5.0 HORIZON YEAR (2030) WITH ALTERNATIVE 1

This section summarizes the results of the Horizon Year (2030) conditions analysis within the Barrio Logan community taking into account the land use changes proposed under the Alternative 1 of the Community Plan Update.

Roadway Network

No roadway network changes are assumed to take place under this scenario, with the exception of the addition of a High Occupancy Vehicle (HOV) lane along the I-5 Corridor for both directions of traffic. The additional HOV lane is listed in Sandag's 2030 Regional Transportation Plan (RTP).

Traffic Volumes

The Horizon Year Average Daily Traffic (ADT) volumes on the roadway segments in the study area were derived from a City of San Diego traffic forecast model that incorporated the land use changes proposed under the Alternative 1 scenario. A copy of the forecast model is included in **Appendix G**.

Table 5-1 presents a more detailed trip generation summary for the community with the land uses included in the Alternative 1 of the Community Plan Update. As shown in the table, the land use designation of Alternative 1 would generate a total of approximately 137,267 average daily trips, including 8,540 (5,216 in and 3,324 out) morning peak-hour trips and 13,692 (76,213 in and 7,479 out) afternoon peak-hour trips.

Modeled forecast volumes experienced some minor refinements. In the process of calibrating the existing model, it was concluded that three post model adjustments should be made to the 2030 traffic models. Traffic volumes along Cesar Chavez Parkway between Newton Avenue and Main Street were reduced by 4,300 ADT to account for Newton Avenue not being in the model. Traffic volumes on 28th Street and 32nd between Main Street and Harbor Drive were increased by 4,000 ADT and 600 ADT, respectively, per calibration between base year model and actual traffic volume counts. Minor smoothing of traffic volumes were made to reflect the gross nature of model loadings from TAZs. Volumes for streets that were not in the traffic model were estimated applying a growth rate generally consistent with other facilities in the community. Resulting daily traffic volumes for the Adopted Community Plan are depicted in **Figure 5-1**.

To estimate the turning movement volumes at the study intersections, the existing turning movements at each respective study intersection were factored up based on the projected Average Daily Traffic (ADT) volumes along each segment shown in the model plot. Each respective movement was derived using an iterative approach that balances the inflows and outflows for each approach. The input values include the existing turning movement volumes and future year peak-hour approach and departure volumes along each leg of the intersection. The future peak-hour approach volumes would be estimated by applying the existing peak-hour factor (K-factor) and directional distributional percentage (D-factor) to the future ADT volumes along each approach. A more detailed description of the methodology used to forecast turning movement volumes is contained in National Cooperative Highway Research Program (NCHRP) 255 Highway Traffic Data for Urbanized Area Project Planning and Design, Chapter 8. An Excel model computes the forecast turning volumes from existing turning movement volumes and forecasted approach and departure volumes by the techniques described in NCHRP 255. A copy of the NCHRP 255 Report and excel calculation worksheets are included in **Appendix H**. **Figure 5-2** displays the Horizon Year peak-hour turning movements used in the analysis of Alternative 1.

	Unit	1		Al	M Peak-H	Iour	I	PM Peak-I	Hour
Land Use	Cint	3	Daily Trips	In	Out	Total	In	Out	Total
ACTIVE PARK	9.10	acre	398	0	16	16	0	32	32
ELEMENTARY SCHOOL (stu)	529.00	stu	1,539	286	191	477	117	175	292
FAST FOOD REST. (ksf)	19.50	ksf	13,675	328	219	547	547	548	1,095
FIRE OR POLICE STATION	1.00	site	229	31	3	34	3	31	34
HEAVY INDUSTRY (ksf)	3,130.40	ksf	12,682	1,256	139	1,395	304	1,218	1,522
JUNIOR COLLEGE (ksf)	70.00	ksf	1,295	0	0	0	0	0	0
LIGHT INDUSTRY (ksf)	79.50	ksf	1,272	126	14	140	31	122	153
LOW RISE OFFICE(FT3917)(ksf)	258.50	ksf	3,467	406	45	451	97	388	485
LOW RISE OFFICE(FT3921)(ksf)	162.90	ksf	2,435	285	32	317	68	273	341
LOW RISE OFFICE(FT3957)(ksf)	81.90	ksf	1,450	170	19	189	41	162	203
LOW RISE OFFICE(FT3988)(ksf)	121.30	ksf	1,943	227	26	253	54	218	272
LOW RISE OFFICE(FT3985)(ksf)	15.70	ksf	414	48	6	54	12	46	58
LUMBER STORE (mtro)(ksf)	0.00	ksf	0	0	0	0	0	0	0
MARINA (CCDC)	0.00	acre	0	0	0	0	0	0	0
MARINE TERMINAL	0.00	acre	0	0	0	0	0	0	0
MILITARY USE (Gate 9 - site)	0.00	site	0	0	0	0	0	0	0
MULTI-FAMILY(BL)(over 20DU)	4,203	du	25,377	407	1,622	2,029	1,599	686	2,285
NEIGHBORHOOD SHOP CNT (ksf)	175.10	ksf	20,813	500	333	833	1,146	1,143	2,289
OTHER HEALTH CARE (ksf)	112.70	ksf	5,610	269	67	336	168	393	561
OTHER PUBLIC SERVICE	0.20	acre	58	5	0	5	2	5	7
OTHER TRANSPORTATION	5.10	acre	433	42	19	61	19	46	65
PARKING	0.50	cre	0	0	0	0	0	0	0
RAIL STATION (BL)	0.60	acre	181	0	0	0	0	0	0
REGIONAL COMM.(Mtro)(ksf)	0.00	ksf	0	0	0	0	0	0	0
SINGLE FAMILY (BL)	69	du	607	9	38	47	43	19	62
SPECIALTY COMM.(mtro)(ksf)	0.00	ksf	0	0	0	0	0	0	0
STREETFRONT COMMERCIAL (ksf)	1,071.30	ksf	42,930	773	514	1,287	1,933	1,930	3,863
WAREHOUSING (ksf)	90.60	ksf	459	48	21	69	29	44	73
WHOLESALE TRADE	0.00	acre	0	0	0	0	0	0	0
Total			137,267	5,216	3,324	8,540	6,213	7,479	13,692

TABLE 5-1 TRIP GENERATION SUMMARY (ALTERNATIVE 1 - TOTAL)

 I. du = Dwelling Unit; stu = Students; ksf = Thousar

 K:\SND_TPTO\095707000\Excel\[707000TG.xlsm]Alt 1 Totals (LU)



Barrio Logan Co	mmunity Plan	Update				
5 136 / 77 ⇔ 250 / 490 ⊗ 47 / 40 41 / 40	 № 114 / 122 ⇔ 295 / 488 ☆ 24 / 0 Commercial St 	 B 1 / 70 B 36 / 25 B 56 / 127 16th St 	∾ 34 / 25 ⇔ 495 / 458 ⊉ 3 / 3 National Ave	3 6 6 6 7 8 9 9 9 9 9 9 9 9 9 9 9 9 9	 79 / 38 8 79 / 38 23 / 16 Sigsbee St 	∾ 51 / 23 ⇔ 80 / 50 ∞ 15 / 9 Newton Ave
16 / 64	13 /21 ∞ 340 /670 ⇔ 16 /26 ≌	40/91 ≈ 194/347 ⇔ 40/31 ∿	40 /61 234 /41 43 12 /7 22	10 / 34	6 / 9	24 /20 a 111 /91 e 34 /12 a
5 3/2 ⇔ 96/60 ∞ 31/20 Sigsbee St	∾ 61/31 ⇔ 8/0 ∞ 31/38 Main St	 710/80 110/80 110/100 Sigsbee St 	is 20 / 100 ⇔ 1670 / 780 Harbor Dr	7 8 8 2 2 2 2 2 2 2 2 2 2 2 2 2	8 23 / 11 ⇔ 138 / 83 ∞ 216 / 189 Beardsley St	 № 67 / 77 ⇔ 421 / 347 241 / 113 National Ave
3 / 4	5 / 0 23 97 / 98 45 24 / 12 23	60 / 160		170 / 515 ⇔ 56 24 / 69 ⇔ 217 / 69 88 / 155 89 / 155 89	8 / 19	4 / 9 2 30 / 43 5 50 / 134 2
6 41 /12 ⇔ 156 /94 ∞ 56 /46 Beardstay St	© 15 / 19 ⇔ 82 / 93 ⊉ 29 / 13 Newton Ave	2 /17 ⇒ 52 /17 ⇒ 57 /39 ∞ 275 /144 Beardstay St	∿ 76 / 79 ⇔ 109 / 33 ⊉ 163 / 78 Main St	11 55 SE 74 SE	 31 / 40 350 / 330 Cesar Chavez Pkwy 	ನ. 192 / 154 ⇔ 259 / 157 ಜ 613 / 517 Kearney Ave
18 / 7	13./5 ≈ 23./71 ⇔ 19./37 ≌	15/22 <i>a</i> 74/64 ⇔ 4/4 ∾	2 /0 ∞ 8 /25 ⇔ 52 /109 ∞	22 / 95		257 / 382 ≈ 262 / 345 ⇔





FIGURE 5-2



Barrio Logan Co	mmunity Plan	Update				
2 /52 /52 ⇔ 909 /694 ⊗ 70 /114 c.esar c.navez Pkwy.SR.75 0n- rank	 № 76 / 90 ⇔ 325 / 280 ∞ 100 / 120 Logan Ave 	 № 310 / 410 ⇔ 745 / 550 ⇔ 745 / 120 ∞ 70 / 120 © Cesar Converse Prive 	 № 120 / 275 ⇔ 350 / 270 ☆ 120 / 110 National Ave 	15 so constraints 15 so constraints 16 so constraints 17 so constraints 18 so constraints 19 so constraints 10 800 11 so constraints 11 so constraints 12 so constraints 13 so constraints 14 so constraints 15 so constraints 16 so constraints 17 so constraints 18 so constraints 19 so constraints 10 so constraints <	5 180 / 260 ⇔ 580 / 540 ∞ 150 / 250 © Cesar Chavez Pkwy	 № 190 / 270 ⇔ 330 / 230 ∞ 70 / 70 Main St
140 / 130	100 /140	190 / 300 ⊘ 250 / 400 ⇔ 180 / 290 ∿	90 /120 ≈ 580 /1000 ⇔ 50 /100 ≈	75 / 135 Ø 04 / 014 40 / 130 ↔ 60 / 70 3 04 / 014 90 / 00 09 / 00 90 00 90 90 90 00 90 00 90 90 90 00 90 90 90 00 90 90 90 900	150 / 120	70 /70 2 340 /640 5 90 /180 2
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	 № 95 / 43 ⇔ 1047 / 465 2 80 / 50 Harbor Dr 	18 dwe¥+0 88 <u>9</u> -1	∾ 84 / 73 ⇔ 127 / 158 Logan Ave	19 88 97 19 88 10 10 10 10 10 10 10 10 10 10	6 30 / 72 4 18 / 22 9 / 45 Evans St	 Image: space state sta
118 / 468	10 / 50 2 14 / 63 5 27 / 35 2	497/933	0/11 2 2/2 U 2/3 2	128 / 308 ⇒	17 / 37	28 / 13 % 49 / 18 ¹⁰ 24 / 62 %
5 37 / 21 c 30 / 28 c 7 / 30 Evans st	rs 30 / 27 ⇔ 63 / 70 ⊉ 16 / 27 Newton Ave	 45 / 16 56 / 75 56 / 75 Evans St 	∾ 65 / 62 ⇔ 350 / 239 Main St	23 89 99 75 10 75 80 10	54 118 / 107 ⇔ 109 / 86 ⊕ 109 / 86 Sampson St Sampson St	 № 100 / 100 ⇔ 104 / 70 ∞ 48 / 21 National Ave
23 / 24	27/7 ≈ 58/47 ⇔ 31/28 ≌	33 / 12		110 / 108 Ø № û 224 / 255 ⇔ 224 / 255 163 / 203 № 100 / 100 66 61	75 / 162	7 / 13 2 95 / 185 4 16 / 30 2



The northbounf right-turn volumes for Logan Avenue/SR-75 and Cesar Chavez Parkway intersection include the vehicles turning north from Cesar Chavez Parkway using the free northbound right-turn lane. The intersection analysis did not include a reduction for these volumes.





FIGURE 5-2.1



Horizon Year (2030) Peak-Hour Volumes (Alternative 1) (cont.)

Barrio Logan Co	mmunity Plan	Update				
22 37 /19 ☆ 99 /66 ☆ 18 /19 Sampson St	∾ 35 / 31 ⇔ 81 / 76 ☆ 15 / 0 Newton Ave	20 ⇒ 172 /85 ⇒ 59 /27 ⇒ 10 /8 Sampson St	∾ 16/8 ⇔ 218/83 ☆ 53/27 Main St	27 90/25/26/26/27/27/27/27/27/27/27/27/27/27/27/27/27/	8 36 / 42 4 41 / 18 ∞ 4 / 4 ∞ 4 / 4 Scard st Scard st	∾ 3 / 1 ⇔ 163 / 125 ∞ 27 / 8 National Ave
21 / 34	7 /13	70 / 118	50 /60 ≈ 31 /46 ⇔ 35 /49 ∿	10 / 56	21 / 40	48 / 33 2 48 / 46 5 12 / 17 2
29 33 / 68 51 / 90 26th St 26th St	 № 48 / 55 ⇔ 223 / 124 2 36 / 35 National Ave 	30	⇔ 269 / 234 ஜ 42 / 31 National Ave	31 ∞ (2 (2 (2 (2 (2 (2 (2 (2 (2 (2 (2 (2 (2	0 164 / 75 0 164 / 75 0 25 / 10 0 25 / 20 0 25 / 2	∾ 17 / 39 ⇔ 1422 / 538 Harbor Dr
28 / 33	27 /46 ∞ 47 /60 ⊕ 15 /34 ∞	146/368 ⇔ 18/23 ∿ 88 9	72 / 94 &	10 / 14	124 / 203	
23 307 /102 505 /210 ∞ 205 /210 ∞ 115 /199 28th St	 № 123 / 240 ⇔ 628 / 427 ☆ 192 / 463 National Ave 	34 860 / 980 ← 860 / 980 ← 160 / 330 28th St	 ⊾ 120 / 70 ⇔ 70 / 70 ₂ 45 / 60 Boston Ave 	35 9 9 9 9 9 9 9 9 9 9 180 / 280 ↓ 180 / 280 ↓ 9 9 150 ↓ 9 9 150 ↓ 15 ↓ 150 ↓ 15 ↓ 150 ↓ 15 150 ↓ 150 ↓ 150 ↓ 150 ↓ 150 ↓	8 25 /13 ⇔ 15 /12 ∞ 375 /505 28th St	 ₅ 116 / 278 ⇔ 822 / 474 ⊉ 17 / 14 Harbor Dr
106 / 94	33 / 18 % 98 / 98 ⊕ 86 / 168 %	230 / 320	90 / 50	190 / 270 Ø S û Ø 300 / 600 ⇔ 50 / 40 S 25 / 28 40 S 25 / 20 S 25	110/290 ⊘ 560/1120 ⇔ 4/2 ∿	0/10 2 6/134 5 2/0 2









