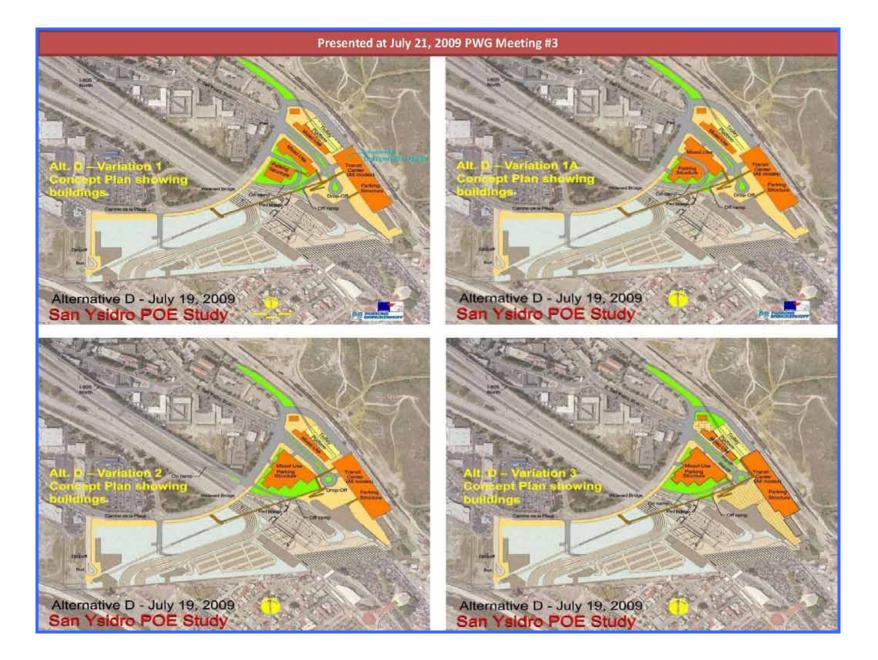
APPENDIX A

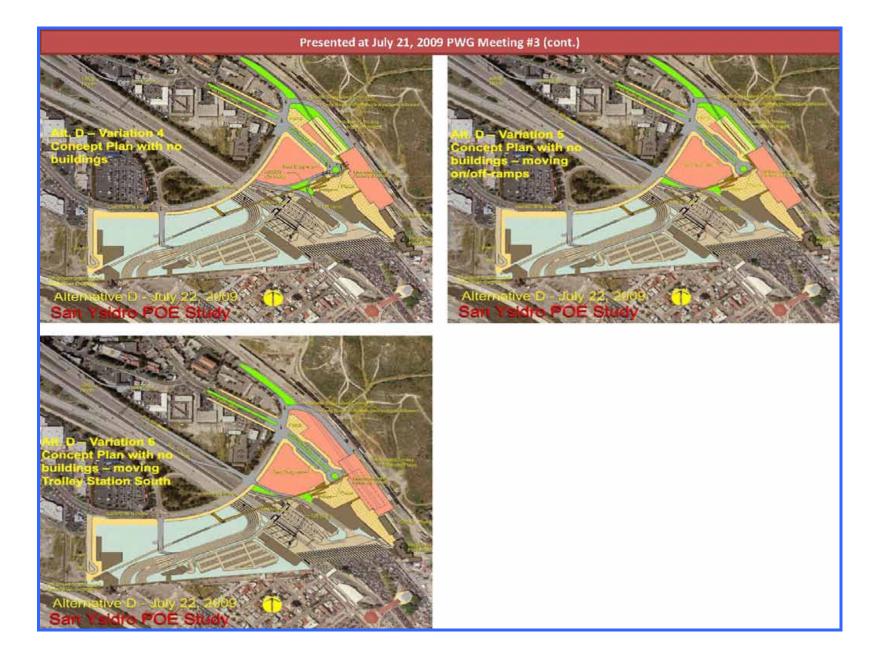
Project Concept Alternatives Considered and Not Pursued

