

ATTACHMENT 2.1

Daily Traffic Count Data Sheets

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 002

Location: : SUPERIOR AVENUE
Segment: : N/O 15TH STREET
Client: : CITY OF NEWPORT

Site: NEWPORT BCH
Date: 03/13/13

Interval	NB				SB				Combined		Day:	Wednesday
	AM		PM		AM		PM		AM	PM		
12:00	20	63	142	688	20	67	210	725	40	130	352	1,413
12:15	12		144		18		192		30		336	
12:30	24		198		13		164		37		362	
12:45	7		204		16		159		23		363	
01:00	5	30	174	713	9	23	175	640	14	53	349	1,353
01:15	12		176		9		145		21		321	
01:30	5		184		4		150		9		334	
01:45	8		179		1		170		9		349	
02:00	9	24	196	760	6	22	190	740	15	46	386	1,500
02:15	7		160		4		180		11		340	
02:30	6		194		8		190		14		384	
02:45	2		210		4		180		6		390	
03:00	1	19	200	735	4	20	176	754	5	39	376	1,489
03:15	4		183		4		191		8		374	
03:30	6		160		4		204		10		364	
03:45	8		192		8		183		16		375	
04:00	5	41	148	590	2	23	218	893	7	64	366	1,483
04:15	4		137		3		228		7		365	
04:30	14		130		8		252		22		382	
04:45	18		175		10		195		28		370	
05:00	25	172	138	545	5	64	293	1,037	30	236	431	1,582
05:15	44		150		22		238		66		388	
05:30	57		130		16		264		73		394	
05:45	46		127		21		242		67		369	
06:00	78	407	130	504	36	229	236	914	114	636	366	1,418
06:15	80		152		50		222		130		374	
06:30	114		123		58		229		172		352	
06:45	135		99		85		227		220		326	
07:00	146	895	134	446	95	367	210	697	241	1,262	344	1,143
07:15	215		104		64		165		279		269	
07:30	238		116		98		166		336		282	
07:45	296		92		110		156		406		248	
08:00	220	1,031	86	303	104	487	140	490	324	1,518	226	793
08:15	267		82		124		114		391		196	
08:30	264		73		122		116		386		189	
08:45	280		62		137		120		417		182	
09:00	192	748	61	238	122	492	111	389	314	1,240	172	627
09:15	212		68		132		101		344		169	
09:30	174		52		114		102		288		154	
09:45	170		57		124		75		294		132	
10:00	148	633	58	165	168	647	92	291	316	1,280	150	456
10:15	138		42		150		89		288		131	
10:30	180		35		161		62		341		97	
10:45	167		30		168		48		335		78	
11:00	168	721	34	109	166	677	46	137	334	1,398	80	246
11:15	187		21		166		50		353		71	
11:30	162		32		160		27		322		59	
11:45	204		22		185		14		389		36	
Totals	4,784		5,796		3,118		7,707		7,902		13,503	
Split%	60.5		42.9		39.5		57.1					
Day Totals		10,580				10,825				21,405		
Day Splits		49.4				50.6						
Peak Hour	07:45		02:30		11:00		05:00		08:00		04:45	
Volume	1,047		787		677		1,037		1,518		1,583	
Factor	0.88		0.94		0.91		0.88		0.91		0.92	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 005

Location: : NEWPORT BOULEVARD
Segment: : S/O WEST COAST HIGHWAY
Client: : CITY OF NEWPORT