Barrio Logan Co	ommunity Plan	Update		
37 37 48 8	 5 88 / 118 ⇔ 102 / 83 ∞ 18 / 20 Boston Ave 	38 £ 19 / 50 50 79 / 102 27 8 8 9 2314 / 207 28 8 5 314 / 207 Main St 5	39 67/ 59/ 50/ 205 67/ 50/ 205 70/ 50/ 50/ 205 70/ 50/ 50/ 50/ 50/ 50/ 50/ 50/ 50/ 50/ 5	2 300 / 40
234 / 559	5 /9 & 30 /72 & 19 /45 &	38 / 70 ∞ 0 √ 130 / 653 ⇔ 213 / 152 218 / 166 ⊕ 27 / 152 130 / 200 / 123 ⊕ 100 / 123	65/115 み 10/10 (10 km) (10 k	140 / 340 Ø S û Ø 657 / 1185 ↔ 140 / 100 S 22 / 000 00 000 00 00 000 00 000 00 000 00 000 00 00
م 309 / 153 د 108 / 153 د 108 / 120 -15 Ramps	s 107 / 154 ⇔ 497 / 361 Main St			
47 / 303				





Intersection Analysis

Table 5-2 displays the LOS analysis results for the study intersections under Horizon Year with the Barrio Logan Community Plan Update conditions for Alternative 1 scenario. As shown in the table, all intersections would operate at LOS D or better during both peak-hour periods, with the exception of the following fourteen intersections:

- National Avenue and 16th Street (LOS F during both peak-hour periods);
- Harbor Drive and Sigsbee Street (LOS F during both peak-hour periods);
- Logan Avenue and Beardsley Street/I-5 SB off-ramp (LOS F during the afternoon peak-hour period);
- National Avenue and Beardsley Street (LOS E and LOS F in the morning and afternoon peakhour periods, respectively);
- Harbor Drive and Beardsley Street (LOS F during both peak-hour periods);
- Logan Avenue and Cesar Chavez Parkway (LOS E in the afternoon peak-hour period);
- Harbor Drive and Cesar Chavez Parkway (LOS E and LOS F in the morning and afternoon peakhour periods, respectively);
- Logan Avenue and Sampson Street (LOS F during both peak-hour periods);
- Harbor Drive and Schley Street (LOS E in the morning peak-hour period);
- National Avenue and 28th Street (LOS F and LOS E in the morning and afternoon peak-hour periods, respectively);
- Harbor Drive and 28th Street (LOS F in the afternoon peak-hour period);
- Boston Avenue and I-5 Southbound On-ramp (LOS F in the afternoon peak-hour period);
- 32nd Street and Wabash Street (LOS F during both peak-hour periods); and
- Harbor Drive and 32nd Street (LOS F during both peak-hour periods).

The Barrio Logan Community Plan Update Alternative 1 is considered to have a cumulative traffic related impact at all fourteen intersections listed above.

Appendix D contains the LOS calculation worksheets.

TABLE 5-2 HORIZON YEAR (2030) CONDITIONS ALTERNATIVE 1 PEAK-HOUR INTERSECTION LOS SUMMARY										
				EXIS	FING	AL	TERNAT	TVE 1		
	INTERSECTION	TRAFFIC CONTROL	PEAK HOUR	DELAY (a)	LOS (b)	DELAY	Y (a)	LOS (b)	Δ (c)	SIGNIFICANT?
			AM	19.4	В	12.8	. /	В	-6.6	NO
1	Commercial St & 16th St	Signal	PM	24.6	С	27.7		С	3.1	NO
2	National Ave & 16th St	T W G	AM	11.7	В	51.7	(NB)	F	40.0	YES
2	National Ave & 16th St	Two-Way Stop	PM	12.5	В	232.1	(SB)	F	219.6	YES
3	National Ave & Sigsbee St	Signal	AM	9.6	А	8.1		А	-1.5	NO
3	National Ave & Sigsbee St	Signar	PM	9.6	А	7.3		А	-2.3	NO
4	Newton Ave & Sigsbee St	All-Way Stop	AM	7.9	А	8.8		А	0.9	NO
-	Newton Five & Sigsbee St	All Way Stop	PM	7.6	А	8.0		А	0.4	NO
5	Main St & Sigsbee St	All-Way Stop	AM	7.4	А	8.1		Α	0.7	NO
5	initial bit de bigsoete bit	Thin thuy brop	PM	7.4	А	7.8		А	0.4	NO
6	Harbor Dr & Sigsbee St	One-Way Stop	AM	17.0	С	ECL	(SB)	F		YES
0		one may stop	PM	18.1	С	ECL	(SB)	F		YES
7	Logan Ave & Beardsley St- I-5 SB ramp	All-Way Stop	AM	11.1	В	33.1		D	22.0	NO
,	Logan Tive & Deardsley St. 19 SD ramp	Am Way Stop	PM	11.9	В	81.9	(EB)	F	70.0	YES
8	National Ave & Beardsley St	All-Way Stop	AM	8.5	Α	39.9		Е	31.4	YES
0	Futional Five & Deardisley St	Am Way Stop	PM	8.7	А	129.0	(EBL)	F	120.3	YES
9	Newton Ave & Beardsley St	All-Way Stop	AM	8.5	Α	9.4		А	0.9	NO
<i></i>	Newton Pive & Deardsley St	Am Way Stop	PM	8.2	А	8.6		А	0.4	NO
10	Main St & Beardsley St	All-Way Stop	AM	8.5	Α	15.5		С	7.0	NO
10	Main St & Deardsley St	All-Way Stop	PM	7.8	А	9.5		Α	1.7	NO
11	Harbor Dr & Beardsley St	One-Way Stop	AM	20.3	С	173.7	(SB)	F	153.4	YES
	Tharbor Dr & Deurdsky St	one way stop	PM	18.3	С	51.6	(SB)	F	33.3	YES
12	Kearney St & Cesar E. Chavez Pkwy	Signal	AM	21.7	С	46.6		D	24.9	NO
12	Reality St & Cesar E. Chavez I kwy	Bighti	PM	21.2	С	34.0		С	12.8	NO
13	Logan Ave & Cesar E. Chavez Pkwy	Signal	AM	14.0	В	31.1		С	17.1	NO
15	Logun Ave & Cesu E. Chavez F Kwy	Signal	PM	13.0	В	62.1		Е	49.1	YES
14	National Ave & Cesar E. Chavez Pkwy	Signal	AM	11.0	В	30.4		С	19.4	NO
14	National Ave & Cesai E. Chavez I Kwy	Signal	PM	14.0	В	52.4		D	38.4	NO
15	Newton Ave & Cesar E. Chavez Pkwy	Signal	AM	8.1	А	9.1		А	1.0	NO
15	Newton Ave & Cesar E. Chavez I Kwy	Signal	PM	9.1	А	15.3		В	6.2	NO
16	Main St & Cesar E. Chavez Pkwy	Signal	AM	9.6	А	39.3		D	29.7	NO
10	Main St & Cesar E. Chavez I kwy	Signai	PM	8.7	А	42.5		D	33.8	NO
17	Harbor Dr & Cesar E. Chavez Pkwy	Signal	AM	33.2	С	77.5		Е	44.3	YES
17	indesi Di de Cesul El Chavez i kwy	Signar	PM	43.6	D	85.2		F	41.6	YES
18	Logan Ave & I-5 SB On-ramp	One-Way Stop	AM	8.8	А	9.5		А	0.7	NO
10	Logan Trie & F 5 55 on runp	one may stop	PM	9.9	А	16.3		С	6.4	NO
19	National Ave & SR-75 Off-ramp	One-Way Stop	AM	10.1	В	13.2		В	3.1	NO
.,		one may stop	PM	11.0	В	13.8		В	2.8	NO
20	National Ave & Evans St	Two-Way Stop	AM	11.2	В	14.6		В	3.4	NO
20	i aconti rive ce Evuio Bt	1 o ay 510p	PM	11.9	В	21.0		С	9.1	NO

ī

Notes: **Bold** values indicate intersections operating at LOS E or F. SB= Southbound; NB= Northbound; EB=Eastbound; WB=Westbound (a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement. (b) LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 6.0 K:(SND_TPTO\095707000\Excel\[707000IN01.xlsm]Alt1

RECTION Evans St is St is ampson St Sampson St pson St ampson St Sicard St 26th St 1-5 SB Off-ramp	TRAFFIC CONTROL Two-Way Stop One-Way Stop All-Way Stop Signal All-Way Stop All-Way Stop Signal Two-Way Stop All-Way Stop All-Way Stop All-Way Stop All-Way Stop Signal All-Way Stop All-Way Stop All-Way Stop All-Way Stop	PEAK HOUR AM PM AM PM AM PM AM PM AM PM AM PM AM PM AM PM AM PM AM PM AM	DELAY (a) 9.8 9.8 9.3 9.6 10.0 10.7 10.3 9.4 7.5 7.6 8.6 8.2 23.1 27.1 12.0 11.4	LOS (b) A A A A B B B B B A A A A A A C C C	DELAY (a) 11.8 12.4 14.4 14.3 143.5 197.1 (NB) 8.1 9.1 8.7 8.8 11.5 10.4 29.2 41.7	LOS (b) B B B F F A A A A A B B C	▲ 2.0 2.6 5.1 4.7 133.5 186.4 -2.2 -0.3 1.2 1.2 1.2 2.9 2.2 6.1	SIGNIFICAN NO NO NO VES YES NO NO NO NO NO NO NO
ns St iampson St is Sampson St Sampson St ipson St sicard St 26th St	One-Way Stop All-Way Stop Signal All-Way Stop All-Way Stop Signal Two-Way Stop All-Way Stop All-Way Stop Signal Two-Way Stop All-Way Stop All-Way Stop	PM AM PM AM PM AM PM AM PM AM PM AM PM AM PM AM PM AM PM	9.8 9.3 9.6 10.0 10.7 10.3 9.4 7.5 7.6 8.6 8.2 23.1 27.1 12.0	A A B B A A A A A C C C	12.4 14.4 14.3 143.5 (WBT) 197.1 (NB) 8.1 9.1 8.7 8.8 11.5 10.4 29.2 2	B B F A A A A A B B B	2.6 5.1 4.7 133.5 186.4 -2.2 -0.3 1.2 1.2 1.2 2.9 2.2	NO NO YES YES NO NO NO NO NO
ampson St sampson St sampson St ampson St sicard St 26th St	All-Way Stop Signal All-Way Stop All-Way Stop Signal Two-Way Stop All-Way Stop All-Way Stop	AM PM AM PM AM PM AM PM AM PM AM PM AM PM AM PM	9.3 9.6 10.0 10.7 10.3 9.4 7.5 7.6 8.6 8.2 23.1 27.1 12.0 12.0	A B B A A A A A C C C	14.4 14.3 143.5 (WBT) 197.1 (NB) 8.1 9.1 8.7 8.8 11.5 10.4 29.2 2	B F F A A A A B B B	5.1 4.7 133.5 186.4 -2.2 -0.3 1.2 1.2 1.2 2.9 2.2	NO NO YES NO NO NO NO NO
ampson St sampson St sampson St ampson St sicard St 26th St	All-Way Stop Signal All-Way Stop All-Way Stop Signal Two-Way Stop All-Way Stop All-Way Stop	PM AM PM AM PM AM PM AM PM AM PM AM PM AM PM	9.6 10.0 10.7 10.3 9.4 7.5 7.6 8.6 8.2 23.1 27.1 12.0	A B B A A A A A C C C	14.3 143.5 (WBT) 197.1 (NB) 8.1 9.1 8.7 8.8 11.5 10.4 29.2 2	B F A A A A B B B	4.7 133.5 186.4 -2.2 -0.3 1.2 1.2 1.2 2.9 2.2	NO YES NO NO NO NO NO
x Sampson St Sampson St ppson St ampson St Sicard St 26th St	Signal All-Way Stop All-Way Stop Signal Two-Way Stop All-Way Stop	AM PM AM PM AM PM AM PM AM PM AM PM AM PM	10.0 10.7 10.3 9.4 7.5 7.6 8.6 8.2 23.1 27.1 12.0	B B A A A A A C C C	143.5 (WBT) 197.1 (NB) 8.1 9.1 8.7 8.8 11.5 10.4 29.2 2	F F A A A B B B	133.5 186.4 -2.2 -0.3 1.2 1.2 2.9 2.2	YES YES NO NO NO NO NO
x Sampson St Sampson St ppson St ampson St Sicard St 26th St	Signal All-Way Stop All-Way Stop Signal Two-Way Stop All-Way Stop	PM AM PM AM PM AM PM AM PM AM PM AM PM	10.7 10.3 9.4 7.5 7.6 8.6 8.2 23.1 27.1 12.0	B B A A A A C C C	197.1 (NB) 8.1 9.1 8.7 8.8 11.5 10.4 29.2 2	F A A A B B B	186.4 -2.2 -0.3 1.2 1.2 2.9 2.2	YES NO NO NO NO
Sampson St pson St ampson St Sicard St 26th St	All-Way Stop All-Way Stop Signal Two-Way Stop All-Way Stop	AM PM AM PM AM PM AM PM AM PM PM	10.3 9.4 7.5 7.6 8.6 8.2 23.1 27.1 12.0	B A A A A C C C	8.1 9.1 8.7 8.8 11.5 10.4 29.2	A A A B B B	-2.2 -0.3 1.2 1.2 2.9 2.2	NO NO NO NO
Sampson St pson St ampson St Sicard St 26th St	All-Way Stop All-Way Stop Signal Two-Way Stop All-Way Stop	PM AM PM AM PM AM PM AM PM PM	9.4 7.5 7.6 8.6 8.2 23.1 27.1 12.0	A A A A C C C	9.1 8.7 8.8 11.5 10.4 29.2	A A A B B	-0.3 1.2 1.2 2.9 2.2	NO NO NO
pson St ampson St Sicard St 26th St	All-Way Stop Signal Two-Way Stop All-Way Stop	AM PM AM PM AM PM AM PM	7.5 7.6 8.6 8.2 23.1 27.1 12.0	A A A C C	8.7 8.8 11.5 10.4 29.2	A A B B	1.2 1.2 2.9 2.2	NO NO NO
pson St ampson St Sicard St 26th St	All-Way Stop Signal Two-Way Stop All-Way Stop	PM AM PM AM PM AM PM	7.6 8.6 8.2 23.1 27.1 12.0	A A A C C	8.8 11.5 10.4 29.2	A B B	1.2 2.9 2.2	NO NO
ampson St Sicard St 26th St	Signal Two-Way Stop All-Way Stop	PM AM PM AM PM	8.2 23.1 27.1 12.0	A C C	10.4 29.2	B B	2.2	
ampson St Sicard St 26th St	Signal Two-Way Stop All-Way Stop	AM PM AM PM	23.1 27.1 12.0	C C	29.2			NO
Sicard St 26th St	Two-Way Stop All-Way Stop	PM AM PM	27.1 12.0	С		С	6.1	
Sicard St 26th St	Two-Way Stop All-Way Stop	AM PM	12.0		41.7		0.1	NO
26th St	All-Way Stop	PM			41.7	D	14.6	NO
26th St	All-Way Stop		11.4	В	14.3	В	2.3	NO
		AM	11.4	В	14.0	В	2.6	NO
I-5 SB Off-ramp			8.7	А	9.5	А	0.8	NO
I-5 SB Off-ramp		PM	8.8	А	10.4	В	1.6	NO
	One-Way Stop	AM	11.5	В	12.7	В	1.2	NO
		PM	17.8	C	20.9	С	3.1	NO
St-Schley St	All-Way Stop	AM	7.7	A	8.2	A	0.5	NO
		PM	8.0	AB	8.0	A	0.0	NO
hley St	Signal	AM	19.6		76.2	E	56.6	YES NO
								YES
28th St	Signal							YES
	<i>a</i> . <i>i</i>							NO
28th St (c)	Signal	PM				D		NO
<u> </u>	C: 1	AM	23.4	С	31.6	С	8.2	NO
St (c)	Signal	PM	29.2	С	40.8	D	11.6	NO
th St	Signal	AM	34.3	С	43.3	D	9.0	NO
ui st	Signal	PM	45.6	D	92.2	F	46.6	YES
-5 SB On-ramp-29th St	One-Way Stop	AM	17.3	С	21.0	С	3.7	NO
o ob on ranp 25arbt	one way brop	PM	260.7	F	523.6 NB	F	262.9	YES
l St	Signal	AM	21.9	С	22.7	С	0.8	NO
	Ű	PM	29.2		33.2	С	4.0	NO
ash St	Signal	AM						YES
	-							YES
nd St	Signal							YES
								YES
Ramps	Signal							NO NO
	8th St (c) St (c) h St 5 SB On-ramp-29th St St sh St ad St Ramps ections operating at LOS E or 1	8th St (c) St (c) St (c) St Signal th St Signal 5 SB On-ramp-29th St One-Way Stop St Signal sh St Signal ush St Signal add St Signal Ramps Signal extions operating at LOS E or F. Frithound; EB=Eastbound; WB=Westbound	$\begin{array}{ c c c c } & & & & & & & & & & & & & & & & & & &$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $

Roadway Segment Analysis

Table 5-3 displays the roadway segment analysis under the Horizon Year (2030) conditions for the Alternative 1 scenario. As shown in the table, based on planning level analysis and on ADT volumes, the Alternative 1 scenario would be considered having a cumulative roadway segment impact along the following roadway segments:

- Cesar Chavez Parkway between Logan Avenue and National Avenue (LOS E);
- Cesar Chavez Parkway between National Avenue and Newton Avenue (LOS F);
- Cesar Chavez Parkway between Newton Avenue and Main Street (LOS E);
- Sampson Street between National Avenue and Harbor Drive (LOS E);
- 26th Street between National Avenue and Main Street (LOS E);
- 28th Street between I-5 and Boston Avenue (LOS F);
- 32nd Street between Main Street and Wabash Boulevard (LOS E);
- Vesta Street between Main Street and I-5 Ramps (LOS E);
- Logan Avenue between Sigsbee Street and Cesar Chavez Parkway (LOS F);
- National Avenue between Beardsley Street and Cesar Chavez Parkway (LOS F);
- National Avenue between Cesar Chavez Parkway and Evans Street (LOS F);
- National Avenue between Sicard Street and 27th Street (LOS F);
- Boston Avenue between 28th Street and 29th Street (LOS F);
- Boston Avenue between 29th Street and 32nd Street (LOS F);
- Main Street between Cesar Chavez Parkway and Evans Street (LOS E);
- Main Street between Evans Street and 26th Street (LOS E);
- Main Street between 26th Street and 28th Street (LOS F);
- Main Street between 28th Street and 29th Street (LOS F);
- Main Street between 29th Street and 32nd Street (LOS F);
- Main Street between 32nd Street and Rigel Street (LOS F);
- Main Street between Rigel Street and Una Street (LOS F); and
- Main Street between Una Street and I-5 SB Off-ramp (LOS F)

Freeway Segment Analysis

Table 5-4 displays the freeway segments analysis under the Horizon Year (2030) conditions for the Alternative 1 scenario. As shown in the table, the Alternative 1 scenario would have a cumulative traffic related impact along the following freeway segments:

- I-5 from J Street to SR-75 Junction (LOS F and LOS E for the morning and afternoon peak-hour periods, respectively);
- I-5 from SR-75 Junction to 28th Street (LOS F and LOS E for the morning and afternoon peakhour periods, respectively);
- I-5 from 28th Street to I-15 Interchange (LOS E during the morning peak-hour periods);
- I-5 from I-15 Interchange to Division Street (LOS F both peak-hour periods); and
- I-15 from I-5 Interchange to Ocean View Boulevard (LOS F during the afternoon peak-hour period)