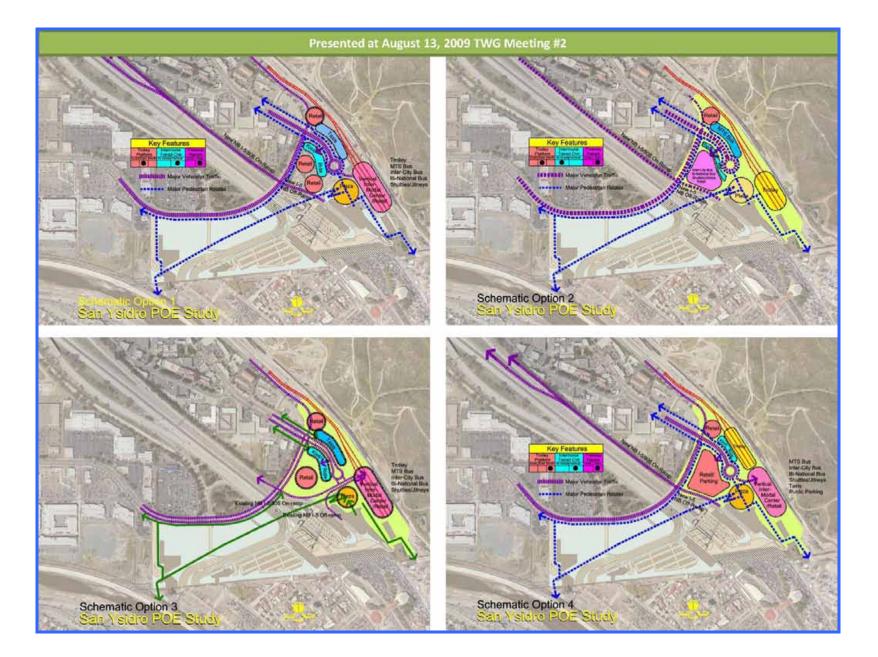




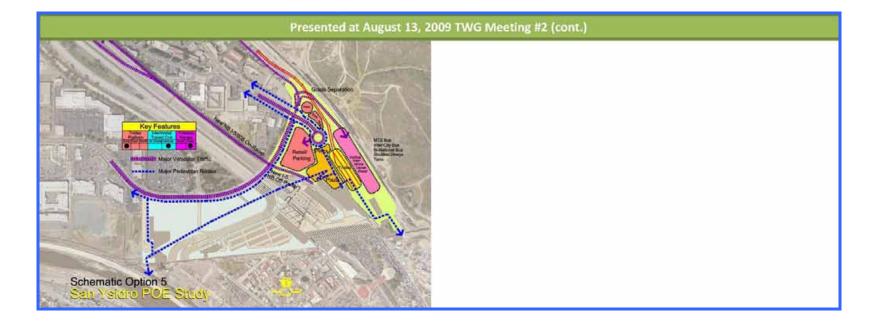




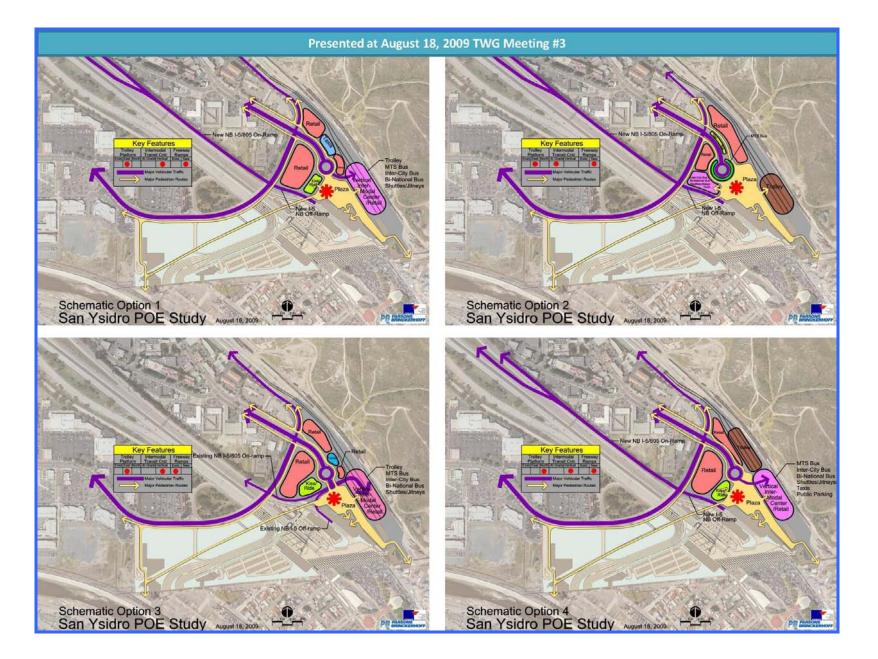




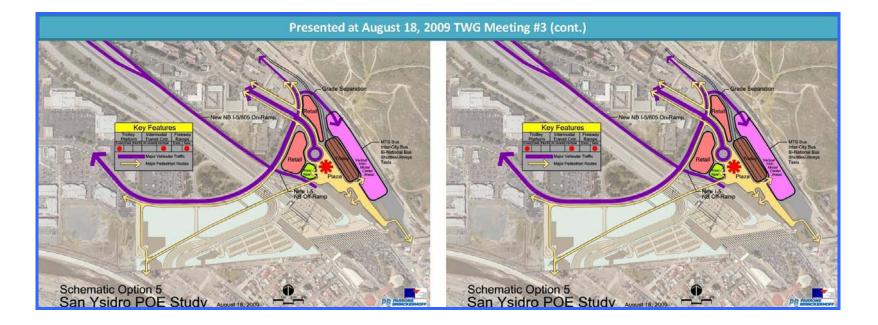














APPENDIX B

Traffic Operations Data

BL 7 0 900	EBT	► EBR	WBL	WBT	WBR	1							٠	-		-			4					-
ň 0	† î+	LDN		1 CUUS		NBL	NBT	NBR	SBL	SBT	SBR	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SE
0			5	↑ 1→	00DIX	T	1	NDIN	ODL	4	ODIA	Lane Configurations	- LOC	† ‡	LDIN	T	**	7	NDL	*	7	500	1	01
		51	196	437	4	45	0	133	3	0	0	Volume (vph)	70	431	4	8	237	95	5	2	35	401	30	4
	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	19
	4.0	1000	4.0	4.0	1000	4.0	4.0	1000	1000	4.0	1000	Total Lost time (s)	4.0	4.0	1000	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
	0.95		1.00	0.95		1.00	1.00			1.00		Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0
																								0
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0	393	0	213	478	0	49	64	0	0	3	0	Lane Group Flow (vph)	76	471	0	9	258	46	5	2	8	436	134	3
						100		100	100		100	Confl. Peds. (#/hr)	100		100				100		100	100		
Prot			Prot			Perm			Perm			Tum Type	Prot			Prot		pm+ov	Prot		pm+ov	Prot		pm
7	4		3	8			2			6			7	4		3		1	5	2	3	1	6	
						2			6								Ť	8	, i	-				
	13.4		13.6	31.0			31.0		v	31.0			93	17.2		25	10.4		0.8	13.1		21.2	33.5	4
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	c0.11		c0.12	0.14			c0.05						c0.04	c0.13		0.01	0.07		c0.00	0.00		c0.25	c0.10	0
																								0
																								0
	25.8					11.3						Uniform Delay, d1	27.5			32.7	27.4					22.6	10.6	
	1.00		0.82	0.96		1.00	1.00			1.00		Progression Factor	0.63	0.40		0.72	0.59	0.13	1.00	1.00	1.00	1.00	1.00	1
	1.4		3.2	0.1		0.3	0.4			0.0		Incremental Delay, d2	0.8	0.7		1.0	0.7	0.0	8.3	0.0	0.0	9.2	0.7	
	27.2		24.3	12.1		11.6	11.8			10.9		Delay (s)	18.0	9.8		24.5	16.9	1.4	42.6	23.2	21.3	31.8	11.3	
	С		С	В		В	В			В		Level of Service	В	A		C	В	A	D	С	C	C	В	
	27.2			15.9			11.7			10.9	_	Approach Delay (s)		11.0			12.8		_	23.7			19.6	
	С			В			В							В			В						В	
											_						_						-	
			H	CM Level	of Service	e		В								H	CM Level	of Servic	e		В			
		0.34										HCM Volume to Capacity rat	tio		0.56									
		70.0	SL	im of lost	time (s)			12.0				Actuated Cycle Length (s)			70.0	SL	m of lost	t time (s)			16.0			
		45.8%	IC	U Level o	of Service			Α				Intersection Capacity Utilizat	tion		58.8%	IC	ULevel	of Service			В			
		15										Analysis Period (min)			15									
												c Critical Lane Group												
Pn	0 0 0 rot	0 357 0 19 0 393 7 4 13.4 13.4 13.4 13.4 0.19 4.0 3.0 664 c0.11 0.59 25.8 1.00 1.4 27.2 27.2	1.00 0.98 1.00 3468 1.00 3468 20 0.92 0.59 25.8 1.00 1.4 2.7.2 C 2.7.2 C 1.4 1.4 1.4 0.34 0.34 1.4 1.4 0.34 0.34 1.4 1.4 0.34 0.34 1.8 0.34	1.00 1.00 0.98 1.00 1.00 0.95 3468 1770 1.00 0.95 3468 1770 20 0.92 0.357 55 213 0 0 19 0 0 393 0 213 0 19 0 0 393 0 213 ot 19 0 0 0 30 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 664 3444 c0.11 c0.12 0.59 0.62 25.8 25.8 1.00 0.82 1.4 3.2 27.2 2 2 2 0 18.8 Hitting 0.34	1.00 1.00 1.00 1.00 0.98 1.00 0.95 1.00 1.00 0.95 1.00 3468 1770 3555 1.00 0.95 1.00 3468 1770 3555 92 0.92 0.92 0.92 0.92 0.92 0 19 0 0 1 0 0 19 0 0 1 0 0 19 0 0 1 0 0 393 0 213 478 ot Prot 7 4 3 8 13.4 13.6 31.0 0.19 0.44 4.0 4.0 4.0 4.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 664 344 1566 c.0.11 c.12 0.14 0.59 0.62 0.31 25.8 25.8 12.6	1.00 1.00 1.00 0.98 1.00 1.00 1.00 0.95 1.00 3488 1770 3535 1.00 0.95 1.00 3488 1770 3535 20 0.92 0.92 0.92 0.92 0 357 55 213 475 4 0 19 0 0 1 0 0 393 0 213 476 0 0 19 0 0 1 0 0 393 0 213 475 4 0 19 0 1 0 0 393 0 213 475 4 0 19 0 1 0 0 0 19 0 13 478 0 0 50 0.19 0.44 4.0 4.0 3.0 3.0	$\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 $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1.00 1.00 1.00 0.87 1.00 0.89 Flpb, ped/bikes 0.98 1.00 1.00 0.055 1.00 0.955 1.00 Fit 1.00 0.95 1.00 0.85 1.00 0.955 Fit Protected 3468 1770 3535 1538 1361 1580 Satd. Flow (prot) 1.00 0.95 1.00 0.76 1.00 0.86 Fit Pemitted 3468 1770 3535 1224 1361 1105 Satd. Flow (prot) 20 92 0.92	1.00 1.00 1.00 0.87 1.00 0.89 Fipb, ped/bikes 1.00 0.98 1.00 1.00 0.05 1.00 Fit 1.00 1.00 1.00 0.95 1.00 0.055 1.00 0.95 Fit Protected 0.95 3468 1770 3535 1538 1361 1580 Satd. Flow (port) 1770 1.00 0.95 1.00 0.76 1.00 0.66 Fit Permitted 0.95 3468 1770 3535 1224 1361 1105 Satd. Flow (perm) 1770 1.00 0.92 </td <td>1.00 1.00 1.00 0.87 1.00 0.89 Fib, ped/bikes 1.00 1.00 0.98 1.00 1.00 0.95 1.00 0.95 Fit 1.00 1.00 3468 1770 3535 1538 1361 1580 Satd. Flow (prot) 1770 3528 1.00 0.95 1.00 0.76 1.00 0.66 Fit Protected 0.95 1.00 3468 1770 3535 1224 1361 1105 Satd. Flow (prot) 1770 3528 1.00 0.92</td> <td>100 1.00 1.00 0.87 1.00 0.89 Fpb, ped/bikes 1.00 1.00 0.98 1.00 1.00 0.085 1.00 95 Fit Protected 0.95 1.00 1.00 3468 1770 3535 1538 1381 1580 Satd. Flow (port) 1770 3528 1.00 0.95 1.00 0.76 1.00 0.66 Fit Permitted 0.95 1.00 3468 1770 3535 1224 1361 1105 Satd. 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| 0.97
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| 1722 | 7 1.00 | | 1854 | 1361 | 1770

 | 3438 | | 1770 | 3539 | 2567 | Satd. Flow (perm)
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| | | | 1.00 | 1.00 | 0.95

 | 1.00 | | 0.95 | 1.00 | 1.00 | Peak-hour factor, PHF
 | 0.92
 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92
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| | 2 1361 | | 1854 | 1361 | 1770

