigation												With Mitigation											
	NB			SB			EB			WB			NB			SB			EB			WB		
	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R
23 La Media Rd. / SR-905 WB Ramps	2	2	1		3	1	S	1	1	1	1*	1	2	3	1		3	1	1		1	1	1*	1
24 La Media Rd. / SR-905 EB Ramps	2	3			2	1	2		2				2	3			3	1	2		2			
25 La Media Rd. / Airway Rd.	2	2	S	2	3	S	2	3	S	2	3	S	2	2	1	2	3	2	2	3	1	2	3	2
26 La Media Rd. / Siempre Viva Rd.				2	2	S	2	3	S			3	S			2	1	2	2	3			3	2
27 La Media Rd. / Lone Star Rd.	2	3	S	2	3	S	1	1	1	2	3	S	2	3	1	2	3	1	1	1	1	2	1*	2*
28 Lone Star Rd. / SR-125 SB Off Ramp				2		2		3			3													
29 Lone Star Rd. / SR-125 NB On Ramp							2	3			3	2												
30 Lone Star Rd. / Piper Ranch Rd.	2		1					3	S	1	3		2		1					3	1	1	3	
31 Otay Mesa Rd. / Piper Ranch Rd.	1	2	S	1	2	S	2	3	S	2	3	S	2	1	1*	2	1	2*	2	3	1	2	3	1
32 Otay Mesa Rd. / SR-125 SB Off Ramp				1	1*	1		3			3					1	1*	1		3			3	
33 Otay Mesa Rd. / SR-125 NB On Ramp							2	3			3	2												
34 Otay Mesa Rd. / Harvest Rd.	1	1	S	1	1	S	1	3	S	1	3	S	2	1	S	1	1	S	1	3	1	1	3	1
35 Siempre Viva Rd. / Otay Center Dr.	1	1	S	1	2	S	1	3	S	1	3	S	1	1	1	2	1	1	2	3	1	2	3	1
36 Siempre Viva Rd. / SR-905 SB to EB Ramp			2					3	S	2	3													
36A Siempre Viva Rd. / SR-905 SB to WB Ramp						1					3						2						3	
37 Siempre Viva Rd. / SR-905 NB Ramps	S	1	2				2	3			3*	1	S	1	2				2	3			3	2
38 Siempre Viva Rd. / Paseo de las Americas	1	2	S	1	2	S	1	3	1	1	3	S	1	1*	1*	1	1	2	2	3	1	1	3	1
39 Dennery Rd. / Del Sol Blvd.				1		1	1	2			2	S												
40 Ocean View Hills Pkwy. / Del Sol Blvd.	2	3	S	1	2	S	1	1	1	1	1	S	2	3	S	1	2	1	1*	1*	1	1	1	S
41 Ocean View Hills Pkwy. / Street A	1	1	1	1	1	S	1	3	S	1	3	S	2	1	1	1	1	S	1	3	2	1	3	S
42 Old Otay Mesa Rd. / Beyer Blvd.	1	1	S	1	1	S	2	2	1	2	2	S	1	1	S	1	1	1	2	2	1	2	2	S
43 Otay Mesa Rd. / Corporate Center Dr.	2	1	S	1	1*	1	2	3	S	2	3	1	2	1	S	2	1*	1	2	3	1	2	3	1
44 Otay Mesa Rd. / Innovative Dr.	1	1	S	1	1*	1	2	3	S	2	3	1	1	1	S	2	1*	1	2	3	S	2	3	1

Legend

L = left turn lanes
T = through lanes
R = right turn lanes
S = shared lane

*Notes:

#23-WB middle lane is shared LT.
#27-WB lanes restriped for 2L-T-2R.
#31-NB lanes restriped for 2L-1T-Add R.
#31-SB lanes restriped for 2L-1T-Add 2R.
#32-SB middle lane L without mitigation, shared LR with mitigation.
#37-WB lanes striped for 2T-TR-R.
#38-NB lanes restriped for L-LT-R.
#40-EB lanes restriped for L-LT-R.
#43-SB middle lane is shared TR.
#44-SB middle lane is shared TR.

1 Highlighted indicates added lane mitigation or revised lane assignment by restriping, as noted.

TABLE 5-4 (Continued)

Intersection Mitigation Buildout Adopted Community Plan

Intersection	Without Mitigation												With Mitigation											
	NB			SB			EB			WB			NB			SB			EB			WB		
	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R
45 Harvest Rd. / Airway Rd.	2		1					3	S	2	3		2		1				3	1	2	3		
46 Harvest Rd. / Siempre Viva Rd.	1	2	S	2	2	S	2	3	S	2	3	S	1	2	S	2	2	1	2	3	S	2	3	1
47 Otay Mesa Rd. / Sanyo Ave.	1	2	S	1	2	S	2	3	S	2	3	S	2	1	1	1	1	1	2	3	2	2	3	1
48 Airway Rd. / Sanyo Ave.	1	2	S	1	2	S	2	3	S	2	2	S	2	2	1	2	2	2	2	2	2	2	2	1
49 Paseo de las Americas / Heinrich Hertz Dr.	1	2		2	S	1		1					2	2		2	S	1		2				
50 Paseo de las Americas / Marconi Dr.		2	S	1	2					1		1		2	S	2	2					1		1
51 Heritage Rd. / Otay Valley Rd.	2	3	S	2	3	S	1	2	S	1	2	S	2	3	1	2	3	2	2	2	1	2	2	1
52 Aviator Rd. / La Media Rd.	2	3			3	S	2		1				2	3			3	1	2		1			
53 Otay Valley Rd. / Avenida De Las Vistas	1	3	S	1	3	S	1	1	S	1	1	1												

Legend

L = left turn lanes

T = through lanes

R = right turn lanes

S = shared lane

1 Highlighted indicates added lane mitigation or revised lane assignment by restriping, as noted.

Provided below is a summary of mitigation recommended at the interchanges and major intersections. Some intersection impacts are not proposed to be fully mitigated, usually because it would require excessively wide intersections and turning lanes and non-standard intersection configurations.

#1 & #2. I-805 Southbound and Northbound Ramps / Palm Avenue – The Otay Mesa P.F.F.P includes a bridge widening project at this location. The preliminary design includes a third through lane in each direction, an additional westbound right turn lane (total of two), northbound off- ramp widening for an additional lane (total of three), southbound off-ramp widening for an additional lane (total of four), and the addition of a fourth eastbound lane and a loop on-ramp in the southeast quadrant.

#4. Caliente Avenue / Otay Mesa Road – At this intersection of two six-lane Primary Arterials, a separate right turn only lane in the northbound direction is recommended. Although the northbound right turn volumes are expected to be high enough to warrant dual right turns, this intersection is near San Ysidro High School and in the interest of pedestrian safety and convenience, the dual right turns are not recommended.

#5. Caliente Avenue / SR-905 Westbound Ramps – Overcrossing widening to accommodate northbound dual left turn lanes is recommended. Additionally, a single southbound right turn only lane is recommended. Caliente Avenue is a school pedestrian route to the San Ysidro High School. Although the southbound right turn volumes are expected to be high enough to warrant dual right turn lanes, the dual right turns are not recommended.

#6. Caliente Avenue / SR-905 Eastbound Ramps - Overcrossing widening to accommodate dual northbound left turn lanes at the SR-905 westbound ramps also should extend through this intersection, accommodating dual southbound left-turn lanes. A separate northbound right turn lane is recommended. Ramp widening in the eastbound direction for an added right turn lane is recommended. Although the eastbound right turn volumes are expected to be high enough to warrant dual right turn lanes, the dual right turn lanes are not recommended on this pedestrian route to San Ysidro High School.

#7. Caliente Avenue at Airway Road - Separate right turn only lanes are recommended in the eastbound, northbound, and westbound directions. Although the northbound and westbound right turn volumes are expected to be high enough to warrant dual right turn lanes, the dual right turn lanes are not recommended on this pedestrian route to San Ysidro High School.

#9. Heritage Road / Otay Mesa Road - Separate right turn only lanes are recommended in the northbound and southbound directions. Existing right turn lanes are in place eastbound and westbound. A second westbound right turn lane is recommended.

#10. Heritage Road / SR-905 Westbound Ramps - Two right turn only lanes are recommended in the northbound direction onto the westbound on-ramp.

#11. Heritage Road / SR-905 Eastbound Ramps - A separate right turn lane in the northbound direction to the eastbound on-ramp, plus an added right turn lane in the westbound direction on the eastbound off-ramp are recommended.

#12. Heritage Road / Airway Road – Dual right turn lanes are recommended in the southbound and eastbound directions. Separate single right turn lanes are recommended in the northbound and westbound directions. The westbound #3 lane should be a shared through / right turn lane.

#14. Cactus Road / Otay Mesa Road - Dual right turn lanes in the eastbound direction, and one right turn lane in the westbound direction are recommended.

#15. Cactus Road / Airway Road - Dual right turn lanes in the westbound direction, and single right turn lanes are recommended in the south, north, and eastbound directions. The outer through lane eastbound and southbound are recommended to be shared through / right lanes.

#16. Cactus Road / Siempre Viva Road - Dual right turn lanes in the westbound direction and single right turn lanes are recommended in the south, north, and eastbound directions.

#17. Britannia Boulevard / Otay Mesa Road - A single right turn only lane in the eastbound direction is recommended.

#18. Britannia Boulevard / SR-905 Westbound Ramps - A single southbound right turn lane, and also restriping the third southbound through lane as an optional through / right turn is recommended. Restriping the westbound middle lane for a shared left / through / right turn lane is recommended.

#19. Britannia Boulevard / SR-905 Eastbound Ramps - Dual right turn lanes northbound are recommended.

#20. Britannia Boulevard / Airway Road - Dual right turn lanes in the north, south, and westbound directions, and a single right turn lane in the eastbound direction are recommended.

#21. Britannia Boulevard / Siempre viva Road - Dual right turn lanes in the east, west, and southbound directions, and a single right turn lane in the northbound direction are recommended.

#22. La Media Road / Otay Mesa Road – Dual right turn lanes are recommended at all approaches.

#23. La Media Road / SR-905 Westbound Ramps – The Caltrans design for the SR-905 / La Media Road interchange is based on future traffic estimates from the build out of only approximately fifty percent of Otay Mesa land uses and improvements will be needed to accommodate full build out. It is recommended that the eastbound through movement be eliminated so that the northbound right turn to the SR-905 westbound on-ramp can be a continuous movement, without a conflicting movement at the traffic signal. Only a pedestrian signal would cause this traffic to stop. Additionally a third northbound through lane is recommended. These recommended improvements would require widening in the northbound direction along La Media Road.

#24. La Media Road / SR-905 Eastbound Ramps - The addition of a third southbound through lane is recommended. This improvement would require widening La Media Road in the southbound direction.

#25. La Media Road / Airway Road - The addition of dual right turn lanes westbound and southbound, and single right turn lanes eastbound and northbound are recommended.

#26. La Media Road / Siempre Viva Road - The addition of dual right turn lanes westbound, and one right turn lane southbound are recommended. The southbound lanes should be stiped for two lefts / one through / two right turn lanes. The southbound through lane will be restricted to unladen trucks destined to the Border Truck Road.

#27. La Media Road / Lone Star Road - Northbound and southbound right turn lanes are recommended. The three westbound through lanes are recommended to be striped for one through and two right turn lanes.

#30. Piper Ranch Road / Lone Star Road – An eastbound right turn lane is recommended.

#31. Piper Ranch Road / Otay Mesa Road – Single right turn lanes in the east, west, and northbound directions are recommended. Southbound, two right turn lanes are recommended.

#32. SR-125 Southbound Off-Ramp / Otay Mesa Road – No additional lanes are recommended, but restriping the southbound middle lane for optional left / right turns is recommended.

#34. Harvest Road / Otay Mesa Road – Additional east and westbound right turn lanes are recommended. An additional northbound left turn lane is also recommended.

#35. Otay Center Drive / Siempre Viva Road - Added lanes for right turns are recommended at all approaches. Dual left turn lanes are recommended east, west, and southbound.

#36 -36A. SR-905 Southbound Ramps / Siempre Viva Road – The SR-905 southbound off-ramp to westbound Siempre Viva Road is recommended to be signalized, and widened for an additional southbound right turn lane.

#37. SR-905 Northbound Ramps / Siempre Viva Road – A second westbound right turn lane is recommended.

#38. Paseo de las Americas / Siempre Viva Road - Added westbound and southbound right turns are recommended, plus an eastbound left turn lane. The northbound lanes should be restriped for one left, one left /through, one right turn lane.

#40. Ocean View Hills Parkway / Del Sol Boulevard - One added southbound right turn lane is recommended. The eastbound through lane should be restriped for optional left turns / through.

#41. Ocean View Hills Parkway / Street “A” - Eastbound dual right turn lanes and an added northbound left turn lane are recommended.

#42. Old Otay Mesa Road / Beyer Boulevard - A southbound right turn lane is recommended.

#43. Otay Mesa Road / Corporate Center Drive - Northbound and southbound added left turn lanes, and a separate eastbound right turn lane are recommended.

#44. Otay Mesa Road / Innovative Drive - A second southbound left turn lane is recommended.

#45. Airway Road / Harvest Road - An eastbound right turn lane is recommended.

#46. Harvest Road / Siempre viva Road - Separate right turn lanes are recommended westbound and southbound.

#47. Otay Mesa Road / Sanyo Avenue - Eastbound dual right turn lanes, and single right turn lanes northbound and westbound are recommended. Restriping northbound lanes for dual left turns plus one through lane is recommended.

#48. Airway Road / Sanyo Avenue - Dual right turn lanes in the eastbound direction are recommended, to be provided by widening for one lane and restriping the third through lane for right turns only. Added single right turn lanes northbound and westbound are recommended. Northbound and southbound added lanes for dual left turns are recommended.

#49. Paseo de las Americas / Heinrich Hertz Drive - The installation of traffic signal and widening for an added northbound left turn lane and an eastbound right turn lane are recommended.

#50. Paseo de las Americas / Marconi Drive - The installation of a traffic signal and adding a southbound left turn lane are recommended.

#51. Heritage Road / Otay Valley Road - Dual right turn lanes southbound, and single right turn lanes at the other approaches are recommended. East and westbound dual left turn lanes are recommended.

#52. La Media Road / Aviator Road - A southbound right turn lane is recommended.

5.5 Ramp Meter Operations

Table 5-5 shows buildout ramp meter operations at all the freeway on-ramps within the study area.

The likely most restrictive ramp meter rate as provided by Caltrans was used for this evaluation.

Regional SANTEC / ITE Traffic Impact Study Guidelines state that levels of service does not apply to ramp meters, but that ramp meter delays above 15 minutes are considered excessive. Of the 28 hours ramps meters were evaluated during AM and PM peak hours, ramp meter delays above 15 minutes would occur at six locations during the AM peak hour and at eleven locations during the PM peak hour.

Ramp meter delays above 15 minutes are considered significant impacts if downstream freeways are operating at level of service “E” or “F”. The following six ramp locations would be significantly impacted using this significance criteria:

- I-805 / Palm Avenue Northbound (From Westbound) (AM and PM);
- SR-905 / Caliente Avenue Westbound on-ramp (AM and PM);
- SR-905 / Heritage Road Westbound on-ramp (PM);
- SR-905 / Britannia Boulevard Westbound on-ramp (AM and PM);
- SR-905 / Britannia Boulevard Eastbound on-ramp (PM);
- SR-905 / La Media Road Westbound on-ramp (AM and PM).

The freeway on-ramps evaluated would have ramp lengths from 650 feet to 1,200 feet. Assuming two lanes at the ramp meters, six locations would have queues exceeding the ramp storage length during the AM peak hour, and at eleven locations during the PM peak hour, as footnoted in Table 5-5.

TABLE 5-5

Buildout Community Plan Ramp Meter Operations

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	I-805 / Palm Avenue Northbound (From Westbound)	1,505	960	545	34.1	13,625 (E)
PM	I-805 / Palm Avenue Northbound (From Westbound)	1,620	960	660	41.3	16,500 (E)
AM	I-805 / Palm Avenue Northbound (From Eastbound)	725	960	None	None	None
PM	I-805 / Palm Avenue Northbound (From Eastbound)	595	960	None	None	None
PM	I-805 / Palm Avenue Southbound	690	960	None	None	None

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / Caliente Avenue Westbound	1,780	960	820	51.2	20,500 (E)
PM	SR-905 / Caliente Avenue Westbound	1,895	960	935	58.4	23,375 (E)
AM	SR-905 / Caliente Avenue Eastbound	480	960	None	None	None
PM	SR-905 / Caliente Avenue Eastbound	480	960	None	None	None

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / Heritage Road Westbound	850	960	None	None	None
PM	SR-905 / Heritage Road Westbound	2,130	960	1,170	73.1	29,250 (E)
AM	SR-905 / Heritage Road Eastbound	300	960	None	None	None
PM	SR-905 / Heritage Road Eastbound	510	960	None	None	None

Most restrictive meter rate used, per Caltrans

** = Total hourly volume entering from both directions.

(E) = Exceeds ramp storage length.

TABLE 5-5

Buildout Community Plan Ramp Meter Operations

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / Britannia Blvd. Westbound	1,200	960	240	15.0	6,000 (E)
PM	SR-905 / Britannia Blvd. Westbound	3,205	960	2,245	140.3	56,125 (E)
AM	SR-905 / Britannia Blvd. Eastbound	450	960	None	None	None
PM	SR-905 / Britannia Blvd. Eastbound	1,350	960	390	24.4	9,750 (E)

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / La Media Road Westbound	1,705	960	745	46.6	18,625 (E)
PM	SR-905 / La Media Road Westbound	3,610	960	2,650	165.6	66,250 (E)
AM	SR-905 / La Media Road Eastbound	700	960	None	None	None
PM	SR-905 / La Media Road Eastbound	1,720	960	760	47.8	19,000 (E)

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / Siempre Viva Rd. Northbound	1,365	960	405	25.3	10,125 (E)
PM	SR-905 / Siempre Viva Rd. Northbound	5,225	960	4,265	266.6	106,375 (E)
AM	SR-905 / Siempre Viva Rd. Southbound	850	960	None	None	None
PM	SR-905 / Siempre Viva Rd. Southbound	1,655	960	695	43.4	17,375 (E)

* = Most restrictive meter rate used, per Caltrans.

** = Total hourly volume entering from both directions.

(E) = Exceeds ramp storage length.

TABLE 5-5

Buildout Community Plan Ramp Meter Operations

Most Restrictive Meter Rate						
Location		Demand ** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-125 / Otay Mesa Rd. Northbound	865	960	None	None	None
PM	SR-125 / Otay Mesa Rd. Northbound	2,265	960	1,305	81.6	32,625 (E)

Most Restrictive Meter Rate						
Location		Demand* (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-125 / Lone Star Rd. Northbound	1,220	960	260	16.2	6,500 (E)
PM	SR-125 / Lone Star Rd. Northbound	2,000	960	1,040	65.0	26,000 (E)

* = Most restrictive meter rate used, per Caltrans.

** = Total hourly volume entering from both directions.

Excess Demand X 60MIN = Delay (Minutes)

Meter Rate

(E) = Exceeds ramp storage length.

Note: Experience shows that the theoretical queue length derived by this analysis often does not materialize. Motorists, after a brief time of adjustment, seek alternative travel paths if available, or alternative times of arrival at the meter. The effect is to approximately minimize total trip time by seeking out the best combinations of route and departure time at the beginning of the trip. This causes at least two important changes in the pattern on arriving traffic at ramp meters. First, the peak period is spread out with some traffic arriving earlier and some traffic arriving later than predicted. Second, a significant proportion of the predicted arriving traffic will use another ramp with shorter queues, use another freeway, or stay on surface streets.

Ramp meter queues are also tabulated, but there are no performance criteria regarding excessive queues in the Regional Traffic Impact Study Guidelines. However, the guidelines state the following:

“Experience shows that the theoretical queue length derived by this analysis often does not materialize. Motorists, after a brief time of adjustment, seek alternative travel paths if available or alternative times of arrival at the meter. The effect is to approximately minimize total trip time by seeking out the best combinations of route and departure time at the beginning of the trip. This causes at least two important changes in the pattern on arriving at ramp meters. First, the peak period is spread out with some traffic arriving earlier and some traffic arriving later than predicted. Second, a significant proportion of the predicted arriving traffic will use another ramp with shorter queues, [if available], use another freeway, or stay on surface streets.”

5.6 Freeway Interchange Queue Analysis

A queue analysis was prepared at the interchange ramps within the study area, and queue lengths without intersection mitigation are shown in **Table 5-6**, while **Table 5-7** shows queue lengths with mitigation.

There are no intersection queue length performance criteria within the Regional SANTEC / ITE Traffic Impact Study Guidelines. This queue analysis was provided to primarily evaluate whether interchanges could accommodate the projected traffic volumes and then compare the three scenarios evaluated in this report.

Of the 164 queues evaluated without mitigation, during AM and PM peak hours, 91 are expected to be of excess length for the vehicle storage available between these closely spaced intersections at freeway interchange ramps. With intersection mitigation, 192 queues were evaluated and 78 are expected to be of excess length, extending through the adjacent intersection.

Table 5-6

Adopted Community Plan
Buildout Queue Analysis Without Mitigation

Queue Locations North / South	AM Peak Hour														
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound			
	RT	TH	LT		RT	TH	LT		LT	TH	RT		LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-	370	4,100	-	-	450	None	3,650	-
Caliente Ave. / SR-905 WB Ramps	1,383	1,808	-	450	933	1,358	-	1,588	2,725	-	450	1,138	2,275	-	-
Caliente Ave. / SR-905 EB Ramps	-	173	590	450	-	None	140	-	2,375	-	300	-	2,075	-	-
Caliente Ave. / Airway Rd.	-	525	2,800	300	-	225	2,500	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-	310	1,053	-	750	None	303	-	-
Heritage Rd. / SR-905 WB Ramps	-	160	218	750	-	None	None	-	1,858	-	750	-	1,108	-	-
Heritage Rd. / SR-905 EB Ramps	-	825	168	750	-	75	None	-	1,920	-	750	-	1,170	-	-
Heritage Rd. / Airway Rd.	-	3,825	2,078	750	-	3,075	1,328	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-	430	-	688	900	None	-	-	None
Britannia Blvd. / SR-905 WB Ramps	540	1,163	-	900	None	263	-	1,010	198	-	450	560	None	-	-
Britannia Blvd. / SR-905 EB Ramps	-	1,068	300	450	-	618	None	-	1,595	-	900	-	695	-	-
Britannia Blvd. / Airway Rd.	-	3,670	2,428	900	-	2,770	1,528	-	-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-	2,423	3,375	-	450	1,973	2,225	-	-
La Media Rd. / SR-905 WB Ramps	105	2,900	-	450	None	2,450	-	248	5,100	4,275	900	None	4,200	3,375	-
La Media Rd. / SR-905 EB Ramps	63	6,975	-	900	None	6,075	-	510	2,208	-	900	None	1,308	-	-
La Media Rd. / Airway Rd.	-	5,500	4,375	900	-	4,600	3,475	-	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 5-6

Adopted Community Plan
Buildout Queue Analysis Without Mitigation

Queue Locations North / South	PM Peak Hour														
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			
	Southbound				Southbound	Southbound			Northbound			Northbound	Northbound		
	RT	TH	LT		RT	TH	LT		LT	TH	RT		LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-	638	2,750	-	450	188	2,300	-	-
Caliente Ave. / SR-905 WB Ramps	685	1,505	-	450	235	1,055	-	4,325	1,970	-	450	3,875	1,520	-	-
Caliente Ave. / SR-905 EB Ramps	-	238	498	450	-	None	48	-	2,900	-	300	-	2,600	-	-
Caliente Ave. / Airway Rd.	-	1,120	1,415	300	-	820	1,115	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-	358	490	-	750	None	None	-	-
Heritage Rd. / SR-905 WB Ramps	-	140	458	750	-	None	None	-	4,700	-	750	-	3,950	-	-
Heritage Rd. / SR-905 EB Ramps	-	143	163	750	-	None	None	-	3,750	-	750	-	3,000	-	-
Heritage Rd. / Airway Rd.	-	2,040	408	750	-	1,290	None	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-	628	-	None	900	None	-	-	None
Britannia Blvd. / SR-905 WB Ramps	1,115	1,370	-	900	215	470	-	5,675	65	-	450	5,225	None	-	-
Britannia Blvd. / SR-905 EB Ramps	-	75	408	450	-	None	None	-	5,625	-	900	-	4,725	-	-
Britannia Blvd. / Airway Rd.	-	1,650	990	900	-	750	90	-	-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-	1,090	2,875	-	450	640	2,425	-	-
La Media Rd. / SR-905 WB Ramps	453	2,875	-	450	3	2,425	-	863	2,205	11,175	900	None	1,305	10,275	-
La Media Rd. / SR-905 EB Ramps	375	4,725	-	900	None	3,825	-	1,260	2,850	-	900	360	1,950	-	-
La Media Rd. / Airway Rd.	-	1,025	3,225	900	-	125	2,325	-	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 5-6

Adopted Community Plan

Buildout Queue Analysis Without Mitigation

Queue Locations East / West	AM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Eastbound			Eastbound	Eastbound			Westbound			Westbound	Westbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-	228	103	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	-	308	763	600	-	None	163	-	305	5,175	1,000	-	None	4,175
Palm Ave. Dennerly Rd.	395	448	613	1,000	None	None	None	-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-	1,558	6,425	-	600	958	5,825	-
Siempre Viva Rd. / SR-905 SB Ramps	-	1,440	-	300	-	1,140	-	575	-	-	600	None	None	-
Siempre Viva Rd. / SR-905 NB Ramps	-	2,925	1,543	600	-	2,325	943	-	2,650	905	1,150	-	1,500	None
Siempre Viva Rd. / Paseo de las Americas	3,450	1,183	10,350	1,150	2,300	33	9,200	-	-	-	-	-	-	-
La Media Rd. / Lone Star Rd.	-	-	-	-	-	-	-	785	753	-	300	485	453	-
Lone Star Rd. / SR-125 SB Off Ramp	-	1,788	-	300	-	1,488	-	-	208	-	500	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	93	500	-	-	None	-	160	305	600	-	None	None
Lone Star Rd. / Piper Ranch Rd.	-	2,900	-	600	-	2,300	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-	210	845	-	2,000	None	None	-
Otay Mesa Rd. / SR-125 SB Off Ramp	-	408	-	2,000	-	None	-	-	195	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	63	500	-	-	None	-	250	203	700	-	None	None
Otay Mesa Rd. / Harvest Rd.	-	3,100	195	700	-	2,400	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 5-6

Adopted Community Plan

Buildout Queue Analysis Without Mitigation

Queue Locations East / West	PM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Eastbound			Eastbound	Eastbound			Westbound			Westbound	Westbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-	503	278	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	-	940	518	600	-	340	None	-	783	3,930	1,000	None	None	2,930
Palm Ave. Dennergy Rd.	2,383	678	923	1,000	1,383	None	None	-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-	3,375	885	-	600	2,775	285	-
Siempre Viva Rd. / SR-905 SB Ramps	-	5,950	-	300	-	5,650	-	2,193	-	-	600	1,593	None	-
Siempre Viva Rd. / SR-905 NB Ramps	-	648	6,600	600	-	None	6,000	-	3,875	5,675	1,150	-	2,725	4,525
Siempre Viva Rd. / Paseo de las Americas	648	405	9,325	1,150	None	None	8,175	-	-	-	-	-	-	-
La Media Rd. / Lone Star Rd.	-	-	-	-	-	-	-	493	3,575	-	300	193	3,275	-
Lone Star Rd. / SR-125 SB Off Ramp	-	115	-	300	-	None	-	-	288	-	500	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	203	500	-	-	None	-	220	898	600	-	None	298
Lone Star Rd. / Piper Ranch Rd.	-	283	-	600	-	None	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-	58	1,613	-	2,000	None	None	-
Otay Mesa Rd. / SR-125 SB Off Ramp	-	275	-	2,000	-	None	-	-	143	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	470	500	-	-	None	-	123	1,308	700	-	None	608
Otay Mesa Rd. / Harvest Rd.	-	798	88	700	-	98	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 5-7

Adopted Community Plan

Buildout Queue Analysis With Mitigation

Queue Locations North / South	AM Peak Hour														
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound			
	RT	TH	LT		RT	TH	LT		LT	TH	RT		LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-		370	400	7,680	450	None	None	7,380
Caliente Ave. / SR-905 WB Ramps	2,925	500	-	450	428	50	-		765	450	-	450	315	None	-
Caliente Ave. / SR-905 EB Ramps	-	155	243	450	-	None	140	-	-	1,748	268	300	-	1,448	None
Caliente Ave. / Airway Rd.	-	525	2,600	300	-	225	2,500		-	-	-	-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-		310	315	735	750	None	None	None
Heritage Rd. / SR-905 WB Ramps	-	160	218	750	-	None	None	-	-	638	70	750	-	None	None
Heritage Rd. / SR-905 EB Ramps	-	825	168	750	-	75	None	-	-	1,600	170	750	-	650	None
Heritage Rd. / Airway Rd.	195	2,300	2,078	750	None	1,550	1,328		-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-		430	-	688	900	None	-	None
Britannia Blvd. / SR-905 WB Ramps	513	485	-	900	None	None	-		1,010	133	-	450	560	None	-
Britannia Blvd. / SR-905 EB Ramps	-	1,068	300	450	-	618	None	-	-	1,093	180	900	-	193	None
Britannia Blvd. / Airway Rd.	1,528	2,290	3,650	900	628	1,390	2,750		-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-		2,423	1,355	585	450	1,973	905	135
La Media Rd. / SR-905 WB Ramps	105	2,900	-	450	None	2,450	-		248	2,448	-	900	None	1,548	-
La Media Rd. / SR-905 EB Ramps	63	4,000	-	900	None	3,100	-		510	2,208	-	900	None	1,308	-
La Media Rd. / Airway Rd.	2,098	2,278	4,550	900	1,198	1,378	3,650		-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 5-7

