Chapter 4: Future Conditions Assessment

Future conditions analysis for the Rosecrans Corridor Mobility Study addresses the state of mobility for the year 2030. SANDAG Series 11 traffic model data was used in this analysis to forecast traffic volumes, while the SANDAG RTP transit ridership projections were used to assess transit demand and ridership. These two factors combined with planned land use changes and long term bicycle and pedestrian facility enhancements were used to determine future pedestrian and bicycle activity in the study area.

The goal of the future year conditions analysis is to identify locations where the mobility conditions operate at less than an acceptable level. This analysis forms the basis for the alternative analysis presented in the following chapter of this report.

4.1 FORECASTING METHODOLOGY

As stated previously, the method for forecasting travel demand in the study area varied by mode. All travel demand forecasting was based on one comment principal – land use for the study area is based on the current, adopted Community Plans within the study area. As necessary, the regional forecasting models were refined to reflect the most current land use or transportation plan. However, it should be noted that only transportation improvements planned to be completed by the year 2030 were included in the analysis of year 2030 conditions. Other improvements may be under consideration by regional agencies or by City of San Diego that will extend beyond year 2030. Such improvements were removed from the horizon year conditions in order to maintain a conservative approach to the year 2030 analysis.

Traffic Modeling

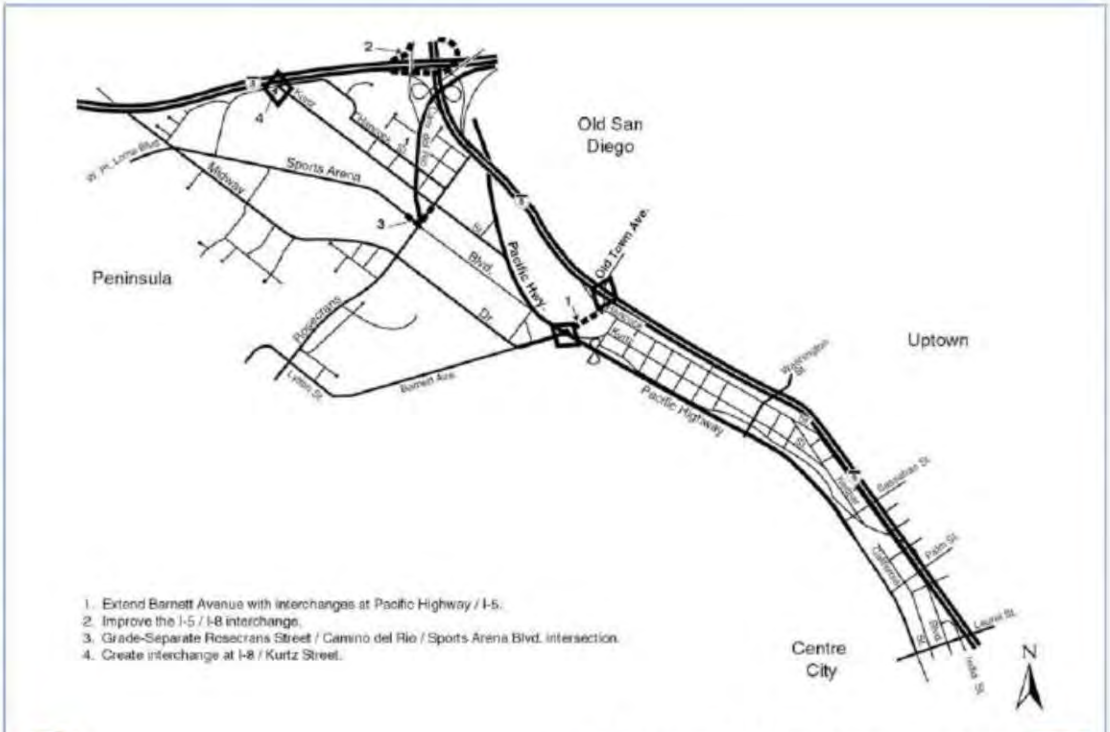
Working together with SANDAG, the regional traffic model was revised to ensure that current planned projects were included in the model. Major land use projects within the study area included in the Series 11 traffic model include the Sports Arena redevelopment project, Airport Master Plan, Naval Training Center (NTC), and hotel/convention facilities near the airport. All projects were reviewed by City planning staff and refined as necessary to reflect the latest long-term planning efforts for those sites.

In addition, changes to the roadway system were reviewed for consistency with the adopted Community Plans for the study area. Exhibit 4-1 illustrates the roadway network identified in the community plan that was reflected in the traffic model runs conducted for this study. One of the key network changes illustrated in Exhibit 4-1 and summarized in the Midway Community Plan includes the extension of Sports Arena Boulevard east through the intersection of Rosecrans Street and the connection of Sports Arena Boulevard to Pacific Highway. The Midway Community Plan also includes a number of freeway connector ramps and future street connections that were considered in the long range forecast. Because of the complex nature of the Sports Arena extension, the future year traffic model was run for conditions without and with the extension. Traffic model runs conducted for this project and the process by which the traffic volumes were post processed are included in Appendix 4-A (model plots) and 4-B (post processed volumes).

Exhibit 4-1

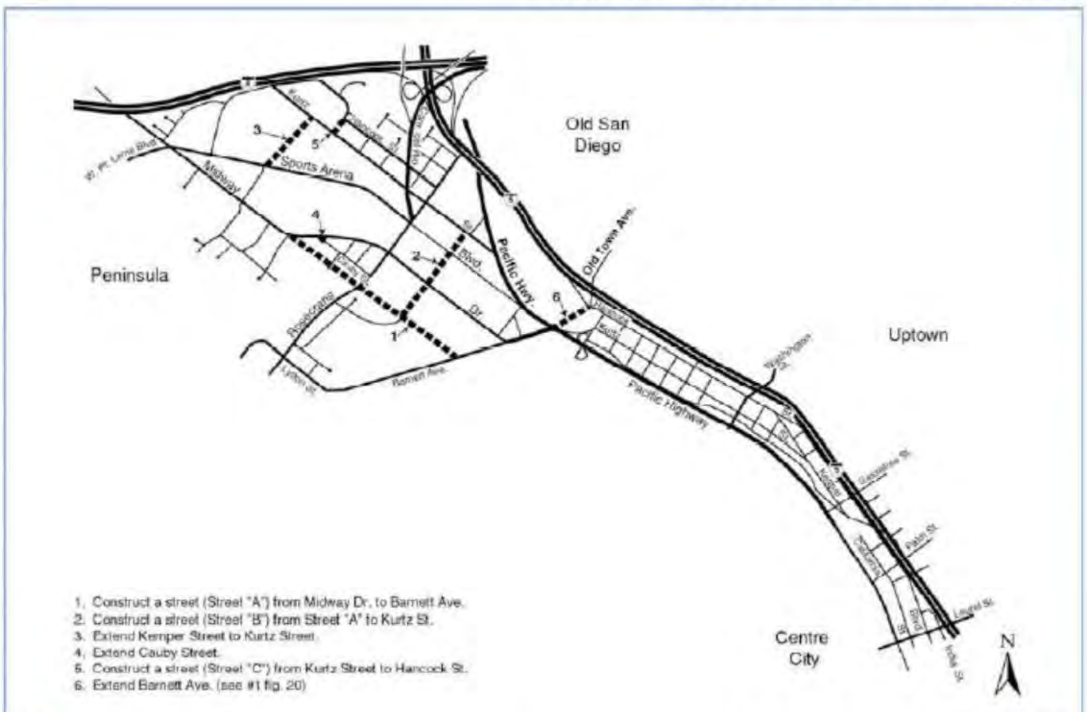
Connection of Sports Arena Boulevard through Rosecrans Street