Site: NEWPORT BCH
Date: 03/13/13

Interval	NB				SB				Combined				Day:	Wednesday
	AM		PM		AM		PM		AM		PM			
12:00	34	130	406	1,564	42	125	458	1,749	76	255	864	3,313		
12:15	44		386		35		470		79		856			
12:30	27		374		22		373		49		747			
12:45	25		398		26		448		51		846			
01:00	32	131	434	1,748	19	64	412	1,749	51	195	846	3,497		
01:15	35		416		23		467		58		883			
01:30	22		443		14		420		36		863			
01:45	42		455		8		450		50		905			
02:00	9	41	392	1,735	12	29	428	1,619	21	70	820	3,354		
02:15	19		443		5		372		24		815			
02:30	8		436		9		421		17		857			
02:45	5		464		3		398		8		862			
03:00	8	40	497	1,813	8	31	396	1,681	16	71	893	3,494		
03:15	6		404		4		419		10		823			
03:30	18		440		12		440		30		880			
03:45	8		472		7		426		15		898			
04:00	5	63	454	1,699	8	45	408	1,793	13	108	862	3,492		
04:15	10		426		5		452		15		878			
04:30	16		421		13		454		29		875			
04:45	32		398		19		479		51		877			
05:00	35	240	410	1,535	21	106	454	2,008	56	346	864	3,543		
05:15	57		383		18		502		75		885			
05:30	64		357		28		518		92		875			
05:45	84		385		39		534		123		919			
06:00	86	538	378	1,457	88	456	500	1,968	174	994	878	3,425		
06:15	124		373		94		538		218		911			
06:30	151		354		128		468		279		822			
06:45	177		352		146		462		323		814			
07:00	264	1,325	380	1,455	198	998	438	1,553	462	2,323	818	3,008		
07:15	310		394		232		398		542		792			
07:30	368		388		256		385		624		773			
07:45	383		293		312		332		695		625			
08:00	377	1,600	318	1,184	315	1,263	306	1,062	692	2,863	624	2,246		
08:15	377		330		246		264		623		594			
08:30	456		264		304		246		760		510			
08:45	390		272		398		246		788		518			
09:00	334	1,366	246	924	342	1,284	224	847	676	2,650	470	1,771		
09:15	327		238		337		216		664		454			
09:30	333		268		293		234		626		502			
09:45	372		172		312		173		684		345			
10:00	321	1,341	188	614	350	1,372	192	600	671	2,713	380	1,214		
10:15	352		158		317		148		669		306			
10:30	326		146		338		141		664		287			
10:45	342		122		367		119		709		241			
11:00	327	1,409	90	263	392	1,655	96	272	719	3,064	186	535		
11:15	334		60		390		56		724		116			
11:30	372		55		417		60		789		115			
11:45	376		58		456		60		832		118			
Totals	8,224		15,991		7,428		16,901		15,652		32,892			
Split%	52.5		48.6		47.5		51.4							
Day Totals		24,215				24,329				48,544				
Day Splits		49.9				50.1								
Peak Hour	08:00		02:15		11:00		05:30		11:00		05:30			
Volume	1,600		1,840		1,655		2,090		3,064		3,583			
Factor	0.88		0.93		0.91		0.97		0.92		0.97			

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 015

Location: : CAMPUS DRIVE
Segment: : N/O N. BRISTOL STREET
Client: : CITY OF NEWPORT