ROMOWAY SECANENT READ	HIGHEST ACCEPTABLE LOS ACCEPTABLE LOS D VOLUME 0 18,750 18,750 18,750 18,750 25,000 25,000 18,750 18,750 25,000 25,000 18,750 18,750 18,750 25,000 25,000 6,500 35,000 35,000 18,750 18,750 35,000 35,000 35,000 35,000 35,000 35,000 13,000 35,000 35,000 35,000 13,000 35,000 35,000 35,000 13,000 13,000 35,000 35,000 13,000 13,000 35,000 35,000 13,000 13,000 13,000 13,000 13,000 13,000 13,000 13,000	LOSE CAPACITY 22,500 30,000 30,000 8,000 8,000 8,000 8,000 8,000 15,000 15,000 8,0000 8,000 8,000 8,0000 8,0000 8,000 8,000 8,000 8,000 8,000 8,0000 8,000 8,000 8,000 8,000 8,000 8,0000 8,000 8,0000 8,0000 8,000 8,0000 8,0000 8,0000 8,0000000 8,00000000	EXISTI ADT 14.170 15,300 15,300 15,300 11,812 10,381 11,812 10,381 2,561 2,561 2,561 2,561 2,561 10,381 1,8856 18,856 18,856 18,856 19,785 19,785 19,785 19,785 19,785 19,785 19,785 19,785 19,785 19,7785 10,77855 10,77855 10,77855 10,77855 10,77855 10,778555 10,778555 10	EXISTING CONDITIONS DT V/C.RATIO LON 0.1 (b) LON (170 0.630 C (300 0.510 C (311) 0.650 C (312) 0.555 C (314) 0.555 C (314) 0.525 C (314) 0.525 C (314) 0.525 C (314) 0.525 C (314) 0.320 B (312) 0.416 B (4172) 0.878 E (4172) 0.878 B (733) 0.188 A (733) 0.215 A (733) 0.215 A (733) 0.215 A	IONS LOS B B B B	YEAR 20 ADT ADT 25,200 25,200 24,300 20,000 12,900	YEAR 2030 (ALTERNATIVE I) ADT V/C RATIO ADT 0.662	LOS	Δ in V/C	SIGNIFICANT?
ROADWAY SEGMENT ROADWAY CLASSIFICATION (a) auvez Pkwy Lugan Ave allane Collector (with TWLT) Logan Ave 3 Lane Collector (with TWLT) I.National Ave 3 Lane Collector (with TWLT) Main St and Harbor Dr 3 Lane Collector (with TWLT) Main St and Harbor Dr 3 Lane Collector (with TWLT) St 3 Lane Collector (with TWLT) National Ave and Main St 4 Lane Collector (with TWLT) St 2 Lane Collector (with TWLT) National Ave and Harbor Dr 2 Lane Collector (with TWLT) National Ave and Harbor Dr 2 Lane Collector (with TWLT) National Ave and Main St 2 Lane Collector (with TWLT) National Ave and Main St 2 Lane Collector (with TWLT) National Ave and Main St 2 Lane Collector (with TWLT) Main St and Harbor Dr 4 Lane Major Arterial Main St and Harbor Dr 2 Lane Collector (with TWLT) Main St and Main St 2 Lane Collector (with TWLT) Main St and Harbor Dr 2 Lane Collector (with TWLT) Main St and LS 2 Lane Collector (with TWLT) Main St and LS 2 Lane Collector (with TWLT) Main St an		APACITY 22,500 30,000 22,500 30,000 30,000 8,000 8,000 30,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000	ADI 14,170 15,300 15,300 15,300 12,494 11,812 10,381 2,561 2,561 2,561 16,658 16,658 16,658 16,658 19,785	(b) 0.630 0.510 0.555 0.555 0.510 0.510 0.555 0.525 0.326 0.326 0.326 0.326 0.328 0.386 0.328 0.298 0.328 0.2988 0.2988 0.2988 0.2988 0.2988 0.2988 0.2988 0.2988 0.2		ADT 14,900 25,200 24,300 22,000 12,900	(b) 0.662	ros		IGNIFICAN
Instruction 3 Lane Collector (with TWLT) Logan Ave and National Ave 3 Lane Collector (with TWLT) National Ave and National Ave 3 Lane Collector (with TWLT) Newton Ave and Main St 3 Lane Collector (with TWLT) National Ave and Main St 3 Lane Collector (with TWLT) National Ave and Main St 3 Lane Collector (with TWLT) St 2 Lane Collector (with TWLT) National Ave and Harbor Dr 2 Lane Collector (with TWLT) National Ave and Harbor Dr 2 Lane Collector (with TWLT) National Ave and Harbor Dr 2 Lane Collector (with TWLT) National Ave and Main St 2 Lane Collector (with TWLT) I Boston Ave and Main St 2 Lane Collector (with TWLT) Main St and Harbor Dr 4 Lane Major Arterial Main St and Harbor Dr 2 Lane Collector (with TWLT) Main St and Harbor Dr 2 Lane Collector (with TWLT) Main St and Harbor Dr 2 Lane Collector (with TWLT) Main St and Harbor Dr 2 Lane Collector (with TWLT) Main St and Harbor Dr 2 Lane Collector (with TWLT) Main St and LS 2 Lane Collector (with TWLT) Main St and LS 2 Lane Collector (with TWLT)	18,750 25,000 18,750 18,750 18,750 25,000 25,000 6,500 6,500 18,750 18,750 5,500 6,500 13,000 6,500 6,500 13,000 6,500 13,000 13,000 13,000 13,000 6,500	22,500 30,000 30,000 22,500 22,500 30,000 8,000 8,000 8,000 30,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000	14,170 15,300 12,494 12,494 12,494 11,812 10,381 10,381 10,381 2,561 2,561 2,561 2,3086 3,086 2,3086 10,381 10,381 10,381 10,381 11,8,856 16,658 16,658 16,658 16,658 19,785 19,785 19,785 19,785 19,785 19,785 19,785 19,785 19,785 19,785 19,785	0.630 0.630 0.510 0.510 0.555 0.555 0.555 0.555 0.555 0.536 0.346 0.346 0.336 0.336 0.336 0.320 0.320 0.320 0.320 0.328 0.320 0.328 0.495 0.495 0.495 0.495 0.215 0.613		14,900 25,200 24,300 20,000 12,900	0.662			
Logan Ave and National Ave4 Lane Collector (with TWLT)National Ave and Newton Ave3 Lane Collector (with TWLT)Newton Ave and Main St3 Lane Collector (with TWLT)Nain St and Harbor Dr3 Lane Collector (with TWLT)Nain St and Harbor Dr2 Lane Collector (with TWLT)St2 Lane Collector (No TWLT)St2 Lane Collector (No TWLT)National Ave and Main St2 Lane Collector (No TWLT)National Ave and Main St2 Lane Collector (No TWLT)National Ave and Main St2 Lane Collector (with TWLT)National Ave and Main St2 Lane Collector (with TWLT)National Ave and Main St2 Lane Collector (with TWLT)Nain St and Harbor Dr3 Lane Collector (with TWLT)Nain St and Harbor Dr2 Lane Collector (with TWLT)Main St and Wabash Blvd2 Lane Collector (with TWLT)Main St and Wabash Blvd2 Lane Collector (with TWLT)Main St and Vabash Blvd2 Lane Collector (with TWLT)Main St and Sigabee St2 Lane Collector (with TWLT)Main St and L-52 Lane Collector (with TWLT)Sigsbee St and Cesar Chavez Pkvy2 Lane Collector (with TWLT)Sigsbee St and Cesar Chave	25,000 18,750 18,750 25,000 6,500 6,500 6,500 18,750 18,750 6,500 13,000 35,000 6,500 6,500 13,000 14,0000 14,000 14,000 14,	30,000 22,500 30,000 8,000 8,000 8,000 15,000 15,000 8,0000 8,0000 8,0000 8,0000 8,000000 8,0000 8,0000 8,0000 8,0000 8,0000 8,0000 8,0000 8,00000 8,0000 8,0000 8,0000 8,0000 8,0000 8,000000 8,0000 8,00000 8,00000000	15,300 12,494 11,812 10,381 10,381 10,381 2,561 2,561 2,561 2,561 2,561 10,381 10,500 18,856 18,856 18,856 19,785 19,785 19,785 19,785 19,785 19,785 19,785 19,785 19,785 19,785 19,785	0.510 0.555 0.5555 0.5255 0.5255 0.5255 0.3266 0.3366 0.3366 0.336 0.336 0.336 0.336 0.336 0.336 0.336 0.336 0.336 0.336 0.336 0.337 0.336 0.495 0.495 0.495 0.495 0.495		25,200 24,300 20,000 12,900	_	C	0.032	ON
National Ave and Newton Ave 3 Lane Collector (with TWLT) Newton Ave and Main St 3 Lane Collector (with TWLT) Newton TWLT) <td>18.750 18.750 18.750 25.000 6.500 6.500 6.500 18.750 5.500 6.500 13.000 6.500 6.500 13.000 6.500 6.500</td> <td>22.500 22.500 30,000 8,000 8,000 8,000 15,000 15,000 8,0000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,00000 8,0000 8,0000 8,000 8,000 8,0000 8,0000 8,0000 8,000 8,0000 8,0000 8,0000 8,0000 8,0000 8,00000000</td> <td>12,494 11,812 11,812 10,381 2,561 1,566 1,573 1,573 1,573 1,573</td> <td>0.555 0.555 0.346 0.346 0.336 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.416 0.495 0.495 0.495 0.215 0.613</td> <td></td> <td>24,300 20,000 12,900</td> <td>0.840</td> <td>Е</td> <td>0.330</td> <td>YES</td>	18.750 18.750 18.750 25.000 6.500 6.500 6.500 18.750 5.500 6.500 13.000 6.500 6.500 13.000 6.500 6.500	22.500 22.500 30,000 8,000 8,000 8,000 15,000 15,000 8,0000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000 8,00000 8,0000 8,0000 8,000 8,000 8,0000 8,0000 8,0000 8,000 8,0000 8,0000 8,0000 8,0000 8,0000 8,00000000	12,494 11,812 11,812 10,381 2,561 1,566 1,573 1,573 1,573 1,573	0.555 0.555 0.346 0.346 0.336 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.416 0.495 0.495 0.495 0.215 0.613		24,300 20,000 12,900	0.840	Е	0.330	YES
Newton Ave and Main St 3 Lane Collector (with TWLT) Main St and Harbor Dr 4 Lane Collector (with TWLT) St 2 Lane Collector (with TWLT) I-5 and National Ave 2 Lane Collector (No TWLT) I-5 and National Ave 2 Lane Collector (No TWLT) I-5 and National Ave 2 Lane Collector (No TWLT) National Ave and Main St 2 Lane Collector (No TWLT) I-5 and Boston Ave 3 Lane Collector (No TWLT) I-5 and Boston Ave 3 Lane Collector (No TWLT) I-5 and Boston Ave 3 Lane Collector (Nith TWLT) I-5 and Boston Ave 3 Lane Collector (Nith TWLT) I-5 and Boston Ave 3 Lane Collector (Nith TWLT) I-5 and Harbor Dr 4 Lane Major Arterial I-5 and Harbor Dr 2 Lane Collector (Nith TWLT) Main St and Wabash Blvd 2 Lane Collector (No TWLT) I-1 Main St and V-5 2 Lane Collector (No TWLT) Main St and V-5 2 Lane Collector (No TWLT) Main St and Harbor Drive 2 Lane Collector (No TWLT) Main St and Harbor Drive 2 Lane Collector (No TWLT) Main St and L-5 2 Lane Collector (No TWLT) Main St and L-5 2 Lane Collector (No TWLT) Main St and L-5 2 Lane Collector (No TWLT) Main St and L-5 2 Lane Collector (No TWLT) Main St and L-5	18,750 25,000 6,500 6,500 6,500 6,500 18,750 35,000 35,000 35,000 35,000 6,500 6,500 13,000 6,500 6,500	22,500 30,000 30,000 8,000 8,000 8,000 30,000 30,000 30,000 15,000 15,000 15,000 8,000 8,000	11,812 10,381 10,381 3,086 3,086 2,561 16,658 11,500 11,723 11,723 1,723	0.525 0.525 0.346 0.346 0.336 0.386 0.320 0.386 0.320 0.386 0.320 0.386 0.320 0.386 0.320 0.386 0.416 0.416 0.415 0.495 0.495 0.495 0.013 0.013	A B B C	20,000 12,900	1.080	F	0.525	YES
Main St and Harbor Dr 4 Lane Collector (with TWLT) St St 1-5 and National Ave 2 Lane Collector (No TWLT) National Ave and Harbor Dr 2 Lane Collector (No TWLT) National Ave and Harbor Dr 2 Lane Collector (No TWLT) I-5 and National Ave and Main St 2 Lane Collector (with TWLT) National Ave and Main St 3 Lane Collector (with TWLT) I-5 and Boston Ave 3 Lane Collector (with TWLT) Boston Ave and Main St 4 Lane Collector (with TWLT) I-5 and Boston Ave and Main St 2 Lane Collector (with TWLT) I-5 and Boston Ave and Main St 2 Lane Collector (with TWLT) Main St and Harbor Dr 4 Lane Major Arterial Main St and Wabash Blvd 2 Lane Collector (with TWLT) Main St and Wabash Blvd 2 Lane Collector (with TWLT) Main St and Wabash Blvd 2 Lane Collector (with TWLT) Main St and Harbor Drive 2 Lane Collector (with TWLT) Main St and Harbor Drive 2 Lane Collector (with TWLT) Main St and L-5 2 Lane Collector (with TWLT) Main St and L-5 2 Lane Collector (with TWLT) Main St and L-5 2 Lane Collector (with TWLT) Main St and L-5 2 Lane Collector (with TWLT) Main St and L-5 2 Lane Collector (with TWLT) Main St and L-5 2 Lane Collec	25,000 6,500 6,500 6,500 118,750 118,750 118,750 25,000 35,000 6,500 6,500 6,500 6,500 13,000 13,000 13,000 13,000 13,000 13,000 13,000 13,000 13,000 13,000 13,000 13,000 13,000 13,000 13,000 13,000 10,00000000	30,000 8,000 8,000 30,000 8,000 15,000 8,0000 8,000 8,0000 8,0000 8,000 8,000 8,000 8,0000	10.381 3,086 3,086 2,561 2,500 19,785	0.346 0.346 0.380 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.320 0.416 0.416 0.495 0.495 0.495 0.215 0.613 0.613	A B B B	12,900	0.889	Е	0.364	YES
St 3 Lane Collector (No TWLT) I I-5 and National Ave 2 Lane Collector (No TWLT) National Ave and Harbor Dr 2 Lane Collector (No TWLT) I-5 and Boston Ave 3 Lane Collector (No TWLT) I-5 and Boston Ave 3 Lane Collector (No TWLT) I-5 and Boston Ave 3 Lane Collector (with TWLT) I-5 and Boston Ave and Main St 4 Lane Collector (with TWLT) I Boston Ave and Main St 4 Lane Collector (with TWLT) I Boston Ave and Main St 2 Lane Collector (with TWLT) I Main St and Wabash Blvd 2 Lane Collector (with TWLT) I Main St and Wabash Blvd 2 Lane Collector (with TWLT) I Main St and Wabash Blvd 2 Lane Collector (with TWLT) I Main St and Wabash Blvd 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I O Sigsbee St 2 Lane Collector (with TWLT) I O Sigsbee St and Sigsbee	6,500 6,500 6,500 18,750 35,000 35,000 13,000 13,000 6,500 6,500 13,0000 13,0000 13,0000 13,0000000000	8,000 8,000 30,000 30,000 15,000 15,000 8,000 8,000 8,000 8,000	3,086 2,561 2,561 2,380 18,856 18,856 18,856 18,856 18,856 19,785	0.386 0.320 0.320 0.320 0.298 0.978 0.629 0.416 0.878 0.495 0.495 0.495 0.215 0.613	A B B		0.430	В	0.084	NO
1-5 and National Ave 2 Lane Collector (No TWLT) National Ave and Harbor Dr 2 Lane Collector (No TWLT) National Ave and Main St 2 Lane Collector (No TWLT) I-5 and Boston Ave 3 Lane Collector (No TWLT) I Boston Ave and Main St 4 Lane Collector (with TWLT) I Boston Ave and Main St 1 Lane Collector (with TWLT) I Boston Ave and Main St 1 Lane Collector (with TWLT) I Boston Ave and Main St 2 Lane Collector (with TWLT) I Boston Ave and Main St 2 Lane Collector (with TWLT) I Boston Ave and Main St 2 Lane Collector (with TWLT) I Main St and Wabash Blvd 2 Lane Collector (with TWLT) I Wabash Blvd and Harbor Drive 2 Lane Collector (with TWLT) I Wabash Blvd and Harbor Drive 2 Lane Collector (with TWLT) I Wabash Blvd and Harbor Drive 2 Lane Collector (with TWLT) I Wabash Blvd and I-5 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I Trh St and Sigsbee St and Cesar Chavez Pkwy and 26th St 2 Lane Collector (with TWLT) I Obst and Sigsbee St and Sigsbee St	6,500 6,500 6,500 18,750 35,000 35,000 6,500 6,500 6,500 13,000 13,000 13,000	8,000 8,000 30,000 8,000 8,000 8,000 8,000 8,000 8,000 8,000	3,086 3,086 2,561 2,561 2,561 2,561 2,561 2,561 2,561 2,561 2,561 2,561 2,561 2,561 2,561 2,561 2,561 2,561 2,561 1,500 1,500 1,500 1,500 1,500 1,723 1,723 1,723	0.386 0.320 0.298 0.978 0.978 0.416 0.416 0.188 0.878 0.495 0.495	A B B					
National Ave and Harbor Dr 2 Lane Collector (No TWLT) I-5 and Boston Ave and Main St 2 Lane Collector (with TWLT) I-5 and Boston Ave 3 Lane Collector (with TWLT) I Boston Ave and Main St 4 Lane Collector (with TWLT) I Boston Ave and Main St 4 Lane Collector (with TWLT) I Main St and Harbor Dr 4 Lane Collector (with TWLT) I Main St and Harbor Dr 2 Lane Collector (with TWLT) I Main St and Wabash Blvd 2 Lane Collector (with TWLT) I Main St and Wabash Blvd 2 Lane Collector (with TWLT) I Main St and Wabash Blvd 2 Lane Collector (with TWLT) I Main St and Vabash Blvd 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I Ocear Chavez Pkwy and Seth St 2 Lane Collector (with TWLT) Si	6,500 6,500 35,000 6,500 6,500 13,000 13,000 6,500 6,500 13,000 13,000 13,000 13,000 13,000 13,000	8,000 8,000 30,000 15,000 15,000 8,000 8,000 8,000 8,000 8,000 8,000 15,0000 15,0000 15,0	2,380 2,380 18,856 16,658 16,658 16,658 16,658 19,785 19,7	0.298 0.978 0.629 0.416 0.878 0.878 0.878 0.495 0.495	A B	5,800	0.725	D	0.339	on
National Ave and Main St 2 Lane Collector (No TWLT) I - S and Boston Ave 3 Lane Collector (with TWLT) I - Boston Ave and Main St 4 Lane Collector (with TWLT) I - Boston Ave and Main St 4 Lane Collector (with TWLT) I - Boston Ave and Main St 2 Lane Collector (with TWLT) I - Boston Ave and Main St 2 Lane Collector (No TWLT) I - Boston Ave and Main St 2 Lane Collector (No TWLT) I - Boston Ave and Main St 2 Lane Collector (No TWLT) I - Boston Ave and Main St 2 Lane Collector (with TWLT) I - Main St and Vabash Blvd 2 Lane Collector (with TWLT) I - Main St and I-5 2 Lane Collector (No TWLT) I - Main St and I-5 2 Lane Collector (No TWLT) I - Main St and I-5 2 Lane Collector (No TWLT) I - Main St and I-5 2 Lane Collector (No TWLT) I - Main St and I-5 2 Lane Collector (No TWLT) I - Main St and I-5 2 Lane Collector (No TWLT) I - Main St and I-5 2 Lane Collector (No TWLT) I - Main St and Sigsbee St and Cesar Chavez Pkwy and 26th St 2 Lane Collector (Nith TWLT) I - Main St and Sigsbee St and Sig	6,500 18,750 25,000 35,000 6,500 13,000 35,000 13,000	8,000 30,000 30,000 8,000 8,000 8,000 8,000 8,000 8,000	2,380 22,000 18,856 16,658 16,658 16,658 16,658 19,785 19,	0.298 0.978 0.978 0.416 0.188 0.188 0.188 0.188 0.188 0.188 0.188 0.188 0.188 0.188 0.188 0.188 0.188 0.188 0.188 0.188	А	7,800	0.975	ы	0.655	YES
I F5 and Boston Ave 3 Lane Collector (with TWLT) I Boston Ave and Main St 4 Lane Collector (with TWLT) I Boston Ave and Main St 4 Lane Collector (with TWLT) I Boston Ave and Main St 2 Lane Collector (with TWLT) I Boston Ave and Main St 2 Lane Collector (with TWLT) I Boston Ave and Main St 2 Lane Collector (No TWLT) I Main St and Wabash Blvd 2 Lane Collector (No TWLT) I Main St and L5 2 Lane Collector (with TWLT) I Main St and L5 2 Lane Collector (with TWLT) I Main St and L5 2 Lane Collector (with TWLT) I Main St and L5 2 Lane Collector (with TWLT) I TYth St and Sigsbee St 2 Lane Collector (with TWLT) Ve 2 Lane Collector (with TWLT) Na 2 Lane Collector (with TWLT) I TYth St and Sigsbee St and Cesar Chavez Pkwy and 26th St 2 Lane Collector (with TWLT) I Sigsbee St and Sigsbee	18,750 25,000 35,000 6,500 13,000 6,500 6,500	22.500 30,000 8,000 8,000 8,000 8,000 8,000 8,000	22,000 18,856 16,658 1,500 1,500 1,500 1,725 19,785 1,723 1,725 1,725 1,725 1,725 1,725 1,725 1,725 1,725 1,725 1,725	0.978 0.629 0.416 0.188 0.878 0.878 0.878 0.495 0.495		7.000	0.875	Е	0.577	YES
I-5 and Boston Ave 3 Lane Collector (with TWLT) I Boston Ave and Main St 4 Lane Collector (with TWLT) I Main St and Harbor Dr 4 Lane Collector (with TWLT) I Boston Ave and Main St 2 Lane Collector (with TWLT) I Boston Ave and Main St 2 Lane Collector (with TWLT) I Main St and Wabash Blvd 2 Lane Collector (with TWLT) I Main St and Wabash Blvd 2 Lane Collector (with TWLT) I Main St and Harbor Drive 4 Lane Major Arterial I Main St and I-5 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (with TWLT) I T/th St and Sigsbee St and Cesar Chavez Pkwy 2 Lane Collector (with TWLT) Cesar Chavez Pkwy and 26th St 2 Lane Collector (with TWLT) Cesar Chavez Pkwy and 26th St 2 Lane Collector (with TWLT) I ofth St and Sigsbee St and Cesar Chavez Pkwy and 26th St 2 Lane Collector (with TWLT) Cesar Chavez Pkwy and Soth St 2 Lane Collector (with TWLT) I ofth St and Sigsbee St and Beardsley St 2 Lane Collector (with TWLT) I ofth St and Sigsbee St and Beardsley St 2 Lane Collector (with TWLT)	18,750 25,000 35,000 6,500 13,000 35,000 6,500 6,500 13,000	22.500 30,000 8,000 8,000 8,000 8,000 8,000	22,000 18,856 16,658 1,500 1,702 1,702 1,702 1,702 1,700 1,702	0.978 0.629 0.416 0.416 0.188 0.416 0.416 0.188 0.188 0.188 0.188 0.188 0.188 0.188 0.188 0.188 0.188 0.188 0.188 0.188 0.215 0.613		0 0 0		1		
I Boston Ave and Main St 4 Lane Collector (with TWLT) I Main St and Harbor Dr 4 Lane Major Arterial I Boston Ave and Main St 2 Lane Collector (No TWLT) I Main St and Wabash Blvd 2 Lane Collector (with TWLT) I Main St and Wabash Blvd 2 Lane Collector (with TWLT) I Main St and Wabash Blvd 2 Lane Collector (with TWLT) I Main St and Vabash Blvd 2 Lane Collector (with TWLT) I Main St and I-5 2 Lane Collector (No TWLT) I Main St and I-5 2 Lane Collector (No TWLT) I Main St and I-5 2 Lane Collector (No TWLT) I Tht St and Sigsbee St 2 Lane Collector (with TWLT) Ne 2 Lane Collector (with TWLT) Ne 2 Lane Collector (with TWLT) I Ofth St and Sigsbee St and Cesar Chavez Pkwy and 26th St 2 Lane Collector (with TWLT) I Ofth St and Sigsbee St and Setup St 2 Lane Collector (with TWLT) I ofth St and Sigsbee St and Setup St 2 Lane Collector (with TWLT) I ofth St and Sigsbee St and Setup St 2 Lane Collector (with TWLT) I ofth St and Sigsbee St and Beardsley St 2 Lane Collector (with TWLT)	25,000 35,000 6,500 35,000 6,500 6,500 13,000	30,000 8,000 8,000 8,000 8,000 8,000 8,000	18,856 16,658 1,500 1,500 13,172 19,785 19,785 14,900 4,900	0.629 0.416 0.188 0.878 0.878 0.878 0.495 0.495	E	34,500	1.533	F	0.555	YES
Main St and Harbor Dr 4 Lane Major Arterial n Boston Ave and Main St 2 Lane Collector (with TWLT) n Main St and Wabash Blvd 2 Lane Collector (with TWLT) n Wabash Blvd and Harbor Drive 4 Lane Major Arterial n Main St and U-5 2 Lane Collector (with TWLT) n Main St and I-5 2 Lane Collector (with TWLT) n Main St and I-5 2 Lane Collector (No TWLT) n Main St and I-5 2 Lane Collector (No TWLT) n Main St and I-5 2 Lane Collector (No TWLT) n Main St and I-5 2 Lane Collector (No TWLT) n Sigsbee St and Cesar Chavez Pkwy 2 Lane Collector (with TWLT) n 17th St and Sigsbee St and Cesar Chavez Pkwy 2 Lane Collector (with TWLT) cesar Chavez Pkwy and 26th St 2 Lane Collector (with TWLT) n Sigsbee St and Sigsbee St and Beardsley St 2 Lane Collector (with TWLT)	35,000 6,500 13,000 35,000 6,500 6,500 13,000	40,000 8,000 8,000 8,000 8,000	16,658 1,500 1,500 19,785 19,785 1,723 1,723 1,723 1,723	0.416	С	24,200	0.807	D	0.178	ON
n Boston Ave and Main St 2 Lane Collector (No TWLT) Main St and Wabash Blvd 2 Lane Collector (with TWLT) i Wabash Blvd and Harbor Drive 4 Lane Major Arterial i Wabash Blvd and Harbor Drive 2 Lane Collector (with TWLT) i Main St and I-5 2 Lane Collector (No TWLT) i Main St and I-5 2 Lane Collector (No TWLT) i Main St and I-5 2 Lane Collector (No TWLT) i T7th St and Sigsbee St 2 Lane Collector (No TWLT) Sigsbee St and Cesar Chavez Pkwy and 26th St 2 Lane Collector (with TWLT) Cesar Chavez Pkwy and 26th St 2 Lane Collector (with TWLT) i Oth St and Sigsbee St and Destrop (with TWLT) 2 Lane Collector (with TWLT) i Sigsbee St and S	6.500 13,000 35,000 6,500 13,000	8,000 8,000 8,000 8,000	1,500 13,172 19,785 19,785 1,723 4,900	0.188 0.878 0.495 0.215 0.613	В	23,300	0.583	С	0.167	NO
n Boston Ave and Main St 2 Lane Collector (No TWLT) Main St and Wabash Blvd 2 Lane Collector (with TWLT) wabash Blvd and Harbor Drive 4 Lane Major Arterial Main St and U-5 2 Lane Collector (No TWLT) Main St and I-5 2 Lane Collector (No TWLT) Main St and I-5 2 Lane Collector (No TWLT) I Th St and Sigsbee St 2 Lane Collector (No TWLT) Name 2 Lane Collector (Nith TWLT) Name 2 Lane Collector (with TWLT)	6,500 13,000 35,000 6,500 13,000 13,000	8,000 15,000 8,000 8,000	1,500 13,172 19,785 1,785 1,723 1,723 4,900	0.188 0.878 0.495 0.495 0.215 0.613					-	
Main St and Wabash Blvd 2 Lane Collector (with TWLT) I Wabash Blvd and Harbor Drive 4 Lane Major Arterial Main St and I-5 2 Lane Collector (No TWLT) Main St and I-5 2 Lane Collector (No TWLT) Main St and I-5 2 Lane Collector (No TWLT) Main St and I-5 2 Lane Collector (No TWLT) I Trth St and Sigsbee St 2 Lane Collector (with TWLT) Sigsbee St and Cesar Chavez Pkwy and 26th St 2 Lane Collector (with TWLT) Cesar Chavez Pkwy and 26th St 2 Lane Collector (with TWLT) I ofth St and Sigsbee St and Destroper	13,000 35,000 6,500 6,500	8,000	13,172 19,785 1,723 4,900	0.878 0.495 0.215 0.215	Α	5,300	0.663	D	0.476	NO
I Wabash Blvd and Harbor Drive 2 Lane Collector (No TWLT) I Main St and I-5 2 Lane Collector (No TWLT) Main St and I-5 2 Lane Collector (No TWLT) I Tth St and Sigsbee St 2 Lane Collector (No TWLT) I Tth St and Sigsbee St 2 Lane Collector (with TWLT) Sigsbee St and Cesar Chavez Pkwy 2 Lane Collector (with TWLT) I ofth St and Sigsbee St 2 Lane Collector (with TWLT) I ofth St and Sigsbee St 2 Lane Collector (with TWLT) I ofth St and Sigsbee St 2 Lane Collector (with TWLT) I ofth St and Sigsbee St 2 Lane Collector (with TWLT) I ofth St and Sigsbee St 2 Lane Collector (with TWLT) I ofth St and Sigsbee St 2 Lane Collector (with TWLT)	35,000 6,500 13,000	8,000	1,723	0.495	E	14 500	70 O	Ę	080.0	VEC
I Main St and I-5 2 Lane Collector (No TWLT) I Main St and I-5 2 Lane Collector (No TWLT) I Th St and Sigsbee St 2 Lane Collector (with TWLT) Ve 2 Lane Collector (with TWLT) Sigsbee St and Cesar Chavez Pkwy 2 Lane Collector (with TWLT) Cesar Chavez Pkwy and 26th St 2 Lane Collector (with TWLT) Ave 2 Lane Collector (with TWLT) I ofth St and Sigsbee St 2 Lane Collector (with TWLT) I ofth St and Sigsbee St 2 Lane Collector (with TWLT) I ofth St and Sigsbee St 2 Lane Collector (with TWLT)	6,500	8,000	1,723	0.215	a m	25.800	0.645	c r	0.150	ON
Main St and I-5 2 Lane Collector (No TWLT) Main St and I-5 2 Lane Collector (No TWLT) we 2 Lane Collector (with TWLT) ve 2 Lane Collector (with TWLT) 17th St and Sigsbee St 2 Lane Collector (with TWLT) 17th St and Sigsbee St 2 Lane Collector (with TWLT) 16th St and Sigsbee St 2 Lane Collector (with TWLT) 16th St and Sigsbee St 2 Lane Collector (with TWLT) 16th St and Sigsbee St 2 Lane Collector (with TWLT) 16th St and Sigsbee St 2 Lane Collector (with TWLT) 16th St and Sigsbee St 2 Lane Collector (with TWLT)	6,500 6,500 13,000	8,000	1,723	0.215	4			,		2
Main St and I-5 2 Lane Collector (No TWLT) ve 2 Lane Collector (with TWLT) 17th St and Sigsbee St 2 Lane Collector (with TWLT) 15gsbee St and Cesar Chavez Pkwy 2 Lane Collector (with TWLT) 1 Sigsbee St and Cesar Chavez Pkwy and 26th St 2 Lane Collector (with TWLT) 1 Cesar Chavez Pkwy and 26th St 2 Lane Collector (with TWLT) 1 of th St and Sigsbee St 2 Lane Collector (with TWLT) 1 of th St and Sigsbee St 2 Lane Collector (with TWLT) 1 sigsbee St and Beardsley St 2 Lane Collector (with TWLT)	6,500	8,000	4,900	0.613	A	1,400	0.175	A	-0.040	ON
in St and I-5 2 Lane Collector (No TWLT) h St and Sigsbee St 2 Lane Collector (with TWLT) shee St and Cesar Chavez Pkwy 2 Lane Collector (with TWLT) ar Chavez Pkwy and 26th St 2 Lane Collector (with TWLT) h St and Sigsbee St and Beardsley St 2 Lane Collector (with TWLT) shee St and Beardsley St 2 Lane Collector (with TWLT) h St and Sigsbee St and Beardsley St 2 Lane Collector (with TWLT) h St and Sigsbee St and Beardsley St 2 Lane Collector (with TWLT) h St and Sigsbee St and Beardsley St 2 Lane Collector (with TWLT) h St and Sigsbee St and Beardsley St 2 Lane Collector (with TWLT) h St and	6,500 13,000	8,000	4,900	0.613						
h St and Sigsbee St 2 Lane Collector (with TWLT) sbee St and Cesar Chavez Pkwy 2 Lane Collector (with TWLT) ar Chavez Pkwy and 26th St 2 Lane Collector (with TWLT) h St and Sigsbee St 2 Lane Collector (with TWLT) sbee St and Beardsley St 2 Lane Collector (with TWLT)	13,000				С	6,700	0.838	Е	0.225	YES
h St and Sigsbee St 2 Lane Collector (with TWLT) shee St and Cesar Chavez Pkwy 2 Lane Collector (with TWLT) ar Chavez Pkwy and 26th St 2 Lane Collector (with TWLT) h St and Sigsbee St 2 Lane Collector (with TWLT) shee St and Beardsley St 2 Lane Collector (with TWLT)	13,000	0000 1	- - 			0010		¢		014
ar Chavez Pkwy and 26th St 2 Lane Collector (with TWLT) h St and Sigsbee St 2 Lane Collector (with TWLT) she St and Bardsley St 2 Lane Collector (with TWLT)	13 000	15 000	400,0 7 478	0.499	د ر	16 500	0./00	U F	0.400	VES
h St and Sigsbee St 2 Lane Collector (with TWLT) shee St and Beardsley St 2 Lane Collector (with TWLT)	13,000	15,000	2.954	0.197	A A	5,700	0.380	B	0.183	ON N
h St and Sigsbee St 2 Lane Collector (with TWLT) see St and Beardsley St 2 Lane Collector (with TWLT)		~								
2 Lane Collector (with TWLT)	13,000	15,000	2,603	0.174	A	12,600	0.840	D	0.666	NO
	13,000	15,000	4,500	0.300	Α	12,600	0.840	D	0.540	NO
cwy 2 Lane Collector (No TWLT)	6,500	8,000	3,511	0.439	С	17,000	2.125	F	1.686	YES
d Evans St 2 Lane Collector (No TWLT)	6,500	8,000	4,643	0.580	C	9,300	1.163	F	0.583	YES
St 2 Lane Collector (with TWLT)	13,000	15,000	3,677	0.245	< ,	8,700	0.580	c	0.335	ON I
between Sicard St and 2/th St	6,500	8,000	8,445	9¢0.1	ž	10,200	c/7.1	ž	0.219	YES
Sth and 29th St 2 Lane Collector (No TWLT)	6,500	8,000	2,420	0.303	V	15,000	1.875	F	1.572	YES
St 2 Lane Collector (No TWLT)	6,500	8,000	2,420	0.303	Υ	8,300	1.038	F	0.735	YES
twy 2 Lane Collector (No TWLT)	6,500	8,000	3,566	0.446	С	4,200	0.525	С	0.079	ON
and Evans St 2 Lane Collector (No TWLT)	6,500	8,000	2,598	0.325	в	7,900	0.988	Е	0.663	YES
st 2 Lane Collector (No TWLT)	6,500	8,000	2,598	0.325	С	12,000	1.500	Е	1.175	YES
St 3 Lane Collector (No TWLT)	9,750	11,250	7,435	0.661	С	12,700	1.129	F	0.468	YES
between 28th and 29th St 4 Lane Collector (No TWLT) 1 between 20th St and 20th St 20th St and St 20th St TWLT T	13,000 0.750	15,000	11,266	0.751	<u>ы</u> Б	12,400	0.827	н п	0.076	YES
tween 27nd St and Rigel St 41 and Collector (No TWLT)	13 000	15 000	21 100	1.001	4 14	26 100	1 740	ц Ц	0 333	VES
7 Lane Collector (with TWI T)	13,000	15,000	15 944	1.063	- F	20,600	1 373	i Iz	0.310	VFS
if Ramp 2 Lane Collector (with TWLT)	13,000	15,000	15,177	1.012	- E	18,100	1.207	F F	0.195	YES
teardsley St and Cesar Chavez Pkwy 4 Lane Major Arterial	35,000	40,000	12,094	0.302	А	30,400	0.760	D	0.458	ON
between Cesar Chavez Pkwy and Sampson St 4 Lane Major Arterial 3	35,000	40,000	13,778	0.344	А	25,500	0.638	С	0.294	ON
between Sampson St and Schley St 4 Lane Major Arterial 3	35,000	40,000	9,080	0.227	А	23,400	0.585	С	0.358	NO
t 4 Lane Major Arterial	35,000	40,000	8,816	0.220	A	18,800	0.470	В	0.250	NO
nd 32nd St 4 Lane Major Arterial	35,000	40,000	18,900	0.473	в	26,900	0.673	С	0.200	NO
etween 32nd St and Vesta St 4 Lane Major Arterial 3	35,000	40,000	16,320	0.408	в	31,500	0.788	D	0.380	ON