 | 3438 | | 1770 | 3539 | 2567 | Adj. Flow (vph)
 | 0
 | 0 | 0 | 0 | 0 | 0 | 0 | 0
 | 0 | 0 | 0
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 25.1 44.7 Clearance Time (s) 0.28 0.21 0.40 4.0 <t< td=""><td>254 103 0 94 4 32 64 0 35 54 100 Protected Phases 100 100 100 100 100 100 100 100 Permited Phases Permited Phases Perm Split Perm Prot Proto Actuated Green, G (s) Actuated Green, G (s) 4 8 5 2 1 6 4 Effective Green, g (s) 19.6 19.6 7.7 7.7 1.6 25.1 1.6 25.1 44.7 Clearance Time (s) 0.28 0.21 0.11 0.02 0.36 0.02 0.36 0.64 Lane Grp Cap (uph) 4.0</td></t<> | 254 103 0 94 4 32 64 0 35 54 100 Protected Phases 100 100 100 100 100 100 100 100 Permited Phases Permited Phases Perm Split Perm Prot Proto Actuated Green, G (s) Actuated Green, G (s) 4 8 5 2 1 6 4 Effective Green, g (s) 19.6 19.6 7.7 7.7 1.6 25.1 1.6 25.1 44.7 Clearance Time (s) 0.28 0.21 0.11 0.02 0.36 0.02 0.36 0.64 Lane Grp Cap (uph) 4.0 | 254 103 0 94 4 32 64 0 35 54 190 Protected Phases 100 100 100 100 100 100 100 100 Permited Phases Perm Split Perm Prot Protocted Phases Actuated Green, G (s) 4 8 5 2 1 6 4 Effective Green, g (s) 4 8 5 2 1 16 25.1 44.7 Clearance Time (s) 19.6 19.6 7.7 7.7 1.6 25.1 1.6 25.1 44.7 Clearance Time (s) 0.28 0.21 0.11 0.02 0.36 0.02 0.36 0.44 4.0 | 254 103 0 94 4 32 64 0 35 54 100 Protected Phases 100 100 100 100 100 100 100 Permited Phases Perm Split Perm Prot Proto Actuated Green, G (s) Actuated Green, G (s) 4 8 5 2 1 6 4 Effective Green, g (s) 4 8 5 2 1 16 25.1 44.7 Clearance Time (s) 19.6 19.6 7.7 7.7 1.6 25.1 1.6 25.1 44.7 Clearance Time (s) 0.28 0.28 0.11 0.02 0.36 0.02 0.36 0.04 40 4.0 | 254 103 0 94 4 32 64 0 35 54 190 Protected Phases 100 Permited Phases Permited Phases Actuated Green, G (s) 4 4 Actuated Green, G (s) 4 4 Actuated Green, G (s) 4 4 4 4 4 4 4 4 4 4 4 4 4 4 | 254 103 0 94 4 32 64 0 35 54 190 Protected Phases 100 100 100 100 100 100 100 Permited Phases Perm Split Perm Prot Prot permited Phases 4 8 8 5 2 1 6 4 Effective Green, g (s) 4 8 7.7 7.7 1.6 25.1 1.6 25.1 44.7 Clearance Time (s) 19.6 19.6 7.7 7.7 1.6 25.1 1.6 25.1 44.7 Clearance Time (s) 19.6 19.6 7.7 7.7 1.6 25.1 1.6 25.1 44.7 Clearance Time (s) 19.8 0.28 0.28 0.11 0.11 0.02 0.36 0.02 0.36 0.44 0 Valice Extension (s) Lane Grp Cap (vph) Lane Grp Cap (vph) Velicie Extension (s) Lane Grp Cap (vph) Velicie Exte | 254 103 0 94 4 32 64 0 35 54 190 Protected Phases 100 100 100 100 100 100 100 Protected Phases Perm Split Perm Prot Prot pm+tor Actuated Green, G (s) 4 8 8 5 2 1 6 4 Effective Green, g (s) 4 8 5 2 1.6 25.1 4.7 Clearance Time (s) 19.6 19.6 7.7 7.7 1.6 25.1 1.6 25.1 Valicle Extension (s) 0.28 0.28 0.11 0.11 0.02 0.36 0.02 0.30 3.0 <th< td=""><td>254 103 0 94 4 32 64 0 35 54 190 Protected Phases 100 Permitted Phases Perm Split Perm Prot prot prot+v Actuated Green, G (s) Actuated Green, G (s) 4 8 5 2 1 6 4 Effective Green, g (s) Actuated g/C Ratio 196 196 7.7 7.7 1.6 25.1 1.6 25.1 44.7 Clearance Time (s) 20.8 0.28 0.11 0.11 0.02 0.38 0.02 0.38 0.30 3.0</td><td>254 103 0 94 4 32 64 0 35 54 190 Promited Phases 100
100 100</td><td>254 103 0 94 4 32 64 0 35 54 100 Protected Phases 100 Actuated Green, G (s) Actuated Green, G (s) Actuated Green, G (s) Effective Green, g (s) Actuated Green, G (s) Intersective Green, g (s) Actuated Green, G (s) Vehicle Extension (s) Intersective Green, g (s) Actuated Green, G (s) Vehicle Extension (s) Vehicle Extension (s) <td< td=""><td>254 103 0 94 4 32 64 0 35 54 100 Protected Phases 100 100 100 100 100 100 100 Protected Phases Perm Split Perm Prot Protected Phases Permited Phases 4 8 5 2 1 6 4 Effective Green, g (s) 4 8 5 2 1 6 25.1 44.7 Clearance Trne (s) 196 19.6 7.7 7.7 1.6 25.1 1.6 25.1 44.7 Vehicle Extension (s) 0.28 0.28 0.11 0.11 0.02 0.36 0.02 0.36 0.44 0 40</td></td<></td></th<> | 254 103 0 94 4 32 64 0 35 54 190 Protected Phases 100 Permitted Phases Perm Split Perm Prot prot prot+v Actuated Green, G (s) Actuated Green, G (s) 4 8 5 2 1 6 4 Effective Green, g (s) Actuated g/C Ratio 196 196 7.7 7.7 1.6 25.1 1.6 25.1 44.7 Clearance Time (s) 20.8 0.28 0.11 0.11 0.02 0.38 0.02 0.38 0.30 3.0 | 254 103 0 94 4 32 64 0 35 54 190 Promited Phases 100 | 254 103 0 94 4 32 64 0 35 54 100 Protected Phases 100 Actuated Green, G (s) Actuated Green, G (s) Actuated Green, G (s) Effective Green, g (s) Actuated Green, G (s) Intersective Green, g (s) Actuated Green, G (s) Vehicle Extension (s) Intersective Green, g (s) Actuated Green, G (s) Vehicle Extension (s) Vehicle Extension (s) <td< td=""><td>254 103 0 94 4 32 64 0 35 54 100 Protected Phases 100 100 100 100 100 100 100 Protected Phases Perm Split Perm Prot Protected Phases Permited Phases 4 8 5 2 1 6 4 Effective Green, g (s) 4 8 5 2 1 6 25.1 44.7 Clearance Trne (s) 196 19.6 7.7 7.7 1.6 25.1 1.6 25.1 44.7 Vehicle Extension (s) 0.28 0.28 0.11 0.11 0.02 0.36 0.02 0.36 0.44 0 40</td></td<> | 254 103 0 94 4 32 64 0 35 54 100 Protected Phases 100 100 100 100 100 100 100 Protected Phases Perm Split Perm Prot Protected Phases Permited Phases 4 8 5 2 1 6 4 Effective Green, g (s) 4 8 5 2 1 6 25.1 44.7 Clearance Trne (s) 196 19.6 7.7 7.7 1.6 25.1 1.6 25.1 44.7 Vehicle Extension (s) 0.28 0.28 0.11 0.11 0.02 0.36 0.02 0.36 0.44 0 40 |

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations	ሻሻ	**			† †	1	7		1			
Volume (vph)	347	519	0	0	252	128	88	0	280	0	0	(
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0		4.0			
Lane Util. Factor	0.97	0.95			0.95	1.00	1.00		1.00			
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00		0.86			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00		1.00			
Frt	1.00	1.00			1.00	0.85	1.00		0.85			
Fit Protected	0.95	1.00			1.00	1.00	0.95		1.00			
Satd. Flow (prot)	3433	3539			3539	1583	1770		1361			
Flt Permitted	0.95	1.00			1.00	1.00	0.95		1.00			
Satd. Flow (perm)	3433	3539			3539	1583	1770		1361			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	377	564	0	0	274	139	96	0	304	0	0	(
RTOR Reduction (vph)	0	0	0	0	0	73	0	0	252	0	0	(
Lane Group Flow (vph)	377	564	0	0	274	66	96	0	52	0	0	(
Confl. Peds. (#/hr)							100		100	100		10
Tum Type	Prot					Perm	Prot	1	custom			
Protected Phases	7	4			8		5					
Permitted Phases						8			2			
Actuated Green, G (s)	15.0	52.1			33.1	33.1	9.9		9.9			
Effective Green, g (s)	15.0	52.1			33.1	33.1	9.9		9.9			
Actuated g/C Ratio	0.21	0.74			0.47	0.47	0.14		0.14			
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0		4.0			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0			
Lane Grp Cap (vph)	736	2634			1673	749	250		192			
w/s Ratio Prot	c0.11	c0.16			0.08		c0.05					
//s Ratio Perm						0.04			0.04			
w/c Ratio	0.51	0.21			0.16	0.09	0.38		0.27			
Uniform Delay, d1	24.3	2.7			10.5	10.1	27.3		26.8			
Progression Factor	0.37	0.15			0.83	0.65	1.00		1.00			
ncremental Delay, d2	0.4	0.1			0.2	0.2	1.0		0.8			
Delay (s)	9.3	0.5			9.0	6.8	28.3		27.6			
Level of Service	А	A			А	A	С		C			
Approach Delay (s)		4.0			8.3			27.8			0.0	
Approach LOS		А			А			С			Α	
ntersection Summary												
HCM Average Control Delay			10.4	н	Chilow	of Servic			В			
HCM Volume to Capacity ratio			0.33	11	CINI LEVEI	OF DELVIC	<i>.</i> c		D			
Actuated Cycle Length (s)	,		70.0	S	um of los	time (s)			12.0			
	n		44.3%			of Service			A			
ntersection Canacity Littlization			15		O LOVOI I				А			
Intersection Capacity Utilizatio Analysis Period (min)			10									