Site: NEWPORT BCH
Date: 02/26/13

Interval	NB				SB				Combined		Day:	Tuesday
	AM		PM		AM		PM		AM	PM		
12:00	2	9	222	1,033	16	48	234	868	18	57	456	1,901
12:15	1		264		8		240		9		504	
12:30	2		248		12		198		14		446	
12:45	4		299		12		196		16		495	
01:00	4	10	254	1,006	7	44	196	738	11	54	450	1,744
01:15	2		241		11		182		13		423	
01:30	2		260		10		174		12		434	
01:45	2		251		16		186		18		437	
02:00	1	13	237	917	8	28	188	790	9	41	425	1,707
02:15	6		238		3		184		9		422	
02:30	1		215		10		204		11		419	
02:45	5		227		7		214		12		441	
03:00	0	18	230	925	7	21	211	923	7	39	441	1,848
03:15	4		218		6		212		10		430	
03:30	2		247		2		272		4		519	
03:45	12		230		6		228		18		458	
04:00	5	73	212	886	5	26	346	1,391	10	99	558	2,277
04:15	6		228		4		324		10		552	
04:30	24		224		11		390		35		614	
04:45	38		222		6		331		44		553	
05:00	32	294	272	984	16	154	494	1,883	48	448	766	2,867
05:15	60		262		22		522		82		784	
05:30	78		218		44		464		122		682	
05:45	124		232		72		403		196		635	
06:00	106	591	199	713	61	236	410	1,270	167	827	609	1,983
06:15	116		206		64		337		180		543	
06:30	136		178		60		313		196		491	
06:45	233		130		51		210		284		340	
07:00	274	1,509	125	403	74	354	162	613	348	1,863	287	1,016
07:15	313		88		76		184		389		272	
07:30	387		96		112		154		499		250	
07:45	535		94		92		113		627		207	
08:00	562	2,121	72	269	102	466	114	490	664	2,587	186	759
08:15	564		66		114		144		678		210	
08:30	509		56		132		112		641		168	
08:45	486		75		118		120		604		195	
09:00	340	1,164	80	236	137	540	122	406	477	1,704	202	642
09:15	310		65		156		102		466		167	
09:30	248		45		120		92		368		137	
09:45	266		46		127		90		393		136	
10:00	248	887	32	106	133	570	72	241	381	1,457	104	347
10:15	218		29		163		65		381		94	
10:30	210		28		132		64		342		92	
10:45	211		17		142		40		353		57	
11:00	204	894	16	40	158	773	27	93	362	1,667	43	133
11:15	216		10		190		26		406		36	
11:30	234		7		198		22		432		29	
11:45	240		7		227		18		467		25	
Totals	7,583		7,518		3,260		9,706		10,843		17,224	
Split%	69.9		43.6		30.1		56.4					
Day Totals		15,101				12,966				28,067		
Day Splits		53.8				46.2						
Peak Hour	07:45		12:15		11:00		05:00		07:45		05:00	
Volume	2,170		1,065		773		1,883		2,610		2,867	
Factor	0.96		0.89		0.85		0.90		0.96		0.91	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 024

Location: : IRVINE AVENUE
Segment: : N/O WESTCLIFF DRIVE
Client: : CITY OF NEWPORT

Site: NEWPORT BCH
Date: 04/24/13

Interval	NB				SB				Combined		Day:	Wednesday
	AM		PM		AM		PM		AM	PM		
12:00	8	29	194	780	13	34	237	820	21	63	431	1,600
12:15	12		178		6		178		18		356	
12:30	6		198		10		216		16		414	
12:45	3		210		5		189		8		399	
01:00	4	10	188	825	7	20	206	811	11	30	394	1,636
01:15	1		166		6		184		7		350	
01:30	2		221		4		225		6		446	
01:45	3		250		3		196		6		446	
02:00	2	8	208	764	3	6	188	745	5	14	396	1,509
02:15	1		208		0		206		1		414	
02:30	1		163		1		175		2		338	
02:45	4		185		2		176		6		361	
03:00	1	9	184	805	0	6	222	918	1	15	406	1,723
03:15	1		197		4		240		5		437	
03:30	4		228		2		228		6		456	
03:45	3		196		0		228		3		424	
04:00	5	15	210	803	5	21	230	1,048	10	36	440	1,851
04:15	0		216		2		241		2		457	
04:30	5		195		3		266		8		461	
04:45	5		182		11		311		16		493	
05:00	9	81	250	894	8	97	296	1,404	17	178	546	2,298
05:15	18		224		17		388		35		612	
05:30	23		206		30		358		53		564	
05:45	31		214		42		362		73		576	
06:00	22	233	223	771	42	278	289	966	64	511	512	1,737
06:15	48		152		60		278		108		430	
06:30	64		205		72		201		136		406	
06:45	99		191		104		198		203		389	
07:00	114	599	168	574	90	526	176	538	204	1,125	344	1,112
07:15	101		162		110		114		211		276	
07:30	174		138		124		140		298		278	
07:45	210		106		202		108		412		214	
08:00	225	938	133	474	162	868	106	348	387	1,806	239	822
08:15	254		154		198		103		452		257	
08:30	231		110		250		72		481		182	
08:45	228		77		258		67		486		144	
09:00	190	593	66	230	182	672	67	251	372	1,265	133	481
09:15	164		63		174		68		338		131	
09:30	137		49		166		64		303		113	
09:45	102		52		150		52		252		104	
10:00	132	536	40	104	183	669	44	135	315	1,205	84	239
10:15	120		34		152		42		272		76	
10:30	130		24		163		29		293		53	
10:45	154		6		171		20		325		26	
11:00	145	638	17	54	170	791	27	62	315	1,429	44	116
11:15	144		16		168		14		312		30	
11:30	154		9		210		11		364		20	
11:45	195		12		243		10		438		22	
Totals	3,689		7,078		3,988		8,046		7,677		15,124	
Split%	48.1		46.8		51.9		53.2					
Day Totals		10,767				12,034				22,801		
Day Splits		47.2				52.8						
Peak Hour	08:00		05:00		08:15		05:00		08:00		05:00	
Volume	938		894		888		1,404		1,806		2,298	
Factor	0.92		0.89		0.86		0.90		0.93		0.94	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 027