TATING INTENDE ATTING						HORIZO	T N YEAR (2030) FREEWAY SEC	TABLE 5-4 N YEAR (2030) CONDITIONS ALTERN FREEWAY SEGMENT LOS SUMMARY	TABLE 5-4 HORIZON YEAR (2030) CONDITIONS ALTERNATIVE I FREEWAY SEGMENT LOS SUMMARY							
Matrixed brance Matrixed branone Matrixed brance Matrixe					EXIST	ING					ALTERNATIV	/E 1				
Anticipational Sector	FREEWAY SEGMENT	DIRECTION	NUMBER OF LANES		Ida	PEAK-HOUR VOLUME (c)	V/C RATIO	ros	NUMBER OF LANES	CAPACITY (a)	ADT (b)	PEAK- HOUR VOLUME (c)	V/C RATIO	ros	V/C RATIO A	SIGNIFICANT?
Sit 75 lunction. NB 4M 9 and bit M 6 and<								M PEAK								
SiR 73 Intation Wei Value	I-5	Ę		0 100			0.00	4	4 M 6 - 1 II	11 000		11 551	1 050	91		ATE C
Clippe 10 301 State Clippe 10 Clippe 10 Clippe 10 Clippe 1000	J Street to SR-75 Junction	an CD	4 M	9,400	164,000	1,195	0.829	2	4 M + I H	11,000	243,100	166,11	0.c0.1	FU	0.22	YES
Internet Interne Internet Internet		an	W t	9,400		7 603	0.800	-	4 M ± 1 H	11,000		11 466	1 043	ED	0.73	VFS
cli 1 landenchange NB 4 M 9 400 1 310 0 310 2 100 2 100 2 100 2 100 1 000 2 100 1 000 2 100 1 000 2 100 1 000 2 100	SR-75 Junction to 28th Street	SB	4 M	9,400	160,000	c00,1	6000	ہ	4 M + 1 H 4 M + 1 H	11,000	241,300	11,400	1.042	ΓO	C7-D	
Controllinge Sign Calinge		NB	4 M	9,400	151 000	7,317	0.778	J	4 M + 1 H	11,000	001 000	10,530	0.957	Э	0.18	YES
charge or Divideds BB 4M 9.40 88.00 88.00 88.00 88.00 88.00 88.00 88.00 88.00 88.00 88.00 98.00	28th Street to 1-15 Interchange	SB	4 M	9,400	104,000				4 M + 1 H	11,000	221,000					
Image of Clorent Werk Image Image<	1-15 Interchange to Division St	NB	4 M	9,400	188 000	8,933	0.950	Е	4 M + 1 H	11,000	261 700	12,435	1.130	$\mathbf{F0}$	0.18	YES
Inder to Ocean Verv Bi NB 3M 700 500 500 500 500 500 500 647 0014 D 0014 Inder to Ocean Verv Bi 2M 2M0 4700 500		SB	4 M	9,400	100,000				4 M + 1 H	11,000	001,102					-
Image to Chean View BI NB 3 M 7 300 5 00 4 7 30 5 00 6 4 7 0 9 14 D 0 14 D <thd< th=""> D <thd< th=""> <!--</td--><td>I-15</td><td></td><td></td><td></td><td></td><td></td><td></td><td>Ī</td><td></td><td></td><td></td><td>Ī</td><td></td><td>•</td><td></td><td>:</td></thd<></thd<>	I-15							Ī				Ī		•		:
Independent 3M 700 770 4770 7760 4770 617 014 D D D D D D D D D D D D D D <t< td=""><td>L5 Interchance to Ocean View B1</td><td></td><td>3 M</td><td>7,050</td><td>95 000</td><td></td><td></td><td></td><td>3 M</td><td>7,050</td><td>129 700</td><td></td><td></td><td></td><td></td><td>:</td></t<>	L5 Interchance to Ocean View B1		3 M	7,050	95 000				3 M	7,050	129 700					:
Image to Choletter BNul WB Z H Z/200 C Z/201 C Z/200 C Z/201 Z/200 C Z/201 Z/200 Z/201 Z/21 Z/201 Z/21 Z/201 Z/21 Z/201 Z/21 Z/21 Z/201 Z/21 Z/21 <thz 21<="" th=""> Z/21 <thz 21<="" th=""></thz></thz>			3 M	7,050	000101	4,722	0.670	С	3 M	7,050		6,447	0.914	D	0.24	:
Image to Cloneture BNd WB 2 M 4.700 7.50 7.50 7.50 7.50 0.51 0 0.15 0 0.15 SR 75 Junction NB 4 M 9.400 164.00 7.605 C 4 M+1 H 11.000 0.510 0.545 0.541 P 0.00 SR 75 Junction NB 4 M 9.400 160.00 6.667 0.705 C 4 M+1 H 11.000 0.136 0.948 P 0.00	SR-75 (d)															:
matrix Image Image <t< td=""><td>1-5 Interchance to Glorietta Blvd</td><td>WB</td><td>2 M</td><td>4,700</td><td>73 000</td><td></td><td></td><td></td><td>2 M</td><td>4,700</td><td>93 500</td><td></td><td></td><td></td><td>-</td><td>:</td></t<>	1-5 Interchance to Glorietta Blvd	WB	2 M	4,700	73 000				2 M	4,700	93 500				-	:
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	(d) SR-75 has reversable lanes.															