Adopted Community Plan

Buildout Queue Analysis With Mitigation

Queue Locations North / South	PM Peak Hour														
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound			
	RT	TH	LT		RT	TH	LT		LT	TH	RT		LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-	-	700	483	3,225	450	250	33	2,775
Caliente Ave. / SR-905 WB Ramps	588	600	-	450	12	150	-	-	1,455	1,785	-	450	1,005	1,335	-
Caliente Ave. / SR-905 EB Ramps	-	328	305	450	-	None	None	-	-	1,870	248	300	-	1,570	None
Caliente Ave. / Airway Rd.	-	1,268	2,800	300	-	968	2,500	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-	-	358	158	545	750	None	None	None
Heritage Rd. / SR-905 WB Ramps	-	160	218	750	-	None	None	-	-	563	498	750	-	None	None
Heritage Rd. / SR-905 EB Ramps	-	138	173	750	-	None	None	-	-	2,525	73	750	-	1,775	None
Heritage Rd. / Airway Rd.	1,038	403	400	750	288	None	None	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-	-	628	-	None	900	None	-	None
Britannia Blvd. / SR-905 WB Ramps	643	1,010	-	900	None	110	-	-	4,875	63	-	450	4,425	None	-
Britannia Blvd. / SR-905 EB Ramps	-	75	408	450	-	None	None	-	-	2,900	560	900	-	2,000	None
Britannia Blvd. / Airway Rd.	368	745	990	900	None	None	90	-	-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-	-	1,090	1,195	415	450	640	745	None
La Media Rd. / SR-905 WB Ramps	453	2,875	-	450	3	2,425	-	-	883	340	-	900	None	None	-
La Media Rd. / SR-905 EB Ramps	375	2,625	-	900	None	1,725	-	-	1,260	2,850	-	900	360	1,950	-
La Media Rd. / Airway Rd.	120	360	3,225	900	None	None	2,325	-	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 5-7

Adopted Community Plan
Buildout Queue Analysis With Mitigation

Queue Locations East / West	AM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Eastbound			Eastbound	Eastbound			Westbound			Westbound	Westbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-	253	103	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	288	138	-	600	None	None	-	-	38	53	1,000	-	None	None
Palm Ave. Dennerly Rd.	395	448	613	1,000	None	None	None	-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-	473	5,900	43	600	None	5,300	None
Siempre Viva Rd. / SR-905 SB Ramps	-	1,440	-	300	-	1,140	-	575	-	-	600	None	None	-
Siempre Viva Rd. / SR-905 NB Ramps	-	2,925	1,543	600	-	2,325	943	-	2,525	388	1,150	-	1,375	None
Siempre Viva Rd. / Paseo de las Americas	3,500	1,183	4,250	1,150	2,350	33	3,100	-	-	-	-	-	-	-
La Media Rd. / Lone Star Rd.	-	-	-	-	-	-	-	785	430	283	300	485	130	None
Lone Star Rd. / SR-125 SB Off Ramp	-	1,788	-	300	-	1,488	-	-	208	-	500	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	93	500	-	-	None	-	80	305	600	-	None	None
Lone Star Rd. / Piper Ranch Rd.	35	2,475	-	600	None	1,875	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-	210	475	110	2,000	None	None	None
Otay Mesa Rd. / SR-125 SB Off Ramp	-	408	-	2,000	-	None	-	-	195	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	63	500	-	-	None	-	250	203	700	-	None	None
Otay Mesa Rd. / Harvest Rd.	270	1,715	195	700	None	1,015	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 5-7

Adopted Community Plan
Buildout Queue Analysis With Mitigation

Queue Locations East / West	PM Peak Hour													
	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Eastbound			Eastbound	Eastbound			Westbound			Westbound	Westbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-	553	250	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	208	268	-	600	None	None	-	-	80	670	1,000	-	None	None
Palm Ave. Denny Rd.	2,383	678	923	1,000	1,383	None	None	-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-	1,153	315	190	600	553	None	None
Siempre Viva Rd. / SR-905 SB Ramps	-	5,950	-	300	-	5,650	-	2,193	-	-	600	1,593	None	-
Siempre Viva Rd. / SR-905 NB Ramps	-	303	6,600	600	-	None	6,000	-	875	5,375	1,150	-	None	4,225
Siempre Viva Rd. / Paseo de las Americas	668	405	3,900	1,150	None	None	2,750	-	-	-	-	-	-	-
La Media Rd. / Lone Star Rd.	-	-	-	-	-	-	-	493	103	4,025	300	193	None	3,725
Lone Star Rd. / SR-125 SB Off Ramp	-	115	-	300	-	None	-	-	288	-	500	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	203	500	-	-	None	-	220	898	600	-	None	298
Lone Star Rd. / Piper Ranch Rd.	35	223	-	600	None	None	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-	58	1,240	40	2,000	None	None	None
Otay Mesa Rd. / SR-125 SB Off Ramp	-	275	-	2,000	-	-	-	-	143	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	470	500	-	-	None	-	123	1,308	700	-	None	608
Otay Mesa Rd. / Harvest Rd.	55	530	88	700	None	None	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

6.0 SCENARIO 3B WITH LA MEDIA ROAD

6.1 3B Scenario Assumed Land Use and Transportation Network

The 3B Scenario land use would allow up to 18,774 dwelling units compared to 12,206 within the Adopted Community Plan. The traffic forecast for this alternative assumed 3,917,000 square feet of commercial uses and 54,461,000 square feet of industrial uses. The buildout of this plan would generate 1,045,025 average daily vehicle trips. The circulation element roadways for this alternative include those assumed in the Adopted Community Plan, No Project scenario. The major change is the extension of Beyer Boulevard to the east from the current existing roadway, and connecting with the southerly extension of Caliente Avenue. Siempre Viva Road is extended southwest of Caliente Avenue, but is disconnected from intersecting with East Beyer Boulevard in San Ysidro.

6.2 Segment Level of Service

Figure 6-1 shows the projected buildout average daily traffic trips generated on the street system due to the land uses assumed under the 3B With La Media Road land use and street network. **Table 6-1** indicates the roadway segment level of service for numerous roadway segments as a result of the projected average daily traffic and the capacity of the roadway. The highest forecasted volumes between circulation element roads were used for analysis. Also shown are recommended reclassifications of roadways. The initial “without mitigation” classification of roadways is based on the existing functional classifications. Or, if the street did not exist in the existing conditions assessment, or if analyzing the projected volumes on the existing facility would not be meaningful because it would not be possible to carry those volumes on the existing sized facility due to its capacity, then the Adopted Community Plan

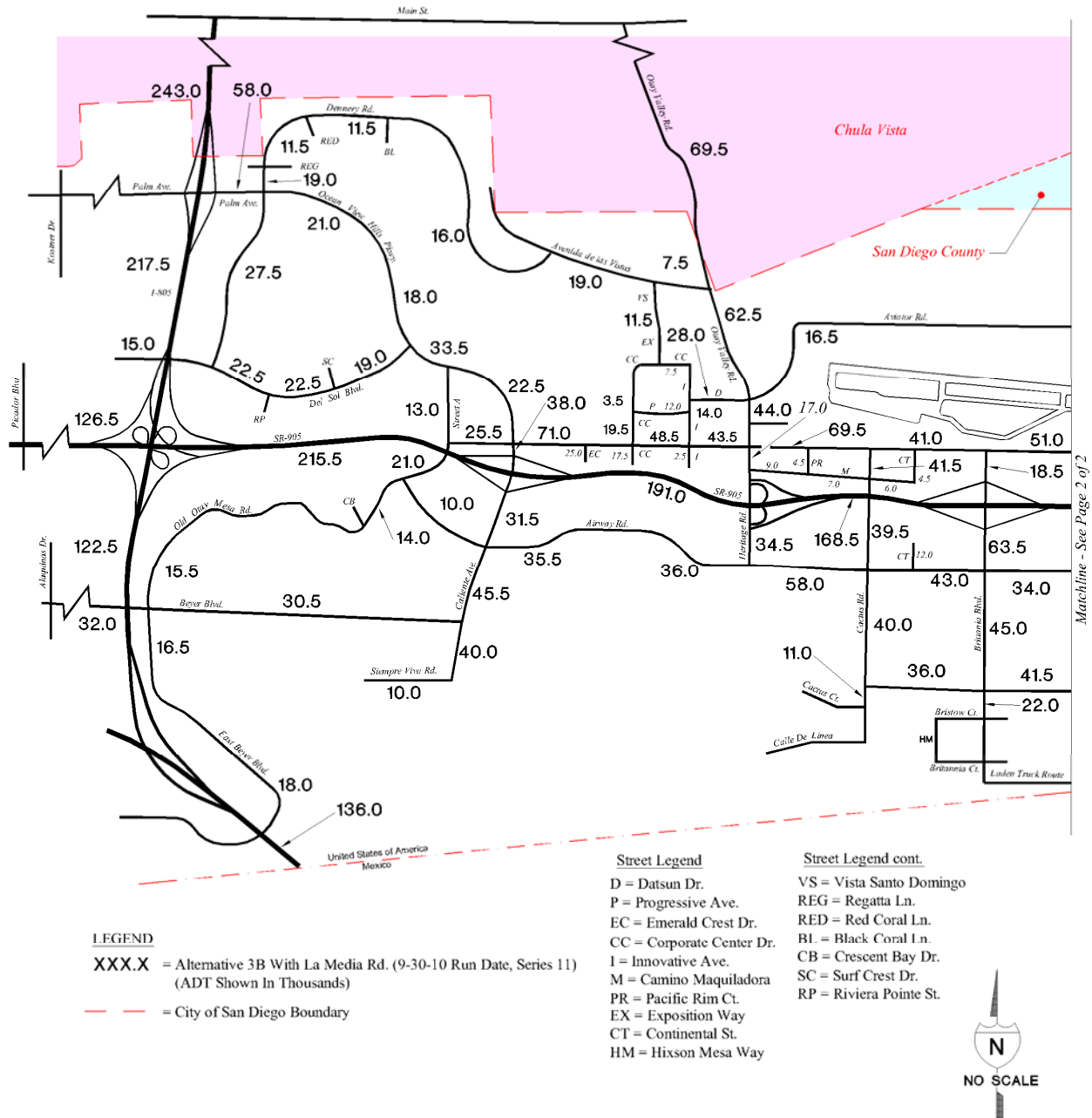


FIGURE 6-1

Scenario 3B With La Media Road Average Daily Traffic

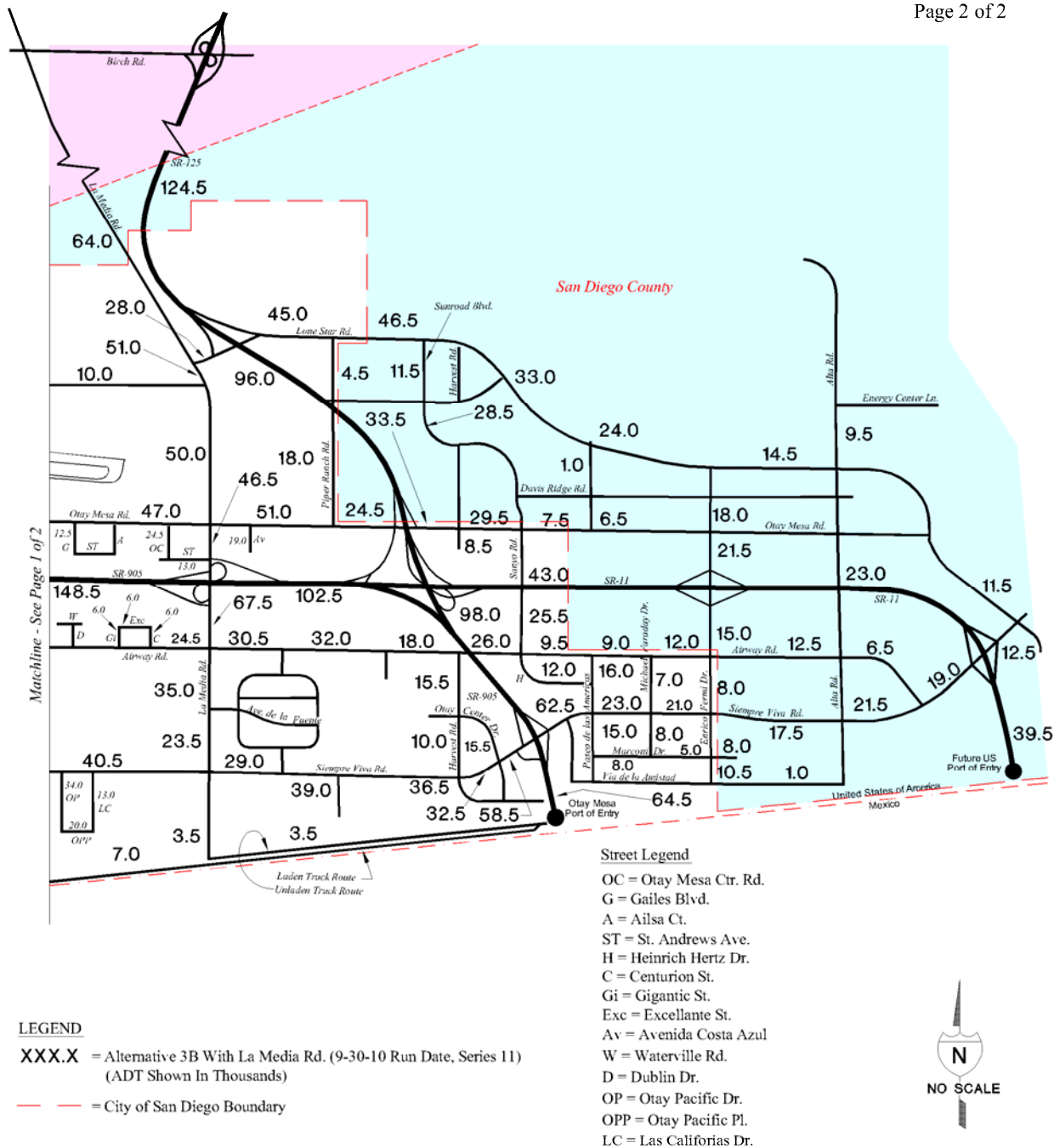


FIGURE 6-1

Scenario 3B With La Media Road Average Daily Traffic

TABLE 6-1

Buildout Scenario 3B With La Media Road

Average Daily Traffic & Levels of Service

Street	Segment	#	(1) Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	NEW LOS	S?
Otay Mesa Road	Street A to Caliente Ave.	1	6-PA	60,000	25,500	0.43	B	6-M	0.64	C	N
	Caliente Ave. to Corporate Center Dr.	2	6-PA	60,000	71,000	1.18	F	N	-	-	Y
	Corporate Center Dr. to Innovative Dr.	3	6-PA	60,000	48,500	0.81	C	N	-	-	N
	Innovative Dr. to Heritage Rd.	4	6-PA	60,000	43,500	0.73	C	N	-	-	N
	Heritage Rd. to Cactus Rd.	5	6-PA	60,000	69,500	1.16	F	N	-	-	Y
	Cactus Rd. to Britannia Blvd.	6	6-PA	60,000	41,000	0.68	C	N	-	-	N
	Britannia Blvd. to Ailsa Ct.	7	6-PA	60,000	51,000	0.85	D	N	-	-	N
	Ailsa Ct. to La Media Rd.	8	7-M	55,000	47,000	0.85	D	6-PA	0.78	C	N
	La Media Rd. to Piper Ranch Rd.	9	8-M	70,000	51,000	0.73	C	6-PA	0.85	D	N
	Piper Ranch Rd. to SR-125	10	4-P	45,000	24,500	0.54	C	6-PA	0.41	A	N
	SR-125 to Harvest Rd.	11	4-M	40,000	33,500	0.84	D	6-PA	0.56	C	N
	Harvest Rd. to Sanyo Ave.	12	4-M	40,000	29,500	0.74	C	6-PA	0.49	C	N
	Sanyo Ave. to Enrico Fermi Dr.	13	4-M	40,000	7,500	0.19	A	6-PA	0.13	A	N
Airway Road	Old Otay Mesa Rd. to Caliente Ave.	14	4-CL	30,000	10,000	0.25	A	N	-	-	N
	Caliente Ave. to Heritage Rd.	15	4-M	40,000	36,000	0.90	E	N	-	-	Y
	Heritage Rd. to Cactus Rd.	16	4-M	40,000	58,000	1.45	F	6-PA	0.97	E	Y
	Cactus Rd. to Britannia Blvd.	17	4-M	40,000	43,000	1.07	F	6-M	0.86	D	N
	Britannia Blvd. to La Media Rd.	18	4-M	40,000	34,000	0.85	D	N	-	-	N
	La Media Rd. to Harvest Rd.	19	4-M	40,000	32,000	0.80	D	N	-	-	N
	Harvest Rd. to Sanyo Ave.	20	4-M	40,000	26,000	0.65	C	N	-	-	N
	Sanyo Ave. to Paseo de las Americas	21	4-M	40,000	9,500	0.24	A	N	-	-	N
	Paseo de las Americas to Michael Faraday Dr.	22	4-M	40,000	9,000	0.23	A	N	-	-	N
	Michael Faraday Dr. to Enrico Fermi Dr.	23	4-M	40,000	12,000	0.30	A	N	-	-	N
	Enrico Fermi Dr. to Siempre Viva Rd.*	24	4-M	40,000	12,500	0.31	A	N	-	-	N
Siempre Viva Road	Caliente Ave. to West Terminus	25	4-M	40,000	10,000	0.25	A	2-CL	0.67	C	N
	Cactus Rd. to Britannia Blvd.	27	6-PA	60,000	36,000	0.60	C	N	-	-	N
	Britannia Blvd. to La Media Rd.	28	6-PA	60,000	41,500	0.69	C	N	-	-	N
	La Media Rd. to Harvest Rd.	29	6-PA	60,000	39,000	0.65	C	N	-	-	N
	Harvest Rd. to Otay Center Dr.	30	6-PA	60,000	32,500	0.54	B	N	-	-	N
	Otay Center Dr. to SR-905	31	6-PA	60,000	58,500	0.98	E	N	-	-	Y
	SR-905 to Paseo de las Americas	32	6-PA	60,000	62,500	1.04	F	N	-	-	Y
	Paseo de las Americas to Michael Faraday Dr.	33	4-M	40,000	23,000	0.58	C	N	-	-	N
	Michael Faraday Dr. to Enrico Fermi Dr.	34	4-M	40,000	21,000	0.53	B	N	-	-	N
	Enrico Fermi Dr. to SR-11*	35	4-M	40,000	17,500	0.44	B	N	-	-	N

*Segment in County of San Diego

Note: There is no segment #26 with this alternative.

= Segment Number

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

New LOS = LOS after change in classification.

F = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB /2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

2-CL = 2-lane Collector (with continuous left turn lane)

2-CN = 2-lane Collector (no fronting property)

2-C = 2-lane Collector (without continuous left turn lane)

TABLE 6-1 (Continued)
Buildout Scenario 3B With La Media Road
Average Daily Traffic & Levels of Service

Street	Segment	#	(1) Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	NEW LOS	S?
Palm Avenue	I-805 to Dennerly Rd.	37	7-PA	65,000	58,000	0.89	D	N	-	-	N
Ocean View Hills Parkway	Dennerly Rd. to Del Sol Blvd.	38	4-M	40,000	21,000	0.53	B	N	-	-	N
	Del Sol Blvd. to Street "A"	39	6-M	50,000	33,500	0.67	C	N	-	-	N
	Street "A" to Otay Mesa Rd.	40	6-M	50,000	22,500	0.45	B	N	-	-	N
Caliente Avenue	Otay Mesa Rd. to SR-905	41	6-M	50,000	38,000	0.76	C	6-PA	0.50	B	N
	SR-905 to Airway Rd.	42	6-M	50,000	31,500	0.63	C	6-PA	0.53	B	N
	Airway Rd. to Beyer Blvd.	43	4-M	40,000	45,500	1.14	F	6-M	0.91	E	Y
	Beyer Blvd. to Siempre Viva Rd.	43A	4-M	40,000	41,000	1.03	F	N	-	-	Y
Beyer Boulevard	Alaquinas Dr. to Old Otay Mesa Rd.	44	4-M	40,000	32,000	0.80	D	N	-	-	N
	Old Otay Mesa Rd. to Caliente Ave (3)	45	4-M	40,000	30,500	0.76	C	N	-	-	N
Heritage Road/ Otay Valley Road	Main St. to Avenida De Las Vistas**	46	6-PA	60,000	69,500	1.16	F	N	-	-	Y
	Avenida De Las Vistas to Datsun St.	47	6-M	50,000	62,500	1.25	F	6-PA	1.04	F	Y
	Datsun St. to Otay Mesa Rd.	48	6-M	50,000	44,000	0.88	D	6-PA	0.73	C	N
	Otay Mesa Rd. to SR-905	49	6-M	50,000	17,000	0.34	B	6-PA	0.28	A	N
	SR-905 to Airway Rd.	50	6-M	50,000	34,500	0.69	C	6-PA	0.58	B	N
Cactus Road	Otay Mesa Rd. to Airway Rd.	52	4-CL	30,000	41,500	1.38	F	4-M	1.04	F	Y
	Airway Rd. to Siempre Viva Rd.	53	4-CL	30,000	40,000	1.33	F	4-M	1.00	E	Y
	Siempre Viva Rd. to South End	54	2-CL	15,000	11,000	0.73	D	N	-	-	N
Britannia Boulevard	Otay Mesa Rd. to SR-905	55	4-M	40,000	18,500	0.46	B	6-PA	0.31	A	N
	SR-905 to Airway Rd.	56	4-M	40,000	63,500	1.59	F	6-PA	1.06	F	Y
	Airway Rd. to Siempre Viva Rd.	57	4-M	40,000	45,000	1.10	F	6-M	0.90	D	N
	Siempre Viva Rd. to South End	58	2-C	8,000	22,000	2.75	F	4-CL	0.73	D	N
La Media Road	Birch Rd. to Lone Star Rd.**	59	6-PA	60,000	64,000	1.07	F	N	-	-	Y
	Lone Star Rd. to Aviator Rd.	60	6-PA	60,000	51,000	0.85	D	N	-	-	N
	Aviator Rd. to Otay Mesa Rd.	61	6-PA	60,000	50,000	0.83	C	N	-	-	N
	Otay Mesa Rd. to SR-905	62	6-PA	60,000	46,500	0.78	C	N	-	-	N
	SR-905 to Airway Rd.	63	6-PA	60,000	67,500	1.13	F	N	-	-	Y
	Airway Rd. to Siempre Viva Rd.	64	4-M	40,000	35,000	0.88	D	5-M	0.78	D	N
Harvest Road	South of Otay Mesa Rd.	65	4-M	40,000	8,500	0.21	A	2-CL	0.57	A	N
	Airway Rd. to Otay Center Dr.	66	4-M	40,000	15,500	0.39	B	4-CL	0.52	C	N
	Otay Center Dr. to Siempre Viva Rd.	67	4-M	40,000	10,000	0.25	A	4-CL	0.33	A	N

*Segment in County of San Diego

Note: There is no segment # 51 with this alternative.

**Segment in Chula Vista

Segment #36 was deleted.

= Segment Number

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

New LOS = LOS after change in classification.

F = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB /2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

2-CL = 2-lane Collector (with continuous left turn lane)

2-CN = 2-lane Collector (no fronting property)

2-C = 2-lane Collector (without continuous left turn lane)

TABLE 6-1 (Continued)
Buildout Scenario 3B With La Media Road
Average Daily Traffic & Levels of Service

Street	Segment	#	(1)Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	NEW LOS	S?
Enrico Ferni Drive	SR-11 to Airway Rd.*	68	4-M	40,000	15,000	0.38	A	N	-	-	N
	Airway Rd. to Siempre Viva Rd.	69	4-M	40,000	8,000	0.20	A	4-CL	0.27	A	N
	Siempre Viva Rd. to Via de la Amistad	70	4-M	40,000	10,500	0.26	A	4-CL	0.35	B	N
Lone Star Road	La Media Rd. to SR-125	71	4-M	40,000	28,000	0.70	C	N	-	-	N
	SR-125 to Piper Ranch Rd.	72	4-M	40,000	45,000	1.13	F	6-PA	0.75	C	N
	Piper Ranch Rd. to City / County Boundary	73	4-M	40,000	46,500	1.16	F	6-PA	0.78	C	N
Aviator Road	Heritage Rd. to La Media Rd. (3)	74	2-C	8,000	16,500	2.06	F	4-CL	0.55	C	N
Dennerly Road	Palm Ave. to Del Sol Blvd.	75	4-M	40,000	27,500	0.69	C	N	-	-	N
	Palm Ave. to Regatta Ln.	76	4-M	40,000	19,000	0.48	B	N	-	-	N
	Regatta Ln. to Red Coral Ln.	77	4-CL	30,000	11,500	0.38	B	N	-	-	N
	Red Coral Ln. to Black Coral Ln.	78	2-CL	15,000	11,500	0.78	D	N	-	-	N
	Black Coral Ln. to East End	79	2-CN	10,000	16,000	1.60	F	N	-	-	Y
Avendia De Las Vistas	Otay Valley Rd. to Vista Santo Domingo	80	2-CN	10,000	7,500	0.75	C	N	-	-	N
	Vista Santo Domingo to Dennerly Rd.	81	2-CN	10,000	19,000	1.90	F	N	-	-	Y
Del Sol Boulevard	Ocean View Hills Pkwy. to Surf Crest Dr.	82	4-CL	30,000	19,000	0.63	C	N	-	-	N
	Surf Crest Dr. to Riviera Pointe	83	2-CN	10,000	22,500	2.25	F	N	-	-	Y
	Riviera Pointe to Dennerly Rd.	84	2-CL	15,000	22,500	1.47	F	N	-	-	Y
	Dennerly Rd. to I-805	85	4-CL	30,000	15,000	0.50	C	N	-	-	N
Street A	Ocean View Hills Pkwy. to Otay Mesa Rd.	86	4-M	40,000	13,000	0.33	A	N	-	-	N
Old Otay Mesa Road	Otay Mesa Rd. to Airway Rd.	87	4-CL	30,000	21,000	0.70	D	N	-	-	N
	Airway Rd. to Crescent Bay Dr.	88	4-CL	30,000	14,000	0.47	B	N	-	-	N
	Crescent Bay Dr. to Beyer Blvd.	89	2-C	8,000	15,500	1.94	F	N	-	-	Y
Emerald Crest Drive	Otay Mesa Rd. to South End (3)	90	4-CL	30,000	25,000	0.83	D	N	-	-	N
Corporate Center Drive	South End to Otay Mesa Rd. (3)	91	4-CL	30,000	17,500	0.58	C	N	-	-	N
	Otay Mesa Rd. to Progressive Ave.	92	4-CL	30,000	19,500	0.65	C	N	-	-	N
	Progressive Ave. to Innovative Dr.	93	2-C	8,000	8,500	1.06	F	2-CL	0.57	C	N
Innovative Drive	Otay Mesa Rd. to Corporate Center Dr.	94	4-CL	30,000	14,000	0.47	B	N	-	-	N
Piper Ranch Road	Lone Star Rd. to Otay Mesa Rd.	96	4-CL	30,000	18,000	0.60	C	N	-	-	N

*Segment in County of San Diego

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

New LOS = LOS after change in classification.

F = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB /2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

2-CL = 2-lane Collector (with continuous left turn lane)

2-CN = 2-lane Collector (no fronting property)

2-C = 2-lane Collector (without continuous left turn lane)

TABLE 6-1 (Continued)

Buildout Scenario 3B With La Media Road

Average Daily Traffic & Levels of Service

Street	Segment	#	(1)Class	LOS E ADT (2)	Segment ADT	V/C	LOS		New Class	New V/C	New LOS	S?
Sanyo Avenue	Otay Mesa Rd. to Airway Rd. (4)	97	4-C	15,000	25,500	1.70	F		4-CL	0.85	E	Y
Heinrich Hertz Drive	Airway Rd. to Paseo de las Americas (4)	98	2-CL	15,000	11,000	0.73	D		N	-	-	N
Paseo de las Americas	Airway Rd. to Siempre Viva Rd.	99	2-C	8,000	16,000	2.00	F		4-CL	0.53	C	N
	Siempre Viva Rd. to Marconi Dr.	100	2-C	8,000	15,000	1.88	F		4-CL	0.50	C	N
Marconi Drive	Paseo de las Americas to Enrico Fermi Dr.	101	2-C	8,000	8,000	1.00	E		2-CL	0.53	C	N
Otay Center Drive	Harvest Rd. to Siempre Viva Rd. (4)	102	4-C	15,000	15,500	1.03	F		4-CL	0.52	C	N
Michael Faraday Drive	Airway Rd. to Siempre Viva Rd. (4)	103	2-CL	15,000	7,000	0.47	B		N	-	-	N
	Siempre Viva Rd. to Marconi Dr. (4)	104	2-CL	15,000	8,000	0.53	C		N	-	-	N
St. Andrews Avenue	Otay Mesa Center Rd. To La Media Rd.	105	2-C	8,000	13,000	1.30	F		4-CL	0.43	B	N
Gailes Boulevard	Otay Mesa Rd. to St. Andrews Ave.	107	2-C	8,000	12,500	1.56	F		4-C	0.83	D	N
Camino Maquiladora	Heritage Rd. to Pacific Rim Ct.	108	2-C	8,000	9,000	1.13	F		N	-	-	Y
	Pacific Rim Ct. to Cactus Rd.	109	2-C	8,000	7,000	0.88	E		N	-	-	Y
	Cactus Rd. to Continental St.	110	2-C	8,000	6,000	0.75	D		N	-	-	N
Pacific Rim Court	Otay Mesa Rd. to Camino Maquiladora	111	2-C	8,000	4,500	0.56	C		N	-	-	N
Progressive Avenue	Corporate Center Dr. to Innovative Dr.	112	2-C	8,000	12,000	1.50	F		N	-	-	Y
Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	113	2-C	8,000	24,500	3.01	F		4-CL	0.82	D	N
Datsun Street	Innovative Dr. to Heritage Rd. (3)	114	2-C	8,000	28,000	3.50	F		4-CL	0.93	E	Y
Avenida Costa Azul	Otay Mesa Rd. to St. Andrews Ave.(3)	115	2-CL	15,000	19,000	1.27	F		4-CL	0.63	B	N
Excellante Street	Airway Rd. to Gigantic St.	116	4-C	15,000	6,000	0.40	B		2-C	0.75	D	N
Gigantic Street	Excellante St. to Centurion St.	117	4-C	15,000	6,000	0.40	B		2-C	0.75	D	N
Centurion Street	Airway Rd. to Gigantic St.	118	4-C	15,000	6,000	0.40	B		2-C	0.75	D	N
Exposition Way / Vista Santo Domingo	Avenida De Las Vistas to Corporate Center Dr. (4)	119	2-CN	10,000	11,500	1.15	F		N	-	-	Y
Continental Street	South of Otay Mesa Rd.	120	2-C	8,000	4,500	0.56	C		N	-	-	N
	North of Airway Rd.	121	2-CL	15,000	10,000	0.67	C		N	-	-	N

*Segment in County of San Diego

= Segment Number

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

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(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

New LOS = LOS after change in classification.

 = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB /2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

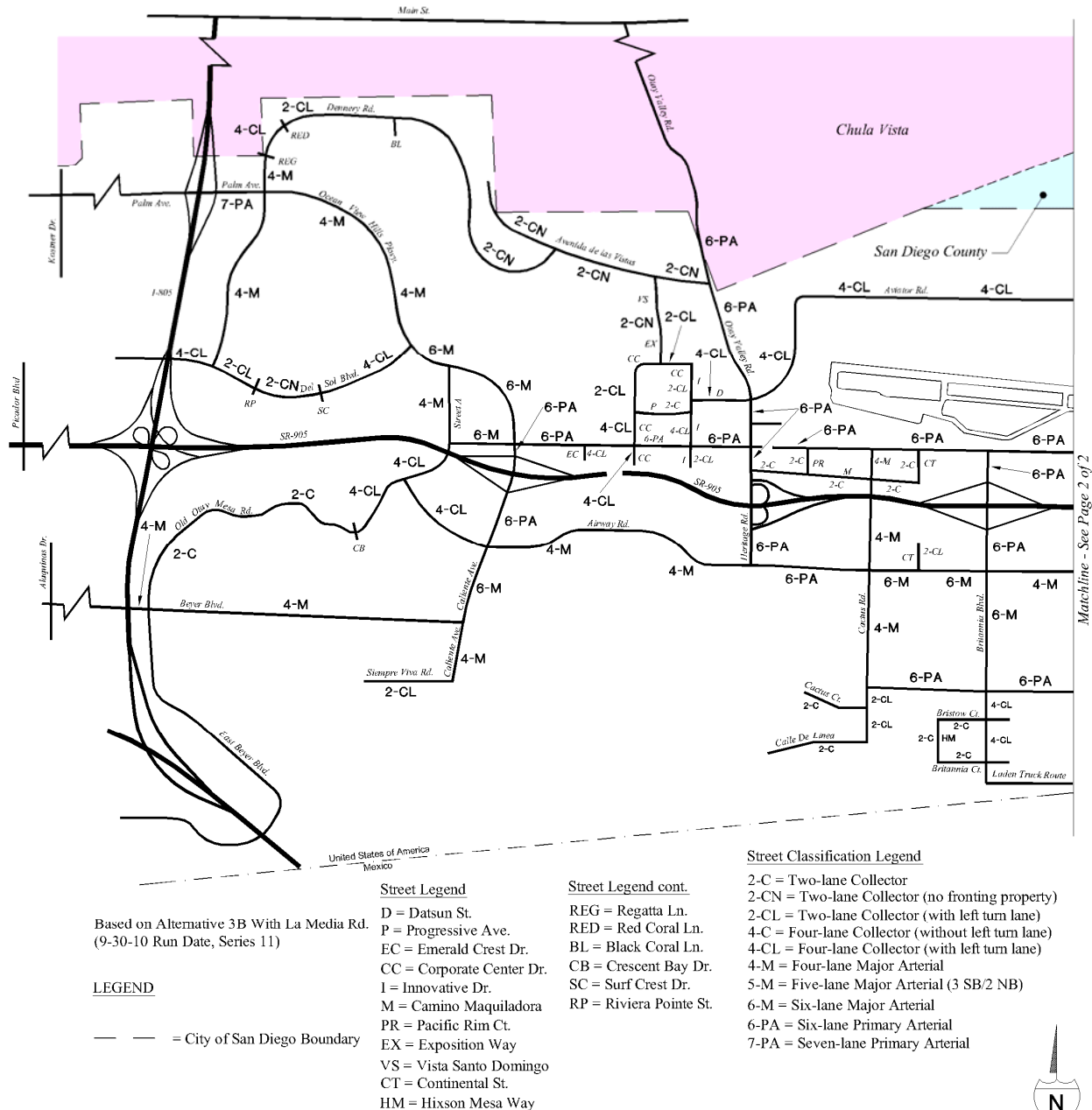
2-CL = 2-lane Collector (with continuous left turn lane)

2-CN = 2-lane Collector (no fronting property)

2-C = 2-lane Collector (without continuous left turn lane)

Classification was used. Failing roadway segments at level of service “E” or “F” with significant traffic impacts are summarized below. All other roadway segments are projected to operate at a level of service “D” or better, without significant traffic impacts.

Figure 6-2 shows recommended roadway classifications for the 3B With La Media Road scenario.



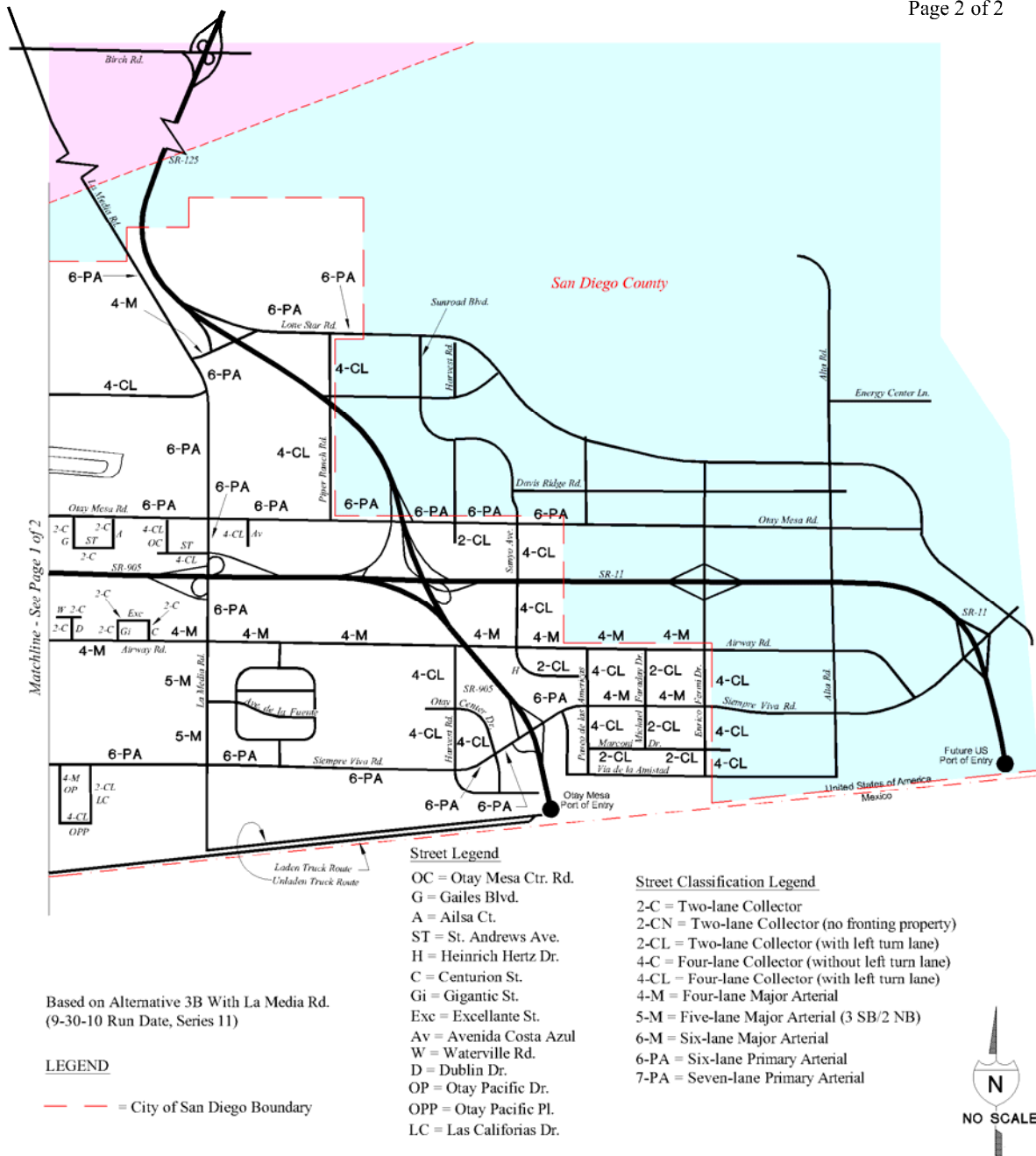


FIGURE 6-2

Scenario 3B With La Media Road Land Use Scenario With Proposed Roadway Classification Recommendations

Otay Mesa Road

- Caliente Avenue to Corporate Center Drive: level of service “F”.
- Heritage Road to Cactus Road: level of service “F”.

A reclassification of these segments from a six lane Primary Arterial to eight lanes is not recommended. Widening to eight lanes would be costly, and intersections would be wider and less pedestrian friendly. Right turn only lanes at intersections are recommended to be lengthened to serve as auxiliary lanes between intersections. Without reclassification the significant impact would remain unmitigated.

The seven lane Major and eight lane Major Arterial classification for segments between Ailsa Court and Piper Ranch Road are recommended for a reclassification to a six lane Primary Arterial, restricting parking and access. The impact would be less than significant. These reclassifications are recommended for consistency in lane configurations along Otay Mesa Road.

- Piper Ranch Road to Enrico Fermi Drive:

A reclassification to a six lane Primary Arterial is recommended. There are few driveways and few developed parcels along these segments so that restricting parking and access would have a minimal impact. The levels of service are acceptable through these segments, but the County of San Diego classification is six lanes east of Enrico Fermi Drive, and it is advisable to maintain a continuous classification through these segments to maintain consistency in lane configurations.

Airway Road

- Caliente Avenue to Heritage Road: level of service “E”.

This segment is slightly (2.9%) over the level of service “D” volumes for a four lane Major Arterial. This segment includes a bridge crossing an open space canyon so that a six lane bridge would be costly and affect the environment more than four lanes. A six lane reclassification is not recommended. However the significant segment impact would be unmitigated.

- Heritage Road to Cactus Road: level of service “F”.
- Cactus Road to Britannia Boulevard: level of service “F”.

A reclassification to a six lane Primary Arterial is recommended beginning west of the Heritage Road intersection, so six through lanes can be provided through the intersection in the east and westbound directions, and extending to Cactus Road. The Heritage Road to Cactus Road segment significant impact would be unmitigated. However, added right turn lanes at intersections would enhance the segment capacity. The Cactus Road to Britannia Boulevard segment would be mitigated with a reclassification to a six lane Major Arterial.

Siempre Viva Road

- Otay Center Drive to SR-905: level of service “E”.
- SR-905 to Paseo de las Americas: level of service “F”

A reclassification from six to eight lanes is not recommended since a costly widening of the SR-905 / Siempre Viva Road interchange would be needed. The significant impact to these segments would be unmitigated.

Caliente Avenue

- Otay Mesa Road to Airway Road:

Although not at level of service “E” or “F”, these segments are recommended to be reclassified from a six lane Major Arterial to a six lane Primary Arterial, restricting access and parking adjacent to the closely spaced intersections, including SR-905 on and off ramp intersections with Caliente Avenue.

- Airway Road to Beyer Boulevard: level of service “F”.

A reclassification from a four lane to a six lane Major Arterial is recommended. This segment extends through a future residential area so that a Primary Arterial restricting access is not recommended. The significant segment impact would be only partially mitigated.

- Beyer Boulevard to Siempre Viva Road: level of service “F”.

No reclassification is recommended since this segment extends into a future residential area that will need to be designed with Collector loop streets for acceptable access, and local traffic will have additional access to Beyer Boulevard.

Heritage Road / Otay Valley Road

- Otay Valley Road between Main Street in Chula Vista and Avenida de las Vistas: level of service “F”.

A reclassification to more than the current six lane Primary Arterial would be a decision to be made by the City of Chula Vista. A wider roadway and bridge over the Otay River Valley would be costly and

increase environmental impacts to the Otay River Valley and is not recommended. The significant impact to this segment would be unmitigated.

- Avenida de las Vistas to Datsun Street: level of service “F”.

A reclassification from a six lane Major Arterial to a six lane Primary Arterial is recommended. A wider classification would be costly to construct and is not recommended. There are few developed driveways along this segment so that restricting parking and access would have minimal impacts to adjacent parcels. The significant segment impact would be only partially mitigated.

- Datsun Street to Airway Road: acceptable levels of service.

A reclassification to a six lane Primary Arterial is recommended, restricting access and parking through these closely spaced intersections, including the SR-905 on and off ramp intersections with Heritage Road.

Cactus Road

- Otay Mesa Road to Airway Road: level of service “F”.
- Airway Road to Siempre Viva Road: level of service “F”.

A reclassification to a four lane Major Arterial is recommended. A higher six lane classification is not recommended. This roadway will extend through the mixed-use village area and excessive through traffic should be discouraged. The significant segment impacts would only be partially mitigated.

Britannia Boulevard

-SR-905 to Airway Road: level of service “F”.

-Airway Road to Siempre viva Road: level of service “F”.

Britannia Boulevard has been constructed as six lanes between Otay Mesa Road and the SR-905 eastbound ramps, and five lanes between the eastbound ramps and Airway Road. The Cross-Border Facility project includes reclassifying and construction of this segment to six lanes as project mitigation. The SR-905 on and off ramp intersections are closely spaced so that parking and access should be restricted along these segments.

In addition, Britannia Boulevard will also be the designated truck route for southbound laden trucks between SR-905 and the planned truck route parallel to the border.

Therefore, a reclassification to a six lane Primary Arterial is recommended for the segments between Otay Mesa Road and Airway Road. Significant segment impacts would not be fully mitigated. The segment between Airway Road and Siempre Viva Road is recommended as a six lane Major Arterial. The significant segment impact would be fully mitigated.

- Siempre Viva Road to South End: level of service “F”.

A reclassification from two to four lane Collector (with left turn lane) is recommended. The significant segment impact would be mitigated.

La Media Road

- Birch Road to Lone Star Road: level of service “F”.

The City of Chula Vista is planning to remove the segment of La Media Road crossing the Otay River Valley within Chula Vista from the City of Chula Vista General Plan Circulation Element. However, the traffic volumes for this segment for this scenario are based on including this segment in the traffic model. Due to the need to construct a lengthy bridge through the Otay River Valley, the cost of this segment may be prohibitive so that a reclassification from six lanes to a wider roadway than six lanes is not recommended. Without reclassification the significant segment impact would be unmitigated.

-SR-905 to Airway Road: level of service “F”.

The addition of lanes to this currently classified six lane Primary Arterial would require a costly modification to the SR-905 interchange and is not recommended. The significant segment impact would be unmitigated.

Lone Star Road

- SR-125 to Piper Ranch Road: level of service “F”.
- Piper Ranch Road to City / County Boundary: level of service “F”.

A reclassification to a six lane Primary Arterial is recommended from west of the SR-125 southbound off-ramp to the City / County Boundary. The significant segment impact would be mitigated.

Aviator Road

- Heritage Road to La Media Road: level of service “F”.

This segment is recommended to be added to the circulation element as a four lane Collector (with left turn lane). Future volumes would be accommodated without a significant segment impact.

Dennery Road

-Black Coral Lane to East End: level of service “F”.

A reclassification is not recommended. Retaining a two lane Collector (no fronting property) classification would discourage speeding and through traffic not destined to the adjacent residential developments. The significant segment impact would be unmitigated.

Avenida de las Vistas

-Otay Valley Road to Vista Santo Domingo: level of service “E”.

-Vista Santo Domingo to Dennery Road: level of service “F”.

A reclassification is not recommended. This street is fully constructed and has adjacent single family residences. Retaining a two lane Collector (no fronting property) classification would discourage speeding and through traffic not destined to the adjacent residential developments. The significant segment impacts would be unmitigated.

Del Sol Boulevard

- Surf Crest Drive to Riviera Pointe: level of service “F”.

This segment will pass through environmentally sensitive lands and is on a slope. Retaining the two lane Collector (no fronting property) classification would minimize impacts to the MSCP land and discourage speeding and though traffic not destined to the adjacent residential development.

-Riviera Pointe to Dennery Road: level of service “F”.

This segment is fully constructed and surrounded by environmentally sensitive land and single family development. A reclassification to four lanes is not recommended. The significant segment impact would be unmitigated.

The two lane segment crossing the MSCP canyon is expected to minimally impact the open space, so that four lanes are not recommended. The significant segment impact would not be mitigated.

Old Otay Mesa Road

- Crescent Bay Drive to Beyer Boulevard: level of service “F”.

This segment is situated on a steep, rocky hillside that would be costly to widen. Therefore, no reclassification is recommended. The significant segment impact would remain unmitigated.

Corporate Center Drive

-Progressive Avenue to Innovative Drive: level of service “F”.

This segment is fully constructed with adjacent developments, as a two lane industrial Collector (without left turn lane). A reclassification as a two lane Collector (with left turn lane) is recommended. The significant impact would be mitigated with restriping for a central left turn lane.

Sanyo Avenue

-Otay Mesa Road to Airway Road: level of service “F”.

This segment is constructed as a four lane Collector (without left turn lane) and is to be added to the circulation plan. Widening to a four lane Major Arterial width would adversely affect adjacent development, but minor widening to accommodate a central left turn lane and a classification as a four lane Collector (with left turn lane) is recommended. The significant segment impact would remain unmitigated.

Paseo de las Americas

-Airway Road to Siempre Viva Road: level of service “F”.

-Siempre Viva Road to Marconi Drive: level of service “F”.

These segments are currently classified as a two lane Collector (with left turn lane) but are constructed fully with four lanes. A reclassification to a four lane Collector roadway is recommended. The reclassification would mitigate the significant segment impacts.

Marconi Drive

-Paseo de las Americas to Enrico Fermi Drive: level of service “E”.

This segment is fully constructed as a two lane industrial Collector, and is wide enough to be striped with two lanes and a continuous central left turn lane. The significant segment impact would be mitigated with the reclassification to a two lane Collector (with left turn lane).

Otay Center Drive

-Harvest Road to Siempre Viva Road: level of service “F”.

This segment is constructed as a four lane Collector (without left turn lane). A reclassification to four lane Collector (with left turn lane is recommended). The significant segment impact would be mitigated.

St. Andrews Avenue

-Otay Mesa Center Road to La Media Road: level of service “F”.

Currently constructed with four lanes, and classified as a two lane Collector, reclassification to a four-lane Collector (with left turn lane) is recommended. The significant segment impact would be mitigated.

Gailes Boulevard

-Otay Mesa Road to St. Andrews Avenue: level of service “F”.

This street is constructed with four lanes and a raised median. A reclassification from a two lane Collector to four lane Collector (without left turn lanes) is recommended. The significant segment impact would be mitigated.

Camino Maquiladora

-Heritage Road to Pacific Rim Court: level of service “F”

-Pacific Rim Court to Cactus Road: level of service “E”.

These segments serve adjacent industrial uses, but have diverted traffic from Otay Mesa Road. These segments are not mean to be through traffic by-pass routes and are not recommended for reclassification. The significant segment impacts would be unmitigated.

Progressive Avenue

-Corporate Center Drive to Innovative Drive: level of service “F”.

This segment is constructed as a two lane industrial Collector and serves adjacent industrial uses, but has diverted traffic from Heritage Road. This segment is not meant as a through traffic by-pass route and is not recommended for reclassification. The significant impact would be unmitigated.

Otay Mesa Center Road

-Otay Mesa Road to St. Andrews Avenue: levels of service “F”.

This segment is classified as a two lane Collector, but is constructed with four lanes. A reclassification to a four lane Collector (with left turn lane) mitigates the significant segment impact.

Datsun Street

- Innovative Drive to Heritage Road: level of service “F”.

This segment is planned to serve the adjacent industrial uses, but has high volumes due to traffic diverted from Heritage Road. This segment is not meant to be a through traffic bypass route. A classification as a four lane Collector (with left turn lane) is recommended, rather than a four lane Major Arterial. The significant segment impact would be unmitigated.

Avenida Costa Azul

-Otay Mesa Road to St. Andrews Avenue: level of service “F”.

Add to circulation plan as a four lane Collector (with left turn lane). The significant segment impact would be mitigated by this classification.

Exposition Way / Vista Santo Domingo

-Avenida de las Vistas to Corporate Center Drive: level of service “F”.

This segment has high volumes due to diverted traffic from Otay Valley Road.

Vista Santo Domingo is constructed as a two lane Collector (no fronting property) within a residential area and is not meant to be a by-pass route for through traffic so that retaining this classification would discourage speeding and through traffic not destined for the adjacent residential neighborhoods.. A reclassification is not recommended.

6.3 Freeway Levels of Service

Table 6-2 lists freeway segments evaluated for the 3B With La Media Road scenario, without possible future HOV lanes.

Segments of Interstate 805 and State Route 905 are projected to be significantly impacted by Otay Mesa Community Plan and regional cumulative traffic.

Impacts to Interstate 805 between State Route 905 and Main Street would remain significant and unmitigated without the assumption of High Occupancy Vehicle (HOV) lanes installed, and a northbound auxiliary lane installed with I-805 / SR-905 interchange improvements.

However, the Adopted SANDAG 2050 Regional Transportation Plan includes two managed lanes in each direction on I-805 north of SR-905. With the addition of these managed lanes, peak hour levels of service would be at “D” on I-805 segments between SR-905 and Main Street.

State Route 905 is assumed with six lanes. Impacts would be significant and unmitigated between Picador Boulevard and Britannia Boulevard. State Route 905 has been designed so that median HOV lanes could be installed in the future, but are not currently planned or funded by Caltrans. The addition of HOV lanes would provide partial mitigation for local and regional cumulative impacts, but would not provide acceptable levels of service, except between I-805 and Britannia Boulevard. **Table 6-2-A** shows freeway levels of service after HOV lanes are added to segments at level of service “F”.

6.4 Intersection Levels of Service

Table 6-3 shows the 3B With La Media Road scenario intersection levels of service with and without recommended mitigation.

Intersection lane configurations without mitigation are assumed to be as shown in the City of San Diego Street Design Manual for the roadway classification at the intersection approaches. Lane configurations with mitigation identified are included in **Appendix C**. Also included are peak hour volumes at each intersection and intersection levels of service worksheets.

TABLE 6-2

Buildout Scenario 3B With La Media Road Freeway Segment Levels of Service

	Segment	Lanes (1-Way)	Cap.	ADT (1)	Peak Hour %(5)	Direction Split(5)	(6) Truck Factor	Peak Volume	V/C	LOS (2)
SR-905	Picador Blvd. to I-805 (3)	2 + AUX	6,500	126,500	0.08	0.6	0.90	6,747	0.96	E
	I-805 to Caliente Ave. (4)	3 + CL	8,550	215,500	0.08	0.6	0.90	11,493	1.63	F3
	Caliente Ave. to Heritage Rd.	3	7,050	191,000	0.08	0.6	0.90	10,187	1.44	F2
	Heritage Rd. to Britannia Blvd.	3	7,050	168,500	0.08	0.6	0.90	8,987	1.27	F1
	Britannia Blvd. to La Media Rd.	3	7,050	148,500	0.08	0.6	0.90	7,920	1.12	F0
	La Media Rd. to SR-125	3	7,050	102,500	0.08	0.6	0.90	5,467	0.78	C
	SR-125 to Siempre Viva Rd.	3	7,050	98,000	0.08	0.6	0.90	5,227	0.74	C
	Siempre Viva Rd. to Border	3	7,050	64,500	0.08	0.6	0.90	3,440	0.49	B
I-805	Main St. to Palm Ave.	4+AUX	11,200	243,000	0.08	0.6	0.90	12,960	1.16	F0
	Palm Ave. to SR-905	4+AUX	11,200	217,500	0.08	0.6	0.90	11,600	1.04	F0
	SR-905 to I-5	4	9,400	122,500	0.08	0.6	0.90	6,533	0.70	C
	I-5 to Border	6	14,100	136,000	0.08	0.6	0.90	7,253	0.51	B
SR-125	Birch Rd. to Lone Star Rd.	4 (Toll)	9,400	124,500	0.08	0.6	0.90	6,640	0.71	C
	Lone Star Rd. to SR-905	4 (Toll)	9,400	96,000	0.08	0.6	0.90	5,120	0.54	B
SR – 11	SR-905 to Enrico Fermi Dr.	2	4,700	43,000	0.08	0.6	0.90	2,293	0.49	B
	Enrico Fermi Dr. to Siempre Viva Rd.	2	4,700	23,000	0.08	0.6	0.90	1,227	0.26	A
	Siempre Viva Rd. to Border	2	4,700	39,500	0.08	0.6	0.90	2,107	0.48	B

Legend

Cap = Capacity of Segment
Mainlane Cap. @ 2,350 VPHPL
Auxillary Lane Cap. @ 1,800 VPHPL
HOV Lane Cap. @ 1,600 VPHPL
Climbing Lane Cap. @ 1,500 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

Direction Split = % of Peak Hour in Peak Direction

Truck Factor = Represents Capacity Reduction for Heavy Vehicles

F

= Shading indicates a significant impact.

Note:

(1) Buildout Forecast Volume, Average Daily Traffic Volume (9-30-10 Run Date, Series 11)

(2) Caltrans District 11 LOS Estimation Procedures, See Table 2-3

(3) = 2 Mainlanes + Auxillary Lane

(4) = EB: 3 Mainlanes + Climbing Lane
WB: 3 Mainlanes + Auxillary Lane

(5) = Source: Caltrans Traffic Volumes Peak Hour Volume Data (existing average for I-805 & SR-905).

(6) = Highway Capacity Manual (2000) EQN. (3-2); Assume 10% trucks plus RV's.

TABLE 6-2-A

**Scenario 3B With La Media Road Freeway Segment Levels of Service
(With HOV Lanes Added To LOS F Segments)**

Segment		ADD HOV	Lanes (1Way)	Cap.	ADT (1)	Peak Hour % (5)	Direction Split (5)	(6) Truck Factor	Peak Volume	V/C	LOS (2)
SR-905	Picador Blvd. to I-805 (3)	+H	2 + AUX	8,100	126,500	0.08	0.6	0.90	6,747	0.83	D
	I-805 to Caliente Ave. (4)	+H	3 + CL	10,150	215,500	0.08	0.6	0.90	11,493	1.13	F1
	Caliente Ave. to Heritage Rd.	+H	3	8,650	191,000	0.08	0.6	0.90	10,187	1.18	F2
	Heritage Rd. to Britannia Blvd.	+H	3	8,650	168,500	0.08	0.6	0.90	8,987	1.04	F0
	Britannia Blvd. to La Media Rd.	+H	3	8,650	148,500	0.08	0.6	0.90	7,920	.92	D
I-805	Main St. to Palm Ave,	+2H	4+AUX	14,400	243,000	0.08	0.6	0.90	12,960	0.90	D
	Palm Ave. to SR-905	+2H	4+AUX	14,400	217,500	0.08	0.6	0.90	11,600	0.81	D

Legend

Cap = Capacity of Segment
Mainlane Cap. @ 2,350 VPHPL
Auxillary Lane Cap. @ 1,800 VPHPL
HOV Lane Cap. @ 1,600 VPHPL
Climbing Lane Cap. @ 1,500 VPHPL


ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

Direction Split = % of Peak Hour in Peak Direction

Truck Factor = Represents Capacity Reduction for Heavy Vehicles

 = Shading indicates a significant impact.

+H = Add HOV lane in each direction.

+2H = Add two HOV lanes in each direction.

Note:

(1) Buildout Forecast Volume, Average Daily Traffic Volume (09-30-10 Run Date, Series 11)

(2) Caltrans District 11 LOS Estimation Procedures, See Table 2-3

(3) = 2 Mainlanes + Auxillary Lane

(4) = EB: 3 Mainlanes + Climbing Lane
WB: 3 Mainlanes + Auxillary Lane

(5) = Source: Caltrans Traffic Volumes, Peak Hour Volume Data (existing average for I-805 & SR-905).

(6) Highway Capacity Manual (2000) EQN. (3-2); assume 10% trucks plus RV's.

SR-905 HOV lanes are not currently in the Regional Transportation Plan, and are not funded.

TABLE 6-3

Buildout Scenario 3B With La Media Road Intersection Levels of Service

Intersection		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		CD	LOS	CD	LOS	CD	LOS	CD	LOS
1	Palm Ave. / I-805 SB Ramps	47.2	D	48.6	D	24.6	C	34.5	C
2	Palm Ave. / I-805 NB Ramps	107.7	F	113.9	F	18.7	B	29.3	C
3	Palm Ave. / Dennery Rd.	34.2	C	67.8	E	-	-	-	-
4	Otay Mesa Rd. / Caliente Ave.	279.2	F	139.5	F	220.6	F	82.1	F
5	Caliente Ave. / SR-905 WB Ramps	74.6	E	41.8	(1) D	35.6	(1) D	32.5	(1) C
6	Caliente Ave. / SR-905 EB Ramps	140.2	F	146.5	F	48.6	D	66.0	E
7	Caliente Ave. / Airway Rd.	240.9	F	204.3	F	184.8	F	181.9	F
8	Caliente Ave. / Beyer Blvd.	238.6	F	411.5	F	173.5	F	111.6	F
9	Otay Mesa Rd. / Heritage Rd.	289.6	F	283.7	F	236.0	F	192.8	F
10	Heritage Rd. / SR-905 WB Ramps	65.1	E	100.4	F	18.7	(1) B	27.8	(1) C
11	Heritage Rd. / SR-905 EB Ramps	127.9	F	86.8	F	34.2	(1) C	23.4	(1) C
12	Heritage Rd. / Airway Rd.	146.3	F	378.4	F	62.6	E	79.5	E
13	Heritage Rd. / Siempre Viva Rd.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14	Otay Mesa Rd. / Cactus Rd.	391.1	F	265.8	F	118.3	F	185.5	F
15	Airway Rd. / Cactus Rd.	344.9	F	430.8	F	167.4	F	284.9	F
16	Siempre Viva Rd. / Cactus Rd.	43.4	D	119.2	F	42.2	D	108.7	F
17	Otay Mesa Rd. / Britannia Blvd.	113.5	F	125.7	F	68.2	E	51.5	D
18	Britannia Blvd. / SR-905 WB Ramps	239.4	F	452.4	F	61.0	E	417.5	F
19	Britannia Blvd. / SR-905 EB Ramps	357.3	F	237.6	F	306.7	F	69.9	E
20	Britannia Blvd. / Airway Rd.	622.3	F	611.5	F	187.7	F	236.4	F
21	Siempre Viva Rd. / Britannia Blvd.	378.7	F	345.5	F	164.3	F	168.3	F
22	Otay Mesa Rd. / La Media Rd.	391.8	F	448.0	F	128.5	F	107.5	F

Legend

CD = Control Delay

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

F = Shading indicates a significant impact.