Source: Midway Community Plan (1991)



Locations of Major Improvements 20 FIGURE

Midway/Pacific Highway Corridor Community Plan



Proposed New Streets 21 FIGURE

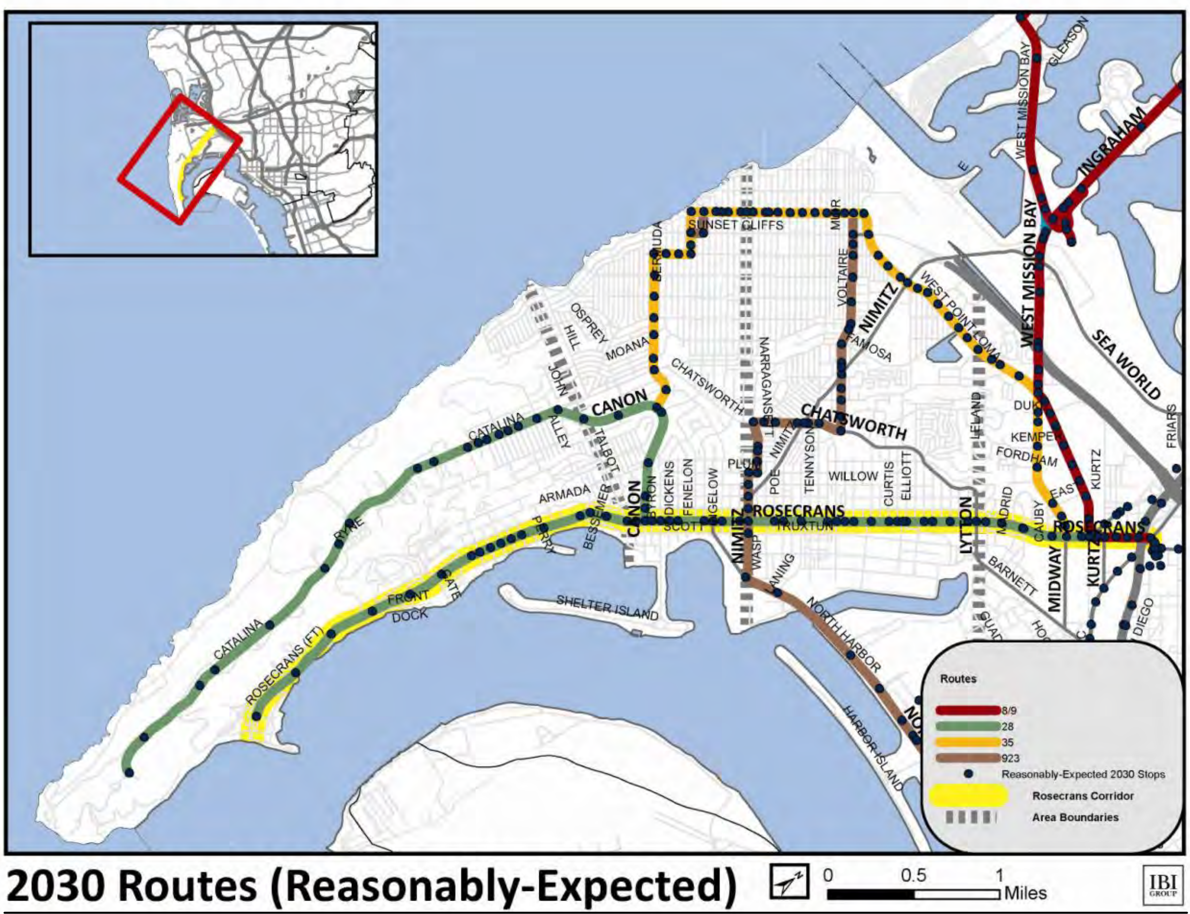
Midway/Pacific Highway Corridor Community Plan

Transit Ridership Forecasting

For year transit operations, the SANDAG year 2030 Reasonably Expected transit network for the currently adopted Regional Transportation Plan (RTP) was used. The RTP reflects a number of service route changes that were included in the analysis of transit operations. These route changes are detailed in Appendix 4-C (Transit Study) and include:

- Route 28 is reconfigured with decrease in frequency
- Route 84 is eliminated
- Route 35 is reconfigured with increase in frequency
- Route 923 frequency increases from 30 minute to 15 minute headway
- Route 150 is replaced by Mid-Coast LRT (I-5 corridor Light Rail Transit line)
- Route 8/9 remains unchanged

Exhibit 4-2 illustrates the year 2030 transit routes for the project study area. In addition, there are several improvements to regional services that are planned for the Old Town Transit Center including increase in frequency on the Blue line and Green line (2010), increase in Coaster frequency (2020), new Mid-Coast LRT (2020) and increase frequency on bus routes 10 and 30 (2030).



2030 Routes (Reasonably-Expected)

Exhibit 4-2

Pedestrian/Bicycle Demand Forecasting

Pedestrian and bicycle demand forecasting was based on three criteria:

- Forecast change in traffic volume
- Forecast change in transit ridership
- Planned improvements (by mode) within the study area

The first adjustment made to the pedestrian and bicycle data collected for the study area was the growth associated with traffic volume. This adjustment was made by approach and by intersection. The assumption employed was that there is a relationship between land use and traffic forecast that would also apply to pedestrian and bicycle activity in the area.

The second adjustment applied to the existing conditions count data was a growth factor associated with forecast increase in transit ridership. Surrounding existing and future transit stops, there is an expectation that with an increase in boardings and alightings there would also be an associated increase in pedestrian activity.

The third and final adjustment to existing conditions made was a growth factor that reflects the changes in patterns associated with new facilities. For example, improved sidewalks and/or extension of bicycle lanes may result in an increase in pedestrian and/or bicycle activity within the study area.

Standard factors growth factors developed for this study area were applied and summarized in Table 4-1.

Table 4-1.
Pedestrian and Bicycle Growth Adjustment Factors

Changes Triggering Count Adjustments	Ped Growth Factor	Bike Growth Factor
Adjacency to transit stops showing future transit ridership growth	25%	10%
Proximity to trip generating and attracting land use changes	10%	10%
Bicycle facility development	-	25%

Details of the pedestrian and bicycle forecasting methodology is provided as Appendix 4-D (Pedestrian/Bicycle Needs Assessment) to this report.