→ L EBT 1 1219 0 1900 0 4.0 0 0.95 0 1.00 0 0.99 5 1.00 0 3487		WBL 480 1900 4.0 1.00 1.00	WBT 1244 1900 4.0 0.95	WBR 7 1900	NBL 139 1900 4.0	NBT 1 0 1900	NBR 392 1900	SBL 6	♥ SBT ♠ 0	SBR 4	Movement Lane Configurations Volume (vph)	EBL 500	EBT	∢ EBR	≮ WBL	WBT	WBR	NBL	I NBT ↑	NBR	SBL	♥ SBT	SE
† † 4 1219 0 1900 0 4.0 0 0.95 0 1.00 0 1.00 0 0.99 5 1.00	134 1900	480 1900 4.0 1.00	↑↑ 1244 1900 4.0 0.95	7	* 139 1900	1≱ 0 1900	392	6	⇔ 0		Lane Configurations	٦	† ‡				1	٦	+	1			S
4 1219 0 1900 0 4.0 0 0.95 0 1.00 0 1.00 0 0.99 5 1.00	1900	480 1900 4.0 1.00	1244 1900 4.0 0.95	7 1900	139 1900	0 1900			0	4					า	TT	r	1		r			01
0 1900 0 4.0 0 0.95 0 1.00 0 1.00 0 0.99 5 1.00	1900	1900 4.0 1.00	1900 4.0 0.95	1900	1900	1900				4				0.5		070		50		440	40.4		
0 4.0 0 0.95 0 1.00 0 1.00 0 0.99 5 1.00		4.0 1.00	4.0 0.95	1900			1900			1000			1150	25	55	658	575	59	23	149	404	170	10
0 0.95 0 1.00 0 1.00 0 0.99 5 1.00		1.00	0.95		4.0			1900	1900	1900	Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	19
0 1.00 0 1.00 0 0.99 5 1.00						4.0			4.0		Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1
0 1.00 0 0.99 5 1.00		1.00			1.00	1.00			1.00		Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	C
0 0.99 5 1.00			1.00		1.00	0.79			0.92		Frpb, ped/bikes	1.00	0.99		1.00	1.00	1.00	1.00	1.00	0.82	1.00	0.85	0
5 1.00		1.00	1.00		0.80	1.00			1.00		Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1
		1.00	1.00		1.00	0.85			0.95		Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.89	0
0 3487		0.95	1.00		0.95	1.00			0.97		Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1
		1770	3536		1410	1244			1583		Satd. Flow (prot)	1770	3501		1770	3539	1583	1770	1863	1303	1770	1333	1:
5 1.00		0.95	1.00		0.75	1.00			0.48		Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1
0 3487		1770	3536		1114	1244			790		Satd, Flow (perm)	1770	3501		1770	3539	1583	1770	1863	1303	1770	1333	1
	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0
								0.92															1
					100210			1	1000			1000000			10.0	101000		1000					1
			- Commence	2002																			
4 1464	U	522	1360	U		65			8				1276		60	/15	559		25			583	1
2005							100			100				100									
ot					Perm			Perm				Prot					pm+ov				Prot		pm
7 4		3	8			2			6		Protected Phases	7	4		3	8	1	5	2	3	1	6	
					2			6			Permitted Phases						8			2			
3 48.2		33.0	79.9		16.8	16.8			16.8		Actuated Green, G (s)	29.0	44.0		4.0	19.0	46.0	4.0	19.0	23.0	27.0	42.0	7
3 48.2		33.0	79.9		16.8	16.8			16.8			29.0	44.0		4.0	19.0	46.0	4.0	19.0	23.0	27.0	42.0	7
1 0.44		0.30	0 73		0 15	0.15			0.15		Actuated g/C Ratio	0.26	0.40		0.04	0 17	0.42	0.04	0 17	0.21	0.25	0.38	C
										_													
																							8
					170				121	_													0
U CU.42		CU.29	0.30		0.44	0.05			0.04	_		CU.31	0.30		0.03	CU.20		CU.U4	0.01		0.25	CU.44	
																		4 00	0.00				0
																							0
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																							1
															68.0								
															107.8		8.8	165.5			87.6	120.5	1
E D		D	A		F	D			D		Level of Service	F	В		F	F	A	F	D	D	F	F	
44.1			16.9			58.0			40.9		Approach Delay (s)		39.8			65.9			71.5			74.3	
D			В			E			D		Approach LOS		D			E			E			E	
										_	The second s												
					~							7.5											
		H	CM Level	of Service	9		С								H	CM Level	of Servic	e		E			
												atio		1.15									
	110.0	SL	um of lost	time (s)			12.0				Actuated Cycle Length (s)			110.0		um of lost				16.0			
			III aval a	of Service			G				Intersection Capacity Utiliza	tion		96.7%	IC	U Level o	of Service			F			
	104.8%	IC	O Level 0	000000										10									
	104.8% 15	IC	O Level 0	Garneo							Analysis Period (min)			15									
	1325 7 1464 4 4 3 48.2 3 48.2 0.44 0 4.0 1 3.0 1528 0 c0.42 0 0.96 29.9 1 0.096 29.9 1 1.00 1 144.0	1325 146 7 0 1464 0 4 1464 4 48.2 4 48.2 4 48.2 4 48.2 3 48.2 4 44.0 0 3.0 1528 0.042 0 0.096 29.9 1.00 44.1 44.0	1325 146 522 7 0 0 1464 0 522 1 Prot 3 4 3 3 48.2 33.0 0.44 0.30 0.40 4.0 0.30 3.0 1528 531 c0.42 c0.29 0.96 0.98 29.9 38.2 1.00 1.12 4.4.1 8.2 D D	1325 146 522 1352 7 0 0 0 1464 0 522 1360 t Prot	1325 146 522 1352 8 7 0 0 0 0 0 1464 0 522 1360 0 1 Prot	1325 146 522 1352 8 151 7 0 0 0 0 0 0 1464 0 522 1360 0 151 7 0 0 522 1360 0 151 4 0 522 1360 0 151 4 3 8	1325 146 522 1352 8 151 0 7 0 0 0 0 0 361 1464 0 522 1360 0 151 65 100 151 65 100 100 100 100 t Prot Perm 2 2 361 16.8 16.8 4.8.2 33.0 79.9 16.8 16.8 16.8 16.8 4.42 33.0 79.9 16.8 16.8 16.8 0.40 4.0 3.0 3.0 3.0 3.0 3.0 1528 531 2568 170 190 0.05 0.05 c0.42 c0.29 0.38 0.053 0.89 0.34 29.9 38.2 6.7 45.7 41.7 1.00 1.12 0.56 1.00 1.00 44.0 51.1 3.7 90.3 46.5	1325 146 522 1352 8 151 0 426 7 0 0 0 0 0 361 0 1464 0 522 1360 0 151 65 0 1464 0 522 1360 0 151 65 0 1 Prot Perm 2 2 2 3 168 168 4 3 8 2 2 3 168 168 168 448.2 33.0 79.9 168 168 168 168 0.40 4.0 3.0 0.73 0.15 0.15 100 3.0 3.0 3.0 3.0 3.0 3.0 3.0 1528 531 2568 170 190 100 100 c0.42 c0.29 0.38 0.67 45.7 41.7 1.00 1.12 0.56 1.00	1325 146 522 1352 8 151 0 426 7 7 0 0 0 0 381 0 0 1464 0 522 1360 0 151 65 0 0 1464 0 522 1360 0 151 65 0 0 100 100 100 100 100 100 100 4 3 8 2 6 6 6 6 4 3.0 79.9 16.8 16.8 16 6 4 0.30 0.73 0.15 0.15 6 10 10 4.0 4.0 4.0 4.0 4.0 4.0 3.0 3.0 3.0 3.0 1528 531 2568 170 190 0.05 0.05 0.05 0.04 1.0 1.00 1.00 1.00 1.00 1.00 1.0	1325 146 522 1352 8 151 0 426 7 0 7 0 0 0 0 381 0 0 3 1464 0 522 1360 0 151 65 0 0 8 1100 100 100 100 100 100 100 1464 0 522 1360 151 65 0 0 8 1100 100 100 100 100 100 100 100 1100 79.9 16.8 16.8 16.8 16.8 16.8 1442 0.30 0.73 0.15 0.15 0.15 0.15 14.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 1528 531 2568 170 190 121 0.06 121 0.06 121 0.06 129.9 38.2 6.7	1325 146 522 1352 8 151 0 426 7 0 4 7 0 0 0 0 361 0 0 3 0 1464 0 522 1360 0 151 65 0 0 8 0 100 100 100 100 100 100 100 100 4 3 8 2 6 16.8 16.8 16.8 16.8 16.8 16.9 3.0 3.0 3.0 3.0 <	1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 7 0 0 0 0 361 0 0 3 0 RTOR Reduction (vph) 1464 0 522 1360 0 151 65 0 0 8 0 Lane Group Flow (vph) 1464 0 522 1360 0 151 65 0 0 8 0 Confl. Pecks (#hr) Tum Type 4 3 8 2 6 Protected Phases Permitted Phases 9 16.8 16.8 16.8 Actuated Green, G (s) 8 4 48.2 33.0 79.9 16.8 16.8 16.8 16.8 Effective Green, g (s) Actuated Green, G (s) 10 1.0 <td< td=""><td>1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 7 0 0 0 0 361 0 0 3 0 RTOR Reduction (vph) 0 1464 0 522 1360 0 151 65 0 0 8 0 Lane Group Flow (vph) 543 1464 0 522 1360 0 151 65 0 0 8 0 Confl. Peds. (#hr) 100 1464 3 8 2 6 Protetcted Phases 7 4 3 8 2 6 Permitted Phases 7 482 330 79.9 16.8 16.8 16.8 16.8 16.8 6 440 4.0 4.0 4.0 4.0 4.0 29.0 29.0 