TABLE 6-3 (Continued)

Buildout Scenario 3B With La Media Road Intersection Levels of Service

Intersection		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		CD	LOS	CD	LOS	CD	LOS	CD	LOS
23	La Media Rd. / SR-905 WB Ramps	242.0	F	134.1	F	96.6	F	94.4	F
24	La Media Rd. / SR-905 EB Ramps	255.5	F	81.6	F	167.4	F	47.5	(1) D
25	La Media Rd. / Airway Rd.	508.2	F	573.5	F	191.4	F	283.3	F
26	La Media Rd. / Siempre Viva Rd.	252.3	F	115.3	F	93.6	F	44.0	D
27	La Media Rd. / Lone Star Rd.	90.1	F	115.9	F	43.0	D	80.6	F
28	Lone Star Rd. / SR-125 SB Off Ramp	23.0	(1) C	13.6	(1) B	-	-	-	-
29	Lone Star Rd. / SR-125 NB On Ramp	3.4	(1) A	7.8	(1) A	-	-	-	-
30	Lone Star Rd. / Piper Ranch Rd.	10.8	B	9.2	A	-	-	-	-
31	Otay Mesa Rd. / Piper Ranch Rd.	140.7	F	218.6	F	57.6	E	84.8	F
32	Otay Mesa Rd. / SR-125 SB Off Ramp	48.9	D	7.1	A	19.0	B	6.2	A
33	Otay Mesa Rd. / SR-125 NB On Ramp	3.2	A	8.0	A	-	-	-	-
34	Otay Mesa Rd. / Harvest Rd.	54.6	D	132.3	F	10.7	B	32.4	C
35	Siempre Viva Rd. / Otay Center Dr.	262.9	F	322.7	F	74.1	E	91.0	F
36	Siempre Viva Rd. / SR-905 SB to EB Ramp	28.2	(1) C	137.1	F	-	-	-	-
36A	Siempre Viva Rd. / SR-905 SB to WB Ramp	(2) 2,531	F	(2) 204.1	F	366.4	F	16.2	B
37	Siempre Viva Rd. / SR-905 NB Ramps	47.4	(1) D	250.4	F	39.4	(1) D	238.0	F
38	Siempre Viva Rd. / Paseo de las Americas	190.2	F	367.1	F	78.5	E	158.1	F
39	Dennerly Rd. / Del Sol Blvd.	53.6	(1) D	53.2	D	-	-	-	-
40	Ocean View Hills Pkwy. / Del Sol Blvd.	71.4	E	67.1	E	50.4	D	54.3	D
41	Ocean View Hills Pkwy. / Street A	48.2	D	63.2	E	37.7	D	34.1	C
42	Old Otay Mesa Rd. / Beyer Blvd.	392.8	F	399.1	F	197.4	F	185.6	F
43	Otay Mesa Rd. / Corporate Center Dr.	119.3	F	184.6	F	78.6	E	140.6	F
44	Otay Mesa Rd. / Innovative Dr.	114.5	F	110.5	F	113.8	F	91.4	F

Legend

CD = Control Delay

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

(2) = Unsignalized: SB to WB right turn at LOS F (AM and PM Peak Hours)

F = Shading indicates a significant impact.

TABLE 6-3 (Continued)

Buildout Scenario 3B With La Media Road Intersection Levels of Service

Intersection	Without Mitigation				With Mitigation			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	CD	LOS	CD	LOS	CD	LOS	CD	LOS
45 Harvest Rd. / Airway Rd.	117.5	F	13.8	B	43.9	D	13.5	B
46 Harvest Rd. / Siempre Viva Rd.	67.2	E	67.6	E	32.2	C	49.4	D
47 Otay Mesa Rd. / Sanyo Ave.	284.4	F	265.5	F	81.9	F	63.5	E
48 Airway Rd. / Sanyo Ave.	225.6	F	229.8	F	49.7	D	38.6	D
49 Paseo de las Americas / Heinrich Hertz Dr.	(3) 988.3	F	(3) 231.4	F	26.0	C	14.2	B
50 Paseo de las Americas / Marconi Dr.	(4) 983.1	F	(4) 147.8	F	18.5	B	26.4	C
51 Heritage Rd. / Otay Valley Rd./ Datsun St.	443.8	F	564.4	F	138.0	F	239.1	F
52 Aviator Rd. / La Media Rd.	62.3	E	27.5	C	26.0	C	13.6	B
53 Otay Valley Rd. / Avenida De Las Vistas	659.8	F	291.3	F	-	-	-	-

Note: Control delay results should be considered unreliable at delay values higher than two times the LOS E value of 80.0 seconds.

Legend

CD = Control Delay

LOS = Level of Service

(3) Unsignalized: Eastbound left turn at LOS F (AM peak hour); Eastbound left and right turns at LOS F (PM peak hour).

(4) Unsignalized: Westbound left turn at LOS F (AM and PM peak hours); Westbound right turn at LOS F (PM peak hour).

Control Delay	LOS
0.0 - 10.0	A
10.1 - 20.0	B
20.1 - 35.0	C
35.1 - 55.0	D
55.1 - 80.0	E
Over 80.0	F
<i>Source: 2000 Highway Capacity Manual</i>	

Of the 53 intersections evaluated, 40 intersections are expected to be at levels of service “E” or “F” during the AM peak hour and 43 during the PM peak hour. With feasible mitigation, 27 intersections would remain to operate unacceptably in the AM peak hour and 29 intersections would remain to operate unacceptably in the PM peak hour. **Table 6-4** shows lane configurations at each intersections and also shows lanes to be added after mitigation.

The SR-905 interchange at Caliente Avenue and La Media Road are recommended for major improvements for all alternatives. The Caltrans designs of these interchanges are based on forecasts of future traffic from the build out of only approximately fifty percent of Otay Mesa land uses. The Heritage Road interchange currently does not have a final, funded design, so that the lane configurations at the ramp intersections included in this report should be incorporated into the final design.

Provided below is a summary of mitigation recommended at the interchanges and major intersections. Some intersection impacts are not proposed to be fully mitigated, usually because it would require excessively wide intersections and turning lanes and non-standard intersection configurations.

#2. I-805 Northbound Ramps / Palm Avenue – The Otay Mesa P.F.F.P includes a bridge widening project at this location. The preliminary design includes a third through lane in each direction, an additional westbound right turn lane (total of two), northbound off- ramp widening for an additional lane (total of three), southbound off-ramp widening for an additional lane (total of four), and the addition of a fourth eastbound lane and a loop on-ramp in the southeast quadrant.

#4. Caliente Avenue / Otay Mesa Road – At this intersection of two six-lane Primary Arterials, a separate right turn only lane in the northbound direction is recommended. Although the northbound right turn volumes are expected to be high enough to warrant dual right turns, this intersection is near San Ysidro High School and in the interest of pedestrian safety and convenience, the dual right turn lanes are not recommended.

TABLE 6-4

Buildout 3B With La Media Road Intersection Mitigation

		Without Mitigation												With Mitigation											
		NB				SB				EB				NB				SB				EB			
Intersection		L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R
1	Palm Ave. / I-805 SB Ramps				1	1*	1		2	1	2	2					1	1*	2		2	1	2	2	
2	Palm Ave. / I-805 NB Ramps	S	1*	1				2	2			2	1	1	1*	1					3	1		3	2
3	Palm Ave. / Dennerly Rd.	3	1	S	2	2	1	2	3	1	2	3	1												
4	Otay Mesa Rd. / Caliente Ave.	2	3	S	2	3	S	2	3	1	2	3	1	2	3	1	2	3	S	2	3	1	2	3	1
5	Caliente Ave. / SR-905 WB Ramps	1	3			3	S					S	1	1			2	3		3	1		S	1	1
6	Caliente Ave. / SR-905 EB Ramps		3	S	1	3		1	1*	S					3	1	2	3			1	1*	1		
7	Caliente Ave. / Airway Rd.	2	3	S	2	3	S	2	2	S	2	2	1	2	3	1	2	3	S	2	2	1	2	2	1
8	Caliente Ave. / Beyer Blvd.	2	2	S	2	3	S	2	2	S	1	1	1	2	2	S	2	2	2	2	2	1	1	1	1
9	Otay Mesa Rd. / Heritage Rd.	2	3	S	2	3	S	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	2
10	Heritage Rd. / SR-905 WB Ramps		3	S	2	3					S		2		3	2	2	3					S		2
11	Heritage Rd. / SR-905 EB Ramps		3	S	2	3					2		S		3	1	2	3					2		1
12	Heritage Rd. / Airway Rd.				2		1	2	3		2	3	S				2		1	2	3			3	2
13	Heritage Rd. / Siempre Viva Rd.																								
14	Otay Mesa Rd. / Cactus Rd.	2	1*	1	1	1	S	1	3	S	2	3	S	2	1*	1	1	1	S	1	3	2	2	3	1
15	Airway Rd. / Cactus Rd.	2	2	S	2	2	S	2	3	S	2	3	S	2	2	1	2	2*	1	2	3*	1	2	3	2
16	Siempre Viva Rd. / Cactus Rd.		2	S	2	2					2		2		2	1	2	2					2		2
17	Otay Mesa Rd. / Britannia Blvd.	2	1	1	1	1	S	1	3	S	2	3	S	2	1*	1	1	1	S	1	3	1	2	3	1
18	Britannia Blvd. / SR-905 WB Ramps	2	3			3	S				1	1	1	2	3			3*	1				1	1*	1
19	Britannia Blvd. / SR-905 EB Ramps		3	S	2	3		S	1	2					3	2	2	3		S	1	2			
20	Britannia Blvd. / Airway Rd.	2	3	S	2	3	S	2	3	S	2	2	S	2	3	1	2	3	2	2	3	1	2	2	2
21	Siempre Viva Rd. / Britannia Blvd.	2	2	S	2	2	S	2	3	S	2	3	S	2	2	1	2	2	2	2	3	1	2	3	2
22	Otay Mesa Rd. / La Media Rd.	2	3	S	2	3	S	2	3	S	2	3	S	2	3	2	2	3	2	2	3	2	2	3	2

Legend

L = left turn lanes
T = through lanes
R = right turn lanes
S = shared lane

* Notes: #1-SB through is shared LTR without mitigation; shared LT with mitigation.

#2-NB through is shared LTR.

#5-SB is 2T-TR-R without mitigation.

#6-EB through is shared LTR without mitigation; shared LT with mitigation.

#14 - NB through is shared TR.

#15-SB through is shared TR.

#15-EB through is shared TR.

#17-NB through is shared TR.

#18- SB add right turn lane; 3rd SB lane striped for shared TR; WB through restriped for LTR.

1 Highlighted indicates added lane mitigation or revised lane assignment by restriping, as noted.

TABLE 6-4 (Continued)

Buildout 3B With La Media Road Intersection Mitigation

Intersection	Without Mitigation												With Mitigation											
	NB			SB			EB			WB			NB			SB			EB			WB		
	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R
23 La Media Rd. / SR-905 WB Ramps	2	2	1		3	1	S	1	1	1	1*	1	2	3	1		3	1	1		1	1	1*	1
24 La Media Rd. / SR-905 EB Ramps	2	3			2	1	2		2				2	3			3	1	2		2			
25 La Media Rd. / Airway Rd.	2	2	S	2	3	S	2	2	S	2	2	S	2	2	1	2	3	2	2	2	1	2	2	2
26 La Media Rd. / Siempre Viva Rd.				2	2	S	2	3				3	S		2	1*	2*	2	3			3	2	
27 La Media Rd. / Lone Star Rd.		3	S	2	3					2	2	S		3	1	2	3					2		2*
28 Lone Star Rd. / SR-125 SB Off Ramp				2			3			3														
29 Lone Star Rd. / SR-125 NB On Ramp							2	3			3	2												
30 Lone Star Rd. / Piper Ranch Rd.	2		1				3	S	2	3														
31 Otay Mesa Rd. / Piper Ranch Rd.	1	2	S	1	2	S	2	3	S	2	3	S	2	1	1	2	2	3	1	2	3	1		
32 Otay Mesa Rd. / SR-125 SB Off Ramp				2		1		3			3				1	1*	1							
33 Otay Mesa Rd. / SR-125 NB On Ramp							2	3			3	2												
34 Otay Mesa Rd. / Harvest Rd.	1	1	S	1	1	S	1	3	S	1	3	S	2	1	S	1	1	S	1	3	1	1	3	S
35 Siempre Viva Rd. / Otay Center Dr.	1	1	S	1	2	S	1	3	S	1	3	S	1	1	1	2	1	1	2	3	1	2	3	1
36 Siempre Viva Rd. / SR-905 SB to EB Ramp			2					3	S	2	3													
36A Siempre Viva Rd. / SR-905 SB to WB Ramp						1					3					2						3		
37 Siempre Viva Rd. / SR-905 NB Ramps	S	1	2				2	3			3	1	S	1	2			2	3			3	2	
38 Siempre Viva Rd. / Paseo de las Americas	1	2	S	1	2	S	1	3	1	1	3	S	1	1*	1*	1	1	2	2	3	1	1	3	1
39 Dennerly Rd. / Del Sol Blvd.				1		1	1	2			2	S												
40 Ocean View Hills Pkwy. / Del Sol Blvd.	2	3	S	1	2	S	1	1	1	1	1	S	2	3	S	1	2	1	1*	1*	1	1	1	S
41 Ocean View Hills Pkwy. / Street A	1	1	1	1	1	S	1	3	S	1	3	S	2	1	1	1	1	S	1	3	1	1	3	S
42 Old Otay Mesa Rd. / Beyer Blvd.	1	1	S	1	1	S	2	2	1	2	2	S	1	1	1	1	1	2	2	1	2	2	S	
43 Otay Mesa Rd. / Corporate Center Dr.	2	1	S	1	1	1	2	3	S	2	3	1	2	1	S	2	1*	1	2	3	1	2	3	1
44 Otay Mesa Rd. / Innovative Dr.	1	1	S	1	1	1	2	3	S	2	3	1	1	1	S	2	1*	1	2	3	S	2	3	1

Legend

L = left turn lanes
T = through lanes
R = right turn lanes
S = shared lane

***Notes:** #23-WB middle lane is shared LT.

#26-SB lanes restriped for 1T-2R lanes.
#27-WB lanes restriped for 2R lanes.
#32-SB middle lane is striped for shared LR.
#38-NB lanes restriped for L-LT-R.
#40-EB lanes restriped for L-LT-R.
#43-SB is 2L-TR-R.
#44-SB is 2L-TR-R.

1 Highlighted indicates added lane mitigation or revised lane assignment by restriping, as noted.

TABLE 6-4 (Continued)
Buildout 3B With La Media Road Intersection Mitigation

Intersection	Without Mitigation												With Mitigation											
	NB			SB			EB			WB			NB			SB			EB			WB		
	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R
45 Harvest Rd. / Airway Rd.	2		1					2	S	2	2		2		1				2	1	2	2		
46 Harvest Rd. / Siempre Viva Rd.	1	2	S	1	2	S	2	3	S	2	3	S	1	2	S	2	2	1	2	3	S	2	3	1
47 Otay Mesa Rd. / Sanyo Ave.	1	2	S	1	2	S	2	3	S	2	3	S	2	1	1	1	1	2	3	2	2	3	1	
48 Airway Rd. / Sanyo Ave.	1	2	S	1	2	S	2	2	S	2	2	S	2	2	1	2	2	2	2	2	2	2	2	1
49 Paseo de las Americas / Heinrich Hertz Dr.	1	2			2	S	1		1				2	2		2	S	1		1				
50 Paseo de las Americas / Marconi Dr.		2	S	1	2					1		1		2	S	2	2					1		1
51 Heritage Rd. / Otay Valley Rd.	2	3	S	2	3	S	1	2	S	1	2	S	2	3	1	2	3	2	2	2	1	2	2	1
52 Aviator Rd. / La Media Rd.	2	3			3	S	2		1				2	3		3	1	2		1				
53 Otay Valley Rd. / Avenida De Las Vistas	1	3	S	1	3	S	1	1	S	1	1	1												

Legend

L = left turn lanes

T = through lanes

R = right turn lanes

S = shared lane

1 Highlighted indicates added lane mitigation or revised lane assignment by restriping, as noted.

#5. Caliente Avenue / SR-905 Westbound Ramps – Overcrossing widening to accommodate northbound dual left turn lanes is recommended. Additionally, a single southbound right turn only lane is recommended. Caliente Avenue is a school pedestrian route to the San Ysidro High School. Although southbound right turn volumes are expected to be high enough to warrant right turn lanes, the dual right turn lanes are not recommended.

#6. Caliente Avenue / SR-905 Eastbound Ramps - Overcrossing widening to accommodate dual northbound left turn lanes at the SR-905 westbound ramps also should extend through this intersection, accommodating dual southbound left-turn lanes. A separate northbound right turn lane and ramp widening for an additional eastbound right turn lane are recommended. Although the eastbound right turn volumes are expected to be high enough for dual right turn lanes, the dual right turn lanes are not recommended on this pedestrian route to San Ysidro High School.

#7. Caliente Avenue at Airway Road - Separate right turn only lanes are recommended in the eastbound, northbound, and westbound directions. Although the northbound and westbound right turn volumes are expected to be high enough to warrant dual right turn lanes, the dual right turn lanes are not recommended on this pedestrian route to San Ysidro High School.

#8. Caliente Avenue at Beyer Boulevard - Dual right turn lanes southbound to westbound are recommended. A separate eastbound right turn lane is recommended.

#9. Heritage Road / Otay Mesa Road - Separate right turn only lanes are recommended in the northbound and southbound directions. Existing right turn lanes are in place eastbound and westbound. A second westbound right turn lane is recommended.

#10. Heritage Road / SR-905 Westbound Ramps - Two right turn only lanes are recommended in the northbound direction onto the westbound on-ramp.

#11. Heritage Road / SR-905 Eastbound Ramps - A separate right turn lane in the northbound direction to the eastbound on-ramp, plus an additional lane in the westbound direction on the eastbound off-ramp are recommended.

#12. Heritage Road / Airway Road – Dual right turn lanes are recommended in the westbound direction.

#14. Cactus Road / Otay Mesa Road - Dual right turn lanes in the eastbound direction, and one in the westbound direction are recommended.

#15. Cactus Road / Airway Road - Dual right turn lanes in the westbound direction, and single right turn lanes are recommended in the south, north, and eastbound directions. A shared through / right turn lane is recommended southbound and eastbound.

#16. Cactus Road / Siempre Viva Road - Dual right turn lanes in the westbound direction and a single right turn lane are recommended in the northbound direction.

#17. Britannia Boulevard / Otay Mesa Road - A single right turn only lane in the eastbound and westbound directions are recommended.

#18. Britannia Boulevard / SR-905 Westbound Ramps - A single southbound right turn lane, and also restriping the third southbound through lane as an optional through / right turn are recommended. The middle lane in the westbound direction is recommended to be restriped for a shared left / through / right movement.

#19. Britannia Boulevard / SR-905 Eastbound Ramps - Dual right turn lanes northbound are recommended.

#20. Britannia Boulevard / Airway Road - Dual right turn lanes in the south and westbound directions, and a single right turn lane in the eastbound and northbound directions are recommended.

#21. Britannia Boulevard / Siempre viva Road - Dual right turn lanes in the west, and southbound directions, and a single right turn lane in the eastbound and northbound directions are recommended.

#22. La Media Road / Otay Mesa Road – Dual right turn lanes are recommended at all approaches.

#23. La Media Road / SR-905 Westbound Ramps - It is recommended that the eastbound through movement be eliminated so that the northbound right turn to the SR-905 westbound on-ramp can be a continuous movement, without a conflicting movement at the traffic signal. Only a pedestrian signal would cause this traffic to stop. Additionally a third northbound through lane is recommended. These recommended improvements would require widening in the northbound direction along La Media Road.

#24. La Media Road / SR-905 Eastbound Ramps - The addition of a third southbound through lane is recommended. This improvement would require widening La Media Road in the southbound direction.

#25. La Media Road / Airway Road - The addition of dual right turn lanes westbound and southbound, and single right turn lanes eastbound and northbound are recommended.

#26. La Media Road / Siempre Viva Road - The addition of dual right turn lanes westbound, and one right turn lane southbound are recommended. The southbound lanes should be striped for two lefts / one through / two right turn lanes. The southbound through lane will be restricted to unladen trucks destined to the Border Truck Road.

#27. La Media Road / Lone Star Road - A northbound right turn lane is recommended. The westbound through lanes are recommended to be striped for two left and two right turn lanes.

#31. Piper Ranch Road / Otay Mesa Road – Single right turn lanes in the east, west, and northbound directions are recommended. Southbound, two right turn lanes are recommended. Southbound lanes should be striped for two left / one through / two right turn lanes.

#32. SR-125 Southbound Off-Ramp / Otay Mesa Road – No additional lanes are recommended, but restriping the southbound middle lane for optional left-right turns is recommended.

#34. Harvest Road / Otay Mesa Road – An additional eastbound right turn lane is recommended. An additional northbound left turn lane is also recommended.

#35. Otay Center Drive / Siempre Viva Road - Added lanes for single right turn lanes are recommended at all approaches. Dual left turn lanes are recommended east, west, and southbound.

#36 – 36A. SR-905 Southbound Ramps / Siempre Viva Road - The SR-905 southbound off-ramp to westbound Siempre Viva Road is recommended to be signalized, and widened for an additional southbound turn lane.

#37. SR-905 Northbound Ramps / Siempre Viva Road – A second westbound right turn lane is recommended.

#38. Paseo de las Americas / Siempre Viva Road - Added westbound and southbound right turn lanes are recommended, plus an eastbound left turn lane. The northbound lanes should be restriped for one left, one left / through, one right turn lane. The southbound lanes should be restriped for one left / one through / two right turn lanes.

#40. Ocean View Hills Parkway / Del Sol Boulevard - One added southbound right turn lane is recommended. The eastbound through lane should be restriped for optional left turns / through.

#41. Ocean View Hills Parkway / Street “A” - An eastbound single right turn lane and an added northbound left turn lane are recommended.

#42. Old Otay Mesa Road / Beyer Boulevard - Northbound and southbound right turn lanes are recommended.

#43. Otay Mesa Road / Corporate Center Drive - Northbound and southbound added left turn lanes, and a separate eastbound right turn lane are recommended. The southbound through lane should be striped as a shared through / right turn lane.

#44. Otay Mesa Road / Innovative Drive - A second southbound left turn lane is recommended. The southbound through lane should be striped as a shared through / right turn lane.

#45. Airway Road / Harvest Road - An eastbound right turn lane is recommended.

#46. Harvest Road / Siempre viva Road - Separate right turn lanes are recommended westbound and southbound. An additional southbound left turn lane is recommended.

#47. Otay Mesa Road / Sanyo Avenue - Eastbound dual right turn lanes, and single right turn lanes northbound and westbound are recommended. Restriping northbound lanes for dual left turns plus one through lane is recommended.

#48. Airway Road / Sanyo Avenue - Dual right turn lanes in the eastbound and southbound directions are recommended. Single right turn lanes northbound and westbound are recommended. Northbound and southbound added lanes for dual left turns are recommended.

#49. Paseo de las Americas / Heinrich Hertz Drive - The installation of a traffic signal and widening for an added northbound left turn lane are recommended.

#50. Paseo de las Americas / Marconi Drive - The installation of a traffic signal and adding a southbound left turn lane are recommended.

#51. Heritage Road / Otay Valley Road - Dual right turn lanes southbound, and single right turn lanes at the other approaches are recommended. East and westbound dual left turn lanes are recommended.

#52. La Media Road / Aviator Road - A southbound right turn lane is recommended.

6.5 Ramp Meter Operations

Table 6-5 shows buildout ramp meter operations at all freeway on-ramps within the study area.

The likely most restrictive ramp meter rate as provided by Caltrans was used for this evaluation.

Regional SANTEC / ITE Traffic Impact Study Guidelines state that levels of service does not apply to ramp meters, but that ramp meter delays above 15 minutes are considered excessive. Of the 28 hours ramp meters were evaluated during the AM and PM peak hours, ramp meter delays above 15 minutes would occur at five locations during the AM peak hour and at eleven locations during the PM peak hour.

Ramp meter delays above 15 minutes are considered significant impacts if downstream freeways are operating at level of service “E” or “F”. The following five ramp locations would be significantly impacted using this significance criteria:

- SR-905 / Caliente Avenue Westbound on-ramp (AM and PM);
- SR-905 / Heritage Road Westbound on-ramp (AM and PM);
- SR-905 / Britannia Boulevard Westbound on-ramp (AM and PM);
- SR-905 / Britannia Boulevard Eastbound on-ramp (PM);
- SR-905 / La Media Road Westbound on-ramp (AM and PM).

The freeway on-ramps evaluated would have ramp lengths from 650 feet to 1,200 feet. Assuming two lanes at the ramp meters, seven locations would have queues exceeding the ramp storage during the AM peak hour, and at eleven locations during the PM peak hour.

There are no performance criteria regarding excessive queues in the regional guidelines. However, the guidelines state the following:

TABLE 6-5

Buildout Alternate 3B With La Media Road Ramp Meter Operations

Most Restrictive Meter Rate						
Location		Demand* *	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	I-805 / Palm Avenue Northbound (From Westbound)	1,250	960	290	18.1	7,250 (E)
PM	I-805 / Palm Avenue Northbound (From Westbound)	1,345	960	385	24.1	9,625 (E)
AM	I-805 / Palm Avenue Northbound (From Eastbound)	655	960	None	None	None
PM	I-805 / Palm Avenue Northbound (From Eastbound)	540	960	None	None	None
AM	I-805 / Palm Avenue Southbound	455	960	None	None	None
PM	I-805 / Palm Avenue Southbound	645	960	None	None	None

Most Restrictive Meter Rate						
Location		Demand* *	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / Caliente Avenue Westbound	1,740	960	780	48.75	19,500 (E)
PM	SR-905 / Caliente Avenue Westbound	1,535	960	575	35.9	14,375(E)
AM	SR-905 / Caliente Avenue Eastbound	400	960	None	None	None
PM	SR-905 / Caliente Avenue Eastbound	400	960	None	None	None

Most Restrictive Meter Rate						
Location		Demand* *	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / Heritage Road Westbound	1,135	960	175	10.9	4,375 (E)
PM	SR-905 / Heritage Road Westbound	2,515	960	1,555	97.2	38,875 (E)
AM	SR-905 / Heritage Road Eastbound	360	960	None	None	None
PM	SR-905 / Heritage Road Eastbound	800	960	None	None	None

*=Most restrictive meter rate used by Caltrans.

**=Total hourly volume entering from both directions.

(E) = Exceeds ramp storage length.

TABLE 6-5 (Cont.)

Buildout Alternate 3B With La Media Road Ramp Meter Operations

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / Britannia Blvd. Westbound	1,350	960	390	24.4	9,750 (E)
PM	SR-905 / Britannia Blvd. Westbound	3,340	960	2,380	148.8	59,500(E)
AM	SR-905 / Britannia Blvd. Eastbound	710	960	None	None	None
PM	SR-905 / Britannia Blvd. Eastbound	1,400	960	440	27.5	11,000 (E)

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / La Media Road Westbound	1,950	960	990	61.9	24,750 (E)
PM	SR-905 / La Media Road Westbound	2,860	960	1,900	118.8	47,500 (E)
AM	SR-905 / La Media Road Eastbound	1,000	960	40	2.5	1,000
PM	SR-905 / La Media Road Eastbound	1,950	960	990	61.9	24,750 (E)

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / Siempre Viva Rd. Northbound	1,180	960	220	13.8	5,500 (E)
PM	SR-905 / Siempre Viva Rd. Northbound	3,440	960	2,480	155.0	62,000 (E)
AM	SR-905 / Siempre Viva Rd. Southbound	750	960	None	None	None
PM	SR-905 / Siempre Viva Rd. Southbound	1,660	960	700	43.8	17,500 (E)

*=Most restrictive meter rate used by Caltrans.

**=Total hourly volume entering from both directions.

(E) = Exceeds ramp storage length.

TABLE 6-5

Buildout Alternate 3B With La Media Road Ramp Meter Operations

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-125 / Otay Mesa Rd. Northbound	1,680	960	720	45.0	18,000 (E)
PM	SR-125 / Otay Mesa Rd. Northbound	2,455	960	1,490	93.1	37,250 (E)

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-125 / Lone Star Rd. Northbound	850	960	None	None	None
PM	SR-125 / Lone Star Rd. Northbound	3,615	960	2,655	165.9	66,375 (E)

* Most restrictive meter rate used, per Caltrans.

** = Total hourly volume entering from both directions.

Excess Demand X 60MIN = Delay (Minutes)

Meter Rate

(E) = Exceeds ramp storage length.

Note: Experience shows that the theoretical queue length derived by this analysis often does not materialize. Motorists, after a brief time of adjustment, seek alternative travel paths if available, or alternative times of arrival at the meter. The effect is to approximately minimize total trip time by seeking out the best combinations of route and departure time at the beginning of the trip. This causes at least two important changes in the pattern on arriving traffic at ramp meters. First, the peak period is spread out with some traffic arriving earlier and some traffic arriving later than predicted. Second, a significant proportion of the predicted arriving traffic will use another ramp with shorter queues, use another freeway, or stay on surface streets.

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6.6 Freeway Interchange Queue Analysis

A queue analysis was prepared at the interchange ramps within the study area, and queue lengths without intersection mitigation are shown in **Table 6-6**, while **Table 6-7** shows queue lengths with mitigation.

There are no intersection queue intersection queue length performance criteria within the Regional SANTEC / ITE Traffic Impact Study Guidelines. This queue analysis was provided to primarily evaluate whether interchanges could accommodate the projected traffic volumes and then compare the three scenarios evaluated in this report.

Of the 164 queues evaluated without intersection mitigation, during AM and PM peak hours, 77 are expected to be of excess length for the vehicle storage available between these closely spaced intersections at freeway interchange ramps for this scenario. With intersection mitigation, 188 queues were evaluated and 67 are expected to be of excess length, extending through the adjacent intersection.