4.2 TRAFFIC OPERATIONAL ANALYSIS

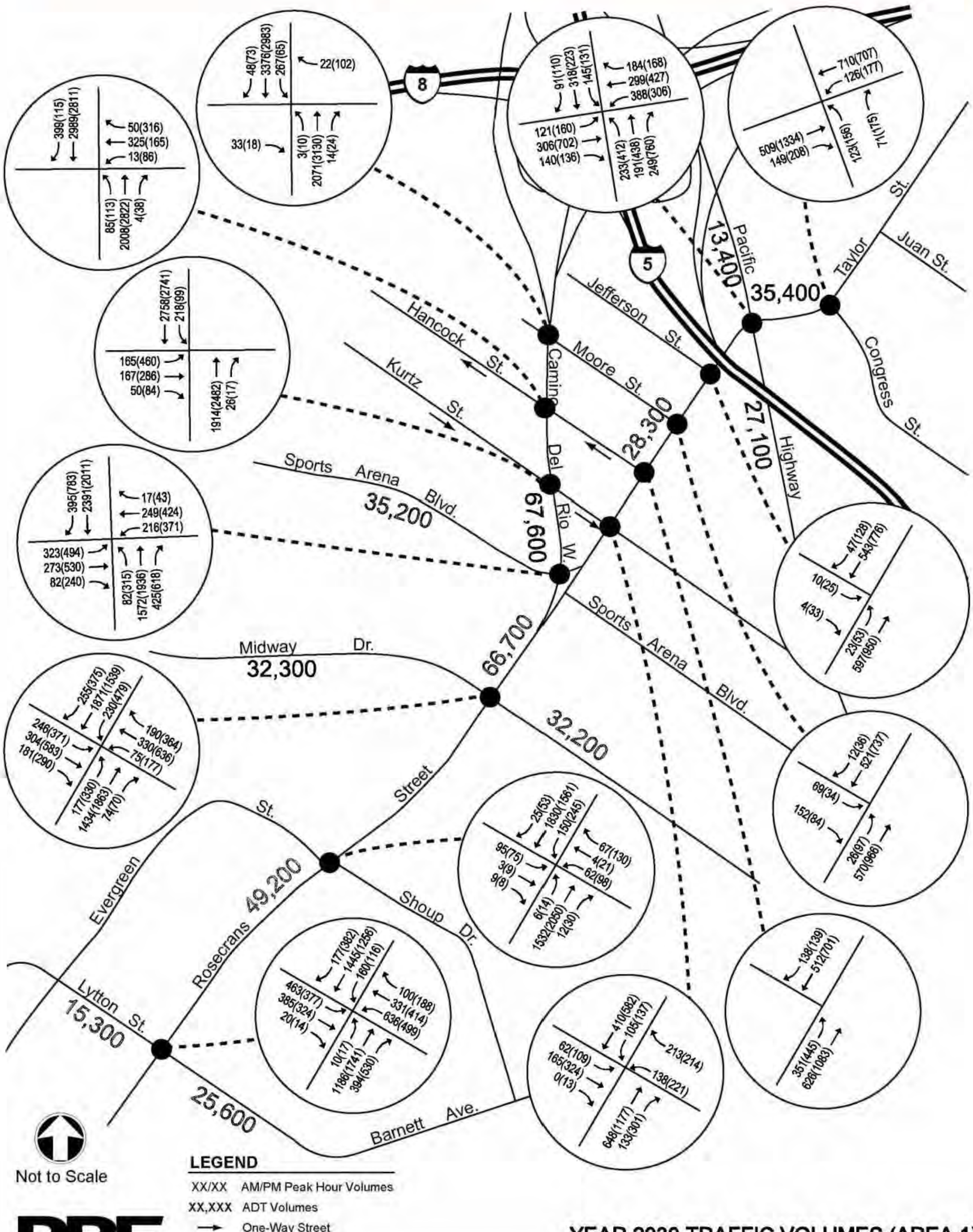
Future year 2030 conditions are based on existing intersection configurations and roadway classifications, unless otherwise noted below:

- Rosecrans / Midway: Construction of 2nd northbound left turn pocket and lengthening of existing southbound left turn pocket to be constructed in year 2010 by City of San Diego.

- Rosecrans / Nimitz: Eastbound right turn lane planned to be constructed in year 2010 by McMillin as part of the NTC development project.

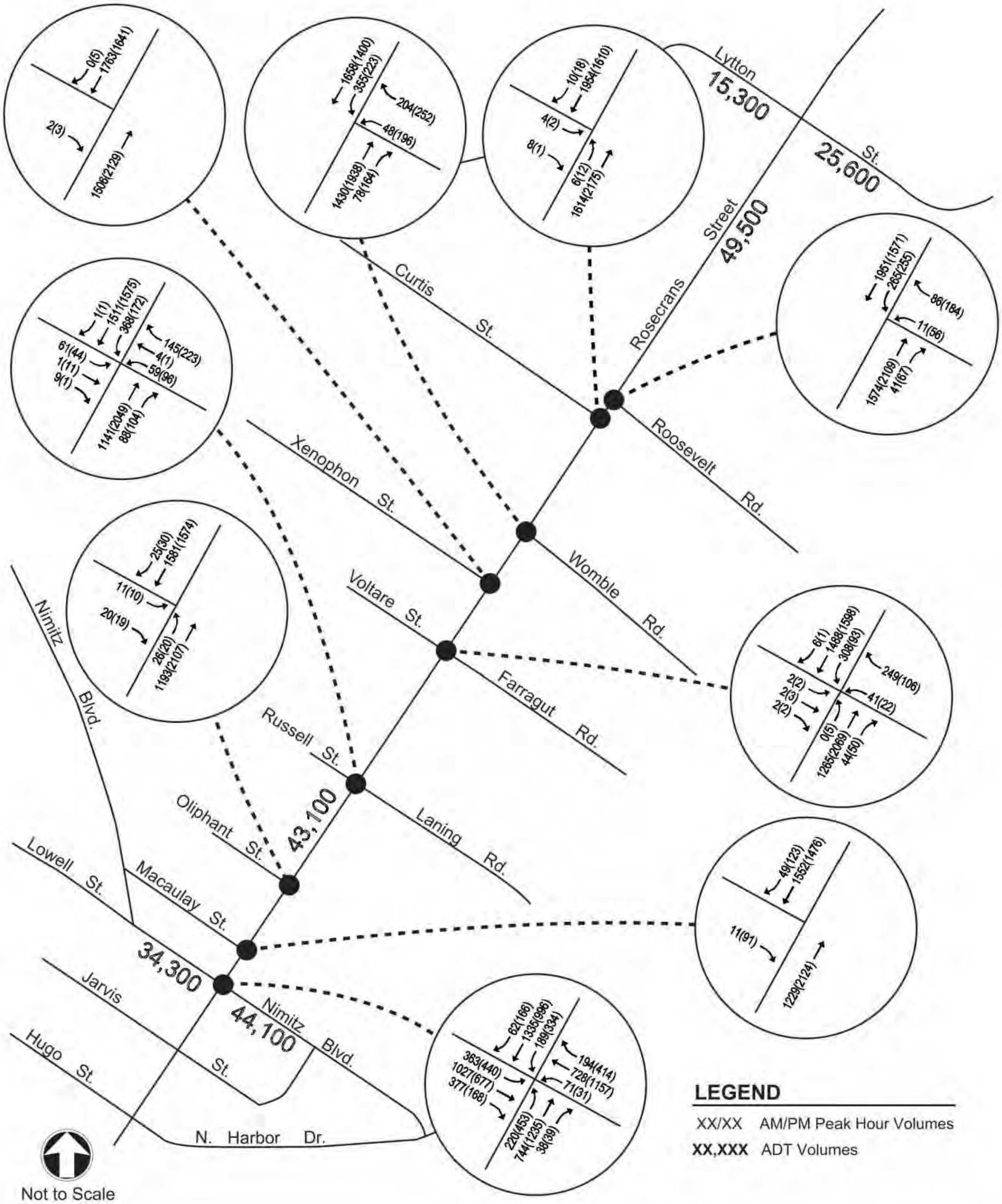
Forecast year 2030 traffic volumes for roadway segments (daily traffic) and intersections (peak hour traffic) are summarized in Exhibits 4-3 through 4-5 for each of the study areas. Forecast year 2030 traffic volumes were evaluated using the City adopted level of service criteria outlined in the City's Traffic Study Manual. Volume to capacity ratios were calculated for each roadway segment and intersections were evaluated using the 2000 Highway Capacity Manual operational methodology for signalized and unsignalized intersections.