0.44 0.30 3.0 3.0 3.0 3.0 <</td><td>1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flowr (vph) 543 1250 7 0 0 0 0 361 0 0 3 0 RTOR Reduction (vph) 0 1 1464 0 522 1360 0 151 65 0 0 8 0 Lane Group Flow (vph) 543 1276 1464 0 522 1360 0 151 65 0 0 80 Confl. Peds. (#thr) 100 4 3 8 2 6 Protetcted Phases 7 4 4 3.0 79.9 16.8 16.8 16.8 Actuated Green, G (s) 29.0 44.0 0.40 4.0 4.0 4.0 4.0 4.0 2.6 0.26 0.40 0.41 0.03 0.73 0.15 0.15 0.15 Actuated Green, G (s) 2.0 4.40 0.40 4.0 4.0 4.0 4.0 4.0 4.0</td><td>1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 7 0 0 0 0 361 0 0 3 0 RTOR Reduction (vph) 0 1 0 1464 0 522 1360 0 151 65 0 0 8 0 Lane Group Flow (vph) 543 1276 0 1464 0 522 1360 0 100 100 100 Confl. Peds. (#/hr) 100 100 14 3 8 2 6 Permitted Phases 7 4 4 3 0 7.9 16.8 16.8 16.8 Effective Green, g (s) 29.0 44.0 0.44 0.30 0.73 0.15 0.15 Actuated g/C Ratio 0.26 0.40 0.40 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0</td><td>1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 7 0 0 0 0 361 0 0 3 0 RTOR Reduction (vph) 0 1 0 0 1464 0 522 1360 0 151 65 0 0 8 0 Lane Group Flow (vph) 543 1276 0 60 1464 0 522 1360 0 151 65 0 0 8 0 Confl. Peds. (#hr) 100 <t< td=""><td>1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 715 7 0 0 0 0 361 0 0 3 0 RTOR Reduction (vph) 0 1 0</td><td>1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (rph) 543 1250 27 60 715 625 7 0 0 0 361 0 0 3 0 RTOR Reduction (rph) 0 1 0 0 0 66 1464 0 522 1360 0 151 65 0 0 8 0 Lane Group Flow (rph) 543 1276 0 60 715 559 100</td><td>1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 715 625 64 7 0 0 0 0 361 0 0 3 0 RTOR Reduction (vph) 543 1276 0 0 0 66 0 1464 0 522 1360 0 100</td><td>1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 715 625 64 25 7 0 0 0 0 361 0 0 3 0 100 100 100 0 0 10 0 0 66 0 0 1464 0 522 1360 0 151 65 0 0 8 0 Lane Group Flow (vph) 543 1250 27 60 715 625 64 25 146 0 100</td><td>1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 715 625 64 25 162 7 0 <t< td=""><td>1325 148 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 715 625 64 25 162 439 7 0 0 0 0 361 0 0 3 0 RCR02 trion (vph) 0 1 0 0 66 0 36 0 1464 0 522 1360 0 100</td><td>1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 715 625 64 25 162 439 185 7 0 0 0 0 361 0 0 3 0 100 100 0 0 66 0 0 36 0 86 1464 0 522 1360 0 151 65 0 0 86 100 1</td></t<></td></t<></td></td<>	1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 7 0 0 0 0 361 0 0 3 0 RTOR Reduction (vph) 0 1464 0 522 1360 0 151 65 0 0 8 0 Lane Group Flow (vph) 543 1464 0 522 1360 0 151 65 0 0 8 0 Confl. Peds. (#hr) 100 1464 3 8 2 6 Protetcted Phases 7 4 3 8 2 6 Permitted Phases 7 482 330 79.9 16.8 16.8 16.8 16.8 16.8 6 440 4.0 4.0 4.0 4.0 4.0 29.0 29.0 0.44 0.30 3.0 3.0 3.0 3.0 <	1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flowr (vph) 543 1250 7 0 0 0 0 361 0 0 3 0 RTOR Reduction (vph) 0 1 1464 0 522 1360 0 151 65 0 0 8 0 Lane Group Flow (vph) 543 1276 1464 0 522 1360 0 151 65 0 0 80 Confl. Peds. (#thr) 100 4 3 8 2 6 Protetcted Phases 7 4 4 3.0 79.9 16.8 16.8 16.8 Actuated Green, G (s) 29.0 44.0 0.40 4.0 4.0 4.0 4.0 4.0 2.6 0.26 0.40 0.41 0.03 0.73 0.15 0.15 0.15 Actuated Green, G (s) 2.0 4.40 0.40 4.0 4.0 4.0 4.0 4.0 4.0	1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 7 0 0 0 0 361 0 0 3 0 RTOR Reduction (vph) 0 1 0 1464 0 522 1360 0 151 65 0 0 8 0 Lane Group Flow (vph) 543 1276 0 1464 0 522 1360 0 100 100 100 Confl. Peds. (#/hr) 100 100 14 3 8 2 6 Permitted Phases 7 4 4 3 0 7.9 16.8 16.8 16.8 Effective Green, g (s) 29.0 44.0 0.44 0.30 0.73 0.15 0.15 Actuated g/C Ratio 0.26 0.40 0.40 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0	1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 7 0 0 0 0 361 0 0 3 0 RTOR Reduction (vph) 0 1 0 0 1464 0 522 1360 0 151 65 0 0 8 0 Lane Group Flow (vph) 543 1276 0 60 1464 0 522 1360 0 151 65 0 0 8 0 Confl. Peds. (#hr) 100 <t< td=""><td>1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 715 7 0 0 0 0 361 0 0 3 0 RTOR Reduction (vph) 0 1 0</td><td>1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (rph) 543 1250 27 60 715 625 7 0 0 0 361 0 0 3 0 RTOR Reduction (rph) 0 1 0 0 0 66 1464 0 522 1360 0 151 65 0 0 8 0 Lane Group Flow (rph) 543 1276 0 60 715 559 100</td><td>1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 715 625 64 7 0 0 0 0 361 0 0 3 0 RTOR Reduction (vph) 543 1276 0 0 0 66 0 1464 0 522 1360 0 100</td><td>1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 715 625 64 25 7 0 0 0 0 361 0 0 3 0 100 100 100 0 0 10 0 0 66 0 0 1464 0 522 1360 0 151 65 0 0 8 0 Lane Group Flow (vph) 543 1250 27 60 715 625 64 25 146 0 100</td><td>1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 715 625 64 25 162 7 0 <t< td=""><td>1325 148 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 715 625 64 25 162 439 7 0 0 0 0 361 0 0 3 0 RCR02 trion (vph) 0 1 0 0 66 0 36 0 1464 0 522 1360 0 100</td><td>1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 715 625 64 25 162 439 185 7 0 0 0 0 361 0 0 3 0 100 100 0 0 66 0 0 36 0 86 1464 0 522 1360 0 151 65 0 0 86 100 1</td></t<></td></t<>	1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 715 7 0 0 0 0 361 0 0 3 0 RTOR Reduction (vph) 0 1 0	1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (rph) 543 1250 27 60 715 625 7 0 0 0 361 0 0 3 0 RTOR Reduction (rph) 0 1 0 0 0 66 1464 0 522 1360 0 151 65 0 0 8 0 Lane Group Flow (rph) 543 1276 0 60 715 559 100	1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 715 625 64 7 0 0 0 0 361 0 0 3 0 RTOR Reduction (vph) 543 1276 0 0 0 66 0 1464 0 522 1360 0 100	1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 715 625 64 25 7 0 0 0 0 361 0 0 3 0 100 100 100 0 0 10 0 0 66 0 0 1464 0 522 1360 0 151 65 0 0 8 0 Lane Group Flow (vph) 543 1250 27 60 715 625 64 25 146 0 100	1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 715 625 64 25 162 7 0 <t< td=""><td>1325 148 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 715 625 64 25 162 439 7 0 0 0 0 361 0 0 3 0 RCR02 trion (vph) 0 1 0 0 66 0 36 0 1464 0 522 1360 0 100</td><td>1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 715 625 64 25 162 439 185 7 0 0 0 0 361 0 0 3 0 100 100 0 0 66 0 0 36 0 86 1464 0 522 1360 0 151 65 0 0 86 100 1</td></t<>	1325 148 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 715 625 64 25 162 439 7 0 0 0 0 361 0 0 3 0 RCR02 trion (vph) 0 1 0 0 66 0 36 0 1464 0 522 1360 0 100	1325 146 522 1352 8 151 0 426 7 0 4 Adj. Flow (vph) 543 1250 27 60 715 625 64 25 162 439 185 7 0 0 0 0 361 0 0 3 0 100 100 0 0 66 0 0 36 0 86 1464 0 522 1360 0 151 65 0 0 86 100 1