Mitigation

The following intersection improvements are needed to mitigate the peak-hour intersection impacts of the proposed Barrio Logan Community Plan Update Land Use Alternative 1:

- <u>National Avenue and 16th Street</u>: A new traffic signal is recommended to be installed at this intersection. A signal warrant worksheet for this intersection is included in **Appendix I**. This intersection would meet the peak-hour warrant evaluation based on the Horizon Year 2030 volumes.
- <u>Harbor Drive and Sigsbee Street</u>: A traffic signal is recommended to be installed at the intersection of Sigsbee Street and Harbor Drive. The signal is needed to serve the increased traffic from land uses proposed, as well as accommodating the traffic that would be diverted from Beardsley Street due to the median closure along Harbor Drive. A signal warrant worksheet for this intersection is included in Appendix I. This intersection would meet the peak-hour warrant evaluation based on the Horizon Year 2030 volumes.
- Logan Avenue and Beardsley Street/I-5 SB off-ramp: A traffic signal is recommended to be
 installed at the intersection. A signal warrant worksheet for this intersection is included in
 Appendix I. This intersection would meet the peak-hour warrant evaluation based on the Horizon
 Year 2030 volumes.
- <u>National Avenue and Beardsley Street:</u> A traffic signal is recommended to be installed at the intersection. A signal warrant worksheet for this intersection is included in Appendix I. This intersection would meet the peak-hour warrant evaluation based on the Horizon Year 2030 volumes.
- <u>Harbor Drive and Beardsley Street:</u> This improvement would extend the raised median along Harbor Drive in front of Beardsley Street converting the intersection to right-in/right-out only movements.
- Logan Avenue and Cesar Chavez Parkway: The addition of an exclusive eastbound right-turn lane and a northbound right-turn overlap phase are recommended to be installed at this intersection. The addition of the exclusive eastbound right-turn lane could be implemented by restriping changes only. An existing MTS bus stop is located where the exclusive right-turn lane is recommended. To reduce the impact to on-street parking, the relocation of the existing MTS bus stop is not recommended at this point. Further coordination with MTS is required before the implementation of this improvement. This improvement will not affect the existing on-street parking. The entrance to the State Route 75 ramps would be reconfigured to improve pedestrian circulation. This improvement could include the removal of the free northbound right-turn access from Cesar Chavez Parkway to the State Route 75 ramps.
- <u>National Avenue and Cesar Chavez Parkway:</u> Exclusive eastbound and westbound right-turn lanes are recommended to be installed at this intersection in order to reduce queuing along National Avenue. These improvements could be implemented by restriping changes only. These improvements will not affect the existing on-street parking. An existing MTS bus stop is located where the exclusive westbound right-turn lane is recommended. To reduce the impact to on-street parking, the relocation of the existing MTS bus stop is not recommended at this point. Further coordination with MTS is required before the implementation of this improvement.
- Main Street and Cesar Chavez Parkway: An exclusive westbound right-turn lane is recommended to be installed at this intersection in order to reduce queuing along Main Street. This improvement could be implemented by restriping changes only. This improvement will not affect the existing on-street parking. An existing MTS bus stop is located where the exclusive westbound right-turn lane is recommended. To reduce the impact to on-street parking, the relocation of the existing MTS bus stop is not recommended at this point. Further coordination with MTS is required before the implementation of this improvement.

- <u>Harbor Drive and Cesar Chavez Parkway:</u> A southbound right-turn overlap phase, dual eastbound left-turn lanes and an exclusive northbound right-turn lane are recommended to be installed. It is anticipated that the exclusive northbound right-turn lane will be completed by Caltrans in conjunction with the extension of the westbound left-turn lane.
- Logan Avenue and Sampson Street: A traffic signal is recommended to be installed. Also, southbound and northbound left-turn lanes are recommended. These lanes could be added with restriping changes only at the time of signalization, and would not require roadway widening. The configuration changes would require the removal of on-street parking along Sampson Street. A total of 16 parking spaces are anticipated to be removed as part of this improvement. The removed parking spaces are likely serving commercial uses along Logan Avenue and multifamily residential units along Sampson Street. The removal of on-street parking spaces will create a shortage of on-street parking within the vicinity of this intersection. A signal warrant worksheet for this intersection is included in Appendix I. This intersection would meet the peak-hour warrant evaluation based on the Horizon Year 2030 volumes.
- <u>Main Street and 26th Street:</u> A partial street closure is recommended at the intersection for truck traffic restrictions. The northbound through and eastbound left movements would be eliminated. This improvement is not required to mitigate intersection level of services, but it is recommended for a reduction of truck traffic along residential streets within the community.
- <u>Harbor Drive and Schley Street:</u> The southbound through and southbound left-turn movements are recommended to be prohibited. Right-turn overlap signal phasing is recommended for the southbound movement.
- <u>National Avenue and 28th Street:</u> An exclusive southbound right-turn lane is recommended to be added. This improvement could be accomplished by restriping the roadway without the need for widening. A removal of one on-street parking space would be required along the west side of National Avenue to accommodate a 100-foot southbound exclusive right-turn lane.
- <u>Harbor Drive and 28th Street:</u> A second southbound left-turn lane and a second eastbound left-turn lane are recommended to be added.
- <u>Boston Avenue and Interstate 5 Southbound Ramp-29th Street:</u> This recommendation includes a truck right-turn prohibition for the northbound movement at the intersection of 28th Street and Boston Avenue and truck turning signage to encourage vehicles to use Main Street and 29th Street to enter the Interstate 5 southbound freeway. The Interstate 5 Southbound Ramp and Boston Avenue intersection is recommended to be signalized. A signal warrant worksheet for this intersection is included in Appendix I. This intersection would meet the peak-hour warrant evaluation based on the Horizon Year 2030 volumes.</u>
- <u>32nd Street and Wabash Boulevard:</u> Potential improvements at this intersection will be further defined once Caltrans completes its truck access improvement study.
- <u>Harbor Drive and 32nd Street:</u> Same as the improvements for Wabash Boulevard and 32nd Street.

Figure 5-3 illustrates the intersection geometrics within Barrio Logan with the recommended intersection improvements listed above.

The following roadway segment improvements are recommended to mitigate the roadway segment cumulative impacts of the proposed Barrio Logan Community Plan Update. The improvements listed would be the same for both land use alternatives.

 <u>Cesar Chavez Parkway between Logan Avenue and Harbor Drive:</u> This roadway segment will be reclassified as a three-lane urban major facility between Logan Avenue and Main Street. Between Main Street and Harbor Drive, the roadway segment will be reclassified as a three-lane major arterial. A raised median will be installed between Harbor Drive and Logan Avenue. The roadway segment will have two lanes in the northbound direction and one lane in the southbound direction. On-street parking will be allowed between Logan Avenue and Main Street. A southbound right-turn auxiliary lane will be present between Main Street and Harbor Drive. The entire roadway segment should be considered for "sharrow" bicycle marking treatment and will be considered a class III bicycle facility.

- <u>28th Street between I-5 and National Avenue:</u> This roadway segment will be reconfigured as a four-lane major arterial with a five-foot raised median. The new configuration would allow for two-lanes in each direction and an auxiliary lane in the southbound direction.
- <u>National Avenue between Cesar Chavez and Evans Street</u>: This roadway segment will be reclassified as a two-lane collector with a two-way left-turn lane.
- <u>National Avenue between Sicard and 27th Street</u>: This roadway segment will be reclassified as a two-lane collector with a two-way left-turn lane.
- <u>Main Street between Evans Street and 26th Street:</u> This roadway segment will be reclassified as a two-lane collector with a two-way left-turn lane.

It is anticipated that traffic patterns within the community will change based on some of the improvements listed above. Fewer vehicles are anticipated to use the roadway segment of Boston Avenue between 28th Street and 29th Street. This is due to the proposed improvements along 28th Street and Main Street and the signalization of Boston Avenue and 29th Street intersection, which serves as an entrance ramp to the I-5 Southbound freeway. It is anticipated that more vehicles would use Main Street and 29th Street. **Figure 5-4** illustrates the peak-hour turning volumes within the community with the anticipated change in traffic patterns.

Table 5-5 displays the summary of the intersection peak-hour analysis with the proposed intersections and roadway segments improvements described above. As shown in Table, with the implementation of the recommended improvements, all intersections within the study area would operate at LOS D or better with the following exceptions:

- Harbor Drive and 28th Street (will continue to operate at LOS E during the afternoon peak-hour period);
- 32nd Street and Wabash Street (will continue to operate at LOS F and LOS E during the morning and afternoon peak-hour periods, respectively); and
- Harbor Drive and 32nd Street (will continue to operate at LOS F during both peak-hour periods).

The Harbor Drive/32nd Street and 32nd Street/Wabash Street intersections are being studied further in an on-going Caltrans study. The latest report includes the installation of a unidirectional connector ramp from eastbound Harbor Drive to northbound State Route 15. Another improvement under study is the Vesta Street Overcrossing at Harbor Drive which would connect the wet and dry sides of the Naval Base San Diego. On November 1, 2010 the Navy temporarily closed the eastern leg (Norman Scott Road) of the 32nd Street/Norman Street-Wabash Street intersection to improve safety. The Navy is monitoring traffic to determine if this closure should remain. A preliminary analysis indicates that the mentioned projects would improve the intersection to acceptable levels and decrease the potential queuing problems.