Results of the level of service analysis are summarized in Table 4-2 and 4-3. HCM analysis worksheets are provided in Appendix 4-E to this report. In addition, Exhibits 4-6 and 4-7 illustrate the level of service conditions for intersections and roadway segments, respectively.



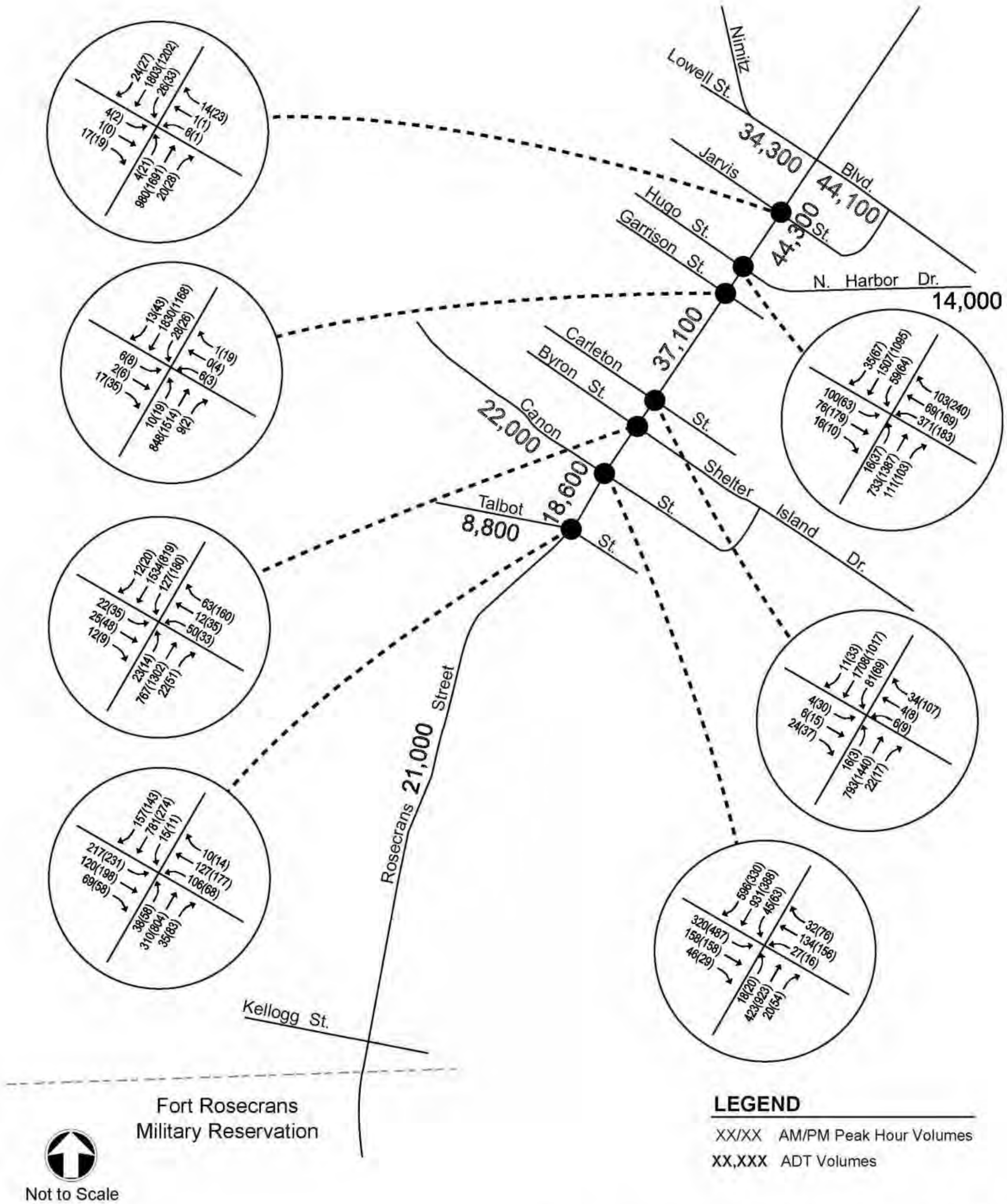
YEAR 2030 TRAFFIC VOLUMES (AREA 1)

Exhibit 4-3



YEAR 2030 TRAFFIC VOLUMES (AREA 2)

Exhibit 4-4



YEAR 2030 TRAFFIC VOLUMES (AREA 3 & 4)