Location : DOVER DRIVE
Segment : S/O CLIFF DRIVE
Client : CITY OF NEWPORT

Site: NEWPORT
Date: 05/16/12

Interval	NB				SB				Combined		Day:	Wednesday
	AM		PM		AM		PM		AM	PM		
12:00	28	73	270	1,080	15	50	284	1,171	43	123	554	2,251
12:15	24		264		13		289		37		553	
12:30	5		272		8		272		13		544	
12:45	16		274		14		326		30		600	
01:00	9	29	294	1,161	5	23	275	1,074	14	52	569	2,235
01:15	8		287		7		255		15		542	
01:30	6		256		8		260		14		516	
01:45	6		324		3		284		9		608	
02:00	5	16	315	1,133	4	13	281	1,031	9	29	596	2,164
02:15	5		310		2		278		7		588	
02:30	3		258		5		250		8		508	
02:45	3		250		2		222		5		472	
03:00	1	6	304	1,311	3	20	244	1,059	4	26	548	2,370
03:15	0		353		3		261		3		614	
03:30	2		326		3		258		5		584	
03:45	3		328		11		296		14		624	
04:00	1	13	306	1,314	2	42	280	1,092	3	55	586	2,406
04:15	0		334		8		269		8		603	
04:30	4		306		14		302		18		608	
04:45	8		368		18		241		26		609	
05:00	10	100	329	1,330	18	129	276	1,030	28	229	605	2,360
05:15	14		334		20		244		34		578	
05:30	24		363		44		246		68		609	
05:45	52		304		47		264		99		568	
06:00	38	237	294	1,033	47	395	256	935	85	632	550	1,968
06:15	42		272		64		220		106		492	
06:30	67		257		118		247		185		504	
06:45	90		210		166		212		256		422	
07:00	102	554	208	703	154	847	172	623	256	1,401	380	1,326
07:15	116		192		167		159		283		351	
07:30	144		151		236		158		380		309	
07:45	192		152		290		134		482		286	
08:00	180	876	152	581	250	1,041	132	466	430	1,917	284	1,047
08:15	214		153		251		126		465		279	
08:30	234		146		230		114		464		260	
08:45	248		130		310		94		558		224	
09:00	234	940	130	455	260	1,005	103	305	494	1,945	233	760
09:15	236		115		267		88		503		203	
09:30	230		112		234		60		464		172	
09:45	240		98		244		54		484		152	
10:00	228	945	102	294	228	856	46	153	456	1,801	148	447
10:15	239		76		206		48		445		124	
10:30	221		62		192		32		413		94	
10:45	257		54		230		27		487		81	
11:00	264	1,078	40	130	239	1,004	20	70	503	2,082	60	200
11:15	292		35		256		25		548		60	
11:30	258		40		237		12		495		52	
11:45	264		15		272		13		536		28	
Totals	4,867		10,525		5,425		9,009		10,292		19,534	
Split%	47.3		53.9		52.7		46.1					
Day Totals		15,392				14,434				29,826		
Day Splits		51.6				48.4						
Peak Hour	11:00		04:45		08:45		12:00		11:00		04:15	
Volume	1,078		1,394		1,071		1,171		2,082		2,425	
Factor	0.92		0.95		0.86		0.90		0.95		1.00	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 034