Table 6-6

Alternative 3B With La Media Road Without Mitigation

Buildout Queue Analysis

Queue Locations North / South	AM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-	200	3,475	-	450	None	3,025	-
Caliente Ave. / SR-905 WB Ramps	-	1,073	-	450	-	625	-	2,015	1,743	-	450	1,565	1,293	-
Caliente Ave. / SR-905 EB Ramps	-	118	480	450	-	None	30	-	1,403	-	300	-	1,103	-
Caliente Ave. / Airway Rd.	-	350	1,478	300	-	50	1,178	-	-	-	-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-	235	2,038	-	750	None	1,288	-
Heritage Rd. / SR-905 WB Ramps	-	30	325	750	-	None	None	-	2,020	-	750	-	1,270	-
Heritage Rd. / SR-905 EB Ramps	-	130	80	750	-	None	None	-	2,038	-	750	-	1,288	-
Heritage Rd. / Airway Rd.	245	-	2,775	750	None	-	2,025	-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-	713	1,120	1,238	900	None	220	338
Britannia Blvd. / SR-905 WB Ramps	725	678	-	900	None	None	-	1,255	253	-	450	855	None	-
Britannia Blvd. / SR-905 EB Ramps	-	1,233	328	450	-	783	None	-	2,750	-	900	-	1,850	-
Britannia Blvd. / Airway Rd.	-	7,600	1,795	900	-	6,700	895	-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-	1,633	3,050	-	450	1,183	2,600	-
La Media Rd. / SR-905 WB Ramps	118	2,078	-	450	None	1,628	-	120	2,950	1,093	900	None	2,050	193
La Media Rd. / SR-905 EB Ramps	95	5,925	-	900	None	2,375	-	1,088	1,093	-	900	188	193	-
La Media Rd. / Airway Rd.	-	4,750	3,275	900	-	3,850	2,375	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 6-6

Alternative 3B With La Media Road Without Mitigation

Buildout Queue Analysis

Queue Locations North / South	PM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-	610	1,785	-	450	160	1,335	-
Caliente Ave. / SR-905 WB Ramps	-	1,073	-	450	-	623	-	1,548	1,158	-	450	1,098	708	-
Caliente Ave. / SR-905 EB Ramps	-	110	415	450	-	None	None	-	1,303	-	300	-	1,008	-
Caliente Ave. / Airway Rd.	-	1,398	598	300	-	1,098	298	-	-	-	-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-	228	608	-	750	None	None	-
Heritage Rd. / SR-905 WB Ramps	-	98	1,208	750	-	None	458	-	2,200	-	750	-	1,450	-
Heritage Rd. / SR-905 EB Ramps	-	313	425	750	-	None	None	-	2,145	-	750	-	1,395	-
Heritage Rd. / Airway Rd.	63	-	2,975	750	None	-	2,225	-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-	460	483	433	900	None	None	None
Britannia Blvd. / SR-905 WB Ramps	1,313	890	-	900	413	None	-	6,950	35	-	450	6,500	None	-
Britannia Blvd. / SR-905 EB Ramps	-	138	268	450	-	None	None	-	3,650	-	900	-	4,750	-
Britannia Blvd. / Airway Rd.	-	1,808	1,230	900	-	None	330	-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-	790	3,100	-	450	340	2,650	-
La Media Rd. / SR-905 WB Ramps	295	2,675	-	450	None	2,225	-	305	3,000	3,400	900	None	2,100	2,500
La Media Rd. / SR-905 EB Ramps	585	2,650	-	900	None	1,750	-	1,663	1,113	-	900	763	213	-
La Media Rd. / Airway Rd.	-	2,333	873	900	-	1,433	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 6-6

Alternative 3B With La Media Road Without Mitigation

Buildout Queue Analysis

Queue Locations East / West	AM Peak Hour														
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			
	Eastbound			Eastbound	Eastbound			Westbound			Westbound	Westbound			
	RT	TH	LT		RT	TH	LT		LT	TH	RT		LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-		183	50	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	-	188	615	600	-	None	15		-	240	3,600	1,000	-	None	2,600
Palm Ave. Dennerly Rd.	395	208	493	1,000	None	None	None		-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-		960	5,050	-	600	360	4,450	-
Siempre Viva Rd. / SR-905 SB Ramps	-	678	-	300	-	378	-		348	-	-	600	None	-	-
Siempre Viva Rd. / SR-905 NB Ramps	-	475	730	600	-	None	130		-	590	1,395	1,150	-	None	275
Siempre Viva Rd. / Paseo de las Americas	2,125	1,095	3,775	1,150	975	None	2,625		-	-	-	-	-	-	-
La Media Rd. / Lone Star Rd.	-	-	-	-	-	-	-		220	-	140	300	None	-	None
Lone Star Rd. / SR-125 SB Off Ramp	-	623	-	300	-	323	-		-	185	-	500	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	78	500	-	-	None		-	143	313	600	-	None	None
Lone Star Rd. / Piper Ranch Rd.	-	790	-	600	-	190	-		-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-		148	1,613	-	2,000	None	None	-
Otay Mesa Rd. / SR-125 SB Off Ramp	-	500	-	2,000	-	None	-		-	110	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	128	500	-	-	None		-	270	60	700	-	None	None
Otay Mesa Rd. / Harvest Rd.	-	2,225	195	700	-	1,525	None		-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 6-6

Alternative 3B With La Media Road Without Mitigation

Buildout Queue Analysis

Queue Locations East / West	PM Peak Hour														
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			
	Eastbound			Eastbound	Eastbound			Westbound			Westbound	Westbound			
	RT	TH	LT		RT	TH	LT		LT	TH	RT		LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-		508	50	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	-	373	473	600	-	None	None		-	548	4,175	1,000	-	None	3,175
Palm Ave. Dennerly Rd.	2,383	300	710	1,000	1,383	None	None		-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-		830	803	-	600	230	203	-
Siempre Viva Rd. / SR-905 SB Ramps	-	3,500	-	300	-	3,200	-		1,435	-	-	600	835	-	-
Siempre Viva Rd. / SR-905 NB Ramps	-	88	4,200	600	-	None	3,600		-	2,625	2,283	1,150	-	1,475	1,133
Siempre Viva Rd. / Paseo de las Americas	393	445	2,280	1,150	None	None	1,130		-	-	-	-	-	-	-
La Media Rd. / Lone Star Rd.	-	-	-	-	-	-	-		345	-	1,550	300	45	-	1,250
Lone Star Rd. / SR-125 SB Off Ramp	-	130	-	300	-	None	-		-	153	-	500	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	348	500	-	-	None		-	83	543	600	-	None	None
Lone Star Rd. / Piper Ranch Rd.	-	300	-	600	-	None	-		-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-		295	2,215	-	2,000	None	215	-
Otay Mesa Rd. / SR-125 SB Off Ramp	-	320	-	2,000	-	None	-		-	200	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	330	500	-	-	None		-	535	485	700	-	None	None
Otay Mesa Rd. / Harvest Rd.	-	250	50	700	-	None	None		-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 6-7

Alternative 3B With La Media Road With Mitigation

Buildout Queue Analysis

Queue Locations North / South	AM Peak Hour														
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			
	Southbound				Southbound	Southbound			Northbound			Northbound	Northbound		
	RT	TH	LT		RT	TH	LT		LT	TH	RT		LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-		200	138	8,100	450	None	None	7,650
Caliente Ave. / SR-905 WB Ramps	1,323	343	-	450	873	None	-		583	1,463	-	450	133	1,012	-
Caliente Ave. / SR-905 EB Ramps	-	185	200	450	-	None	None		-	1,258	223	300	-	958	None
Caliente Ave. / Airway Rd.	-	350	1,478	300	-	50	1,178		-	-	-	-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-		228	348	223	750	None	None	None
Heritage Rd. / SR-905 WB Ramps	-	30	225	750	-	None	None		-	280	1,525	750	-	None	775
Heritage Rd. / SR-905 EB Ramps	-	130	130	750	-	None	None		-	1,083	135	750	-	333	None
Heritage Rd. / Airway Rd.	168	-	2,650	750	None	-	1,900		-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-		713	1,120	1,238	900	None	220	338
Britannia Blvd. / SR-905 WB Ramps	418	578	-	900	None	None	-		780	130	-	450	330	None	-
Britannia Blvd. / SR-905 EB Ramps	-	1,323	328	450	-	873	None		-	1,583	440	900	-	683	None
Britannia Blvd. / Airway Rd.	1,795	3,200	1,795	900	895	2,300	895		-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-		1,633	1,048	600	450	1,183	598	250
La Media Rd. / SR-905 WB Ramps	118	2,070	-	450	None	1,620	-		120	1,038	-	900	None	138	-
La Media Rd. / SR-905 EB Ramps	95	3,275	-	900	None	2,375	-		1,088	1,093	-	900	188	193	-
La Media Rd. / Airway Rd.	1,370	1,805	3,275	900	470	905	2,375		-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 6-7

Alternative 3B With La Media Road With Mitigation

Buildout Queue Analysis

Queue Locations North / South	PM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-	610	370	1,760	450	160	None	1,310
Caliente Ave. / SR-905 WB Ramps	978	483	-	450	528	33	-	390	1,158	-	450	None	708	-
Caliente Ave. / SR-905 EB Ramps	-	230	188	450	-	None	None	-	1,173	263	300	-	878	None
Caliente Ave. / Airway Rd.	-	1,398	598	300	-	1,098	298	-	-	-	-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-	228	348	223	750	None	None	None
Heritage Rd. / SR-905 WB Ramps	-	98	1,208	750	-	None	458	-	280	1,525	750	-	None	775
Heritage Rd. / SR-905 EB Ramps	-	313	425	750	-	None	None	-	1,083	135	750	-	333	None
Heritage Rd. / Airway Rd.	63	-	2,975	750	None	-	2,225	-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-	460	483	433	900	None	None	None
Britannia Blvd. / SR-905 WB Ramps	385	870	-	900	None	None	-	6,950	35	-	450	6,500	None	-
Britannia Blvd. / SR-905 EB Ramps	-	138	268	450	-	None	None	-	2,700	820	900	-	1,800	None
Britannia Blvd. / Airway Rd.	565	603	1,230	900	None	None	330	-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-	790	1,085	600	450	340	635	250
La Media Rd. / SR-905 WB Ramps	295	2,675	-	450	None	2,225	-	305	990	-	900	None	90	-
La Media Rd. / SR-905 EB Ramps	585	1,310	-	900	None	410	-	1,663	1,113	-	900	760	213	-
La Media Rd. / Airway Rd.	288	888	850	900	None	None	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 6-7

Alternative 3B With La Media Road With Mitigation

Buildout Queue Analysis

Queue Locations East / West	AM Peak Hour														
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			
	Eastbound			Eastbound	Eastbound			Westbound			Westbound	Westbound			
	RT	TH	LT		RT	TH	LT		LT	TH	RT		LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-		228	78	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	315	128	-	600	None	None	-		-	40	283	1,000	-	None	None
Palm Ave. Denney Rd.	395	208	493	1,000	None	None	None		-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-		308	2,750	1,878	600	None	2,150	1,278
Siempre Viva Rd. / SR-905 SB Ramps	-	678	-	300	-	378	-		348	-	-	600	None	-	-
Siempre Viva Rd. / SR-905 NB Ramps	-	475	730	600	-	None	130		-	538	518	1,150	-	None	None
Siempre Viva Rd. / Paseo de las Americas	2,170	1,095	1,138	1,150	1,020	None	None		-	-	-	-	-	-	-
La Media Rd. / Lone Star Rd.	-	-	-	-	-	-	-		220	-	140	300	None	-	None
Lone Star Rd. / SR-125 SB Off Ramp	-	623	-	300	-	323	-		-	185	-	500	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	78	500	-	-	None		-	143	513	600	-	None	None
Lone Star Rd. / Piper Ranch Rd.	-	790	-	600	-	190	-		-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-		148	958	85	2,000	None	None	None
Otay Mesa Rd. / SR-125 SB Off Ramp	-	500	-	2,000	-	None	-		-	110	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	128	500	-	-	None		-	270	60	700	-	None	None
Otay Mesa Rd. / Harvest Rd.	225	470	195	700	None	None	None		-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 6-7

Alternative 3B With La Media Road With Mitigation

Buildout Queue Analysis

Queue Locations East / West	PM Peak Hour														
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			
	Eastbound			Eastbound	Eastbound			Westbound			Westbound	Westbound			
	RT	TH	LT		RT	TH	LT		LT	TH	RT		LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-	-	553	195	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	173	198	-	600	None	None	-	-	-	75	338	1,000	-	None	None
Palm Ave. Dennerly Rd.	2,383	300	710	1,000	1,383	None	None	None	-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-	-	280	610	28	600	None	10	None
Siempre Viva Rd. / SR-905 SB Ramps	-	3,500	-	300	-	3,200	-	-	1,435	-	-	600	835	-	-
Siempre Viva Rd. / SR-905 NB Ramps	-	88	4,200	600	-	None	3,600	-	-	910	2,900	1,150	-	None	1,750
Siempre Viva Rd. / Paseo de las Americas	403	445	748	1,150	None	None	None	None	-	-	-	-	-	-	-
La Media Rd. / Lone Star Rd.	-	-	-	-	-	-	-	-	345	-	1,550	300	45	-	1,250
Lone Star Rd. / SR-125 SB Off Ramp	-	130	-	300	-	None	-	-	-	153	-	500	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	348	500	-	-	None	-	-	83	543	600	-	None	None
Lone Star Rd. / Piper Ranch Rd.	-	300	-	600	-	None	-	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-	-	295	1,715	45	2,000	None	None	None
Otay Mesa Rd. / SR-125 SB Off Ramp	-	320	-	2,000	-	None	-	-	-	200	-	500	-	None	None
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	315	500	-	-	None	-	-	535	485	700	-	None	None
Otay Mesa Rd. / Harvest Rd.	60	453	50	700	None	None	None	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

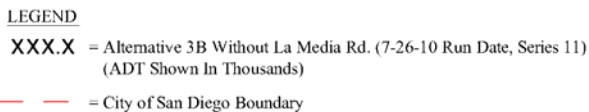
7.0 SCENARIO 3B WITHOUT LA MEDIA ROAD

7.1 3B Scenario Assumed Land Use and Transportation Network

The 3B Without La Media Road scenario land use assumptions are the same as 3B With La Media Road, allowing 18,774 dwelling units compared to 12,206 within the Adopted Community Plan. The traffic forecast for this alternative assumed 3,917,000 square of commercial uses and 54,461,000 square feet of industrial uses. The buildout of this plan would generate 1,045,025 average daily vehicle trips. The circulation element roadways for this alternative include those assumed in the 3B With La Media Road scenario, with only one change. The street network change compared to 3B With La Media Road is the deletion of the La Media Road connector across the Otay River Valley between Birch Road in Chula Vista and Lone Star Road in San Diego.

7.2 Segment Level of Service

Roadway segment levels of service are similar to 3B With La Media Road, except along La Media Road north of Otay Mesa Road, and Otay Mesa Road east of La Media Road. **Figure 7-1** shows the projected buildout average daily traffic trips generated on the street system due to the land uses assumed under the 3B Without La Media Road land use and street network. The traffic model average daily traffic volume plots from which the volumes shown in this figure are taken are in Appendix D, for reference. Also in the appendix is documentation if volume adjustments made to several segments. **Table 7-1** indicates the roadway segment level of service for numerous roadway segments as a result of the projected average daily traffic and the capacity of the roadway. The highest forecasted volumes between circulation



Scenario 3B Without La Media Road Average Daily Traffic

Scenario 3B Without La Media Road Average Daily Traffic

TABLE 7-1

Buildout Scenario 3B Without La Media Rd.

Average Daily Traffic & Level of Service

Street	Segment	#	(1) Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	NEW LOS	S?
Otay Mesa Road	Street A to Caliente Ave.	1	6-PA	60,000	26,000	0.43	B	6-M	0.52	B	N
	Caliente Ave. to Corporate Center Dr.	2	6-PA	60,000	72,500	1.21	F	N	-	-	Y
	Corporate Center Dr. to Innovative Dr.	3	6-PA	60,000	51,500	0.86	D	N	-	-	N
	Innovative Dr. to Heritage Rd.	4	6-PA	60,000	46,500	0.78	C	N	-	-	N
	Heritage Rd. to Cactus Rd.	5	6-PA	60,000	76,500	1.28	F	N	-	-	Y
	Cactus Rd. to Britannia Blvd.	6	6-PA	60,000	44,000	0.73	C	N	-	-	N
	Britannia Blvd. to Ailsa Ct.	7	6-PA	60,000	50,500	0.84	D	N	-	-	N
	Ailsa Ct. to La Media Rd.	8	7-M	55,000	42,500	0.77	C	6-PA	0.71	C	N
	La Media Rd. to Piper Ranch Rd.	9	8-M	70,000	54,000	0.77	C	6-PA	0.90	D	N
	Piper Ranch Rd. to SR-125	10	4-P	45,000	28,500	0.63	C	6-PA	0.48	B	N
	SR-125 to Harvest Rd.	11	4-M	40,000	36,000	0.90	E	6-PA	0.60	C	N
	Harvest Rd. to Sanyo Ave.	12	4-M	40,000	32,000	0.80	D	6-PA	0.53	B	N
	Sanyo Ave. to Enrico Fermi Dr.	13	4-M	40,000	7,500	0.19	A	6-PA	0.13	A	N
Airway Road	Old Otay Mesa Rd. to Caliente Ave.	14	4-CL	30,000	10,500	0.35	A	N	-	-	N
	Caliente Ave. to Heritage Rd.	15	4-M	40,000	38,000	0.95	E	N	-	-	Y
	Heritage Rd. to Cactus Rd.	16	4-M	40,000	60,500	1.52	F	6-PA	1.01	F	Y
	Cactus Rd. to Britannia Blvd.	17	4-M	40,000	44,500	1.11	F	6-M	0.89	D	N
	Britannia Blvd. to La Media Rd.	18	4-M	40,000	35,000	0.88	D	N	-	-	N
	La Media Rd. to Harvest Rd.	19	4-M	40,000	34,000	0.85	D	N	-	-	N
	Harvest Rd. to Sanyo Ave.	20	4-M	40,000	26,500	0.66	C	N	-	-	N
	Sanyo Ave. to Paseo de las Americas	21	4-M	40,000	10,000	0.25	A	N	-	-	N
	Paseo de las Americas to Michael Faraday Dr.	22	4-M	40,000	9,500	0.24	A	N	-	-	N
	Michael Faraday Dr. to Enrico Fermi Dr.	23	4-M	40,000	12,000	0.30	A	N	-	-	N
	Enrico Fermi Dr. to Siempre Viva Rd.*	24	4-M	40,000	12,500	0.31	A	N	-	-	N
Siempre Viva Road	Caliente Ave. to West Terminus	25	4-M	40,000	10,000	0.25	A	2-CL	0.67	C	N
	Cactus Rd. to Britannia Blvd.	27	6-PA	60,000	37,000	0.62	C	N	-	-	N
	Britannia Blvd. to La Media Rd.	28	6-PA	60,000	42,500	0.71	C	N	-	-	N
	La Media Rd. to Harvest Rd.	29	6-PA	60,000	40,500	0.68	C	N	-	-	N
	Harvest Rd. to Otay Center Dr.	30	6-PA	60,000	34,000	0.57	B	N	-	-	N
	Otay Center Dr. to SR-905	31	6-PA	60,000	60,000	1.00	E	N	-	-	Y
	SR-905 to Paseo de las Americas	32	6-PA	60,000	63,000	1.05	F	N	-	-	Y
	Paseo de las Americas to Michael Faraday Dr.	33	4-M	40,000	23,000	0.58	C	N	-	-	N
	Michael Faraday Dr. to Enrico Fermi Dr.	34	4-M	40,000	21,000	0.53	B	N	-	-	N
	Enrico Fermi Dr. to SR-11*	35	4-M	40,000	17,500	0.44	B	N	-	-	N

*Segment in County of San Diego

Note: There is no segment #26 with this alternative.

= Segment Number

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

New LOS = LOS after change in classification.

F = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB /2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

2-CL = 2-lane Collector (with continuous left turn lane)

2-CN = 2-lane Collector (no fronting property)

2-C = 2-lane Collector (without continuous left turn lane)

TABLE 7-1 (Continued)
Buildout Scenario 3B Without La Media Rd.
Average Daily Traffic & Level of Service

Street	Segment	#	(1) Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	New LOS	S?
Palm Ave.	I-805 to Dennerly Rd.	37	7-PA	65,000	59,500	0.92	D	N	-	-	N
Ocean View Hills Parkway	Dennerly Rd. to Del Sol Blvd.	38	4-M	40,000	22,000	0.55	C	N	-	-	N
	Del Sol Blvd. to Street "A"	39	6-M	50,000	35,000	0.70	C	N	-	-	N
	Street "A" to Otay Mesa Rd.	40	6-M	50,000	23,500	0.42	B	N	-	-	N
Caliente Avenue	Otay Mesa Rd. to SR-905	41	6-M	50,000	38,000	0.76	C	6-PA	0.63	C	N
	SR-905 to Airway Rd.	42	6-M	50,000	32,000	0.64	C	6-PA	0.53	B	N
	Airway Rd. to Beyer Blvd.	43	4-M	40,000	46,000	1.15	F	6-M	0.92	E	Y
	Beyer Blvd. to Siempre Viva Rd.	43A	4-M	40,000	41,000	1.03	F	N	-	-	Y
Beyer Boulevard	Alaquinas Dr. to Old Otay Mesa Rd.	44	4-M	40,000	32,500	0.81	D	N	-	-	N
	Old Otay Mesa Rd. to Caliente Ave. (3)	45	4-M	40,000	31,000	0.78	D	N	-	-	N
Heritage Road/ Otay Valley Road	Main St. to Avenida De Las Vistas**	46	6-PA	60,000	83,000	1.38	F	N	-	-	Y
	Avenida De Las Vistas to Datsun St.	47	6-M	50,000	75,500	1.51	F	6-PA	1.26	F	Y
	Datsun St. to Otay Mesa Rd.	48	6-M	50,000	48,000	0.96	E	6-PA	0.80	C	N
	Otay Mesa Rd. to SR-905	49	6-M	50,000	23,500	0.47	B	6-PA	0.39	A	N
	SR-905 to Airway Rd.	50	6-M	50,000	35,000	0.70	C	6-PA	0.58	B	N
Cactus Road	Otay Mesa Rd. to Airway Rd.	52	4-CL	30,000	40,500	1.35	F	4-M	1.01	F	Y
	Airway Rd. to Siempre Viva Rd.	53	4-CL	30,000	40,500	1.35	F	4-M	1.01	F	Y
	Siempre Viva Rd. to South End	54	2-CL	15,000	11,000	0.73	D	N	-	-	N
Britannia Boulevard	Otay Mesa Rd. to SR-905	55	4-M	40,000	17,500	0.44	B	6-PA	0.29	A	N
	SR-905 to Airway Rd.	56	4-M	40,000	63,000	1.58	F	6-PA	1.05	F	Y
	Airway Rd. to Siempre Viva Rd.	57	4-M	40,000	44,500	1.11	F	6-M	0.89	D	N
	Siempre Viva Rd. to South End	58	2-C	8,000	22,000	2.75	F	4-CL	0.73	D	N
La Media Road	Birch Rd. to Lone Star Rd.**	59	6-PA	60,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Lone Star Rd. to Aviator Rd.	60	6-PA	60,000	19,500	0.33	A	4-M	0.49	B	N
	Aviator Rd. to Otay Mesa Rd.	61	6-PA	60,000	22,500	0.38	A	4-M	0.56	C	N
	Otay Mesa Rd. to SR-905	62	6-PA	60,000	37,500	0.63	C	N	-	-	N
	SR-905 to Airway Rd.	63	6-PA	60,000	64,000	1.06	F	N	-	-	Y
	Airway Rd. to Siempre Viva Rd.	64	4-M	40,000	33,000	0.83	D	5-M	0.73	C	N
Harvest Road	South of Otay Mesa Rd.	65	4-M	40,000	8,500	0.21	A	2-CL	0.57	C	N
	Airway Rd. to Otay Center Dr.	66	4-M	40,000	16,000	0.40	B	4-CL	0.53	C	N
	Otay Center Dr. to Siempre Viva Rd.	67	4-M	40,000	10,000	0.25	A	4-CL	0.33	A	N

*Segment in County of San Diego

Note: There is no segment #51 with this alternative.

**Segment in Chula Vista

Segment #36 was deleted.

= Segment Number

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

New LOS = LOS after change in classification.

F = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB /2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

2-CL = 2-lane Collector (with continuous left turn lane)

2-CN = 2-lane Collector (no fronting property)

2-C = 2-lane Collector (without continuous left turn lane)

TABLE 7-1 (Continued)
Buildout Scenario 3B Without La Media Rd.
Average Daily Traffic & Level of Service

Street	Segment	#	(1)Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	New LOS	S?
Enrico Fermi Drive	SR-11 to Airway Rd.*	68	4-M	40,000	15,500	0.62	B	N	-	-	N
	Airway Rd. to Siempre Viva Rd.	69	4-M	40,000	8,000	0.20	A	4-CL	0.27	A	N
	Siempre Viva Rd. to Via de la Amistad	70	4-M	40,000	10,500	0.26	A	4-CL	0.35	B	N
Lone Star Road	SR-125 to Piper Ranch Rd.	72	4-M	40,000	35,000	0.88	D	6-PA	0.58	B	N
	Piper Ranch Rd. to City / County Boundary	73	4-M	40,000	36,000	0.90	E	6-PA	0.60	C	N
Aviator Road	Heritage Rd. to La Media Rd. (3)	74	2-C	8,000	23,000	2.88	F	4-CL	0.77	D	N
Dennery Road	Palm Ave. to Del Sol Blvd.	75	4-M	40,000	28,000	0.70	C	N	-	-	N
	Palm Ave. to Regatta Ln.	76	4-M	40,000	19,500	0.49	B	N	-	-	N
	Regatta Ln. to Red Coral Ln.	77	4-CL	30,000	12,500	0.42	B	N	-	-	N
	Red Coral Ln. to Black Coral Ln.	78	2-CL	15,000	12,500	0.83	D	N	-	-	N
	Black Coral Ln. to East End	79	2-CN	10,000	16,500	1.65	F	N	-	-	Y
Avendia De Las Vistas	Otay Valley Rd. to Vista Santo Domingo	80	2-CN	10,000	7,000	0.70	C	N	-	-	N
	Vista Santo Domingo to Dennery Rd.	81	2-CN	10,000	19,500	1.95	F	N	-	-	Y
Del Sol Boulevard	Ocean View Hills Pkwy. to Surf Crest Dr.	82	4-CL	30,000	19,500	0.65	C	N	-	-	N
	Surf Crest Dr. to Riviera Pointe	83	2-CN	10,000	23,000	2.30	F	N	-	-	Y
	Riviera Pointe to Dennery Rd.	84	2-CL	15,000	23,000	1.53	F	N	-	-	Y
	Dennery Rd. to I-805	85	4-CL	30,000	16,000	0.53	C	N	-	-	N
Street A	Ocean View Hills Pkwy. to Otay Mesa Rd.	86	4-M	40,000	13,500	0.34	A	N	-	-	N
Old Otay Mesa Road	Otay Mesa Rd. to Airway Rd.	87	4-CL	30,000	22,000	0.73	D	N	-	-	N
	Airway Rd. to Crescent Bay Dr.	88	4-CL	30,000	14,500	0.48	C	N	-	-	N
	Crescent Bay Dr. to Beyer Blvd.	89	2-C	8,000	16,000	2.00	F	N	-	-	Y
Emerald Crest Dr.	Otay Mesa Rd. to South End (3)	90	4-CL	30,000	25,000	0.83	D	N	-	-	N
Corporate Center Drive	South End to Otay Mesa Rd. (3)	91	4-CL	30,000	17,500	0.58	C	N	-	-	N
	Otay Mesa Rd. to Progressive Ave.	92	4-CL	30,000	19,500	0.65	C	N	-	-	N
	Progressive Ave. to Innovative Dr.	93	2-C	8,000	8,000	1.00	E	2-CL	0.53	C	N
Innovative Drive	Otay Mesa Rd. to Corporate Center Dr.	94	4-CL	30,000	15,000	0.50	C	N	-	-	N
Piper Ranch Road	Lone Star Rd. to Otay Mesa Rd.	96	4-CL	30,000	20,500	0.68	D	N	-	-	N

*Segment in County of San Diego

Note: There is no segment #71 with this alternative.

= Segment Number

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

New LOS = LOS after change in classification.

F = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB /2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

2-CL = 2-lane Collector (with continuous left turn lane)

2-CN = 2-lane Collector (no fronting property)

2-C = 2-lane Collector (without continuous left turn lane)

TABLE 7-1 (Continued)
Buildout Scenario 3B Without La Media Rd.
Average Daily Traffic & Level of Service

Street	Segment	#	Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	NEW LOS	S?
Sanyo Avenue	Otay Mesa Rd. to Airway Rd. (4)	97	4-C	15,000	24,500	1.63	F	4-CL	0.82	D	N
Heinrich Hertz Drive	Airway Rd. to Paseo de las Americas (4)	98	2-CL	15,000	12,000	0.80	D	N	-	-	N
Paseo de las Americas	Airway Rd. to Siempre Viva Rd.	99	2-C	8,000	16,500	2.06	F	4-CL	0.55	C	N
	Siempre Viva Rd. to Marconi Dr.	100	2-C	8,000	15,000	1.88	F	4-CL	0.50	C	N
Marconi Drive	Paseo de las Americas to Enrico Fermi Dr.	101	2-C	8,000	8,000	1.00	E	2-CL	0.53	C	N
Otay Center Drive	Harvest Rd. to Siempre Viva Rd. (4)	102	4-C	15,000	15,500	1.03	F	4-CL	0.52	C	N
Michael Faraday Drive	Airway Rd. to Siempre Viva Rd. (4)	103	2-CL	15,000	6,500	0.43	B	N	-	-	N
	Siempre Viva Rd. to Marconi Dr. (4)	104	2-CL	15,000	8,000	0.53	C	N	-	-	N
St. Andrews Avenue	Otay Mesa Center Rd. to La Media Rd.	105	2-C	8,000	13,500	1.69	F	4-CL	0.45	C	N
Gailes Boulevard	Otay Mesa Rd. to St. Andrews Ave.	107	2-C	8,000	12,500	1.56	F	4-C	0.83	D	N
Camino Maquiladora	Heritage Rd. to Pacific Rim Ct.	108	2-C	8,000	9,500	1.19	F	N	-	-	Y
	Pacific Rim Ct. to Cactus Rd.	109	2-C	8,000	7,500	0.94	E	N	-	-	Y
	Cactus Rd. to Continental St.	110	2-C	8,000	6,000	0.75	D	N	-	-	N
Pacific Rim Court	Otay Mesa Rd. to Camino Maquiladora	111	2-C	8,000	4,500	0.56	C	N	-	-	N
Progressive Avenue	Corporate Center Dr. to Innovative Dr.	112	2-C	8,000	11,500	1.44	F	N	-	-	Y
Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	113	2-C	8,000	24,000	1.60	F	4-CL	0.80	D	N
Datsun Street	Innovative Dr. to Heritage Rd. (3)	114	2-C	8,000	30,000	3.75	F	4-CL	1.00	E	Y
Avenida Costa Azul	Otay Mesa Rd. to St. Andrews Ave. (3)	115	2-CL	15,000	19,000	1.27	F	4-CL	0.63	B	N
Excellante Street	Airway Rd. to Gigantic St.	116	4-C	15,000	6,000	0.40	B	2-C	0.75	D	N
Gigantic Street	Excellante St. to Centurion St.	117	4-C	15,000	6,000	0.40	B	2-C	0.75	D	N
Centurion Street	Airway Rd. to Gigantic St.	118	4-C	15,000	6,000	0.40	B	2-C	0.75	D	N
Exposition Way / Vista Santo Domingo	Avenida De Las Vistas to Corporate Dr. (4)	119	2-CN	10,000	12,500	1.25	F	N	-	-	Y
Continental Street	South of Otay Mesa Rd.	120	2-C	8,000	4,500	0.56	C	N	-	-	N
	North of Airway Rd.	121	2-CL	15,000	12,000	0.80	D	N	-	-	N

*Segment in County of San Diego

= Segment Number

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

New LOS = LOS after change in classification.

F = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

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2-CN = 2-lane Collector (no fronting property)

2-C = 2-lane Collector (without continuous left turn lane)

element roads were used for analysis. Also shown are recommended reclassifications of roadways. The initial “without mitigation” classification of roadways is based on the existing functional classification. Or, if the street did not exist in the existing conditions assessments, or if analyzing the projected volumes on the existing facility would not be meaningful because it would not be possible to carry those volumes on the existing sized facility due to its capacity, then the Adopted Community Plan classification was used. Failing roadway segments at level of service “E” or “F” with significant traffic impacts are summarized below. All other roadway segments are projected to operate at a level of service “D” or better, without significant traffic impacts.

Figure 7-2 shows recommended roadway classifications for the 3B Without La Media Road scenario.

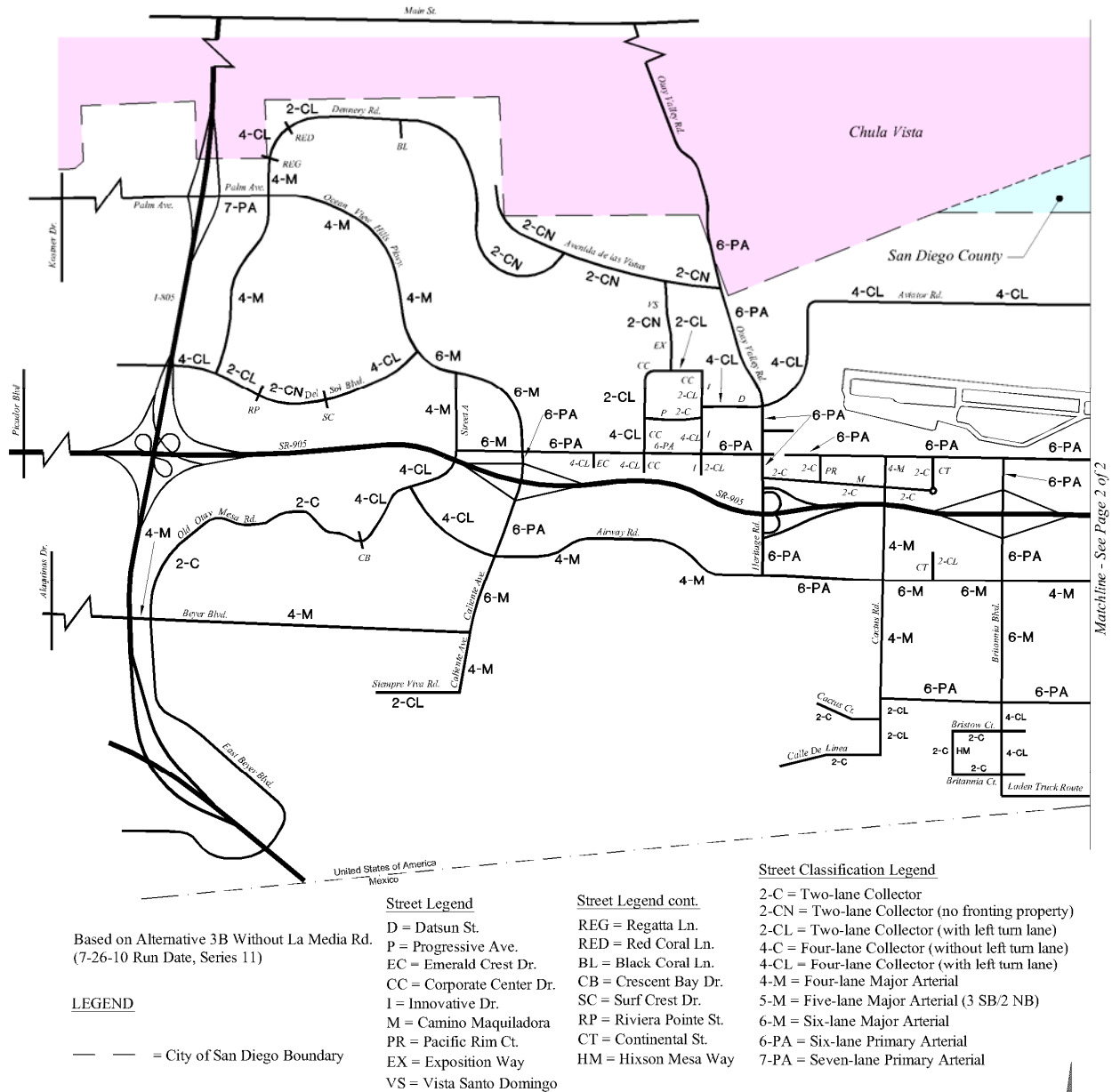
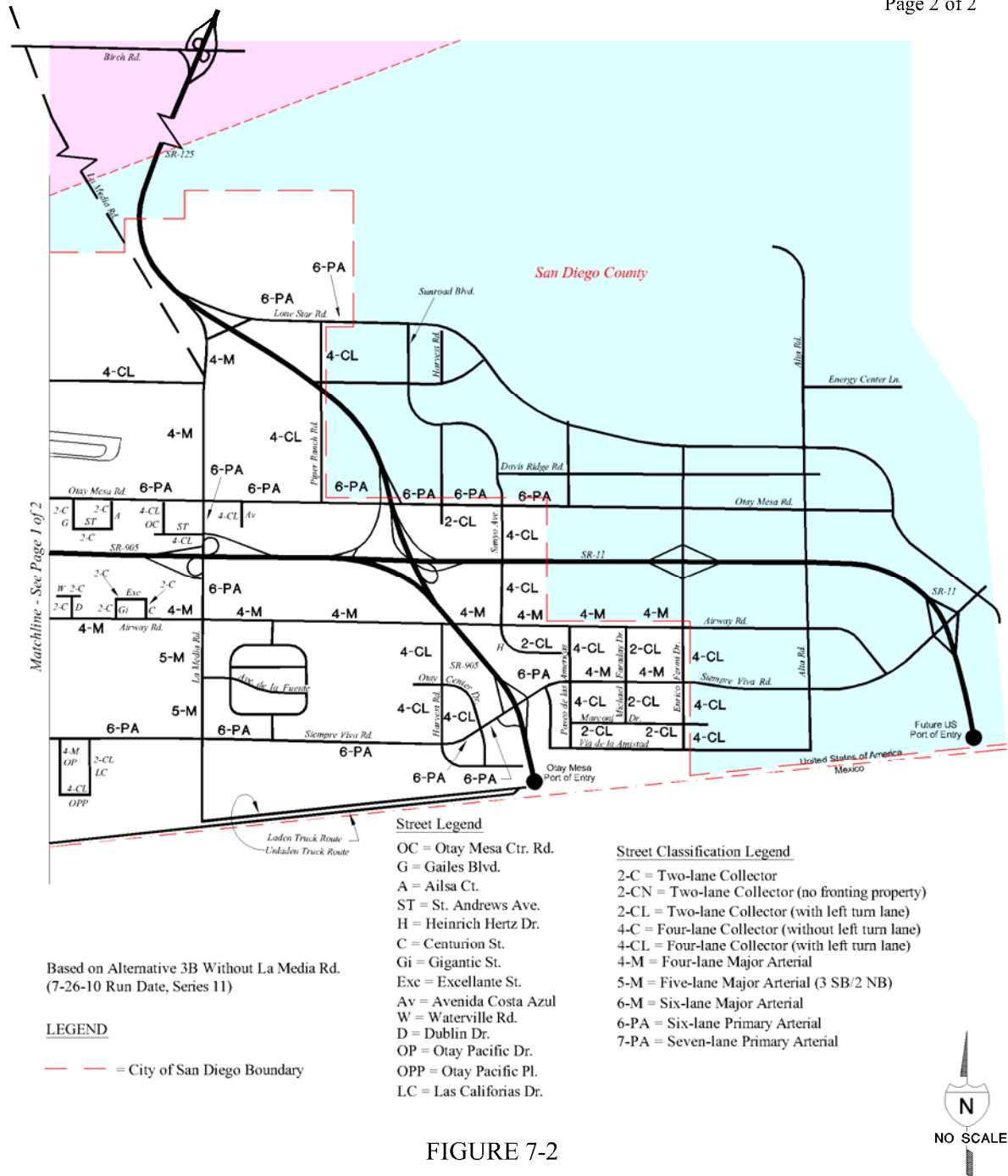


FIGURE 7-2

Scenario 3B Without La Media Road Land Use Scenario With Proposed Roadway Classification Recommendations





Roadway Segment Impacts and Mitigation

Otay Mesa Road

- Caliente Avenue to Corporate Center Drive: level of service “F”.
- Heritage Road to Cactus Road: level of service “F”.

A reclassification of these segments from a six lane Primary Arterial to eight lanes is not recommended. Widening to eight lanes would be costly, could cause additional traffic conflicts, and intersections would be wider and less pedestrian friendly. Right turn only lanes at intersections are recommended to be lengthened to serve as auxiliary lanes between intersections. Without reclassification the significant impact would remain unmitigated.

The seven lane Major and eight lane Major Arterial classification for segments between Ailsa Court and Piper Ranch Road are recommended for a reclassification to a six lane Primary Arterial, restricting parking and access. The impact would be less than significant. These reclassifications are recommended for consistency in lane configurations along Otay Mesa Road.

- State Route 125 southbound ramp intersection to Harvest Road: level of service “E”.

A reclassification to a six lane Primary Arterial is recommended. There are few driveways and few developed parcels along these segments so that restricting parking and access would have a minimal impact. The level of service would improve from “E” to “C”, and the significant impacts would be fully mitigated.

The County of San Diego has a six lane classification of Otay Mesa Road east of Enrico Fermi Drive. A continuous six lane Primary Arterial classification is recommended to extend to the City / County boundary to maintain consistency in lane configurations.

Airway Road

- Caliente Avenue to Heritage Road: level of service “E”.

This segment is slightly (8.6%) over the level of service “D” volumes for a four lane Major Arterial. This segment includes a bridge crossing an open space canyon so that a six lane bridge would be costly and affect the environment more than four lanes. A six lane reclassification is not recommended. However, the significant segment impact would be unmitigated.

- Heritage Road to Cactus Road: level of service “F”.

- Cactus Road to Britannia Boulevard: level of service “F”.

A reclassification to a six lane Primary Arterial is recommended beginning west of the Heritage Road intersection, so six through lanes can be provided through the intersection in the east and westbound directions, and extending to Cactus Road. The Heritage Road to Cactus Road segment significant impact would be unmitigated even with this six-lane reclassification. Added right turn lanes at intersections would enhance the segment capacity. The Cactus Road to Britannia Boulevard segment would be mitigated with a reclassification to a six lane Major Arterial.

Siempre Viva Road

- Otay Center Drive to SR-905: level of service “E”.

-SR-905 to Paseo de las Americas: level of service “F”

A reclassification from six to eight lanes is not recommended since a costly widening of the SR-905 / Siempre Viva Road interchange would be needed. The significant impact to these segments would be unmitigated.

Caliente Avenue

- Otay Mesa Road to Airway Road:

Although not at level of service “E” or “F”, these segments are recommended to be reclassified from a six lane Major Arterial to a six lane Primary Arterial, restricting access and parking adjacent to the closely spaced intersections, including the SR-905 on and off ramp intersections with Caliente Avenue.

-Airway Road to Beyer Boulevard: level of service “F”.

A reclassification from a four lane to a six lane Major Arterial is recommended. This segment extends through a future residential area so that a Primary Arterial restricting access is not recommended. The significant segment impact would be only partially mitigated.

- Beyer Boulevard to Siempre Viva Road: level of service “F”.

No reclassification is recommended since this segment extends into a future residential area that will need to be designed with collector loop streets for acceptable access, and local traffic will have additional access to Beyer Boulevard.

Heritage Road / Otay Valley Road

- Otay Valley Road between Main Street in Chula Vista and Avenida de las Vistas: level of service “F”.

A reclassification to more than the current six lane Primary Arterial would be a decision to be made by the City of Chula Vista. A wider roadway and bridge over the Otay River Valley would be costly and increase environmental impacts to the Otay River Valley and is not recommended. The significant impact to this segment would be unmitigated.

- Avenida de las Vistas to Datsun Street: level of service “F”.

A reclassification from a six lane Major Arterial to a six lane Primary Arterial is recommended. A wider classification would be costly to construct and is not recommended. There are few developed driveways along this segment so that restricting parking and access would have minimal impacts to adjacent parcels. The significant segment impact would be only partially mitigated.

- Datsun Street to Airway Road: acceptable levels of service.

A reclassification to a six lane Primary Arterial is recommended, restricting access and parking through these closely spaced intersections, including the SR-905 on and off ramp intersections with Heritage Road.

Cactus Road

- Otay Mesa Road to Airway Road: level of service “F”.
- Airway Road to Siempre Viva Road: level of service “F”.

A reclassification to a four lane Major Arterial is recommended. A higher six lane classification is not recommended. This roadway will extend through the mixed-use village area and excessive through traffic should be discouraged. The significant segment impacts would only be partially mitigated.

Britannia Boulevard

-SR-905 to Airway Road: level of service “F”.

Britannia Boulevard has been constructed as six lanes between Otay Mesa Road and the SR-905 eastbound ramps, and five lanes between the eastbound ramps and Airway Road. The Cross-Border Facility project includes reclassifying and construction of this segment to six lanes as project mitigation. The SR-905 on and off ramp intersections are closely spaced so that parking and access should be restricted along these segments.

In addition, Britannia Boulevard will also be the designated truck route for southbound laden trucks between SR-905 and the planned truck route parallel to the border.

Therefore, a reclassification to a six lane Primary arterial is recommended for the segments between Otay Mesa Road and Airway Road. The segment between Airway Road and Siempre Viva Road is recommended as a six lane Major Arterial. Segment impacts would be mitigated south of Airway Road, but not on the segment between SR-905 and Airway Road. Additional right-turn lanes would enhance the capacity of this segment.

- Siempre Viva Road to South End: level of service “F”.

A reclassification from two to four lane Collector (with left turn lane) is recommended. The significant segment impact would be mitigated.

La Media Road

- Birch Road to Lone Star Road: deleted with this alternative.

The City of Chula Vista is planning to remove the segment of La Media Road crossing the Otay River Valley within Chula Vista from the City of Chula Vista General Plan Circulation Element, so this segment was deleted from the Otay Mesa Community Plan traffic model street network for this alternative. The traffic volumes analyzed in this scenario were based on deleting this segment in the traffic model.

- Lone Star Road to Otay Mesa Road:

Due to the deletion of the connection of La Media Road crossing the Otay River Valley, the volumes on these segments are reduced so that a reclassification from a six lane Primary Arterial to a four lane Major Arterial is recommended.

- SR-905 to Airway Road: level of service “F”.

The addition of lanes to this currently classified six lane Primary Arterial would require a costly modification to the SR-905 / La Media Road interchange and is not recommended. The significant segment impact would be unmitigated.

- Airway Road to Siempre Viva Road: level of service “D”.

The segment south of Airway Road is recommended to be classified as a five lane Major Arterial, three southbound lanes and two northbound lanes to accommodate southbound unladen trucks on this

designated route from SR-905 to the Border Truck Road providing access to the eastern border crossing. The southbound lanes would transition to two lanes north of Siempre Viva Road.

Lone Star Road

- Piper Ranch Road to City / County Boundary: level of service 'E'.

Segments from SR-125 to the City / County Boundary are recommended to be classified as a six lane Primary Arterial to be consistent with the County of San Diego classification. A reclassification to a six lane Primary Arterial is recommended from west of the SR-125 southbound off-ramp to the City / County Boundary. The significant segment impact would be mitigated.

Aviator Road

- Heritage Road to La Media Road: level of service "F".

This segment is recommended to be added to the circulation element as a four lane Collector (with left turn lane). Future volumes would be accommodated without a significant segment impact.

Dennerly Road

- Black Coral Lane to East End: level of service "F".

A reclassification is not recommended. Retaining a two lane Collector (no fronting property) classification would discourage speeding and through traffic not destined to the adjacent residential developments. The significant segment impact would be unmitigated.

Avenida de las Vistas

- Otay Valley Road to Vista Santo Domingo: level of service “E”.
- Vista Santo Domingo to Dennerly Road: level of service “F”.

A reclassification is not recommended. This street is fully constructed and has adjacent single family residences. Retaining a two lane Collector (no fronting property) classification would discourage speeding and through traffic not destined to the adjacent residential developments. The significant segment impacts would be unmitigated.

Del Sol Boulevard

- Surf Crest Drive to Riviera Pointe: level of service “F”.

This segment will pass through environmentally sensitive lands and is on a slope. Retaining the two lane Collector (no fronting property) classification would minimize impacts to the MSCP land and discourage speeding and through traffic not destined to the adjacent residential developments.

- Riviera Pointe to Dennerly Road: level of service “F”.

This segment is fully constructed and surrounded by environmentally sensitive land and single family development. A reclassification to four lanes is not recommended. The significant segment impact would be unmitigated.

Old Otay Mesa Road

- Crescent Bay Drive to Beyer Boulevard: level of service “F”.

This segment is situated on a steep, rocky hillside that would be costly to widen. Therefore, no reclassification is recommended. The significant segment impact would remain unmitigated.

Corporate Center Drive

- Progressive Avenue to Innovative Drive: level of service “E”.

This segment is fully constructed with adjacent developments, as a two lane industrial Collector (without left turn lane). A reclassification as a two lane Collector (with left turn lane) is recommended. The significant impact would be mitigated with restriping for a central left turn lane.

Sanyo Avenue

- Otay Mesa Road to Airway Road: level of service “F”.

This segment is constructed as a four lane Collector (without left turn lane) and is to be added to the circulation plan. Widening to a four lane Major Arterial width would adversely affect adjacent development, but minor widening to accommodate a central left turn lane and a classification as a four lane Collector (with left turn lane) is recommended. The significant segment impact would be mitigated with this widening.

Paseo de las Americas

-Airway Road to Siempre Viva Road: level of service “F”.

-Siempre Viva Road to Marconi Drive: level of service “F”.

These segments are currently classified as a two lane Collector but are constructed fully with four lanes. A reclassification to four lane Collector (with left turn lane) is recommended. This reclassification would mitigate the significant segment impacts.

Marconi Drive

-Paseo de las Americas to Enrico Fermi Drive: level of service “E”.

This segment is fully constructed as a two lane industrial Collector, and is wide enough to be striped with two lanes and a continuous central left turn lane. The significant segment impact would be mitigated with the reclassification to a two lane Collector (with left turn lane).

Otay Center Drive

-Harvest Road to Siempre Viva Road: level of service “F”.

This segment is constructed as a four lane Collector (without left turn lane). A reclassification to a four lane Collector (with left turn lane) is recommended. The significant segment impact would be mitigated.

St. Andrews Avenue

-Otay Mesa Center Road to La Media Road: level of service “F”.

Currently classified as a two lane Collector, this segment is constructed as a four lane Collector. A reclassification to a four lane Collector (with left turn lane) is recommended. The significant impact would be mitigated.

Gailes Boulevard

-Otay Mesa Road to St. Andrews Avenue: level of service “F”.

This street is constructed with four lanes and a raised median. A reclassification from a two lane Collector to four lane Collector (without left turn lanes) is recommended. The significant segment impact would be mitigated.

Camino Maquiladora

-Heritage Road to Pacific Rim Court: level of service “F”

-Pacific Rim Court to Cactus Road: level of service “E”.

These segments serve adjacent industrial uses but have diverted traffic from Otay Mesa Road. These segments are not mean to be through traffic by-pass routes, and are not recommended for reclassification. The significant segment impacts would be unmitigated.

Progressive Avenue

-Corporate Center Drive to Innovative Drive: level of service “F”.

This segment is constructed as a two lane industrial Collector and serves adjacent industrial uses, but has diverted traffic from Heritage Road. This segment is not meant as a through traffic by-pass route and is not recommended for reclassification. The significant impact would be unmitigated.

Otay Mesa Center Road

-Otay Mesa Road to St. Andrews Avenue: levels of service “F”.

This segment is classified as a two lane Collector, but is constructed with four lanes. A reclassification to a four lane Collector (with left turn lane) mitigates the significant segment impact.

Datsun Street

- Innovative Drive to Heritage Road: level of service “F”.

This segment is planned to serve the adjacent industrial uses, but has high volumes due to traffic diverted from Heritage Road. This segment is not meant to be a through traffic bypass route. A classification as a four lane Collector (with left turn lane) is recommended, rather than a four lane Major Arterial. The significant segment impact would be unmitigated.

Avenida Costa Azul

-Otay Mesa Road to South End: level of service “F”.

Add to circulation plan as a four lane Collector (with left turn lane). The significant segment impact would be mitigated by this classification.

Exposition Way / Vista Santo Domingo

-Avenida de las Vistas to Corporate Center Drive: level of service “F”.

This segment has high volumes due to diverted traffic from Otay Valley Road. Vista Santo Domingo is constructed as a two lane Collector within a residential area and is not meant to be a by-pass route for through traffic so that retaining this classification would discourage speeding and through traffic not destined for the adjacent residential neighborhood. A reclassification is not recommended.

7.3 Freeway Levels of Service

Table 7-2 lists freeway segments evaluated for the 3B Without La Media Road scenario.

Segments of Interstate 805 and State Route 905 are projected to be significantly impacted by Otay Mesa Community Plan and regional cumulative traffic.

Impacts to Interstate 805 between State Route 905 and Main Street would remain significant and unmitigated without the assumption of High Occupancy (HOV) lanes installed, and a northbound auxiliary lane installed with I-805 / SR-905 interchange improvements.

However, the adopted SANDAG 2050 Regional Transportation Plan includes two managed lanes in each direction on I-805 north of SR-905. With the addition of these managed lanes, peak hour levels of service would be at “D” on I-805 segments between SR-905 and Main Street.

State Route 905 is assumed with six lanes. Impacts would be significant and unmitigated between Picador Boulevard and Britannia Boulevard. State Route 905 has been designed so that median HOV lanes could be installed in the future, but are not currently planned or funded by Caltrans.

TABLE 7-2

**Scenario 3B Freeway Segment Levels of Service
Without La Media Road**

Segment		Lanes (1-Way)	Cap.	ADT (1)	Peak Hour %(5)	Direction Split(5)	(6) Truck Factor	Peak Volume	V/C	LOS (2)
SR-905	Picador Blvd. to I-805 (3)	2 + AUX	6,500	128,500	0.08	0.6	0.90	6,853	1.05	F0
	I-805 to Caliente Ave. (4)	3 + CL	8,550	221,000	0.08	0.6	0.90	11,787	1.38	F2
	Caliente Ave. to Heritage Rd.	3	7,050	196,000	0.08	0.6	0.90	10,453	1.48	F3
	Heritage Rd. to Britannia Blvd.	3	7,050	173,000	0.08	0.6	0.90	9,227	1.31	F1
	Britannia Blvd. to La Media Rd.	3	7,050	154,000	0.08	0.6	0.90	8,213	1.16	F0
	La Media Rd. to SR-125	3	7,050	103,500	0.08	0.6	0.90	5,520	0.78	C
	SR-125 to Siempre Viva Rd.	3	7,050	99,000	0.08	0.6	0.90	5,280	0.75	C
	Siempre Viva Rd. to Border	3	7,050	64,500	0.08	0.6	0.90	3,440	0.49	B
I-805	Main St. to Palm Ave.	4+AUX	11,200	248,000	0.08	0.6	0.90	13,227	1.18	F0
	Palm Ave. to SR-905	4+AUX	11,200	222,000	0.08	0.6	0.90	11,840	1.06	F0
	SR-905 to I-5	4	9,400	122,000	0.08	0.6	0.90	6,507	0.69	C
	I-5 to Border	6	14,100	135,500	0.08	0.6	0.90	7,227	0.51	B
SR-125	Birch Rd. to Lone Star Rd.	4 (Toll)	9,400	155,500	0.08	0.6	0.90	8,293	0.88	D
	Lone Star Rd. to SR-905	4 (Toll)	9,400	115,500	0.08	0.6	0.90	6,160	0.66	C
SR – 11	SR-905 to Enrico Fermi Dr.	2	4,700	47,000	0.08	0.6	0.90	2,507	0.53	B
	Enrico Fermi Dr. to Siempre Viva Rd	2	4,700	24,500	0.08	0.6	0.90	1,307	0.28	A
	Siempre Viva Rd. to Border	2	4,700	39,500	0.08	0.6	0.90	2,107	0.45	B

Legend

Cap = Capacity of Segment

Mainlane Cap. @ 2,350 VPHPL

Auxillary Lane Cap. @ 1,800 VPHPL

HOV Lane Cap. @ 1,600 VPHPL

Climbing Lane Cap. @ 1,500 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

Direction Split = % of Peak Hour in Peak Direction

Truck Factor = Represents Capacity Reduction for Heavy Vehicles

F

= Shading indicates a significant impact.

Note:

(1) Buildout Forecast Volume, Average Daily Traffic Volume (7-26-10 Run Date, Series 11)

(2) Caltrans District 11 LOS Estimation Procedures, See Table 2-3

(3) = 2 Mainlanes + Auxillary Lane

(4) = EB: 3 Mainlanes + Climbing Lane
WB: 3 Mainlanes + Auxillary Lane

(5) = Source: Caltrans Traffic Volumes, Peak Hour Volume Data (existing average for I-805 & SR-905).

(6) Highway Capacity Manual (2000) EQN. (3-2); assume 10% trucks plus RV's.

TABLE 7-2-A

**Scenario 3B Without La Media Road Freeway Segment Levels of Service
(With HOV Lanes Added To LOS F Segments)**

Segment		ADD HOV	Lanes (1Way)	Cap.	ADT (1)	Peak Hour % (5)	Direction Split (5)	(6) Truck Factor	Peak Volume	V/C	LOS (2)
SR-905	Picador Blvd. to I-805 (3)	+H	2 + AUX	8,100	128,500	0.08	0.6	0.90	6,853	0.83	D
	I-805 to Caliente Ave. (4)	+H	3 + CL	10,150	221,000	0.08	0.6	0.90	11,787	1.13	F0
	Caliente Ave. to Heritage Rd.	+H	3	8,650	196,000	0.08	0.6	0.90	10,453	1.18	F0
	Heritage Rd. to Britannia Blvd.	+H	3	8,650	173,000	0.08	0.6	0.90	9,227	1.04	F0
	Britannia Blvd. to La Media Rd.	+H	3	8,650	154,000	0.08	0.6	0.90	8,213	.92	D
I-805	Main St. to Palm Ave,	+2H	4+AUX	14,400	248,000	0.08	0.6	0.90	13,227	0.92	D
	Palm Ave. to SR-905	+2H	4+AUX	14,400	222,000	0.08	0.6	0.90	11,840	0.82	D

Legend

Cap = Capacity of Segment
Mainlane Cap. @ 2,350 VPHPL
Auxillary Lane Cap. @ 1,800 VPHPL
HOV Lane Cap. @ 1,600 VPHPL
Climbing Lane Cap. @ 1,500 VPHPL


ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

Direction Split = % of Peak Hour in Peak Direction

Truck Factor = Represents Capacity Reduction for Heavy Vehicles

 = Shading indicates a significant impact.

+H = Add HOV lane in each direction.

+2H = Add two HOV lanes in each direction.

Note:

(1) Buildout Forecast Volume, Average Daily Traffic Volume (07-26-10 Run Date, Series 11)

(2) Caltrans District 11 LOS Estimation Procedures, See Table 2-3

(3) = 2 Mainlanes + Auxillary Lane

(4) = EB: 3 Mainlanes + Climbing Lane
WB: 3 Mainlanes + Auxillary Lane

(5) = Source: Caltrans Traffic Volumes, Peak Hour Volume Data (existing average for I-805 & SR-905).

(6) Highway Capacity Manual (2000) EQN. (3-2); assume 10% trucks plus RV's.

SR-905 HOV lanes are not currently in the Regional Transportation Plan, and are not funded.

The addition of HOV lanes would provide partial mitigation for local and regional cumulative impacts, but would not provide acceptable levels of service between I-805 and Britannia Boulevard. **Table 7-2-A** shows freeway levels of service after HOV lanes are added to segments at level of service “F”.

7.4 Intersection Levels of Service

Table 7-3 shows the 3B Without La Media Road scenario intersection levels of service without and with recommended mitigation.

Intersection lane configurations without mitigation are assumed to be as shown in the City of San Diego Street Design Manual for the roadway classification at the intersection approaches. Lane configurations with mitigation identified are included in the Executive Summary and **Appendix D**. Also included in Appendix D are peak hour volumes at each intersection, intersection levels of service worksheets, and descriptions of how peak hour volumes were determined.

There are 29 locations with existing traffic signals, 26 of which are recommended for modification. All other intersections are also recommended for signalization. A listing of existing traffic signals and volume warrants for future intersections are also included in Appendix D.