Exhibit 4-5

Table 4-2.
Year 2030 Roadway Segment Analysis Summary

Roadway	Segment	Class	Lanes	LOS E Capacity	Existing Conditions			2030 Base Network		
					ADT	V/C	LOS	ADT	V/C	LOS
Rosecrans Street	From Pacific Highway to Sports Arena Blvd.	Major	4	40,000	15,503	0.39	B	28,300	0.71	C
	From Sports Arena Blvd. to Midway Dr.	Major	6	50,000	**59,120**	**1.18**	**F**	**66,700**	**1.33**	**F**
	From Midway Dr. to Lytton St.	Major	6	50,000	**46,384**	**0.93**	**E**	**49,200**	**0.98**	**E**
	From Lytton St. to Roosevelt Rd.	Major	5	45,000	**42,513**	**0.94**	**E**	**49,500**	**1.10**	**F**
	From Roosevelt Rd. to Laning Rd.	Major	5	45,000	*37,950*	0.84	D	**46,100**	**1.02**	**F**
	From Laning Rd. to Nimitz Blvd.	Major	4	40,000	34,259	0.86	D	**43,100**	**1.08**	**F**
	From Nimitz Blvd. to N. Harbor Dr.	Major	4	40,000	**36,450**	**0.91**	**E**	**44,300**	**1.11**	**F**
	From N. Harbor Dr. to Canon St.	Major	4	40,000	34,390	0.86	D	**37,100**	**0.93**	**E**
	From Canon St. to Talbot St.	Major (1)	2	27,000	17,850	0.66	C	18,600	0.69	C
	From Talbot St. to Kellogg St.	Major (1)	2	27,000	15,200	0.56	B	21,000	0.78	D
Camino Del Rio	North of Hancock St.	Prime	7	70,000	*55,300*	0.79	C	**77,300**	**1.10**	**F**
	Hancock St. to Kurtz St.	Prime	7	70,000	*54,400*	0.78	C	**71,600**	**1.02**	**F**
	Kurtz St. to Sports Arena Blvd.	Prime	7	70,000	50,700	0.72	C	**67,600**	**0.97**	**E**
Pacific Highway	North of Rosecrans St.	Major (2)	2	20,000	5,818	0.29	A	13,400	0.67	C
	South of Rosecrans St.	Prime	6	60,000	13,070	0.22	A	27,100	0.45	B
Sports Arena Blvd.	Northwest of Rosecrans St.	Major	5	45,000	26,780	0.60	C	35,200	0.78	D
Midway Drive	Northwest of Rosecrans St.	Major	4	40,000	27,130	0.68	C	32,300	0.81	D
	Southeast of Rosecrans St.	Major	4	40,000	29,440	0.74	C	32,200	0.81	D
Lytton Street	Northwest of Rosecrans St.	Major (2)	2	20,000	11,797	0.59	C	15,300	0.77	D
	Southeast of Rosecrans St.	Major	4	40,000	19,650	0.49	B	25,600	0.64	C
Nimitz Boulevard	Northwest of Rosecrans St.	Major	4	40,000	17,264	0.43	B	34,300	0.86	D
	Southeast of Rosecrans St.	Major	4	40,000	12,020	0.30	A	**44,100**	**1.10**	**F**
North Harbor Drive	Rosecrans St. to Scott Rd.	Major	4	40,000	6,321	0.16	A	14,000	0.35	A
Canon Street	Northwest of Rosecrans St.	Collector	2	15,000	12,870	0.86	D	**22,000**	**1.47**	**F**
Talbot Street	Northwest of Rosecrans St.	Collector	2	8,000	5,950	0.74	D	**8,800**	**1.10**	**F**

Table 4- 3.
Year 2030 Intersection Operational Analysis Summary

Intersection LOS		Traffic Control (1)	Existing (2009)				Future (2030)			
			AM Peak		PM Peak		AM Peak		PM Peak	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
2)	Rosecrans-Taylor St. / Pacific Highway	S	22.8	C	25.1	C	31.6	C	**57.1**	**E**
3)	Rosecrans St. / Jefferson St.	O	10.9	B	12.1	B	12.5	B	15.7	C
4)	Rosecrans St. / Moore St.	O	11.7	B	11.9	B	14.4	B	15.8	C
5)	Rosecrans St. / Hancock St.	(2)	8.6	A	9.4	A	11.7	B	17.0	C
6)	Rosecrans St. / Kurtz St.	S	15.3	B	25.4	C	20.4	C	52.3	D
7)	Rosecrans/Sports Arena/Camino D. Rio	S	23.3	C	35.5	D	43.0	D	**62.9**	**E**
8)	Rosecrans St. / Midway Dr.	S	37.0	D	60.0	E	41.5	D	**68.2**	**E**
9)	Rosecrans St. / N. Evergreen St.	S	15.9	B	30.3	C	20.7	C	30.7	C
10)	Rosecrans St. / Lytton St.	S	47.9	D	51.7	D	**77.2**	**E**	**69.2**	**E**
11)	Rosecrans St. / Roosevelt Rd.	S	10.3	B	13.3	B	11.3	B	16.2	B
12)	Rosecrans St. / Curtis St.	O	20.5	C	15.5	C	17.2	C	14.6	B
13)	Rosecrans St. / Womble Rd.	S	18.8	B	17.9	B	20.6	C	20.3	C
14)	Rosecrans St. / Xenophon St.	O	13.6	B	12.1	B	13.3	B	12.7	B
15)	Rosecrans St. / Farragut - Voltaire St.	S	20.7	C	18.1	B	23.5	C	21.8	C
16)	Rosecrans St. / Russell - Laning Rd.	S	17.0	B	23.2	C	18.1	B	25.9	C
17)	Rosecrans St. / Oliphant St.	O	22.6	C	14.1	B	28.2	D	19.7	C
18)	Rosecrans St. / Macaulay St.	O - R	12.0	B	13.0	B	13.2	B	14.2	B
19)	Rosecrans St. / Nimitz Blvd.	S	40.8	D	59.3	E	**113.5**	**F**	**184.3**	**F**
20)	Rosecrans St. / Jarvis St.	T	16.3	C	30.9	D	22.2	C	14.8	B
21)	Rosecrans St. / N. Harbor Dr.-Hugo St.	S	15.0	B	18.0	B	29.7	C	34.9	C
22)	Rosecrans St. / Garrison St.	T	79.6	F	133.6	F	**185.4**	**F**	**305.7**	**F**
23)	Rosecrans St. / Carleton St.	T	146.6	F	252.0	F	**322.4**	**F**	**>1000**	**F**
24)	Rosecrans St. / Shelter Island - Byron	S	13.3	B	16.7	B	10.3	B	15.4	B
25)	Rosecrans St. / Canon St.	S	23.0	C	20.1	C	33.5	C	45.7	D
26)	Rosecrans St. / Talbot St.	S	22.1	C	12.5	B	19.2	B	15.0	B
27)	Camino del Rio W. / Moore St.	T - R	31.5	D	30.6	D	**71.3**	**F**	**65.0**	**F**
28)	Camino del Rio W. / Hancock St.	S	10.9	B	13.2	B	29.2	C	31.4	C
29)	Camino del Rio W. / Kurtz St.	S	8.5	A	13.8	B	11.6	B	20.3	C