Harbor Drive/28th Street is projected to operate at LOS E, even with improvements. There is the potential that improvements to be made between Harbor Drive and State Route 15 (Caltrans study) could divert some traffic off of 28th Street, further improving this intersection

SANDAGs 2050 Regional Transportation Plan (RTP) unconstrained network recommends the grade separation of the trolley lines at 28th Street and at 32nd Street. A peak-hour intersection analysis was conducted for the intersections of 28th Street and 32nd Street with Harbor Drive assuming these proposed

Commercial St/	National Ave/	National Ave/	Newton Ave/
16th St	16th St	Sigsbee St	Sigsbee St
Main St/	Harbor Dr/	Logan Ave/Beardsley St-	National Ave/
Sigsbee St	Sigsbee St	I-5 SB off-ramp	Beardsley St
Newton Ave/	Main St/	Harbor Dr/	Kearney St/
Beardsley St	Beardsley St	Beardsley St	Cesar Chavez Pkwy





Kimley-Horn and Associates, Inc. 5-18 FIGURE 5-3 Horizon Year (2030) with Alternative 1 Improvements Intersection Geometrics

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Logan Ave/	National Ave/	Newton Ave/	Main St/
Cesar Chavez Pkwy	Cesar Chavez Pkwy	Cesar Chavez Pkwy	Cesar Chavez Pkwy
Harbor Dr/	Logan Ave/	National Ave/	National Ave/
Cesar Chavez Pkwy	I-5 SB On-ramp	SR-75 Off-ramp	Evans St
Newton Ave/	Main St/	Logan Ave/	National Ave/
Evans St	Evans St	Sampson St	Sampson St





Kimley-Horn and Associates, Inc. 5-19 FIGURE 5-3.1 Horizon Year (2030) with Alternative 1 Improvements Intersection Geometrics

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Newton Ave/	Main St/	Harbor Dr/	National Ave/
Sampson St	Sampson St	Sampson St	Sicard St
National Ave/	National Ave/	Main St/	Harbor Dr/
26th St	27th St	26th St	Schley St
	30 		
National Ave/	Boston Ave/	Main St/	Harbor Dr/
28th St	28th St	28th St	28th St





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Kimley-Horn and Associates, Inc.

5-20 FIGURE 5-3.2 Horizon Year (2030) with Alternative 1 Improvements Intersection Geometrics

Boston Ave/I-5 SB On-ramp	Main St/ 32nd St	Wabash Blvd/ 32nd St	Harbor Dr/ 32nd St		
		Add direct connector to Harbor Dr	Add direct connector to Wabash Blvd		
Main St /					
I-15 Ramps					
41 41					







5-21 FIGURE 5-3.3 Horizon Year (2030) with Alternative 1 Improvements Intersection Geometrics

Barrio Logan Co	mmunity Plan	Update					
5 136 / 77 ⇔ 250 / 490 ⊗ 47 / 40 41 / 40	 № 114 / 122 ⇔ 295 / 488 ☆ 24 / 0 Commercial St 	2 36 / 70 ⇔ 36 / 25 ∞ 56 / 127 16th St	∾ 34 / 25 ⇔ 495 / 458 ∞ 3 / 3 National Ave	 B 58 / 39 A 40 / 23 A 15 / 6 Sigsbee St 	∾ 36 / 27 ⇔ 367 / 246 ∞ 16 / 9 National Ave	 8 17 /8 79 /38 ∞ 33 /16 Sigsbee St 	 5 51 / 23 ⇔ 80 / 50 ≥ 15 / 9 Newton Ave
16 / 64	13 /21 ∞ 340 /670 ⇔ 16 /26 ∿	40/91 ⊘ 194/347 ⇔ 40/31 ∿	40 /61 234 /41 334 /41 35 12 /7 22	10/34	63 /75 26 /61 49 26 /61 49 58 /13 22	6 / 9	24 /20 성 111 /91 전 34 /12 성
5 3/2 ⇔ 96/60 ∞ 31/20 Sigsbee St	∾ 61/31 ⇔ 8/0 ∞ 31/38 Main St	 710/80 110/80 110/100 Sigsbee St 	∾ 20 / 100 ⇔ 1670 / 780 Harbor Dr	 A7 / 38 A7 / 38 236 / 110 259 / 272 259 / 272 H5 SB Off-Ramp 	⇔ 202 / 154 ஜ 87 / 41 Logan Ave	8 23 / 11 ⇔ 138 / 83 ∞ 216 / 189 Beardsley St	 № 67 / 77 ⇔ 421 / 347 ∞ 241 / 113 National Ave
3 / 4	5 / 0 2 97 / 98 5 24 / 12 2	38 / 65		170 / 515 ⇔ 5 24 / 69 ∿ Saispue 8	31 / 56 &	8/19	4 / 9 2 30 / 43 5 50 / 134 2
5 41 /12 ⇒ 156 /94 ∞ 56 /46 Beardstey St	∾ 15 / 19 ⇔ 82 / 93 ☆ 29 / 13 Newton Ave	6 52 /17 ⇔ 57 /39 ∞ 275 /144 Beardstey St	rs 76 / 79 ⇔ 109 / 33 ⊉ 163 / 78 Main St	11 37/ 24/ 24/ 24/ 24/ 24/ 24/ 24/ 24/ 24/ 24	rs 30 / 20 ⇔ 1610 / 860 Harbor Dr	25 350 / 330 € 250 / 330 € 250 / 330 € 250 / 330 € 250 / 330 € 25	 № 192 / 154 ⇔ 259 / 157 ≈ 613 / 517 Kearney Ave
18 / 7	13 / 5 ∞ 23 / 71 ↔ 19 / 37 ∞	15/22 <i>∂</i> 74/64 ⇔ 4/4 ⊗	2 /0 2 8 /25 4 52 /109 2	580 / 1950 ⇒			257 / 382 & 262 / 345 +





5-22 FIGURE 5-4 Horizon Year (2030) with Alternative 1 Improvements Peak-Hour Turning Volumes

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Barrio Logan Community Plan Update								
5 82 /52 ⇔ 909 /694 ∞ 70 /114 cesar chavez Pkwy-SR-75 On- ramo	 5 76 / 90 ⇔ 325 / 280 ∞ 100 / 120 Logan Ave 	 № 310 / 410 ⇔ 745 / 550 ⇔ 70 / 120 ∞ 70 / 120 Cesar Chavez Pkwy 	 № 120 / 275 ⇔ 350 / 270 ☆ 120 / 110 National Ave 	15 140 / 55 060 / 00 810 / 800 ∞ 810 / 800 ∞ 05 / 165 ∞ 00 ∞ 00 ∞ 00 ∞ 00 ∞ 00 00 00 Newton Ave	2 180 /260 ⇔ 580 /540 ∞ 150 /250 cesar Chavez Pkwy	 № 190 / 270 ⇔ 330 / 230 ∞ 70 / 70 Main St 		
140 / 130	100 /140 2 300 /506 7 280 /670 2	190 / 300	90 /120	75 / 135	150 / 120	70 /70 5 340 /640 5 90 /180 2		
5 403 / 324 ⇔ 83 / 30 ⊘ 72 / 33 Cesar Chavez Pkwy	 № 95 / 43 ⇔ 1047 / 465 2 80 / 50 Harbor Dr 	18 du men 88 S-1 15 SB	∾ 84 / 73 ⇔ 127 / 158 Logan Ave	19 88 97 19 88 19 19 19 19 19 19 19 10 10 10 10 10 10 10 10 10 10	 30 / 72 18 / 22 9 / 45 Evans St 	 № 26 / 23 ⇔ 226 / 192 ∞ 37 / 32 National Ave 		
118 / 468	10 / 50 2 14 / 63 5 27 / 35 2	497/933	4 / 16 2	128 / 308 ⇔	17 / 37	28 / 13 2 49 / 18 5 24 / 62 2		
5 37 /21 ⇔ 30 /28 ∞ 7 /30 Evans st	 № 30 / 27 ⇔ 63 / 70 № 16 / 27 Newton Ave 	 45 / 16 56 / 75 Evans St 	∾ 65 / 62 ⇔ 350 / 239 Main St	23 9997 29 1/ 71 20 2 3 56/54 5 56/54 5 79/87 2 3 5 5 2 3 1/143 Logan Ave	54 118 / 107 54 ⇔ 109 / 86 ∞ 59 / 123 & 59 / 123 Sampson St	 № 100 / 100 ⇔ 104 / 70 ∞ 48 / 21 National Ave 		
23 / 24	27.17 ~ 58./47 や 31./28 2	33 / 12		110 / 108 Ø û ∅ 224 / 255 ⇔ 325 / 4000 66 163 / 203 ½ 61 101 / 101	75 / 162	7 / 13 2 95 / 185 4 16 / 30 2		









(cont.)

Barrio Logan Co	mmunity Plan	Update				
22 97 / 19 81 / 18 / 19 8ampson St	∾ 35 / 31 ⇔ 81 / 76 ⊉ 15 / 0 Newton Ave	29 ⇒ 172 /85 ⇒ 59 /27 ⇒ 10 /8 Sampson St	∾ 16/8 ⇔ 218/83 ☆ 53/27 Main St	27 52 52 52 52 52 52 52 52 52 52	5 36 / 42 8 ⇔ 41 / 18 4 / 4 ∞ 4 / 4 Sicard St	∾ 3 / 1 ⇔ 163 / 125 ☆ 27 / 8 National Ave
21 / 34	7 /13 2 40 /90 5 31 /20 2	70 / 118	50 /60 2 31 /46 5 35 /49 2	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	21 / 40	48 / 33 2 48 / 46 5 12 / 17 2
67 33 / 68 51 / 90 86th St 26th St	 № 48 / 55 ⇔ 223 / 124 ≥ 36 / 35 National Ave 	30	 ⇔ 269 / 234 ₂ 42 / 31 National Ave 	31 80 / C 2 7 / 37 C 1 43 / 49 Main St	32 81 / 51 Schey st	∾ 17 / 39 ⇔ 1542 / 588 Harbor Dr
28 / 33	27 /46 2 47 /60 5 15 /34 2	146/368 ⇔ 18/23 ∾ 5 88 92	72 / 94 &	5 2 5 5 5 5 5 5 5 5 5 5 5 5 5	74 / 83	
8 307 /102 ⇒ 205 /210 ⇒ 115 /199 28th St	 I23 / 240 G28 / 427 I92 / 463 National Ave 	310 /270 <	 № 120 / 70 ⇔ 70 / 70 2 45 / 60 Boston Ave 	35 955/0005/005 955/005 955/005 955/005 956/005 957/005 180/280 ↔ 490/290 ☆ 490/290 ☆ 90/150 Main St	92 ⇒ 25 /13 ⇒ 15 /12 ≥ 375 /505 28th St	 is 116 / 278 ⇔ 942 / 524 ☆ 17 / 14 Harbor Dr
106 / 94	33 / 18 2 98 / 98 4 86 / 168 2	230 / 320	90 / 50 ≈ 700 / 1050 ⇔ 40 / 100 ≈	190 / 220 Ø Ø ∅ 400 / 730 ⇔ 9 № ∅ 50 / 40 ∞ 9 € 5 50 / 40 ∞ 9 € €	50/140 ≈ 670/1390 ⇔ 4/2 ⊴	0/10 z 6/134 U 2/0 z



<u>Legend</u> X / Y = AM / PM PEAK HOUR TURNING VOLUMES





FIGURE 5-4.2

Horizon Year (2030) with Alternative 1 Improvements Peak-Hour Turning Volumes (cont.)

Barrio Logan Co	Barrio Logan Community Plan Update								
37 38 98P	≅ 88 / 118 ⇔ 102 / 83 ⊉ 18 / 20 Boston Ave	85 ⇒ 42 /73 ⇔ 83 /61 ≈ 39 /123 33 nd St	∾ 79 / 102 ⇔ 494 / 353 ஜ 314 / 207 Main St	39 67/59 67	A0 /200 ⇔ 1040 /280 ⇔ 130 /310 32nd St	 № 390 / 460 ⇔ 735 / 436 2 300 / 40 Harbor Dr 			
84 / 299	5 /9 ∞ 180 /332 ⇔ 19 /45 ∿	38 / 70	110 /226 ≈ 50 /112 ⇔ 26 /307 ≌	65 / 115 Ø Ø Ø Ø 212 / 115 Ø V Ø Ø Ø 170 / 80 Ø V Ø Ø Ø Ø 52 (130 Ø V Ø	70 / 140	30 /70			
41 021/153 108/123	∾ 107 / 154 ⇔ 497 / 361 Main St								
47 / 303									





FIGURE 5-4.3

K:\SND_TPTO\095707000\Excel\[707000TA01.xlsx]Alt 1 with Imp Figure 37-41

Horizon Year (2030) with Alternative 1 Improvements Peak-Hour Turning Volumes (cont.)

grade separations. The results of the analysis indicated that the proposed grade separation would improve both intersections to LOS D or better during both peak-hour periods under the Horizon Year scenario with either alternative. The proposed grade separations are included in the "revenue constrained scenario". Due to the benefits to adjacent intersections, these grade separation projects are recommended.

Table 5-6 displays the summary of the roadway segment analysis with the roadway segment improvements described above. As shown in the table, the following roadway segments would continue to operate at LOS E or F even with the implementation of the recommended improvements:

- Sampson Street between National Avenue and Harbor Drive (LOS E);
- 26th Street between National Avenue and Main Street (LOS E);
- 32nd St between Main St. and Wabash Blvd (LOS E);
- Vesta Street between Main Street and I-5 Ramps (LOS E);
- Logan Avenue between Sigsbee Street and Cesar Chavez Parkway (LOS F);
- National Avenue between Beardsley Street and Cesar Chavez Parkway (LOS F);
- Boston Avenue between 28th Street and 29th Street (LOS F);
- Boston Avenue between 29th Street and 32nd Street (LOS F);
- Main Street between Cesar Chavez Parkway and Evans Street (LOS E);
- Main Street between 26th Street and 28th Street (LOS F);
- Main Street between 28th Street and 29th Street (LOS F);
- Main Street between 29th Street and 32nd Street (LOS F);
- Main Street between 32nd Street and Rigel Street (LOS F);
- Main Street between Rigel Street and Una Street (LOS F); and
- Main Street between Una Street and I-5 SB Off-ramp (LOS F)

Boston Avenue, National Avenue and 26th Street are desired by the community of Barrio Logan to be more pedestrian and bicycle friendly corridors. The widening of these roadways to improve vehicular circulation was not desired by the community. The vehicular operations along these three facilities could be congested during peak periods and vehicular speeds would be low. Additional widening is not recommended. Traffic calming measures should be evaluated along National Avenue to further enhance the pedestrian and bicycle circulation.

Additional improvements to the failing roadway segments of Sampson Street, 32nd Street, Vesta Street, Logan Avenue and Main Street are not recommended since the roadway segment analysis used in this study is based on theoretical capacities based on the number of travel lanes. The analysis does not take into account other physical features that can affect the capacity of a roadway segment like grades, number of traffic signals, number of driveways, parking availability, etc. In addition, the analysis does not take into account the different traffic peak periods experienced on these roadways due to the surrounding land uses. As an example, the Barrio Logan traffic generators whose peak-hour of use do not correspond to typical peak-hour commuter traffic. To better represent the conditions of a roadway segment within the Barrio Logan community, the operations of the upstream and downstream intersections of each respective segment during the peak periods would indicate whether the roadway segment would have adequate capacity. As shown in the intersection analysis tables, all intersections along the failing roadway segments would operate at acceptable LOS.