TABLE 7-3

Buildout Scenario 3B Without La Media Road Intersection Levels of Service

Intersection		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		CD	LOS	CD	LOS	CD	LOS	CD	LOS
1	Palm Ave. / I-805 SB Ramps	48.9	D	51.3	D	24.8	C	35.7	D
2	Palm Ave. / I-805 NB Ramps	116.1	F	122.6	F	4.6	A	5.5	A
3	Palm Ave. / Dennery Rd.	33.5	C	67.2	E	-	-	-	-
4	Otay Mesa Rd. / Caliente Ave.	263.5	F	146.0	F	205.9	F	87.2	F
5	Caliente Ave. / SR-905 WB Ramps	83.1	F	43.2	(1) D	34.0	(1) C	34.0	(1) C
6	Caliente Ave. / SR-905 EB Ramps	165.7	F	150.5	F	55.0	E	70.2	E
7	Caliente Ave. / Airway Rd.	228.5	F	223.0	F	143.0	F	200.5	F
8	Caliente Ave. / Beyer Blvd.	252.0	F	429.8	F	212.7	F	122.4	F
9	Otay Mesa Rd. / Heritage Rd.	367.5	F	257.4	F	272.0	F	161.2	F
10	Heritage Rd. / SR-905 WB Ramps	69.9	E	81.1	F	15.9	(1) B	28.4	(1) C
11	Heritage Rd. / SR-905 EB Ramps	113.0	F	86.4	F	39.5	(1) D	25.5	(1) C
12	Heritage Rd. / Airway Rd.	162.7	F	402.8	F	144.5	F	88.3	F
13	Heritage Rd. / Siempre Viva Rd.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14	Otay Mesa Rd. / Cactus Rd.	437.9	F	290.5	F	139.6	F	199.7	F
15	Airway Rd. / Cactus Rd.	361.5	F	437.7	F	188.6	F	306.2	F
16	Siempre Viva Rd. / Cactus Rd.	48.7	D	127.7	F	47.6	D	117.3	F
17	Otay Mesa Rd. / Britannia Blvd.	108.5	F	117.2	F	63.1	E	47.5	D
18	Britannia Blvd. / SR-905 WB Ramps	240.5	F	577.4	F	65.0	E	547.1	F
19	Britannia Blvd. / SR-905 EB Ramps	353.3	F	235.1	F	305.9	F	67.1	E
20	Britannia Blvd. / Airway Rd.	618.2	F	615.8	F	184.9	F	241.1	F
21	Siempre Viva Rd. / Britannia Blvd.	363.3	F	362.8	F	177.5	F	143.2	F
22	Otay Mesa Rd. / La Media Rd.	457.1	F	443.8	F	131.9	F	126.2	F

Legend

CD = Control Delay

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

F = Shading indicates a significant impact.

TABLE 7-3 (Continued)

Buildout Scenario 3B Without La Media Road Intersection Levels of Service

Intersection	Without Mitigation				With Mitigation			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	CD	LOS	CD	LOS	CD	LOS	CD	LOS
23 La Media Rd. / SR-905 WB Ramps	266.1	F	227.2	F	129.8	F	112.7	F
24 La Media Rd. / SR-905 EB Ramps	234.7	F	84.7	F	162.2	F	48.5	(1) D
25 La Media Rd. / Airway Rd.	496.6	F	507.9	F	182.5	F	212.5	F
26 La Media Rd. / Siempre Viva Rd.	244.0	F	112.1	F	81.6	F	37.1	D
27 La Media Rd. / Lone Star Rd.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28 Lone Star Rd. / SR-125 SB Off Ramp	63.6	E	96.8	F	-	-	-	-
29 Lone Star Rd. / SR-125 NB On Ramp	2.1	(1) A	147.8	F	-	-	-	-
30 Lone Star Rd. / Piper Ranch Rd.	8.1	A	9.3	(1) A	-	-	-	-
31 Otay Mesa Rd. / Piper Ranch Rd.	129.2	F	166.2	F	44.6	D	47.5	D
32 Otay Mesa Rd. / SR-125 SB Off Ramp	82.9	F	13.0	(1) B	30.4	C	11.0	(1) B
33 Otay Mesa Rd. / SR-125 NB On Ramp	4.8	A	22.0	C	-	-	-	-
34 Otay Mesa Rd. / Harvest Rd.	37.9	D	133.7	F	11.8	B	38.9	(1) D
35 Siempre Viva Rd. / Otay Center Dr.	276.0	F	213.0	F	83.0	F	85.4	F
36 Siempre Viva Rd. / SR-905 SB to EB Ramp	29.0	(1) C	146.2	F	-	-	-	-
36A Siempre Viva Rd. / SR-905 SB to WB Ramp	(2) 2,641	F	(2) 205.7	F	382.0	F	16.3	(1) B
37 Siempre Viva Rd. / SR-905 NB Ramps	47.2	(1) D	262.7	F	39.3	(1) D	250.4	F
38 Siempre Viva Rd. / Paseo de las Americas	188.8	F	367.1	F	78.8	E	159.5	F
39 Dennery Rd. / Del Sol Blvd.	49.3	D	49.4	D	-	-	-	-
40 Ocean View Hills Pkwy. / Del Sol Blvd.	67.8	E	67.3	E	50.5	D	53.3	D
41 Ocean View Hills Pkwy. / Street A	48.2	D	57.9	E	35.5	D	34.6	C
42 Old Otay Mesa Rd. / Beyer Blvd.	381.2	F	396.5	F	194.3	F	181.8	F
43 Otay Mesa Rd. / Corporate Center Dr.	119.3	F	184.3	F	78.6	E	140.6	F
44 Otay Mesa Rd. / Innovative Dr.	114.4	F	108.9	F	113.7	F	89.8	F

Legend

CD = Control Delay

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

(2) = Unsignalized: SB to WB right turn at LOS F (AM and PM Peak Hours)

F = Shading indicates a significant impact.

TABLE 7-3 (Continued)

Buildout Scenario 3B Without La Media Road Intersection Levels of Service

Intersection	Without Mitigation				With Mitigation			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	CD	LOS	CD	LOS	CD	LOS	CD	LOS
45 Harvest Rd. / Airway Rd.	116.7	F	13.8	B	42.5	D	13.5	B
46 Harvest Rd. / Siempre Viva Rd.	76.6	E	69.2	E	28.7	C	51.5	D
47 Otay Mesa Rd. / Sanyo Ave.	263.3	F	276.6	F	106.7	F	89.0	F
48 Airway Rd. / Sanyo Ave.	225.6	F	229.8	F	49.7	D	38.6	D
49 Paseo de las Americas / Heinrich Hertz Dr.	(3) 988.3	F	(3) 244.6	F	8.9	A	13.0	B
50 Paseo de las Americas / Marconi Dr.	(4) 869.6	F	(4) 108.0	F	11.5	B	13.4	B
51 Heritage Rd. / Otay Valley Rd.	516.4	F	837.9	F	178.7	F	382.7	F
52 Aviator Rd. / La Media Rd.	105.1	F	38.0	D	27.7	C	18.3	B
53 Otay Valley Rd. / Avenida De Las Vistas	764.4	F	298.6	F	-	-	-	-

Note: Control delay results should be considered unreliable at delay volumes higher than two times the LOS E delay of 80.0 seconds.

Legend

CD = Control Delay

LOS = Level of Service

(3) Unsignalized: eastbound left turn at LOS F (AM Peak Hour);
eastbound left and right turns at LOS F (PM Peak Hour).

(4) Unsignalized: westbound left turn at LOS F (AM and PM Peak Hours);
westbound right turn at LOS F (PM Peak Hour).

F = Shading indicates a significant impact.

Control Delay	LOS
0.0 - 10.0	A
10.1 - 20.0	B
20.1 - 35.0	C
35.1 - 55.0	D
55.1 - 80.0	E
Over 80.0	F
<i>Source: 2000 Highway Capacity Manual</i>	

Of the 52 intersections evaluated, 42 intersections are expected to be at levels of service “E” or “F” during the AM peak hour and 44 during the PM peak hour. With mitigation, 28 intersections would remain to operate unacceptably in the AM peak hour and 29 intersections would remain to operate unacceptably in the PM peak hour. Several interchange intersections that can be designed for acceptable levels of service are included as significantly impacted due to upstream queues extending through the intersection causing increased delay and a level of service “F”, as footnoted in this table. **Table 7-4** shows lane configurations at each intersection and also shows lanes to be added after mitigation.

Intersection peak hour volumes, lane configurations with mitigation, and level of service worksheets are included in **Appendix D**.

The SR-905 interchanges at Caliente Avenue and at La Media Road are recommended for major improvements for all alternatives. The Caltrans designs of these interchanges are based on forecasts of future traffic from the build out of only approximately fifty percent of Otay Mesa land uses. The Heritage Road interchange currently does not have a final, funded design, so that the lane configurations at the ramp intersections included in this report should be incorporated into the final design.

Provided below is a summary of mitigation recommended at the interchanges and major intersections. Some intersection impacts are not proposed to be fully mitigated, usually because it would require excessively wide intersections and turning lanes and non-standard intersection configurations.

#1 & #2. I-805 Southbound and Northbound Ramps / Palm Avenue – The Otay Mesa P.F.F.P includes a bridge widening project at this interchange. The preliminary design includes a third through lane in each direction at the northbound ramps, an additional westbound right turn lane (total of two), northbound off-ramp widening for an additional lane (total of three), southbound off-ramp widening for an additional lane (total of four), and the addition of a fourth eastbound lane and a loop on-ramp in the southeast quadrant.

TABLE 7-4

Buildout 3B Without La Media Road Intersection Mitigation

Intersection	Without Mitigation												With Mitigation											
	NB			SB			EB			WB			NB			SB			EB			WB		
	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R
1 Palm Ave. / I-805 SB Ramps				1	1*	1		2	1	2	2				1	1*	2		2	1	2	2		
2 Palm Ave. / I-805 NB Ramps	S	1*	1				2	2		2	1		1	1*	1				3	1		3	2	
3 Palm Ave. / Dennerly Rd.	3	1	S	2	2	1	2	3	1	2	3	1												
4 Otay Mesa Rd. / Caliente Ave.	2	3	S	2	3	S	2	3	1	2	3	1	2	3	1	2	3	S	2	3	1	2	3	1
5 Caliente Ave. / SR-905 WB Ramps	1	3			3	S				S	1	1	2	3		3	1					S	1	1
6 Caliente Ave. / SR-905 EB Ramps		3	S	1	3		1	1*	S					3	1	2	3		1	1*	1			
7 Caliente Ave. / Airway Rd.	2	3	S	2	3	S	2	2	S	2	2	1	2	3	1	2	3	S	2	2	1	2	2	1
8 Caliente Ave. / Beyer Blvd.	2	2	S	2	3	S	2	2	S	1	1	1	2	2	S	2	2	2	2	2	1	1	1	1
9 Otay Mesa Rd. / Heritage Rd.	2	3	S	2	3	S	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	2
10 Heritage Rd. / SR-905 WB Ramps		3	S	2	3					S		2	3	2	2	3						S		2
11 Heritage Rd. / SR-905 EB Ramps		3	S	2	3					2		S	3	1	2	3						2		1
12 Heritage Rd. / Airway Rd.				2		1	2	3		2	3	S			2		1	2	3			3	2	
13 Heritage Rd. / Siempre Viva Rd.																								
14 Otay Mesa Rd. / Cactus Rd.	2	1*	1	1	1	S	1	3	S	2	3	S	2	1*	1	1	1	S	1	3	2	2	3	1
15 Airway Rd. / Cactus Rd.	2	2	S	2	2	S	2	3	S	2	3	S	2	2	1	2	2*	1	2	3*	1	2	3	2
16 Siempre Viva Rd. / Cactus Rd.		2	S	2	2					2		2		2	1	2	2					2		2
17 Otay Mesa Rd. / Britannia Blvd.	2	1*	1	1	1	S	1	3	S	2	3	S	2	1*	1	1	1	S	1	3	1	2	3	1
18 Britannia Blvd. / SR-905 WB Ramps	2	3			3	S				1	1	1	2	3		3*	1					1	1*	1
19 Britannia Blvd. / SR-905 EB Ramps		3	S	2	3		S	1	2					3	2	2	3		S	1	2			
20 Britannia Blvd. / Airway Rd.	2	3	S	2	3	S	2	3	S	2	2	S	2	3	1	2	3	2	2	3	1	2	2	2
21 Siempre Viva Rd. / Britannia Blvd.	2	2	S	2	2	S	2	3	S	2	3	S	2	2	1	2	2	2	2	3	1	2	3	2
22 Otay Mesa Rd. / La Media Rd.	2	3	S	2	2	S	2	3	S	2	3	S	2	3	2	2	2	2	2	3	2	2	3	2

Legend

L = left turn lanes
T = through lanes
R = right turn lanes
S = shared lane

* **Notes:** #1 - SB through is shared LTR without mitigation; shared LT with mitigation.

#2 - NB through is shared LTR.

#5 - SB is 2T-TR-R without mitigation.

#6 - EB through is shared LTR without mitigation; shared LT with mitigation.

#14 - NB through is shared TR.

#15 - SB through is shared TR.

#15 - EB through is shared TR.

#17 - NB through is shared TR.

#18 - 1 SB right turn lane added, 3rd lane restriped for optional TR; WB middle lane restriped for LTR.

1 Highlighted indicates added lane mitigation or revised lane assignment by restriping, as noted.

TABLE 7-4 (Continued)

Buildout 3B Without La Media Road Intersection Mitigation

Intersection	Without Mitigation												With Mitigation											
	NB			SB			EB			WB			NB			SB			EB			WB		
	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R
23 La Media Rd. / SR-905 WB Ramps	2	2	1		3	1	S	1	1	1	1*	1	2	3	1		3	1	1		1	1	1*	1
24 La Media Rd. / SR-905 EB Ramps	2	3			2	1	2		2				2	3			3	1	2		2			
25 La Media Rd. / Airway Rd.	2	2	S	2	3	S	2	2	S	2	2	S	2	2	1	2	3	2	2	2	1	2	2	2
26 La Media Rd. / Siempre Viva Rd.				2	2	S	2	3				3	S			2	1*	2*	2	3			3	2
27 La Media Rd. / Lone Star Rd.																								
28 Lone Star Rd. / SR-125 SB Off Ramp				2			2		3			3												
29 Lone Star Rd. / SR-125 NB On Ramp							2	3				3	2											
30 Lone Star Rd. / Piper Ranch Rd.	2		1					3	S	2	3													
31 Otay Mesa Rd. / Piper Ranch Rd.	1	2	S	1	2	S	2	3	S	2	3	S	2	1	1	2	1	2	2	3	1	2	3	1
32 Otay Mesa Rd. / SR-125 SB Off Ramp				2		1		3				3				1	1*	1		3			3	
33 Otay Mesa Rd. / SR-125 NB On Ramp							2	3				3	2											
34 Otay Mesa Rd. / Harvest Rd.	1	1	S	1	1	S	1	3	S	1	3	S	2	1	S	1	1	S	1	3	1	1	3	S
35 Siempre Viva Rd. / Otay Center Dr.	1	1	S	1	2	S	1	3	S	1	3	S	1	1	1	2	1	1	2	3	1	2	3	1
36 Siempre Viva Rd. / SR-905 SB to EB Ramp			2					3	S	2	3													
36A Siempre Viva Rd. / SR-905 SB to WB Ramp						1						3					2						3	
37 Siempre Viva Rd. / SR-905 NB Ramps	S	1	2				2	3				3	1	S	1	2			2	3			3	2
38 Siempre Viva Rd. / Paseo de las Americas	1	2	S	1	2	S	1	3	1	1	3	S	1	1*	1*	1	1	2	2	3	1	1	3	1
39 Denney Rd. / Del Sol Blvd.				1		1	1	2				2	S											
40 Ocean View Hills Pkwy. / Del Sol Blvd.	2	3	S	1	2	S	1	1	1	1	1	S	2	3	S	1	2	1	1*	1*	1	1	1	S
41 Ocean View Hills Pkwy. / Street A	1	1	1	1	1	S	1	3	S	1	3	S	2	1	1	1	1	S	1	3	1	1	3	S
42 Old Otay Mesa Rd. / Beyer Blvd.	1	1	S	1	1	S	2	2	1	2	2	S	1	1	1	1	1	1	2	2	1	2	2	S
43 Otay Mesa Rd. / Corporate Center Dr.	2	1	S	1	1*	1	2	3	S	2	3	1	2	1	S	2	1*	1	2	3	1	2	3	1
44 Otay Mesa Rd. / Innovative Dr.	1	1	S	1	1*	1	2	3	S	2	3	1	1	1	S	2	1*	1	2	3	S	2	3	1

Legend

L = left turn lanes
T = through lanes
R = right turn lanes
S = shared lane

***Notes:**

#23 - WB middle lane is shared LT.
#26 - SB lanes restriped for 1T-2R lanes.
#27 - WB lanes restriped for 2R lanes.
#32 - SB middle lane is striped for shared LR.
#38 - NB lanes restriped for L-LT-R.
#40 - EB lanes restriped for L-LT-R.
#43 - SB lanes are 2L-TR-R.
#44 - SB lanes are 2L-TR-R.

1 Highlighted indicates added lane mitigation or revised lane assignment by restriping, as noted.

TABLE 7-4 (Continued)

Buildout 3B Without La Media Road Intersection Mitigation

Intersection	Without Mitigation												With Mitigation											
	NB			SB			EB			WB			NB			SB			EB			WB		
	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R
45 Harvest Rd. / Airway Rd.	2		1					2	S	2	2		2		1				2	1	2	2		
46 Harvest Rd. / Siempre Viva Rd.	1	2	S	1	2	S	2	3	S	2	3	S	1	2	S	2	2	1	2	3	S	2	3	1
47 Otay Mesa Rd. / Sanyo Ave.	1	2	S	1	2	S	2	3	S	2	3	S	2	1	1	1	1	2	3	2	2	3	1	
48 Airway Rd. / Sanyo Ave.	1	2	S	1	2	S	2	2	S	2	2	S	2	2	1	2	2	2	2	2	2	2	2	1
49 Paseo de las Americas / Heinrich Hertz Dr.	1	2			2	S	1		1				2	2		2	S	1		1				
50 Paseo de las Americas / Marconi Dr.		2	S	1	2					1		1		2	S	2	2					1		1
51 Heritage Rd. / Otay Valley Rd.	2	3	S	2	3	S	1	2	S	1	2	S	2	3	1	2	3	2	2	2	1	2	2	1
52 Aviator Rd. / La Media Rd.	2	2			2	S	2		1				2	2		2	1	2		1				
53 Otay Valley Rd. / Avenida De Las Vistas	1	3	S	1	3	S	1	1	S	1	1	1												

Legend

L = left turn lanes

T = through lanes

R = right turn lanes

S = shared lane

1 Highlighted indicates added lane mitigation or revised lane assignment by restriping, as noted.

#4. Caliente Avenue / Otay Mesa Road – At this intersection of two six-lane Primary Arterials, a separate right turn only lane in the northbound direction is recommended. Although the northbound right turn volumes are expected to be high enough to warrant dual right turns, this intersection is a pedestrian route to nearby San Ysidro High School. In the interest of school pedestrian safety and convenience, dual right turn lanes are not recommended.

#5. Caliente Avenue / SR-905 Westbound Ramps – Overcrossing widening to accommodate northbound dual left turn lanes is recommended. Additionally, a single southbound right turn only lane is recommended. Caliente Avenue is a school pedestrian route to the San Ysidro High School. Although southbound right turn volumes are expected to be high enough to warrant dual right turn lanes, the dual right turn lanes are not recommended. Vehicle queues from the upstream intersections are expected to extend through this intersection so that AM and PM peak hour levels of service will be at LOS “F”.

#6. Caliente Avenue / SR-905 Eastbound Ramps - Overcrossing widening to accommodate dual northbound left turn lanes at the SR-905 westbound ramps also should extend through this intersection, accommodating dual southbound left-turn lanes. A separate northbound right turn lane and ramp widening for an additional eastbound right turn lane are recommended. Although the eastbound right turn lanes are expected to be high enough for dual right turn lanes, the dual right turn lanes are not recommended on this pedestrian route to San Ysidro High School.

#7. Caliente Avenue at Airway Road - Separate right turn only lanes are recommended in the eastbound, northbound, and westbound directions. Although the northbound and westbound right turn volumes are expected to be high enough to warrant dual right turn lanes, the dual right turn lanes are not recommended on this pedestrian route to San Ysidro High School.

#8. Caliente Avenue at Beyer Boulevard - Dual right turn lanes southbound to westbound are recommended. A separate eastbound right turn lane is recommended.

#9. Heritage Road / Otay Mesa Road - Separate right turn only lanes are recommended in the northbound and southbound directions. Existing right turn lanes are in place eastbound and westbound. A second westbound right turn lane is recommended.

#10. Heritage Road / SR-905 Westbound Ramps - Two right turn only lanes are recommended in the northbound direction onto the westbound on-ramp. The vehicle queue from an upstream intersection extends through this intersection so that the AM and PM peak hour level of service will be at LOS “F”.

#11. Heritage Road / SR-905 Eastbound Ramps - A separate right turn lane in the northbound direction to the eastbound on-ramp, plus an additional lane in the westbound direction on the eastbound off-ramp are recommended. The vehicle queue from an upstream intersection extends through this intersection so that the AM and PM peak hour level of service will be at LOS “F”.

#12. Heritage Road / Airway Road – Dual right turn lanes are recommended in the westbound direction.

#14. Cactus Road / Otay Mesa Road - Dual right turn lanes in the eastbound direction, and one in the westbound direction are recommended.

#15. Cactus Road / Airway Road - Dual right turn lanes in the westbound direction, and single right turn lanes are recommended in the south, north, and eastbound directions. A shared through / right turn lane is recommended southbound and eastbound.

#16. Cactus Road / Siempre Viva Road - Dual right turn lanes in the westbound direction and a single right turn lane are recommended in the northbound direction.

#17. Britannia Boulevard / Otay Mesa Road - A single right turn only lane in the eastbound and westbound directions are recommended.

#18. Britannia Boulevard / SR-905 Westbound Ramps - A single southbound right turn lane, and also restriping the third southbound through lane as an optional through / right turn are recommended. The middle lane in the westbound direction is recommended to be restriped for a shared left / through / right turn movement.

#19. Britannia Boulevard / SR-905 Eastbound Ramps - Dual right turn lanes northbound are recommended.

#20. Britannia Boulevard / Airway Road - Dual right turn lanes in the south and westbound directions, and a single right turn lane in the eastbound and northbound directions are recommended.

#21. Britannia Boulevard / Siempre viva Road - Dual right turn lanes in the west and southbound directions, and a single right turn lane in the eastbound and northbound directions are recommended.

#22. La Media Road / Otay Mesa Road – Dual right turn lanes are recommended at all approaches.

#23. La Media Road / SR-905 Westbound Ramps - It is recommended that the eastbound through movement be eliminated so that the northbound right turn to the SR-905 westbound on-ramp can be a continuous movement, without a conflicting movement at the traffic signal. Only a pedestrian signal would cause this traffic to stop. Additionally a third northbound through lane is recommended. These recommended improvements would require widening in the northbound direction along La Media Road.

#24. La Media Road / SR-905 Eastbound Ramps - The addition of a third southbound through lane is recommended. This improvement would require widening La Media Road in the southbound direction.

#25. La Media Road / Airway Road - The addition of dual right turn lanes westbound and southbound, and single right turn lanes eastbound and northbound are recommended.

#26. La Media Road / Siempre Viva Road - The addition of dual right turn lanes westbound, and one right turn lane southbound are recommended. The southbound lanes should be striped for two left turn lanes / one through / two right turn lanes. The southbound through lane will be restricted to unladen trucks destined to the Border Truck Road.

#31. Piper Ranch Road / Otay Mesa Road – Single right turn lanes in the east, west, and northbound directions are recommended. Southbound, two right turn lanes are recommended. Southbound lanes should be striped for two left / one through / two right turn lanes.

#32. SR-125 Southbound Off-Ramp / Otay Mesa Road – No additional lanes are recommended, but restriping the southbound middle lane for optional left-right turns is recommended. The vehicle queue from the upstream northbound on-ramp will extend through this intersection during the AM and PM peak hours so that the peak hour levels of service will be at LOS “F”.

#34. Harvest Road / Otay Mesa Road – An additional eastbound right turn lane is recommended. An additional northbound left turn lane is also recommended.

#35. Otay Center Drive / Siempre Viva Road - Added lanes for right turns are recommended at all approaches. Dual left turn lanes are recommended east, west, and southbound.

#36 – 36A. SR-905 Southbound Ramps / Siempre Viva Road – The SR-905 southbound off-ramp to westbound Siempre Viva Road is recommended to be signalized, and widened for an additional southbound right turn lane.

#37. SR-905 Northbound Ramps / Siempre Viva Road – A second westbound right turn lane is recommended.

#38. Paseo de las Americas / Siempre Viva Road - Added westbound and southbound right turns are recommended, plus an eastbound left turn lane. The northbound lanes should be restriped for one left, one shared left /through, one right turn lane. The southbound lanes should be restriped for one left / one through / two right turn lanes.

#40. Ocean View Hills Parkway / Del Sol Boulevard - One added southbound right turn lane is recommended. The eastbound through lane should be restriped for optional left turns / through.

#41. Ocean View Hills Parkway / Street "A" - An eastbound single right turn lane and an added northbound left turn lane are recommended.

#42. Old Otay Mesa Road / Beyer Boulevard - Northbound and southbound right turn lanes are recommended.

#43. Otay Mesa Road / Corporate Center Drive - Northbound and southbound added left turn lanes, and a separate eastbound right turn lane are recommended. The southbound through lane should be striped as a shared through / right turn lane.

#44. Otay Mesa Road / Innovative Drive - A second southbound left turn lane is recommended. The southbound through lane should be striped as a shared through / right turn lane.

#45. Airway Road / Harvest Road - An eastbound right turn lane is recommended.

#46. Harvest Road / Siempre viva Road - Separate right turn lanes are recommended westbound and southbound. An additional southbound left turn lane is recommended.

#47. Otay Mesa Road / Sanyo Avenue - Eastbound dual right turn lanes, and single right turn lanes northbound and westbound are recommended. Restriping northbound lanes for dual left turns plus one through lane is recommended.

#48. Airway Road / Sanyo Avenue - Dual right turn lanes in the eastbound and southbound directions are recommended. Single right turn lanes northbound and westbound are recommended. Northbound and southbound added lanes for dual left turns are recommended.

#49. Paseo de las Americas / Heinrich Hertz Drive - The installation of a traffic signal and widening for an added northbound left turn lane are recommended.

#50. Paseo de las Americas / Marconi Drive - The installation of a traffic signal and adding a southbound left turn lane are recommended.

#51. Heritage Road / Otay Valley Road - Dual right turn lanes southbound, and single right turn lanes at the other approaches are recommended. East and westbound dual left turn lanes are recommended.

#52. La Media Road / Aviator Road - A southbound right turn lane is recommended.

7.5 Ramp Meter Operations

Table 7-5 shows buildout ramp meter operations at all freeway on-ramps within the study area.

The likely most restrictive ramp meter rate as provided by Caltrans was used for this evaluation.

Regional SANTEC / ITE Traffic Impact Study Guidelines state that levels of service does not apply to ramp meters, but that ramp meter delays above 15 minutes are considered excessive. Of the 28 peak hour ramp meters that were evaluated during the AM and PM peak hours, ramp meter delays above 15 minutes would occur at five locations during the AM peak hour and at eleven locations during the PM peak hour.

Ramp meter delays above 15 minutes are considered significant impacts if downstream freeways are operating at level of service “E” or “F”. The following five ramp locations would be significantly impacted using this significance criteria:

- SR-905 / Caliente Avenue Westbound on-ramp (AM and PM);
- SR-905 / Heritage Road Westbound on-ramp (AM and PM);
- SR-905 / Britannia Boulevard Westbound on-ramp (AM and PM);
- SR-905 / Britannia Boulevard Eastbound on-ramp (PM);
- SR-905 / La Media Road Westbound on-ramp (AM and PM).

The freeway on-ramp lengths were estimated using preliminary design or aerial photos as included in Appendix D. The freeway on-ramps evaluated would have ramp lengths from 650 feet to 1,200 feet. Assuming two lanes at the ramp meters, seven locations would have queues exceeding the ramp storage during the AM peak hour and at eleven locations during the PM peak hour.

There are no performance criteria regarding excessive queues in the regional CMP guidelines. However, the guidelines state the following:

TABLE 7-5

Buildout Alternate 3B Without La Media Road Ramp Meter Operations

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate*	Excess Demand	Delay (Min)	Queue (Feet)
AM	I-805 / Palm Avenue Northbound (From Westbound)	1,280	960	320	20.0	8,000 (E)
PM	I-805 / Palm Avenue Northbound (From Westbound)	1,380	960	420	26.3	10,500 (E)
AM	I-805 / Palm Avenue Northbound (From Eastbound)	655	960	None	None	None
PM	I-805 / Palm Avenue Northbound (From Eastbound)	540	960	None	None	None
AM	I-805 / Palm Avenue Southbound	455	960	None	None	None
PM	I-805 / Palm Avenue Southbound	645	960	None	None	None

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate*	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / Caliente Avenue Westbound	1,860	960	900	56.3	22,500 (E)
PM	SR-905 / Caliente Avenue Westbound	1,550	960	590	36.9	14,750(E)
AM	SR-905 / Caliente Avenue Eastbound	400	960	None	None	None
PM	SR-905 / Caliente Avenue Eastbound	400	960	None	None	None

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate*	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / Heritage Road Westbound	1,135	960	175	10.9	4,375 (E)
PM	SR-905 / Heritage Road Westbound	2,550	960	1,590	99.4	39,750 (E)
AM	SR-905 / Heritage Road Eastbound	360	960	None	None	None
PM	SR-905 / Heritage Road Eastbound	800	960	None	None	None

*= Most restrictive meter rate used, per Caltrans.

** = Total hourly volume entering from both directions.

(E) = Exceeds ramp storage length.

TABLE 7-5

Buildout Alternate 3B Without La Media Road Ramp Meter Operations

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / Britannia Blvd. Westbound	1,350	960	390	24.4	9,750 (E)
PM	SR-905 / Britannia Blvd. Westbound	3,355	960	2,395	149.1	59,875 (E)
AM	SR-905 / Britannia Blvd. Eastbound	710	960	None	None	None
PM	SR-905 / Britannia Blvd. Eastbound	1,400	960	440	27.5	11,000 (E)

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / La Media Road Westbound	2,050	960	1,090	68.1	27,250 (E)
PM	SR-905 / La Media Road Westbound	3,025	960	2,065	129.0	51,625 (E)
AM	SR-905 / La Media Road Eastbound	1,000	960	40	2.5	1,000
PM	SR-905 / La Media Road Eastbound	1,950	960	990	61.8	24,750 (E)

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / Siempre Viva Rd. Northbound	1,185	960	225	14.1	5,625 (E)
PM	SR-905 / Siempre Viva Rd. Northbound	3,510	960	2,550	159.4	63,750 (E)
AM	SR-905 / Siempre Viva Rd. Southbound	750	960	None	None	None
PM	SR-905 / Siempre Viva Rd. Southbound	1,670	960	710	44.4	17,750 (E)

*= Most restrictive meter rate used, per Caltrans.