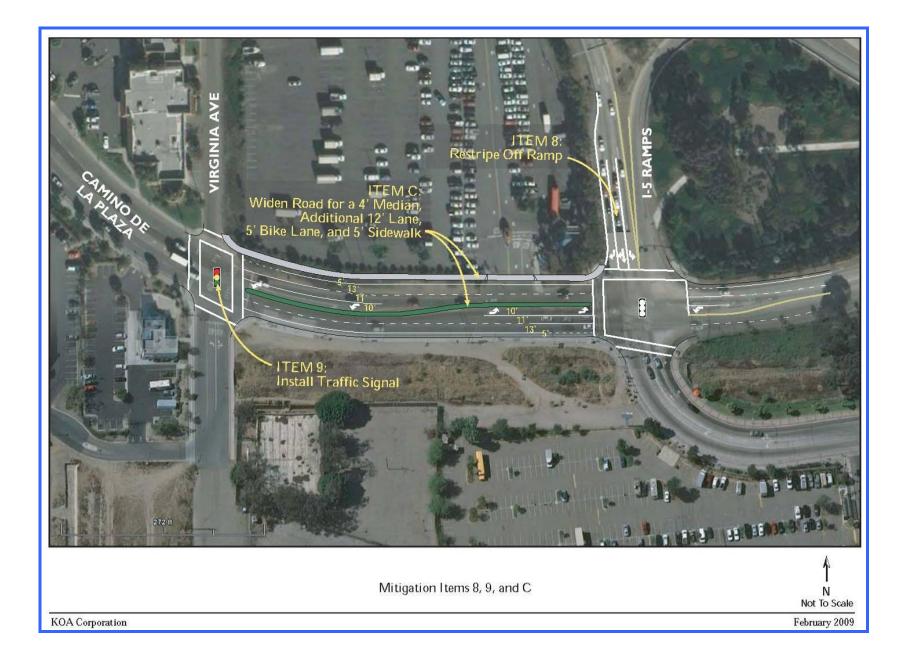


B-4

3: Camino de la Pla:	za & S	an Ysi	n Mob dro Bl	/d	8					Timing) Plan: P	M Peak	4: I-5 NB Ramps & E \$	San \	rsidro	Blvd	10	8					Timing	Plan: P	M Pe
	٨	→	7	•	+	۲	4	t	1	1	ţ	~		٠	→	7	•	+	*	4	t	1	\$	ţ	-
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SE
Lane Configurations	٦	र्भ	1		र्स	1	٦	* 1>		٦	**	77	Lane Configurations												
Volume (vph)	665	209	158	26	181	84	131	104	12	45	125	1184	Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	19
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0	Total Lost time (s)												
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.95		1.00	0.95	0.88	Lane Util. Factor												
Frpb. ped/bikes	1.00	1.00	0.79		1.00	0.79	1.00	0.96		1.00	1.00	0.94	Fit												
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	Fit Protected												
Fit	1.00	1.00	0.85		1.00	0.85	1.00	0.98		1.00	1.00	0.85	Satd, Flow (prot)												
Fit Protected	0.95	0.97	1.00		0.99	1.00	0.95	1.00		0.95	1.00	1.00	Fit Permitted												
Satd. Flow (prot)	1681	1724	1244		1851	1244	1770	3356		1770	3539	2614	Satd. Flow (perm)												
Fit Permitted	0.95	0.97	1.00		0.99	1.00	0.95	1.00		0.95	1.00	1.00		0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.
Satd, Flow (perm)	1681	1724	1244		1851	1244	1770	3356		1770	3539	2614	Adi, Flow (vph)	0.52	0.52	0.52	0.52	0.52	0.32	0.52	0.52	0.52	0.52	0.52	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	
	723	227	172	28	197		142				136	1287		0	0	0	0	0	0	0	0	0	0	0	
Adj. Flow (vph)						91		113	13	49			Lane Group Flow (vph)	U	U	U	U	U	U	0	U	U	U	U	
RTOR Reduction (vph)	0	0	103	0	0	77	0	8	0	0	0	105	Tum Type												
Lane Group Flow (vph)	470	480	69		225	14	142	118	0	49	136	1182	Protected Phases												
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100	Permitted Phases												
Tum Type	Split		Pem	Split		Perm	Prot			Prot		pm+ov	Actuated Green, G (s)												
Protected Phases	4	4		8	8		5	2		1	6	4	Effective Green, g (s)												
Permitted Phases			4			8						6	Actuated g/C Ratio												
Actuated Green, G (s)	44.2	44.2	44.2		17.0	17.0	14.8	27.1		5.7	18.0	62.2	Clearance Time (s)												
Effective Green, g (s)	44.2	44.2	44.2		17.0	17.0	14.8	27.1		5.7	18.0	62.2	Lane Grp Cap (vph)												
Actuated g/C Ratio	0.40	0.40	0.40		0.15	0.15	0.13	0.25		0.05	0.16	0.57	v/s Ratio Prot												
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	4.0	v/s Ratio Perm												
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	3.0	v/c Ratio												
ane Grp Cap (vph)	675	693	500		286	192	238	827		92	579	1478	Uniform Delay, d1												
/s Ratio Prot	0.28	0.28			c0.12	17.7	c0.08	0.04		0.03	0.04	c0.32	Progression Factor												
/s Ratio Perm			0.06			0.01						0.13	Incremental Delay, d2												
/c Ratio	0.70	0.69	0.14		0.79	0.07	0.60	0.14		0.53	0.23	0.80	Delay (s)												
Uniform Delay, d1	27.3	27.3	20.8		44.8	39.8	44.8	32.4		50.9	40.0	19.0	Level of Service												
Progression Factor	0.56	0.56	0.14		1.00	1.00	1.00	1.00		1.00	1.00	1.00	Approach Delay (s)		0.0			0.0			0.0			0.0	
ncremental Delay, d2	5.5	5.3	0.5		13.3	0.2	4.0	0.4		5.8	1.0	4.6	Approach LOS		A			A			A			۵.0	
Delay (s)	20.7	20.5	3.5		58.0	39.9	48.8	32.7		56.7	41.0	23.6	Approach 200		~			~			7			~	
Level of Service	20.7 C	20.J	3.5 A		50.0 E	39.9 D	40.0 D	52.7 C		50.7 E	41.0 D	23.0 C	Intersection Summary												
Approach Delay (s)	U	18.0	A		52.8	U	U	41.2		E	26.3	U	HCM Average Control Delay			0.0	H	CM Level	of Service	e		А			
Approach LOS		10.0 B			52.8 D			41.2 D			20.3 C		HCM Volume to Capacity ratio			0.00									
Approach LUS		В			U			D			U		Actuated Cycle Length (s)			3.0	SI	m of lost	time (s)			0.0			
ntersection Summary													Intersection Capacity Utilization	P		0.0%	IC	U Level o	of Service			A			
HCM Average Control Delay	1		27.3	H	CM Level	of Servic	e		С				Analysis Period (min)			15									
	io								-																
	6.6			S	um of los	t time (s)			16.0																
	ion																								
				14	O LOUDI .	01 01 01 01 01 01			D																
			10																						
HCM Volume to Capacity rati Actuated Cycle Length (s) Intersection Capacity Utilizati Analysis Period (min) c Critical Lane Group			0.77 110.0 77.9% 15	S	um of los CU Level	t time (s)			16.0 D				c Critical Lane Group			15									

	٨	→	7	•	+	٩	4	t	1	\$	ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations	ኘካ	**			† †	7	٦		1			
Volume (vph)	905	797	0	0	1196	300	92	0	235	0	0	(
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0		4.0			
Lane Util. Factor	0.97	0.95			0.95	1.00	1.00		1.00			
Frpb, ped/bikes	1.00	1.00			1.00	1.00	1.00		0.79			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00		1.00			
Frt	1.00	1.00			1.00	0.85	1.00		0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95		1.00			
Satd. Flow (prot)	3433	3539			3539	1583	1770		1244			
Flt Permitted	0.95	1.00			1.00	1.00	0.95		1.00			
Satd. Flow (perm)	3433	3539			3539	1583	1770		1244			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.9
Adj. Flow (vph)	984	866	0	0	1300	326	100	0	255	0	0	(
RTOR Reduction (vph)	0	0	0	0	0	159	0	0	228	0	0	(
Lane Group Flow (vph)	984	866	0	0	1300	167	100	0	27	0	0	(
Confl. Peds. (#/hr)							100		100	100		10
Tum Type	Prot					Perm	Prot	44	custom			
Protected Phases	7	4			8	1 0111	5		ouotan			
Permitted Phases	20					8			2			
Actuated Green, G (s)	35.7	90.5			50.8	50.8	11.5		11.5			
Effective Green, g (s)	35.7	90.5			50.8	50.8	11.5		11.5			
Actuated g/C Ratio	0.32	0.82			0.46	0.46	0.10		0.10			
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0		4.0			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0			
Lane Grp Cap (vph)	1114	2912			1634	731	185		130			
v/s Ratio Prot	c0.29	0.24			c0.37	101	c0.06		100			
v/s Ratio Perm	00.20	0.2.1			00.07	0.11	00.00		0.02			
v/c Ratio	0.88	0.30			0.80	0.23	0.54		0.21			
Uniform Delay, d1	35.2	2.3			25.2	17.8	46.7		45.1			
Progression Factor	0.68	0.68			0.94	0.68	1.00		1.00			
Incremental Delay, d2	3.8	0.1			2.5	0.4	3.2		0.8			
Delay (s)	27.9	1.7			26.1	12.5	49.9		45.9			
Level of Service	C	A			C	B	D		D			
Approach Delay (s)		15.6			23.4	-	-	47.0	_		0.0	
Approach LOS		В			C			D			A	
		_						-				_
Intersection Summary	***											
HCM Average Control Delay			21.8	Н	CM Leve	of Service	e :		C			
HCM Volume to Capacity ra	itio		0.80									
Actuated Cycle Length (s)			110.0		um of los				12.0			
Intersection Capacity Utiliza	tion		74.0%	IC	U Level	of Service	3		D			
Analysis Period (min)			15									
c Critical Lane Group												







											11/1	9/2009	2030 With ITC										11/19/2
ntersection: 1: Can	nino de	la Plaz	za & V	irginia	Ave								Intersection: 4: I-5 NB	Ram	nps & E	San `	rsidro	Blvd					
Novement	EB	EB	WB	WB	WB	NB	NB	SB					Movement										
Directions Served	Т	TR	L	Т	TR	L	TR	LR					Directions Served										
laximum Queue (ft)	130	113	124	187	156	72	67	33					Maximum Queue (ft)										
verage Queue (ft)	62	43	83	59	65	21	33	3					Average Queue (ft)										
5th Queue (ft)	109	91	130	141	127	51	59	17					95th Queue (ft)										
nk Distance (ft)	313	313		470	470	68	68	93					Link Distance (ft)										
pstream Blk Time (%)						1	0						Upstream Blk Time (%)										
ueuing Penalty (veh)						0	0						Queuing Penalty (veh)										
torage Bay Dist (ft)			100										Storage Bay Dist (ft)										
torage Blk Time (%)	0		7	1									Storage Blk Time (%)										
ueuing Penalty (veh)	0		14	2									Queuing Penalty (veh)										
ntersection: 2: Can	nino de	la Pla;	za & S	B I-5 C	Dn/Off-	-Ramp	5						Intersection: 5: Camin	o de	la Plaz	a & N	B -5/ -	-805 O	n-Ran	ιp			
overnent	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB	Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	
irections Served	L	Т	TR	L	Т	Т	L	Т	R	L	TR	R	Directions Served	L	L	Т	Т	Т	Т	R	L	R	
aximum Queue (ft)	132	133	83	40	69	82	37	19	63	586	433	88	Maximum Queue (ft)	127	124	67	106	87	107	65	118	152	
/erage Queue (ft)	50	33	30	7	29	35	7	2	18	241	87	40	Average Queue (ft)	50	68	8	31	38	55	29	44	65	
ith Queue (ft)	102	82	62	26	58	66	28	13	46	437	299	68	95th Queue (ft)	96	109	37	76	74	93	54	85	115	
nk Distance (ft)		470	470		722	722		305		886	886		Link Distance (ft)			722	722	501	501	501	452	452	
stream Blk Time (%)													Upstream Blk Time (%)										
euing Penalty (veh)													Queuing Penalty (veh)										
orage Bay Dist (ft)	150			170			100		100			175		500	500								
orage Blk Time (%)		0											Storage Blk Time (%)										
ueuing Penalty (veh)		0											Queuing Penalty (veh)										
ntersection: 3: Can	nino de	la Plaz	za & S	an Ysi	dro Bh	vd							Network Summary	010 Q21									
lovement	EB	EB	EB	WB	NB	NB	NB	SB	SB	SB	SB	SB	Network wide Queuing Penalty:	17									
irections Served	L	LT	R	LT	L	Т	TR	L	Т	Т	R	R											
aximum Queue (ft)	123	174	145	124	47	27	34	61	42	50	86	67											
/erage Queue (ft)	59	94	72	49	15	5	5	26	8	18	45	27											
ith Queue (ft)	106	146	128	97	40	17	19	58	30	44	76	53											
nk Distance (ft)	501	501	501	311		525	525		880	880	880	880											
stream Blk Time (%)																							
euing Penalty (veh)																							
orage Bay Dist (ft)					90			155															
orage Blk Time (%)																							
ueuing Penalty (veh)																							