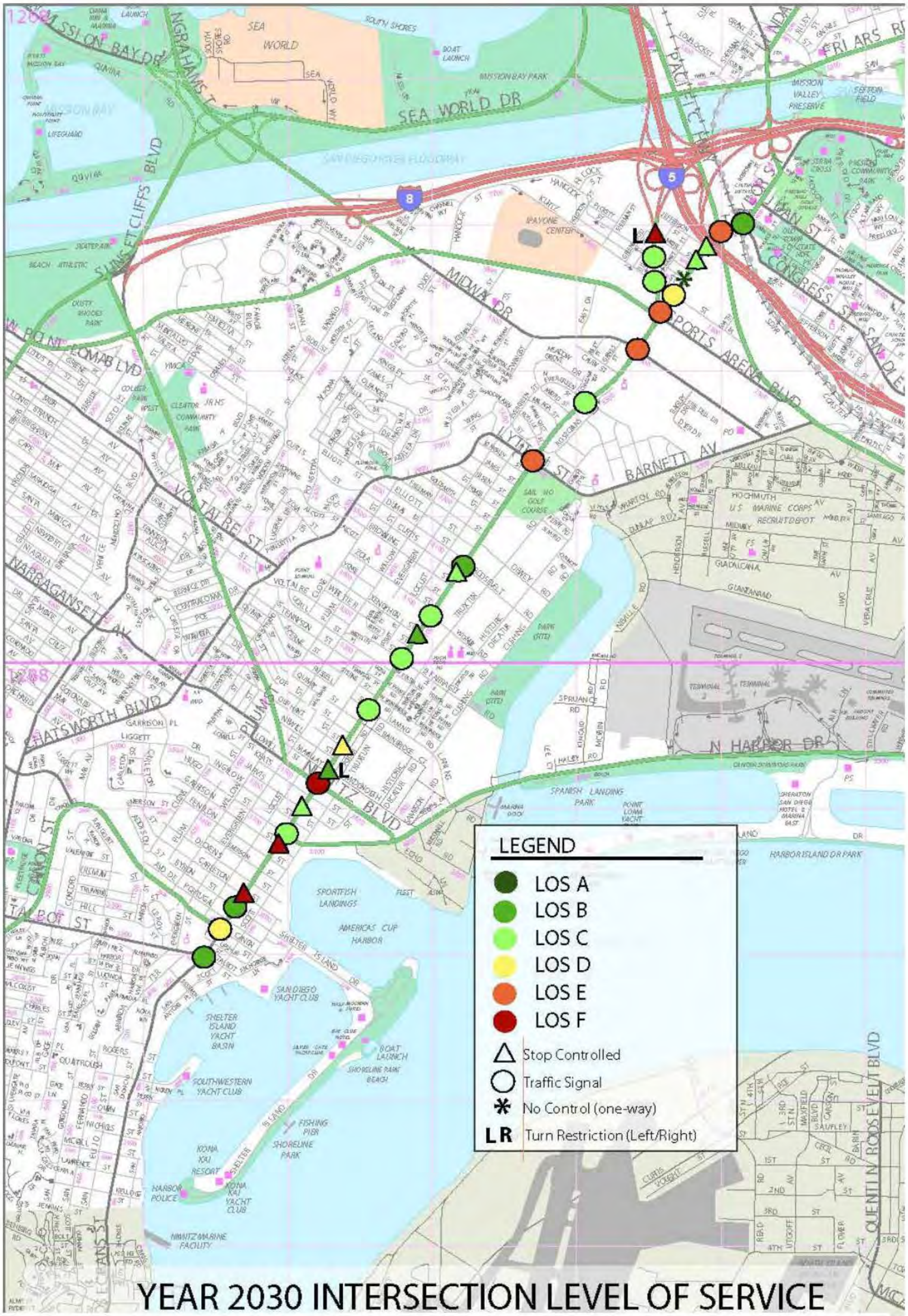

LEGEND
LOS A
LOS B
LOS C
LOS D
LOS E
LOS F
Stop Controlled
Traffic Signal
No Control (one-way)
L R Turn Restriction (Left/Right)
YEAR 2030 INTERSECTION LEVEL OF SERVICE