In addition to the roadway segment improvements listed above, it is recommended that 28th Street between Harbor Drive and the I-5 Ramps be classified as a four-lane major arterial. For the segment between Harbor Drive and Main Street, a raised median should be installed with an entrance to the Navy

Commissary. The proposed configuration would allow two lanes in each direction with an auxiliary lane for the heavy southbound right-turn movements at Harbor Drive. Parking would need to be removed along both sides of the roadway, with a total loss of approximately 20 parking spaces. The removed parking spaces are likely utilized by NASCO employees or Naval Base San Diego employees or visitors. Additional diagonal parking is recommended to be evaluated for installation along Boston Avenue between 28th Street and 29th Street to replace the loss of parking along 28th Street. The west side of the roadway could be widened by 4 feet to accommodate the proposed interim cross-sections. The east sidewalk will widen to 10 feet to enhance pedestrian circulation. This improvement is not part of mitigation for a roadway segment impact. The improvement is recommended to encourage heavy truck traffic to use 28th Street will include a designated bike lane along both sides of the roadway and a fourteen foot parkway. The ultimate configuration along 28th Street will require additional roadway widening and right-of-way acquisition. An alignment study is required to further define the extent of additional right-way needed and future widening

Conceptual roadway segments improvement figures, including the proposed cross-sections are included in **Appendix K**.

Based on the freeway segment capacity analysis included in this study, Alternative 1 land use scenario is considered to have a cumulative traffic related impact along the following freeway segments:

- I-5 from J Street to SR-75 Junction;
- I-5 from SR-75 Junction to 28th Street;
- I-5 from 28th Street to I-15 Interchange;
- I-5 from I-15 Interchange to Division Street; and
- I-15 from I-5 Interchange to Ocean View Boulevard

SANDAG's Draft 2050 Regional Transportation Plan (RTP) hybrid network includes the following freeway improvements:

- Operational freeway improvements along Interstate 5 between Interstate 15 and Interstate 8; and
- Addition of one (1) main lane and one (1) managed lane in each direction between Interstate 15 and State Route 54;

Both improvements listed above were included in the hybrid network's revenue constrained scenario, approved by SANDAG's board for further study on December 17th, 2010. The improvements included in the RTP are recommended to enhance the regional connectivity and accommodate the forecasted growth of the San Diego region. It should be noted that both land use alternatives presented on this plan would generate less traffic than the current adopted Community Plan land use alternative. Either proposed alternative would lessen, but not eliminate cumulative freeway traffic impacts.

In addition to the proposed freeway improvements listed in the SANDAG's Draft 2050 RTP, the following freeway access improvements are recommended within the Barrio Logan Community:

- Signalization of the intersection of Logan Avenue and Beardsley Street/ Interstate 5 SB off-ramp;
- Traffic signal modification at the intersection of Logan Avenue and Cesar Chavez Parkway (State Route 75 on-ramp);
- Signalization of the intersection of Boston Avenue and Interstate 5 SB on-ramp- 29th Street;

- Roadway improvements along 28th Street to accommodate an additional southbound lane, including the potential for widening the Interstate 5 overcrossing;
- Signalization of the intersection of 28th Street and Interstate 5 southbound off-ramp;
- Changes to the roadway striping along Main Street between 28th Street and 29th Street to facilitate freeway access to the Interstate 5 southbound on-ramp at Boston Avenue;
- Installation of a unidirectional connector ramp from eastbound Harbor Drive to northbound State Route 15 (under study by the Port of San Diego, and Caltrans);
- Construction of the Vesta Street Overcrossing at Harbor Drive (under study by the Navy);
- Coordination of City of San Diego and Navy related to the closure of the east leg of the 32nd Street and Norman Street-Wabash Street intersection (recently completed on a trial basis by the Navy); and
- Grade separation of the trolley tracks at the 28th Street and Harbor Drive and 32nd Street and Harbor Drive intersections (to be completed by SANDAG and part of the 2050 draft RTP).

The improvements listed above would decrease congestion along the major freeway access locations within the community.

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			ALTERNATIVE 1		ALTERNATIVE 1 WITH IMPROVEMENTS		
	INTERSECTION	PEAK HOUR	DELAY (a)	LOS (b)	DELAY (a)	LOS (b)	DESCRIPTION OF IMPROVEMENT
2	National Ave & 16th St	AM	51.7	F	14.1	В	Install Traffic Signal.
2		PM	232.1	F	8.5	А	instan Furne Signa.
6	Hashan Dr. & Simban St	AM	ECL	F	12.7	В	Install Traffic Const
6 Ha	Harbor Dr & Sigsbee St	PM	ECL	F	7.6	А	Install Traffic Signal.
_		AM	33.1	D	26.7	С	Install Traffic Signal. (This improvement requires Caltrans
7	Logan Ave & Beardsley St- I-5 SB ramp	PM	81.9	F	46.8	D	approval)
		AM	39.9	Е	12.9	В	
8	National Ave & Beardsley St	PM	129.0	F	13.3	В	Install Traffic Signal.
	1	AM	173.7	F	17.5	C	Modify raised median along Harbor Drive and restrict the
11	Harbor Dr & Beardsley St	PM	51.6	F	11.6	В	eastbound left-turn movements and southbound left-turn
				F C		С	movements.
13	Logan Ave & Cesar E. Chavez Pkwy	AM	31.1		26.9		Add exclusive eastbound right-turn lane. Add northbound overlap phase. (This improvement requires Caltrans approval)
		PM	62.1	E	52.6	D	Add exclusive eastbound and westbound right-turn lanes. This
14	National Ave & Cesar E. Chavez Pkwy	AM	30.4	С	19.9	В	improvement is recommended to mitigate a potential queing
		PM	52.4	D	21.5	С	impact.
16	Main St & Cesar E. Chavez Pkwy	AM PM	39.3 42.5	D D	21.6 18.7	C B	Add exclusive westbound right-turn lane. This improvement is recommended to mitigate a potential queing impact.
							Add second eastbound left-turn lane, a southbound right-turn
17	Harbor Dr & Cesar E. Chavez Pkwy	AM	77.5	E	48.2	D	overlap phase and a northbound exclusive right-turn lane. In addition, extend the westbound left-turn pocket (to be done by
		PM	85.2	F	49.2	D	Caltrans).
		AM	143.5	F	10.0	В	Install Traffic Signal. Add northbound and southbound left-turn
23	Logan Ave & Sampson St	PM	197.1	F	29.7	С	lanes.
		AM	8.2	А	8.2	А	Eliminate northbound through movement. This improvement is
31	Main St & 26th St-Schley St	PM	8.0	А	8.0	А	not needed based on a delay impact. It is part of a truck route improvement.
		AM	76.2	Е	32.9	С	Eliminate southbound left/through movement. Add southbound
32	Harbor Dr & Schley St	PM	28.8	С	16.0	В	right-turn overlap phase.
		AM	81.2	F	39.7	D	
33	National Ave & 28th St	PM	70.8	E	49.3	D	Add exclusive southbound right-turn lane.
34	Boston Ave & 28th St	AM	36.9	D	22.3	С	Add southbound through lane and remove exclusive northbound
54	Boston Ave & 20th St	PM	45.1	D	36.1	D	right-turn lane.
36	Harbor Dr & 28th St (c)	AM	43.3	D	46.2	D	Add second eastbound and southbound left-turn lanes.
		PM AM	92.2 21.0	F C	76.4 20.0	E C	Install Traffic Signal. (This improvement requires Caltrans
37	Boston Ave & I-5 SB On-ramp-29th St	PM	523.6	F	31.9	С	approval)
20	22nd St & Wahash St	AM	112.7	F	103.4	F	
39	32nd St & Wabash St	PM	85.1	F	75.4	Е	Construct a direct connector from Harbor Dr. to Wabash St.
40	Harbor Dr & 32nd St (c)	AM	146.8	F	127.7	F	(under study by Caltrans)
-		PM	92.3	F	90.2	F	
42	I-5 SB off-ramp & 28th St	AM PM	The intersec analyzed unde	tion was not r this scenario	14.7 11.7	B	Install Traffic Signal. (This improvement requires Caltrans approval)

otes

Bold values indicate intersections operating at LOS E or F.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement. (b) LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 6.0

(c) As part of Sandag's Draft 2050 RTP, a grade separation for the trolley lines at this intersection is being proposed under the hybrid network which is the preferred revenue constrained network . With the grade separation, the intersection would operate at LOS D or better. See appendix L for synchro results.

,	TABLE 5-6 HORIZON YEAR (2030) ALTERNATIVE 1 ROADWAY SEGMENT LOS		ENTS			
		HIGHEST ACCEPTABLE		YEAR 2030 (ALTERNATIVE 1) WITH IMPROVEMENTS V/C RATIO		
ROADWAY SEGMENT	ROADWAY CLASSIFICATION (a)	LOS D VOLUME	LOS E CAPACITY	ADT	(b)	LOS
Cesar Chavez Pkwy						
north of Logan Ave	3 Lane Collector (with TWLT)	18,750	22,500	14,900	0.662	С
between Logan Ave and National Ave	3 Lane Urban Major	26,250	30,000	25,200	0.840	D
between National Ave and Newton Ave	3 Lane Urban Major	26,250	30,000	24,300	0.810	D
between Newton Ave and Main St	3 Lane Urban Major	26,250	30,000	20,000	0.667	С
between Main St and Harbor Dr	3 Lane Major	26,250	30,000	12,900	0.430	В
Sampson St		1	1			
between I-5 and National Ave	2 Lane Collector (No TWLT)	6,500	8,000	5,800	0.725	D
between National Ave and Harbor Dr 26th St	2 Lane Collector (No TWLT)	6,500	8,000	7,800	0.975	E
between National Ave and Main St	2 Lane Collector (No TWLT)	6,500	8,000	7,000	0.875	Е
28th St						
between I-5 and Boston Ave	4 Lane Major Arterial	35,000	40,000	34,500	0.863	D
between Boston Ave and Main St	4 Lane Major Arterial	35,000	40,000	24,200	0.605	С
between Main St and Harbor Dr	4 Lane Major Arterial	35,000	40,000	23,300	0.583	С
29th St						
between Boston Ave and Main St (c)	2 Lane Collector (No TWLT)	6,500	8,000	6,300	0.788	D
32nd St					<u> </u>	
between Main St and Wabash Blvd	2 Lane Collector (with TWLT)	13,000	15,000	14,500	0.967	Е
between Wabash Blvd and Harbor Drive	4 Lane Major Arterial	35,000	40,000	25,800	0.645	С
Rigel St		1	r	1		
between Main St and I-5	2 Lane Collector (No TWLT)	6,500	8,000	1,400	0.175	А
Vesta St	-	1	r			
between Main St and I-5	2 Lane Collector (No TWLT)	6,500	8,000	6,700	0.838	Е
Logan Ave				r		
between 17th St and Sigsbee St	2 Lane Collector (with TWLT)	13,000	15,000	10,500	0.700	D
between Sigsbee St and Cesar Chavez Pkwy	2 Lane Collector (with TWLT)	13,000	15,000	16,500	1.100	F
between Cesar Chavez Pkwy and 26th St	2 Lane Collector (with TWLT)	13,000	15,000	5,700	0.380	В
National Ave					<u> </u>	
between 16th St and Sigsbee St	2 Lane Collector (with TWLT)	13,000	15,000	12,600	0.840	D
between Sigsbee St and Beardsley St	2 Lane Collector (with TWLT)	13,000	15,000	12,600	0.840	D
between Beardsley St and Cesar Chavez Pkwy	2 Lane Collector (with TWLT)	13,000	15,000	17,000	1.133	F
between Cesar Chavez Pkwy and Evans St	2 Lane Collector (with TWLT)	13,000	15,000	9,300	0.620	С
between Evans St and Sicard St	2 Lane Collector (with TWLT)	13,000	15,000	8,700	0.580	C
between Sicard St and 27th St	2 Lane Collector (with TWLT)	13,000	15,000	10,200	0.680	D
Boston Ave	2 Long Collector (M. TWIT)	(500	8 000	14,000	1.750	E
between 28th and 29th St (c) between 29th St and 32nd St	2 Lane Collector (No TWLT) 2 Lane Collector (No TWLT)	6,500 6,500	8,000 8,000	14,000 8,300	1.750	F F
Main St	2 Lane Concetor (NO 1 WE1)	0,500	0,000	0,500	1.030	1,
between Beardsley St and Cesar Chavez Pkwy	2 Lane Collector (No TWLT)	6,500	8,000	4,200	0.525	С
between Cesar Chavez Pkwy and Evans St	2 Lane Collector (No TWLT) 2 Lane Collector (No TWLT)	6,500	8,000	7,900	0.988	E
between Evans St and 26th St	2 Lane Collector (with TWLT)	13,000	15,000	12,700	0.847	D
between 26th St and 28th St	3 Lane Collector (Wall TWET)	9,750	11,250	12,700	1.129	F
between 28th and 29th St	4 Lane Collector (No TWLT)	13,000	15,000	13,400	0.893	E
between 29th St and 32nd St	3 Lane Collector (No TWLT)	9,750	11,250	18,700	1.662	F
between 32nd St and Rigel St	4 Lane Collector (No TWLT)	13,000	15,000	26,100	1.740	F
between Rigel St and Una St	2 Lane Collector (with TWLT)	13,000	15,000	20,600	1.373	F
between Una St and I-5 SB Off Ramp	2 Lane Collector (with TWLT)	13,000	15,000	18,100	1.207	F
Harbor Dr						
between Beardsley St and Cesar Chavez Pkwy	4 Lane Major Arterial	35,000	40,000	30,400	0.760	D
between Cesar Chavez Pkwy and Sampson St	4 Lane Major Arterial	35,000	40,000	25,500	0.638	С
between Sampson St and Schley St	4 Lane Major Arterial	35,000	40,000	23,400	0.585	С
between Schley St and 28th St	4 Lane Major Arterial	35,000	40,000	18,800	0.470	В
between 28th St and 32nd St	4 Lane Major Arterial	35,000	40,000	26,900	0.673	С
		35,000				

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Bold values indicate roadway segments operating at LOS E or F.
(a) Roadway Classification are proposed under the Mobility Element.
(b) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

(c) This segment was analyzed assuming a rerouting of traffic produced by the improvements along 28th Street and Main Street. A total of 1000 ADT were moved from Boston Avenue between 28th St and 29th St to Main St and 29th St. K:SND_TPTO/095707000Exect/[70700RSc].akaa]2030 Alt 1 with Impr