** = Total hourly volume entering from both directions.

(E) = Exceeds ramp storage length.

TABLE 7-5

Buildout Alternate 3B Without La Media Road Ramp Meter Operations

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-125 / Otay Mesa Rd. Northbound	1,680	960	720	45.0	24,000 (E)
PM	SR-125 / Otay Mesa Rd. Northbound	2,455	960	1,495	93.4	37,375(E)

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-125 / Lone Star Rd. Northbound	850	960	None	None	None
PM	SR-125 / Lone Star Rd. Northbound	3,615	960	2,655	166.0	66,375 (E)

*=Most restrictive meter rate used, per Caltrans.

** = Total hourly volume entering from both directions.

Excess Demand X 60MIN = Delay (Minutes)

Meter Rate

(E) = Exceeds ramp storage length.

Note: Experience shows that the theoretical queue length derived by this analysis often does not materialize. Motorists, after a brief time of adjustment, seek alternative travel paths if available, or alternative times of arrival at the meter. The effect is to approximately minimize total trip time by seeking out the best combinations of route and departure time at the beginning of the trip. This causes at least two important changes in the pattern on arriving traffic at ramp meters. First, the peak period is spread out with some traffic arriving earlier and some traffic arriving later than predicted. Second, a significant proportion of the predicted arriving traffic will use another ramp with shorter queues, use another freeway, or stay on surface streets.

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7.6 Freeway Interchange Queue Analysis

A queue analysis was prepared at the interchange ramps within the study area, and queue lengths without intersection mitigation are shown in **Table 7-6**, while **Table 7-7** shows queue lengths with mitigation.

This queue analysis was provided primarily to provide an indication of locations that might need queue storage enhancements such as extending right or left turn storage lengths, if feasible during design, and to ensure that any with queues exceeding standard turn pocket lengths was not reported as operating acceptably.

Of the 158 queues evaluated without intersection mitigation, during AM and PM peak hours, 80 are expected to be of excess length for the vehicle storage available between these closely spaced intersections at freeway interchange ramps. With intersection mitigation, 188 queues were evaluated and 63 are expected to be of excess length, extending through the adjacent intersection.

Table 7-6

Alternative 3B Without La Media Road Without Mitigation

Buildout Queue Analysis

Queue Locations North / South	AM Peak Hour														
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound			
	RT	TH	LT		RT	TH	LT		LT	TH	RT		LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-		200	3,325	-	450	None	2,875	-
Caliente Ave. / SR-905 WB Ramps	-	1,105	-	450	-	655	-		2,650	1,623	-	450	2,200	1,173	-
Caliente Ave. / SR-905 EB Ramps	-	120	480	450	-	None	45		-	1,480	-	300	-	1,180	-
Caliente Ave. / Airway Rd.	-	350	1,573	300	-	50	1,273		-	-	-	-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-		338	1,928	-	750	None	1,178	-
Heritage Rd. / SR-905 WB Ramps	-	33	225	750	-	None	None		-	2,143	-	750	-	1,393	-
Heritage Rd. / SR-905 EB Ramps	-	143	130	750	-	None	None		-	2,175	-	750	-	1,425	-
Heritage Rd. / Airway Rd.	245	-	2,975	750	None	-	2,225		-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-		665	990	1,085	900	None	90	185
Britannia Blvd. / SR-905 WB Ramps	723	818	-	900	None	None	-		1,255	225	-	450	805	None	-
Britannia Blvd. / SR-905 EB Ramps	-	1,160	328	450	-	710	None		-	2,575	-	900	-	1,675	-
Britannia Blvd. / Airway Rd.	-	7,500	1,795	900	-	6,600	895		-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-		1,633	3,250	-	450	1,183	2,800	-
La Media Rd. / SR-905 WB Ramps	118	1,570	-	450	None	1,120	-		120	2,575	5,850	900	None	1,675	4,950
La Media Rd. / SR-905 EB Ramps	95	5,050	-	900	None	4,150	-		1,088	880	-	900	188	None	-
La Media Rd. / Airway Rd.	-	4,500	3,275	900	-	3,600	2,375		-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 7-6

Alternative 3B Without La Media Road Without Mitigation

Buildout Queue Analysis

Queue Locations North / South	PM Peak Hour															
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)				
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound				
	RT	TH	LT		RT	TH	LT		LT	TH	RT		LT	TH	RT	
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-		610	1,835	-		450	160	1,385	-
Caliente Ave. / SR-905 WB Ramps	-	1,078	-	450	-	628	-		1,540	1,195	-		450	1,098	745	-
Caliente Ave. / SR-905 EB Ramps	-	115	415	450	-	None	None		-	1,338	-		300	-	1,038	-
Caliente Ave. / Airway Rd.	-	1,630	485	300	-	1,330	185		-	-	-		-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-		323	543	-		750	None	None	-
Heritage Rd. / SR-905 WB Ramps	-	115	1,143	750	-	None	393		-	2,213	-		750	-	1,463	-
Heritage Rd. / SR-905 EB Ramps	-	213	328	750	-	None	None		-	2,273	-		750	-	1,523	-
Heritage Rd. / Airway Rd.	63	-	3,175	750	None	-	2,425		-	-	-		-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-		425	418	368		900	None	None	None
Britannia Blvd. / SR-905 WB Ramps	573	963	-	900	None	63	-		7,425	30	-		450	6,975	None	-
Britannia Blvd. / SR-905 EB Ramps	-	123	268	450	-	None	None		-	2,575	-		900	-	1,675	-
Britannia Blvd. / Airway Rd.	-	1,623	1,230	900	-	723	330		-	-	-		-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-		790	1,870	-		450	340	1,420	-
La Media Rd. / SR-905 WB Ramps	295	2,675	-	450	None	2,125	-		305	1,193	7,250		900	None	293	6,350
La Media Rd. / SR-905 EB Ramps	585	2,650	-	900	None	410	-		1,663	503	-		900	763	None	-
La Media Rd. / Airway Rd.	-	2,333	873	900	-	1,433	None		-	-	-		-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 7-6

Alternative 3B Without La Media Road Without Mitigation

Buildout Queue Analysis

Queue Locations East / West	AM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Eastbound			Eastbound	Eastbound			Westbound			Westbound	Westbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-	183	50	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	-	623	670	600	-	23	70	-	240	5,775	1,000	-	None	4,775
Palm Ave. Dennerly Rd.	395	215	493	1,000	None	None	None	-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-	960	5,250	-	600	360	4,650	-
Siempre Viva Rd. / SR-905 SB Ramps	-	683	-	300	-	383	-	348	-	-	600	None	None	-
Siempre Viva Rd. / SR-905 NB Ramps	-	475	743	600	-	None	143	-	590	1,395	1,150	-	None	245
Siempre Viva Rd. / Paseo de las Americas	-	2,125	3,775	1,150	-	975	2,625	-	-	-	-	-	-	-
Lone Star Rd. / SR-125 SB Off Ramp	-	-	-	-	-	-	-	290	-	-	500	None	-	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	93	500	-	-	None	-	50	108	600	-	None	None
Lone Star Rd. / Piper Ranch Rd.	-	650	-	600	-	50	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-	148	918	-	2,000	None	None	-
Otay Mesa Rd. / SR-125 SB Off Ramp	-	523	-	2,000	-	None	-	-	60	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	495	500	-	-	None	-	133	223	700	-	None	None
Otay Mesa Rd. / Harvest Rd.	-	1,318	260	700	-	1,058	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 7-6

Alternative 3B Without La Media Road Without Mitigation

Buildout Queue Analysis

Queue Locations East / West	PM Peak Hour														
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			
	Eastbound			Eastbound	Eastbound			Westbound			Westbound	Westbound			
	RT	TH	LT		RT	TH	LT		LT	TH	RT		LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-		508	198	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	-	398	473	600	-	None	None		-	548	4,400	1,000	-	None	3,400
Palm Ave. Dennerly Rd.	2,383	323	710	1,000	1,383	None	None		-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-		830	808	-	600	230	208	-
Siempre Viva Rd. / SR-905 SB Ramps	-	3,675	-	300	-	3,375	-		1,435	-	-	600	835	None	-
Siempre Viva Rd. / SR-905 NB Ramps	-	88	4,425	600	-	None	3,825		-	2,625	2,283	1,150	-	1,475	1,133
Siempre Viva Rd. / Paseo de las Americas	-	393	2,280	1,150	-	None	1,130		-	-	-	-	-	-	-
Lone Star Rd. / SR-125 SB Off Ramp	-	-	-	-	-	-	-		1,008	-	-	500	508	-	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	3,100	500	-	-	2,600		-	285	2,750	600	-	None	2,150
Lone Star Rd. / Piper Ranch Rd.	-	75	-	600	-	None	-		-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-		280	1,635	-	2,000	None	None	-
Otay Mesa Rd. / SR-125 SB Off Ramp	-	218	-	2,000	-	None	-		-	138	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	725	500	-	-	225		-	243	1,318	700	-	None	618
Otay Mesa Rd. / Harvest Rd.	-	205	120	700	-	None	None		-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 7-7

Alternative 3B Without La Media Road With Mitigation

Buildout Queue Analysis

Queue Locations North / South	AM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-	200	138	2,875	450	None	None	2,425
Caliente Ave. / SR-905 WB Ramps	485	415	-	450	35	None	-	605	1,585	-	450	155	1135	-
Caliente Ave. / SR-905 EB Ramps	-	120	198	450	-	None	45	-	695	98	300	-	395	None
Caliente Ave. / Airway Rd.	-	350	1,573	300	None	50	1,273	-	-	-	-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-	338	663	1,260	750	None	None	510
Heritage Rd. / SR-905 WB Ramps	-	33	225	750	-	None	None	-	548	470	750	-	None	None
Heritage Rd. / SR-905 EB Ramps	-	143	130	750	-	None	None	-	1,643	48	750	-	893	None
Heritage Rd. / Airway Rd.	245	-	2,975	750	None	-	2,225	-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-	665	990	1,085	900	None	90	185
Britannia Blvd. / SR-905 WB Ramps	368	548	-	900	None	None	-	1,255	225	-	450	805	None	-
Britannia Blvd. / SR-905 EB Ramps	-	1,160	328	450	-	710	None	-	688	440	900	-	None	none
Britannia Blvd. / Airway Rd.	3,000	3,125	1,795	900	2,100	2,225	895	-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-	1,633	970	873	450	1,183	520	423
La Media Rd. / SR-905 WB Ramps	118	1,570	-	450	None	1,120	-	120	855	-	900	None	None	-
La Media Rd. / SR-905 EB Ramps	48	2,675	-	900	None	1,775	-	1,088	880	-	900	188	None	-
La Media Rd. / Airway Rd.	1,370	1,615	3,275	900	470	715	2,375	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 7-7

Alternative 3B Without La Media Road With Mitigation

Buildout Queue Analysis

Queue Locations North / South	PM Peak Hour														
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound			
	RT	TH	LT		RT	TH	LT		LT	TH	RT		LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-		610	370	353	450	160	None	None
Caliente Ave. / SR-905 WB Ramps	368	498	-	450	None	48	-		390	1,195	-	450	None	745	-
Caliente Ave. / SR-905 EB Ramps	-	115	188	450	-	None	None		-	985	228	300	-	685	None
Caliente Ave. / Airway Rd.	-	1,630	485	300	None	1,330	185		-	-	-	-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-		323	310	233	750	None	None	None
Heritage Rd. / SR-905 WB Ramps	-	115	1,143	750	-	None	393		-	303	1,148	750	-	None	398
Heritage Rd. / SR-905 EB Ramps	-	213	328	750	-	None	None		-	1,200	138	750	-	450	None
Heritage Rd. / Airway Rd.	63	-	3,175	750	None	-	2,425		-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-		425	418	368	900	None	None	None
Britannia Blvd. / SR-905 WB Ramps	573	503	-	900	None	None	-		7,425	30	-	450	6,975	None	-
Britannia Blvd. / SR-905 EB Ramps	-	123	268	450	-	None	None		-	2,625	820	900	-	1,725	None
Britannia Blvd. / Airway Rd.	565	525	1,230	900	None	None	330		-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-		790	398	600	450	340	None	150
La Media Rd. / SR-905 WB Ramps	153	2,675	-	450	None	2,125	-		305	450	-	900	None	None	-
La Media Rd. / SR-905 EB Ramps	238	1,310	-	900	None	410	-		1,163	503	-	900	263	None	-
La Media Rd. / Airway Rd.	288	888	873	900	None	None	None		-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 7-7

Alternative 3B Without La Media Road With Mitigation

Buildout Queue Analysis

Queue Locations East / West	AM Peak Hour														
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			
	Eastbound			Eastbound	Eastbound			Westbound			Westbound	Westbound			
	RT	TH	LT		RT	TH	LT		LT	TH	RT		LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-		228	78	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	273	118	-	600	None	None	-		-	35	258	1,000	-	None	None
Palm Ave. Dennerly Rd.	395	215	493	1,000	None	None	None		-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-		308	2,950	7,898	600	None	2,350	1,298
Siempre Viva Rd. / SR-905 SB Ramps	-	683	-	300	-	383	-		348	-	-	600	None	None	-
Siempre Viva Rd. / SR-905 NB Ramps	-	475	743	600	-	None	143		-	538	518	1,150	-	None	180
Siempre Viva Rd. / Paseo de las Americas	2,170	1,095	1,138	1,150	1,020	None	None		-	-	-	-	-	-	-
Lone Star Rd. / SR-125 SB Off Ramp	-	-	-	-	-	-	-		290	-	-	500	None	-	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	93	500	-	-	None		-	50	108	600	-	None	None
Lone Star Rd. / Piper Ranch Rd.	-	650	-	600	-	50	None		-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-		148	523	103	2,000	None	None	None
Otay Mesa Rd. / SR-125 SB Off Ramp	-	523	-	2,000	-	None	-		-	60	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	495	500	-	None	None		-	133	223	700	-	None	None
Otay Mesa Rd. / Harvest Rd.	225	313	260	700	None	None	None		-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

Table 7-7

Alternative 3B Without La Media Road With Mitigation

Buildout Queue Analysis

Queue Locations East / West	PM Peak Hour														
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			
	Eastbound			Eastbound	Eastbound			Westbound			Westbound	Westbound			
	RT	TH	LT		RT	TH	LT		LT	TH	RT		LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-		553	195	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	168	205	-	600	None	None	-		-	75	345	1,000	-	None	None
Palm Ave. Dennerly Rd.	2,383	323	710	1,000	1,383	None	None		-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-		280	615	35	600	None	15	None
Siempre Viva Rd. / SR-905 SB Ramps	-	3,675	-	300	-	3,375	-		1,435	-	-	600	835	None	-
Siempre Viva Rd. / SR-905 NB Ramps	-	88	4,425	600	-	None	3,825		-	910	2,900	1,150	-	None	1,750
Siempre Viva Rd. / Paseo de las Americas	403	445	748	1,150	None	None	None		-	-	-	-	-	-	-
-	-	-	-	-	-	-	-		-	-	-	-	-	-	-
Lone Star Rd. / SR-125 SB Off Ramp	-	338	-	-	-	-	-		1,008	-	-	500	508	-	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	3,100	500	-	-	1,615		-	285	2,750	600	-	None	2,150
Lone Star Rd. / Piper Ranch Rd.	-	75	-	600	-	None	None		-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-		268	1,220	55	2,000	None	None	None
Otay Mesa Rd. / SR-125 SB Off Ramp	-	218	-	2,000	-	None	-		-	138	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	725	500	-	None	225		-	243	1,318	700	-	None	618
Otay Mesa Rd. / Harvest Rd.	60	370	120	700	None	None	None		-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.

TH = Through Lanes

LT = Left Turn Lane

RT = Right Turn Lane

8.0 COMPARISON OF SCENARIOS

8.1 Roadway Segments

The table below summarizes roadway segment levels of service for the three scenarios without and with reclassifications.

A comparison of segments at levels of service “E” or “F”, indicate the comparative roadway congestion among three alternatives.

Before Reclassification of Segments				
		No Project	3B With La Media Rd.	3B Without La Media Rd.
Total Segments		118	118	117
LOS	E	13	4	9
LOS	F	46	37	32
Total	(E+F)	59	41	41

After Reclassification of Segments				
		No Project	3B With La Media Rd.	3B Without La Media Rd.
LOS	E	12	5	5
LOS	F	26	21	19
Total	(E+F)	38	26	24

The 3B With and Without La Media Road scenarios would be less congested overall compared to the No Project scenario when considering roadway segment levels of service at E and F. After reclassification of roadway segments, the No Project scenario would have 12 more segments at levels of service “E” and “F” than scenario 3B With La Media Road and 14 more segments than 3B Without La Media Road.

The No Project scenario would generate more average daily vehicle trips due to higher intensity, non-residential, industrial type uses than the 3B scenario. All three scenarios would have reduced levels of congestion if new development was assumed at lower average floor area ratios than were used to develop the land use intensity inputs for the Otay Mesa Community Plan Update traffic forecasts that were the basis for the evaluation of these land use scenarios.

Other methods to attempt to reduce roadway congestion are outlined in the City of San Diego General Plan Mobility Element Transportation Demand Management (TDM) section. As described in that section, TDM is a general term for strategies that assist in reducing the demand for single-occupant vehicle travel to increase the efficiency of existing transportation resources. Transportation Demand Strategies are primarily directed at weekday commuters and are structured to:

- Reduce single-occupant vehicle trips by encouraging alternative modes of travel such as carpooling, vanpooling, transit use, bicycling, and walking.
- Support the use of alternative modes of travel by encouraging on-site amenities, programs, and incentives such as the use of car sharing vehicles, bicycle lockers, food and child care services, guaranteed ride home programs, and commuter benefits for commercial and industrial uses.

- Alter the timing of travel to less congested time periods, through strategies such as alternative work schedules; or
- Reduce the number of commute trips through strategies such as telework, and alternative work schedules.

In order to reduce community wide roadway segment congestion it is recommended that the Otay Mesa Community Plan encourage the practice of Transportation Demand Management as development occurs.

The updated Otay Mesa Community Plan will provide for transit use, bicycle use, and pedestrian activity through the establishment of transit bus stops, bicycle routes and lanes, and appropriate pedestrian linkages.

8.2 Freeway Segment Levels of Service

The table below shows a comparison of freeway segment levels of service. A review of this table indicates that the 3B With La Media Road scenario is preferable based on levels of service E, F0, F1, F2, and F3.

	No Project	3B With La Media Rd.	3B Without La Media Rd.
LOS E	-	1	-
LOS F0	3	3	4
LOS F1	1	1	1
LOS F2	1	1	1
LOS F3	2	1	1
Total	7	7	7

The No Project scenario would have two segments at level of service “F3” indicating extremely severe congestion and delay, while the 3B scenario would only have one segment at level of service “F3”. The 3B With La Media Road scenario would have one segment at level of service “E”, while the other two scenarios would have none. Overall, the intensity and duration of delays would be less with the 3B With La Media Road scenario. The No Project scenario has a higher intensity land use generating more vehicle trips. The 3B Without La Media Road scenario, although at the same land use intensity as the 3B With La Media Road scenario, has one less connection to and from outside the Otay Mesa Community, the deletion of La Media Road north of Lone Star Road, so that traffic is diverted to other freeway segments.

The Adopted SANDAG 2050 Regional Transportation Plan includes two managed lanes on I-805 in each direction north of SR-905. The addition of these lanes would improve levels of service between SR-905 and Palm Avenue to level of service “D” for all three scenarios. The segment between Palm Avenue and Main Street would improve to level of service “D” for both of the 3B scenarios and to “E” for the No Project scenario. These added managed lanes should be considered partial mitigation for regional cumulative traffic impacts.

The implementation of Transportation Demand Management Plans for large development projects would also reduce, but not mitigate for, regional cumulative freeway impacts.

State Route 905 traffic impacts would be significant and unmitigated for all three scenarios. State Route 905 has been designed so that median High Occupancy Vehicle lanes could be installed in the future, but are not currently planned or funded by Caltrans. The addition of HOV lanes would provide partial mitigation for local and regional cumulative impacts but would not provide acceptable levels of service on segments of SR-905 projected to be at level of service “F”, so that SR-905 traffic impacts would remain significant and unmitigated. The City of San Diego requested that HOV lanes on SR-905 be added to the Regional Transportation Plan as part of comments on the Draft 2050 RTP DEIR. The Unconstructed Network in the 2050 RTP includes 8 freeway lanes on SR-905.

8.3 Intersection Levels of Service

The table below shows a comparison of intersection levels of service among the three scenarios, before and after mitigation, with a tabulation at level of service “E” or “F”

	No Project (53 Total)		3B With La Media Rd. (53 Total)		3B Without La Media Rd. (52 Total)	
	AM	PM	AM	PM	AM	PM
LOS E, F Before Mitigation	46	48	40	43	42	44
LOS E, F After Mitigation	35	37	27	29	28	29

Without mitigation, the No Project alternatives would have 46 intersections operating unacceptably at LOS E or F during the AM peak hour, compared to 40 intersections operating unacceptably for the 3B With La Media Road, and 42 for the 3B Without La Media Road alternatives. During the PM peak hour the No Project alternative would have unacceptable intersection operations at 48 locations, compared to 43 locations for the 3B With La Media Road, and 44 for the Without La Media Road alternatives.

With mitigation recommended in this report, the No Project alternative would have 35 intersections operating unacceptably at LOS E or F during the AM peak hour, compared to 27 intersections for the 3B With La Media Road, and 28 for the 3B Without La Media Road alternatives. During the PM peak hour, the No Project alternative would have 37 intersections operating unacceptably compared to 29 intersections for the 3B With La Media Road alternative, and 29 intersections for the 3B Without La Media Road alternative, which has one less intersection.

High peak hour volumes at intersections are due to the combined peak hour characteristics of manufacturing, industrial park, business park, and office uses. The City of San Diego Trip Generation Manual (Table 1) includes peak hour factors that are used to convert average daily traffic volumes to peak hour volumes for different types of uses. That table shows that the predominant type of uses assumed in the Otay Mesa Community Plan have high peak hour percentages of average daily traffic, ranging from 12% for business park uses to 20% for manufacturing uses.

In addition, the directional peak hour inbound to outbound traffic ratio for peak hours is strong in one direction for these types of uses. Typically, for these uses, AM peak hour inbound traffic flows are 90% to 80% of the total peak hour traffic, while outbound traffic flows are typically 80% of the total PM peak hour traffic.

Since the central and eastern community is planned for primarily employment uses rather than residential uses, traffic volumes into and out of the community during peak hours are high in one direction rather than more balanced as they might be in a mixed use residential / employment type of setting, resulting in high peak hour intersection volumes.

Also contributing to high directional peak hour traffic flow is the influence of the County of San Diego East County Specific Plan, which has land use assumptions that are typically commercial and industrial types of uses with very little residential development planned.

The peak hour flows evaluated in this report are to be considered traffic “demand” volumes, based on the Trip Generation Manual peak hour characteristics for these types of uses, and the high intensity of the land uses assumed in the traffic model. These volumes may not materialize due to capacity constraints of the regional transportation facilities, but the mitigation recommendations in the report are unlikely to change considerably if peak hour volumes are tempered by regional peak spreading.

Although mitigation would probably not change with the spreading out of peak hour volumes, intersection delay could be reduced. The Otay Mesa Community Plan should encourage or require the preparation of a TDM plan for large projects during the development review process, as an effort to incrementally reduce peak hour traffic flows.

8.4 Overall Comparison

The higher land use intensities of the No Project scenario results in more unacceptable intersection levels of service, and subsequently more congestion and delay, than both of the 3B scenarios. The 3B scenarios have the same land use assumptions, but the 3B Without La Media Road scenario has more of a detrimental impact since traffic diverted from the deleted segment of La Media Road would divert to other roadway and freeway segment and incrementally increase peak hour traffic at some freeway interchanges and nearby intersections. However, the City of Chula Vista is preparing a General Plan amendment, anticipated in Spring 2012, that will delete the La Media Road bridge crossing the Otay River Valley from their General Plan, and has deleted this project from their facilities financing plan. Therefore, the “With La Media Road” connection to Chula Vista is no longer a viable alternative.

8.5 Ramp Meter Operations

Regional SANTEC / ITE Traffic Impact Study Guidelines state that levels of service does not apply to ramp meters, but that ramp meter delays above 15 minutes are considered excessive. The likely most restrictive ramp meter rate as provided by Caltrans was used for ramp meter evaluation for comparison of the three scenarios. Ramp meters were assumed at the on-ramps for the eight freeway interchanges within the study area.

Both ramp meter delay and estimated queues were tabulated. The high peak hour volume demand at freeway on-ramps evaluated in this report produce long delays and, in most cases, unrealistic ramp queue lengths. However, the guidelines include the following caution:

“Experience shows that the theoretical queue length derived by this analysis often does not materialize. Motorists, after a brief time of adjustment, seek alternative travel paths if available or alternative times of arrival at the meter. The effect is to approximately minimize total trip time by seeking out the best combinations of route and departure time at the beginning of the trip. This causes at least two important changes in the pattern on arriving at ramp meters. First, the peak period is spread out with some traffic arriving earlier and some traffic arriving later than predicted. Second, a significant proportion of the predicted arriving traffic will use another ramp with shorter queues, [if available], use another freeway, or stay on surface streets.”

Accommodating ramp meter queues involves approach lane striping to appropriately store queued vehicles within the existing roadways. There are currently no on-ramp meters at the study area interchanges, so that appropriate measures to accommodate ramp meter queues should be applied during ramp meter design.

For purposes of evaluating the alternatives, the summary below shows a comparison of ramp meter delays and queues exceeding the available storage that were estimated in this report. Queue lengths are a total length of estimated queues made up of vehicles approaching the on-ramp from two directions.

ON-RAMP METER DELAYS AND QUEUES						
	No Project		3B With La Media Rd.		3B Without La Media Rd.	
	AM (1)	PM (1)	AM (1)	PM (1)	AM (1)	PM (1)
Delay Above 15 Minutes	6	11	5	11	5	11
(2) Exceed Ramp Storage	6	11	7	11	7	11

Note:

- (1) A Total of 14 On-Ramps Evaluated
Queue lengths exceeding ramp storage length.

The No Project alternative has 17 AM and PM delays above 15 minutes, while the other two alternatives are the same with 16 peak hour delays above 15 minutes. Of the 28 queues evaluated, the No Project scenario would have one less queue exceeding the ramp storage length, a total of 17 AM and PM queues out of 28 evaluated, compared to 18 for the 3B scenarios.

All three scenarios would benefit from efforts to lower peak hour volumes by implementation of Transportation Demand Management Plans, which are recommended to be encouraged or required of large projects during the development review process.

8.6 Freeway Interchange Queue Analysis

A queue analysis was prepared at the eight freeway interchanges within the study area. Vehicle queues within the interchange between ramp intersections and between ramps and adjacent surface street intersections were estimated. The Highway Capacity Manual intersection level of service analysis computer software includes a back-of-queue worksheet for the approaches to the evaluated intersection, and was used for the queue length estimates in this report. There are no intersection queue length performance criteria within the Regional SANTEC / ITE Traffic Impact Study Guidelines. This queue analysis was provided to primarily evaluate whether interchanges could accommodate the projected peak hour traffic volumes and then to compare the three scenarios evaluated in this report.

Queue lengths estimated at locations with high amounts of delay are unreliable since queue estimation is a complex issue and can not be accurately determined by the current software.

Mitigation for lengthy interchange queues should be limited to restriping for maximum turn lane lengths, possibly extending through adjacent upstream intersections, and by adding separate right turn lanes at the approaches to on-ramps when feasible.

The tabulation below shows queue lengths exceeding the storage available between intersections for each alternative, without and with intersection mitigation at certain locations. The mitigation assumed was that previously identified to improve intersection levels of service as determined for each scenario and is not meant specifically for queue length mitigation, although in some cases additional lanes at on-ramp approaches improves levels of service based on delay and, subsequently, shortens some queues.

As shown in this table:

QUEUES EXCEEDING AVAILABLE STORAGE						
	No Project		3B With La Media Rd.		3B Without La Media Rd.	
	AM	PM	AM	PM	AM	PM
Without Mitigation	46 (83)	46 (83)	41 (82)	38 (82)	40 (79)	40 (79)
With Mitigation	41 (96)	35 (96)	37 (94)	32 (94)	34 (94)	29 (94)

Note:

(xx) = Number of Queues Evaluated for Each Scenario

- The No Project scenario would have 92 AM and PM total queues exceeding the available storage between intersections out of 166 evaluated without mitigation, and 76 AM and PM total queues out of 192 evaluated with mitigation. More queues were evaluated with mitigation since in many cases right turn only lanes were added.

- The 3B With La Media Road scenario would have 79 AM and PM total queues exceeding the available storage between intersections out of 164 evaluated without mitigation, and 69 AM and PM total queues out of 188 evaluated with mitigation.
- The 3B Without La Media Road scenario would have 80 AM and PM total queues exceeding the available storage between intersections out of 158 evaluated without mitigation, and 63 AM and PM total queues out of 188 evaluated with mitigation.

The following summarizes the number of queues exceeding the available storage, with intersection mitigations for each scenario:

- No Project (78 queues);
- 3B With La Media Road (69 total queues);
- 3B Without La Media Road (63 total queues).

The implementation of Transportation Demand Management Plans for development projects could potentially reduce peak hour volumes incrementally and subsequently reduce queue lengths at freeway interchanges.

9.0 REFERENCES

1. San Diego Region Traffic Engineer's Council (SANTEC) and Institute of Transportation Engineers (ITE), California Border Section,
 - Guidelines for Traffic Impact Studies (TIS) In The San Diego Regions, March 2, 2000 Final Draft
2. Transportation Research Board:
 - 1997 Highway Capacity Manual Special Report, Washington, DC (2000 Update)
3. San Diego Association of Governments (SANDAG):
 - 2030 Regional Transportation Plan, November 2007
 - Draft 2050 Regional Transportation Plan, June 2011
4. City of San Diego:
 - Traffic Impact Study Manual, July 1998
 - City of San Diego General Plan, Mobility Element, March 2008
 - Trip Generation Manual, Revised May 2003
 - Street Design Manual 2002
 - CEQA Significance Determination Thresholds, January 2011

10.0 URBAN SYSTEMS ASSOCIATES, INC. PREPARERS

Principal Engineer

Andrew P. Schlaefli; M.S. Civil Engineering, B.S. Civil Engineering
Registered Civil Engineer, Licensed Traffic Engineer

Project Manager

Sam P. Kab, II; Licensed Traffic Engineer TR#1602

Senior Technical Support, Graphics and Illustrations

Jacob D. Swim

Word Processing, Report Production and Compilation

Lisa Diaz

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