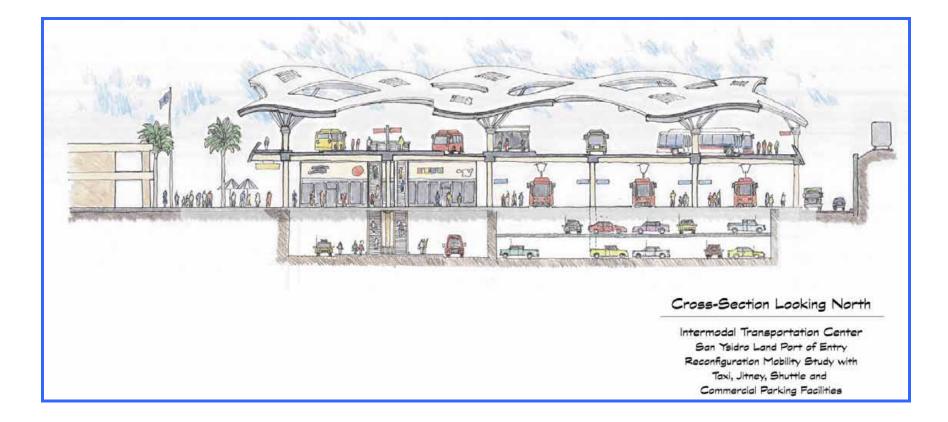
Intersection: 1: Can	nino de	la Pla	za & V	irginia	Ave								Intersection: 3: Carr	nino de	la Pla	za & S	an Ysi	dro Blv	/d						
Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB				Movement	EB	EB	EB	WB	NB	NB	NB	SB	SB	SB	SB	5
Directions Served	L	T	TR	L	T	TR	L	TR	LR				Directions Served	L	LT	R	LT	L	T	TR	L	T	T	R	
Maximum Queue (ft)	10	334	334	125	473	489	96	118	40				Maximum Queue (ft)	212	258	90	275	115	177	87	91	580	902	902	9
Average Queue (ft)	1	328	265	123	358	300	76	88	6				Average Queue (ft)	97	129	38	147	77	41	25	35	51	484	685	6
95th Queue (ft)	5	332	418	129	502	480	99	107	25				95th Queue (ft)	175	216	71	240	129	145	62	77	248	1143	1092	10
Link Distance (ft)	3	313	313	125	453	453	68	68	93				Link Distance (ft)	504	504	504	311	120	525	525		880	880	880	8
Upstream Blk Time (%)		72	9		4	0	58	57					Upstream Blk Time (%)	001	001	001	0		ULU	010		0	6	22	Ĩ
Queuing Penalty (veh)		0	Ő		35	4	0	0					Queuing Penalty (veh)				0					0	0	0	
Storage Bay Dist (ft)	150	v	v	100	00	-	v	U.S.					Storage Bay Dist (ft)				v	90			155	v	v	v	
Storage Blk Time (%)	100	75		59	3								Storage Blk Time (%)					12	0		100				
Queuing Penalty (veh)		3		369	16								Queuing Penalty (veh)					6	Ő						
Intersection: 2: Can	nino de	la Plaz	za & S	B I-5 (Dn/Off-	Ramp	5						Intersection: 4: I-5 N	VB Ram	nps & E	E San`	Ysidro	Blvd	-20372						
Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB	SB	Movement												
Directions Served	L	T	TR	L	T	T	R	L	T	R	<u>- 36</u> L	TR	Directions Served												_
Maximum Queue (ft)	175	482	492	194	646	606	528	118	190	122	931	934	Maximum Queue (ft)												
Average Queue (ft)	163	462	243	83	442	423	129	70	42	54	754	793	Average Queue (ft)												
95th Queue (ft)	205	522	486	187	726	690	484	131	171	101	1160	1155	95th Queue (ft)												
Link Distance (ft)	205	453	453	107	706	706	706	131	305	101	886	886	Link Distance (ft)												
Jpstream Blk Time (%)		18	455		2	0	2		1		10	27	Upstream Blk Time (%)												
Queuing Penalty (veh)		142	6		10	0	7		0		0	27	Queuing Penalty (veh)												
Storage Bay Dist (ft)	150	142	0	170	10	U	1	100	U	100	U	U	Storage Bay Dist (ft)												
Storage Blk Time (%)	24	21		0	54			16	0	100		38	Storage Blk Time (%)												
Queuing Penalty (veh)	136	107		0	30			28	0	1		194	Queuing Penalty (veh)												
Intersection: 2: Can	nino de	la Plaz	za & S	B I-5 (Dn/Off-	Ramp	5		38746				Intersection: 5: Cam	nino de	la Plaz	za & N	B -5/ ·	-805 C	n-Rar	np					
Movement	SB												Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB			_
Directions Served	R												Directions Served	L	L	T	Т	Т	T	R	L	R			_
Maximum Queue (ft)	200												Maximum Queue (ft)	231	264	78	120	387	488	278	174	151			
Average Queue (ft)	194												Average Queue (ft)	139	159	30	56	190	269	75	61	73			
95th Queue (ft)	222												95th Queue (ft)	210	232	68	99	309	400	172	128	137			
Link Distance (ft)	to take												Link Distance (ft)	210	LUL	706	706	504	504	504	452	452			
Upstream Blk Time (%)													Upstream Blk Time (%)			100	100	0	0	0	ICL	102			
Queuing Penalty (veh)													Queuing Penalty (veh)					ŏ	1	1					
Storage Bay Dist (ft)	175												Storage Bay Dist (ft)	500	500				10.00						
Storage Blk Time (%)	5												Storage Blk Time (%)												
Queuing Penalty (veh)	32												Queuing Penalty (veh)												
													Network Summary												
													Network wide Queuing Pena	lty: 1129											
San Ysidro LPOE Reconfigu PB	uration Mob	ility Study	y							S		Report Page 1	San Ysidro LPOE Reconfigu PB	ration Mob	ility Study	r							S	imTraffic	Rep Page

APPENDIX C

Intermodal Transportation Center Alternative Concepts Cross-Sections









APPENDIX D

Comments on Draft Concept Plan Report

STATE OF CALIFORNIA-BUSINESS, TRANSPORTATION AND HOUSING AGENCY.

DEPARTMENT OF TRANSPORTATION DISTRICT 11 4050 TAYLOR STREET, MS 241 SAN DIEGO, CA 92110-2714 PHONE (619) 688-3610 FAX (619) 688-3338 TTY 711

ARNOLD SCHWARZENEGGER, Governor



Flex your power! Be energy efficient!

December 14, 2009

Mr. Shariar T. Ammi Associate Engineer - Transportation City Planning and Community Investment City of San Diego 202 C Street, MS5A San Diego, CA 92101

Reference: San Ysidro Port of Entry Reconfiguration Mobility Study

Dear Mr. Ammi:

The California Department of Transportation (Caltrans) appreciates the opportunity to conduct a review of the Draft San Ysidro Port of Entry Reconfiguration Mobility Study. In our capacity as member of the working grouping, we have the following comments:

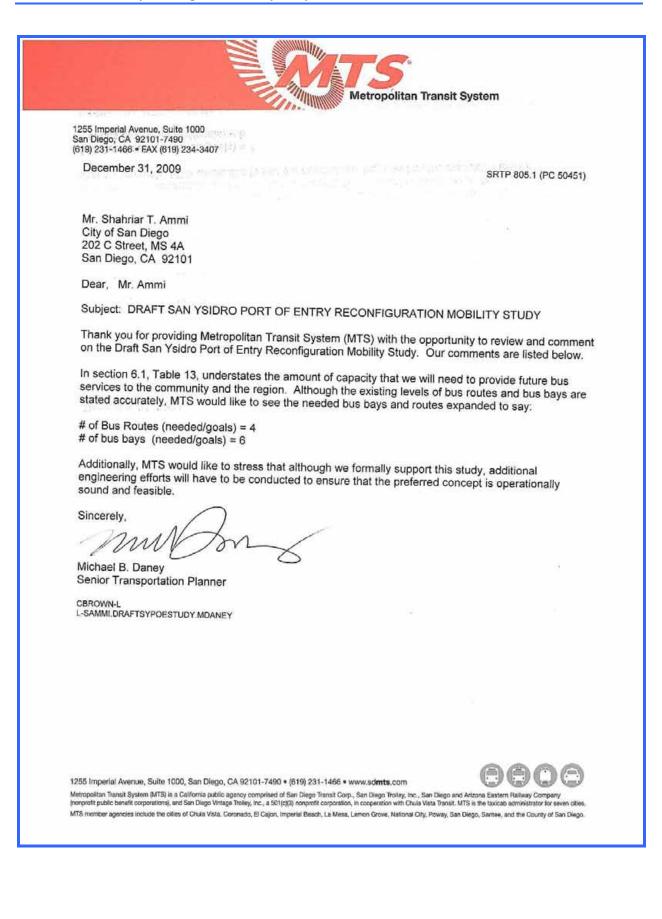
- Page 2 last paragraph, please substitute Caltrans planning grant, with ... "this study is funded through the Caltrans Transportation Planning Grant Program under Community Based Transportation Planning (CBTP)."
- As noted on page 102 under section 7.1 REMAINING ISSUES, Please add the following sentence at the end of this paragraph, "<u>All alternatives will need to be evaluated in a Project Initiation Document for engineering validity, following Caltrans guidelines</u>," to read... "Caltrans Design Exceptions The conceptual site design for reconfiguration of border circulation and transportation facilities includes potential relocation of the northbound I-5 on- and off-ramps from the center of the Focused Study Area to a connection with Camino de la Plaza. At an August 10, 2009 meeting, Caltrans staff reviewed the ramp relocation proposal and indicated that there do not appear to be any fatal flaws with the concept. However, design exceptions to Caltrans highway design standards may be required. The extent of these exceptions will not be known until conceptual and preliminary engineering design is performed and design plans can be analyzed. All alternatives will need to be evaluated in a Project Initiation Document for engineering validity, following Caltrans guidelines."