Exhibit 4-6

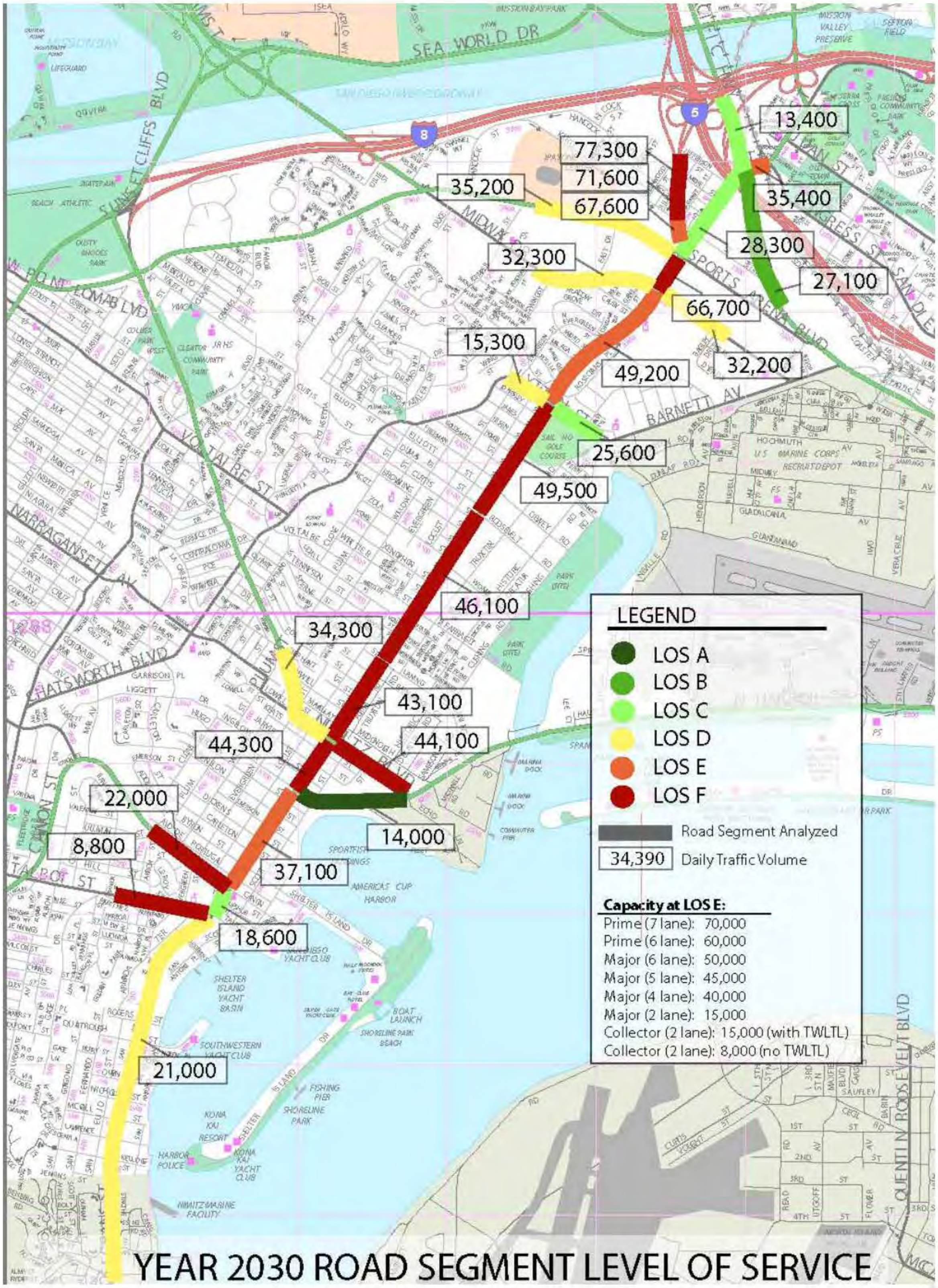

YEAR 2030 ROAD SEGMENT LEVEL OF SERVICE
LEGEND
LOS A
LOS B
LOS C
LOS D
LOS E
LOS F
Road Segment Analyzed
34,390 Daily Traffic Volume
Capacity at LOS E:
Prime (7 lane): 70,000
Prime (6 lane): 60,000
Major (6 lane): 50,000
Major (5 lane): 45,000
Major (4 lane): 40,000
Major (2 lane): 15,000
Collector (2 lane): 15,000 (with TWLTL)
Collector (2 lane): 8,000 (no TWLTL)
13,400
77,300
71,600
67,600
35,200
35,400
28,300
27,100
32,300
66,700
15,300
32,200
49,200
25,600
49,500
46,100
34,300
43,100
44,300
44,100
22,000
14,000
8,800
37,100
18,600
21,000
SEA WORLD DR
SUNSET CLIFFS BLVD
MIDWAY
SPORTS ARENA BLVD
BARNETT AV
VOLTAIRE ST
NARRAGANSETT AV
CHATSWORTH BLVD
CANON ST
TALBOT ST
ROSECRANS
AMERICAS CUP HARBOR
SHELTER ISLAND YACHT BASIN

Exhibit 4-7

Roadway Segment Analysis

Based on the roadway segment analysis conducted, the following segments are forecast to operate at LOS E or F by the year 2030:

Rosecrans Street

- From Sports Arena Blvd. to Midway Dr
- From Midway Dr. to Lytton St.
- From Lytton St. to Roosevelt Rd.
- From Roosevelt Rd. to Laning Rd.
- From Laning Rd. to Nimitz Blvd.
- From Nimitz Blvd. to N. Harbor Dr.
- From N. Harbor Dr. to Canon St.

Camino Del Rio

- Moore to Hancock
- Hancock to Kurtz
- Kurtz to Rosecrans

Nimitz

- Northwest of Rosecrans

Canon

- Northwest of Rosecrans

Talbot

- Northwest of Rosecrans

Intersection Operational Analysis

Based on the intersection analysis conducted, the following segments are forecast to operate at LOS E or F by the year 2030:

- Rosecrans / Pacific Highway
- Rosecrans / Sports Arena
- Rosecrans / Midway
- Rosecrans / Lytton
- Rosecrans / Nimitz
- Rosecrans / Garrison (unsignalized)
- Rosecrans /Carleton (unsignalized)
- Camino del Rio / Moore Street (unsignalized)

Travel Time Assessment

Under existing conditions, travel time was evaluated based on a floating car assessment. Using the results of the floating car assessment, a detailed traffic model was used to evaluate the potential travel times through Area 1, where travel times under existing conditions were determined to be the highest. Area 1 extends along both Rosecrans Street and Camino Del Rio from Lytton Street to Taylor Street (along Rosecrans) and Moore Street (on Camino Del Rio).

Table 4-4 presents the calibration results of the travel time assessment for existing conditions. As shown, the travel times used in forecasting the operations through Area 1 are within 10% of the existing conditions. The difference between actual travel time and modeled travel time was then used to further calibrate the results of the forecast year 2030 travel times. The results of the forecast year 2030 travel times are summarized in Table 4-5. As shown, the increase in traffic through year 2030 results in an increase in overall travel time along the corridor. This is attributable to the queuing through intersections, lack of signal coordination between intersections and weaving maneuvers between the intersections at Rosecrans-Sports Arena and Rosecrans-Kurtz.

Table 4-4.
Existing Calibration of Travel Time Analysis (p.m. peak period)

Travel Time	Direction of Travel	Existing Conditions (1) (min:sec)	Simulated Existing Condition (2) (min:sec)	Difference
Rosecrans: Lytton to Taylor Street	NB	5:09	5:45	10%
	SB	6:47	6:28	5%
Rosecrans: Lytton to Camino del Rio/I-8	NB	4:15	4:34	8%
	SB	5:30	4:51	7%

Notes:
(1) Measured in the field using a floating car survey methodology. A minimum of three travel time runs were conducted and averaged to determine the existing conditions p.m. peak period travel time for the segments studied.
(2) VISSIM travel times based on three seeding cycles. Results of the model runs were averaged to determine the simulated travel time.

Table 4-5.
Forecast Year 2030 Travel Time Analysis (VISSIM Simulated for Both Conditions)

Travel Time	Direction of Travel	Existing Conditions	2030 No Build	Difference (seconds)
Rosecrans: Lytton to Taylor Street	NB	5:45	9:32	+3:47
	SB	6:28	8:26	+1:58
Rosecrans: Lytton to Camino del Rio/I-8	NB	4:34	9:23	+4:46
	SB	4:51	6:58	+2:07

4.3 TRANSIT ANALYSIS

Based on SANDAG FY 2009 data, the Roserans corridor is responsible for 2,571 trips ends per day. By year 2030, the number of trip ends is anticipated to increase to 5,557 trip ends per day. The greatest increase is forecast to occur along Route 35, where trips ends are expected to increase by over 660%. The breakdown in trip ends by Route through year 2030 is summarized in Table 4-6.

Table 4-6.
Forecast Year 2030 Trip Ends

Route	Existing FY 09 Trip Ends	Projected 2030 Trip Ends	%Change
8/9	103	196	90%
28	1,654	2,227	35%
35	260	2,000	669%
84	369	0	-100%
923	185	1,134	513%
Total	**2,571**	**5,557**	**116%**

As summarized in the previous section of this document, ten segments along the Rosecrans corridor are forecast to operate at LOS E or F by the year 2030 according to the roadway segment operating conditions analysis. Similarly, by the year 2030, the number of intersections forecast to operate at deficient LOS increase from four to seven in the p.m. peak. These changes to traffic operations will have a direct impact on the operations of transit operations along the corridors. Slower run times and longer wait times for buses will result in impacts to bus on-time performance.

Key locations where considerations for improvements to transit access and operations include:

- Rosecrans St / Taylor Street (LOS F in p.m. peak)
- Rosecrans St. / Sports Arena / Camino Del Rio (LOS E in E in p.m. peak)
- Rosecrans St. / Midway St. (LOS E in p.m. peak)
- Rosecrans St. / Lytton St. (LOS E in a.m. & p.m. peaks)
- Rosecrans St. / Nimitz Blvd. (LOS F in a.m. & p.m. peaks)

Coupling the demand for transit based on ridership and changes to transit service in the study area with the forecast traffic flow conditions along the corridor, considerations for improving transit along the corridor warrant consideration.

4.4 PEDESTRIAN ANALYSIS

Using forecast methodologies outlined in the previous sections of this document, pedestrian and bicycle activity along the Rosecrans corridor is anticipated to increase by as much as 300 percent through some portions of the corridor. Detail forecast pedestrian activity is summarized in Appendix 4-D.

The following intersections are anticipated to have more than 100 pedestrian crossings during the peak a.m. or p.m. peak period:

- Rosecrans Street – Taylor Street / Pacific Coast Highway – 472 a.m., 418 p.m.
- Rosecrans Street / Hancock Street – 30 a.m., 211 p.m.
- Rosecrans Street / Kurtz Street – 105 a.m., 153 p.m.
- Rosecrans Street / Sports Arena-Camino del Rio – 138 a.m., 202 p.m.
- Rosecrans Street / Midway Street – 95 a.m., 223 p.m.
- Rosecrans Street / Womble Road – 121 a.m., 49 p.m.
- Rosecrans Street / Nimitz St. – 212 a.m., 255 p.m.
- Rosecrans Street / Carleton Street – 116 a.m., 79 p.m.

Based on 2009 pedestrian data, approximately 1,525 pedestrian crossings occur during the a.m. peak period (7:00 to 9:00 a.m.) and 2,105 occur during the p.m. peak period. By the year 2030, pedestrian activity is forecast to increase to 2,311 pedestrian crossings in the a.m. peak and 2,808 in the p.m. peak periods. The increase in pedestrian activity warrants further evaluation to ensure that pedestrian capacity on sidewalks is being met.

As discussed in the existing conditions reports, focus for future pedestrian improvements include locations with existing obstructions or missing sidewalks, locations with a history of pedestrian related accidents and locations with high transit activity. Specific improvements to address pedestrian access and walkability are discussing in future sections of this report.

4.5 BICYCLE ANALYSIS

The following intersections are anticipated to have more than 100 bicycle observed through the intersection during the peak a.m. or p.m. peak period:

- Rosecrans Street – Taylor Street / Pacific Coast Highway – 76 a.m., 149 p.m.
- Rosecrans Street / Kurtz Street – 45 a.m., 106 p.m.

Based on 2009 bicycle data, approximately 476 were observed during the a.m. peak period (7:00 to 9:00 a.m.) and 687 occur during the p.m. peak period along the Rosecrans Corridor. By the year 2030, bicycle activity is forecast to increase to 788 bicycle trips along the corridor in the a.m. peak and 1,091 in the p.m. peak periods.

It should be noted that the highest bicycle activity along the corridor occurs in Area 1 along Rosecrans Street between the Old Town Transit Center and Sports Arena Boulevard. Through this section, there are currently no bicycle lanes and many of the sidewalks are discontinuous.

When reviewing the forecast bicycle volume for the study area, the east –west bicycle traffic (crossing Rosecrans Street) exceeds the north-south bicycle traffic (traveling along Rosecrans Street). Therefore improvements for bicycles should consider both the addition of bicycle lanes and bicycle loops (within the intersections for detection at signalized intersection) but also connections to regional bicycle facilities from the corridor such as the San Diego River Trail and future CycleTrack facilities.

4.6 SUMMARY AND RECOMMENDATIONS

Based on the analysis conducted, the critical circulation locations are:

- **Area 1:** Intersection delays and queuing, particularly in the northbound direction (eastbound direction) through the Camino del Rio-Rosecrans triangle from Midway to I-8 and Taylor Street, are the highest for the corridor. Traffic patterns indicate that this section serves primarily commercial trips from the residential areas as well as commuter trips accessing the freeway. Based on the high traffic volumes and speeds, there is a correlation to the accident data reports. As discussed previously, the highest number of accidents along the corridor occur through Area 1 with 288 accidents reported over a 10-year period. The majority of the accidents in this section are right-angle accidents and rear-end accidents. On-street parking is provided along sections of Rosecrans Street that have speeds measured at over 45 mph. Consideration should be made to remove the parking spaces along this portion of Rosecrans Street. By removing the parking through Area 1, bicycle lanes could be accommodated that would connect to the existing Class II bicycle lanes in Section 2.

- **Area 2:** Observations through Area 2 show that traffic maintains free flow speeds during the off-peak period. However, the operational analysis shows that during the p.m. peak hour the intersection of Rosecrans Street/Nimitz Boulevard operates at LOS E. The acceptable operating conditions could be attributed to the improvements installed with the NTC project. However, the roadway improvements that have benefited the east side (NTC) of Rosecrans Street have created circulation and access issues for the west side of the Rosecrans Street. For many of the side streets, access onto Rosecrans can be challenging. No signalized access is provided onto Rosecrans between Lytton Street and Womble Road. Although left turns can be made from many streets, peak hour observations have shown that it is difficult due to the width of the road, speeds of traffic and volumes of traffic through Area 2. Traffic circulation improvements along Rosecrans should consider modifying the existing medians to restrict some left turn access and modify traffic signals to accommodate both the east and west sides of Rosecrans Streets. Relative to non-motorized transportation modes, improvements through this area should focus on the east side of Rosecrans Street. Improvement considered should include widening the existing southbound Class II bicycle lane to a minimum of 6 feet with an adjacent travel lane of 13 feet. This will help to create a buffer between the travel lanes and pedestrians along the east side of Rosecrans.

- **Area 3:** Through Area 3, the measured 85th percentile traffic speeds support a reduction in posted speed limit, which would result in speeds more appropriately suited to a walking environment. Side street levels of service measured through Area 3 indicate that delays to left turning traffic can exceed the acceptable thresholds. To enhance the village environment and improve the aesthetic quality of this section of the corridor, cross-section modifications should be considered. This may include reducing the travel lanes from four to two lanes. Detailed analysis of the potential for diversion should be conducted to determine the impact of potential capacity reduction strategies. However, reducing the number of travel lanes would provide ample space to provide on-street parking along Rosecrans as well as a Class II bicycle lane. Reducing traffic speeds to create pedestrian compatible environment, reducing capacity to improve parking and proving traffic calming features such as curb extensions will help enhance the walkability through the Village.

- **Area 4:** Measured 85th percentile speeds through Area 4 exceed the posted speed limit by more than 5 mph. Rosecrans is two lanes through this section with Class II bicycle lanes. As this is a residential neighborhood with fronting properties, physical measures to reduce speeds are recommended to address the high rates of speed. A traffic calming plan that compliments the classification of this road and the surrounding land uses should be developed to address the speeding through this section.