If you have any questions on the comments Caltrans has provided, please contact me at (619) 688-3610 or via email at sergio.pallares@dot.ca.gov.

Sincerely.

SERGIO PALLARES, Chief International Studies Branch

"Caltrans improves mobility across California"



San Ysidro Community Planning Group

January 7, 2010

Shahriar T. Ammi Associate Engineer – Traffic Mobility Planning City Planning & Community Investment City of San Diego

RE: SAN YSIDRO LAND POINT OF ENTRY MOBILITY STUDY

Item: Recommendation of Support

Dear Mr. Ammi:

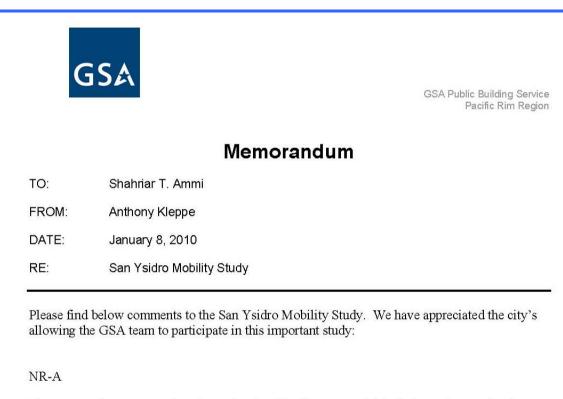
On December 14, 2009 the San Ysidro Community Planning Group held a special meeting to discuss the San Ysidro Land Point of Entry Mobility Study recommendations.

A motion was made by M. Cather and seconded by M. Freedman to recommend support of the of the draft plan. The motion passed by a vote of 8 - 4 - 0.

Thank you for your time and continued effort regarding the San Ysidro Land Point of Entry Mobility Study.

Respectfully,

Michael Cather Chair SYCPG



The GSA reviewers appreciate the pedestrian friendly nature of this design and agree that by making the area below Camino de La Plaza a pedestrian zone would benefit transit and pedestrian users of the port.

The proposed ramp from the port to Camino De La Plaza would have to be constructed almost entirely on federal property and could not be completed without significant input from Customs and Border Protection.

The GSA team questions how an onramp can be accommodated in a secure port of entry. Other means to move cars from the LPOE into San Ysidro need to be investigated as the proposed ramp would create a large number of security issues for the LPOE.

NR-B

Again, the GSA appreciates the use of the area below Camino De La Plaza as a pedestrian only area, but has significant concern about the proposed onramp from the LPOE onto Camino De La Plaza. The GSA strongly suggests another strategy for moving vehicles into the community in San Ysidro.

Anthony Kleppe	anthony.kleppe@gsa.gov
Sr. Asset Manager	
(p) 415.522.3373	
(c) 415.559.3190	
(f) 415.522.3215	

Draft ITC Concept Plan Report: Expanded comments to comments filed 11/18/09

From: Steve Otto, San Ysidro Transportation Collaborative, 12/3/09

Report is very thorough, comprehensive, and thought provoking, however draft document incomplete in following areas:

<u>Vertical Development</u>: At prior working group meetings, community representatives have advocated for inclusion in planning for a multi-level "Grand Central-" station, to include jitneys, taxis, shuttles, parking, retail, and office space as part of a landmark multi-modal complex. While intimating that indeed this option would be studied (ref. "a vertical ITC" on page 51), report incomplete, and instead sloughs off as a "Next Step" (ref. page 103) "(to) conduct more detailed planning and analysis of the preferred or an alternative concept site plan ...including...incorporation of taxi/jitney/shuttle facilities into the vertical building on the ITC site..." I don't believe that I'm alone in feeling that the "community" hasn't been listened to on developing this option in sufficient detail. Closely related is complete lack of analysis traffic flows in/out of undefined "potential taxi/jitney/shuttle/kiss & ride/commercial area" which, obviously could/should be incorporated within true vertical ITC facility. See related discussion below.

Economic Feasibility/Market Analyis/Finanical Strategies/Public-Private

Partnerships: Except for some valuable "Cost Estimates" on page 96, similarly, all is sloughed off to "Next Steps" (page 103)- a number of "bullet" points, the satisfaction of which is a precondition before an actual "project" accrues (I count no less than five such "bullet" points!). *Without same a "Catch 22" condition exists.*

Analysis traffic flows in/out "Potential Taxi/Jitney/Shuttle/Kiss-and-

Ride/Commercial Area: Reference is made to page 79 (Concept Plan). If (at its root) this is a *Mobility* Study, then one is confronted with a total lack of critical traffic flow analysis. Without same, the report is incomplete. On the one hand, the "Study Purpose" (pages 1, 2, 3) is most definitive as to what the study is to accomplish in terms of integrating all mobility modes. Yet, the analysis provides zero information how this subarea would function in terms of vehicle traffic flows to/from the proposed and variously described "internal access roadway" (page 54), "internal service road (page 55), and "internal circle road" (page 65). Further, the concept plan retains current Exit 1A access into this sub-area (but not egress), and depicts a small driveway-like entrance off Camino de la Plaza (with no exit). With the current 700 block of E. San Ysidro Blvd. proposed to be closed off the vehicular traffic, this shortfall is critical and must be addressed in *this* report before it can be considered complete. One notes multiple references (variously on pages 52, 61, 62, 63, and 77) this sub-area, without any corresponding analysis *how* vehicles access/egress.

Other comments:

1. More specificity is needed with respect to interface ITC reconfiguration with GSA project, specifically:

- Issue #1: It is known that pedestrian access from POE will be at a second level. The report should address need for a continuing second level elevated walkway leading to corresponding second level of new ITC.
- Issue #2: Report proposes vehicle egress from POE to proposed new exit at top of Camino de la Plaza Bridge. While report proposes closing current off/on ramps at Rail Court/E. SY Blvd., report should address reconfiguration of internal POE roadways such that additional lanes can employ the new exit (as opposed to three or four only lanes as discussed in text, ref. pages 17 and 67).

2. "Next Steps" should incorporate interface ITC concept with proposed Camino de la Plaza Bridge Deck. The only time this is mentioned is on page 77. This should go beyond the several references only to widening the existing roadway to incorporate turning lanes to/from proposed freeway ramps. I suggest making the several "bullet" points at the top of page 101 more explicit in this regard.

3. Fix typo on page 73. I can't find any reference to a "Section 5.5."



<u>Draft Reconfiguration Mobility Study Draft Report: Comments of "San Ysidro</u> <u>Community Delegation"</u>

I, Jason M-B Wells, as a member of the San Ysidro Port of Entry Reconfiguration Mobility Study Workgroup, and on behalf of the community delegation of the workgroup – Steve Otto, Jennifer Goudeau and David Flores – respectfully submit the following comments

The transit and mobility work done in the course of this report is outstanding. However, as a mobility study it is incomplete for, in large part, the following reasons:

<u>Vertical Development</u>: Notwithstanding, or in spite of, repeated request, comment and insistence from the community, this study continues to display the Intermodal Transportation Center (ITC) as solely an MTS station. This study does not deal with mobility for an ITC that vertically houses uses such as a taxi station, kiss-and-ride, jitney operations, etc. The Community Delegation has presented and discussed with the Study contractors and the City of San Diego the Community of San Ysidro's concept for an ITC of a "Grand Central Station" manner, that would house these uses, provide better public use and safety and create an economic boon for the City of San Diego, yet this concept is not reflected in the Reconfiguration Mobility Study Draft Report.

Improper Study Focus: As exemplified in the previous point, this study delves too far into land use issues – without the consent of affected land owners or the affected community, instead of its intended focus of mobility. This study would have served CalTrans, the City of San Diego and other stakeholders much better had it fully studied mobility for an all-encompassing ITC, its ingresses and egresses.

<u>Next Steps:</u> Too much of what could and should have been accomplished through this study is left to next steps. We believe traffic from the Port of Entry into San Ysidro should have been fully studied; "other than autobus" traffic into and out of the ITC should have been studied; greater detail for traffic options through the "loop" in front of existing McDonald's building should have been offered; freeway on and off ramp options should have been vetted; parking options should have been studied as part of the ITC, etc.

In closing, we feel the City of San Diego did a good job in ensuring the inclusion of community leaders within this workgroup; however, we feel that we were simply at the table to receive information and not part of the study input. Entertainment of the Community's concepts, needs and input would have made this study a much more complete and appropriate tool.