Location: : JAMBOREE ROAD
Segment: : N/O EASTBLUFF DR -UNIVERSITY D
Client: : CITY OF NEWPORT

Site: NEWPORT
Date: 05/16/12

Interval	NB				SB				Combined				Day:	Wednesday
	AM		PM		AM		PM		AM		PM			
12:00	46	125	206	776	25	88	474	1,880	71	213	680	2,656		
12:15	38		192		27		452		65		644			
12:30	20		186		20		476		40		662			
12:45	21		192		16		478		37		670			
01:00	25	56	206	1,223	13	38	416	1,694	38	94	622	2,917		
01:15	12		268		14		423		26		691			
01:30	11		369		5		432		16		801			
01:45	8		380		6		423		14		803			
02:00	11	43	310	1,067	8	26	414	1,594	19	69	724	2,661		
02:15	8		248		4		351		12		599			
02:30	16		266		4		432		20		698			
02:45	8		243		10		397		18		640			
03:00	13	49	234	935	11	44	378	1,550	24	93	612	2,485		
03:15	14		259		9		391		23		650			
03:30	8		205		14		389		22		594			
03:45	14		237		10		392		24		629			
04:00	14	70	428	1,671	17	128	398	1,749	31	198	826	3,420		
04:15	13		404		21		430		34		834			
04:30	23		446		36		447		59		893			
04:45	20		393		54		474		74		867			
05:00	40	274	471	1,742	64	458	468	2,044	104	732	939	3,786		
05:15	56		462		61		498		117		960			
05:30	80		419		139		522		219		941			
05:45	98		390		194		556		292		946			
06:00	100	657	347	1,470	166	1,001	463	1,655	266	1,658	810	3,125		
06:15	147		439		224		466		371		905			
06:30	150		370		276		382		426		752			
06:45	260		314		335		344		595		658			
07:00	274	1,517	334	1,116	300	1,480	306	1,041	574	2,997	640	2,157		
07:15	344		322		352		282		696		604			
07:30	403		254		438		226		841		480			
07:45	496		206		390		227		886		433			
08:00	420	1,706	248	876	372	1,538	219	838	792	3,244	467	1,714		
08:15	420		226		398		220		818		446			
08:30	428		204		369		197		797		401			
08:45	438		198		399		202		837		400			
09:00	360	1,356	196	732	310	1,252	152	557	670	2,608	348	1,289		
09:15	326		209		284		144		610		353			
09:30	332		181		302		123		634		304			
09:45	338		146		356		138		694		284			
10:00	290	1,102	154	530	332	1,382	117	422	622	2,484	271	952		
10:15	316		164		310		130		626		294			
10:30	254		124		366		106		620		230			
10:45	242		88		374		69		616		157			
11:00	239	851	114	309	340	1,599	60	189	579	2,450	174	498		
11:15	237		76		370		56		607		132			
11:30	190		72		403		37		593		109			
11:45	185		47		486		36		671		83			
Totals	7,806		12,447		9,034		15,213		16,840		27,660			
Split%	46.4		45.0		53.6		55.0							
Day Totals		20,253				24,247				44,500				
Day Splits		45.5				54.5								
Peak Hour	07:45		04:30		11:00		05:00		07:30		05:00			
Volume	1,764		1,772		1,599		2,044		3,337		3,786			
Factor	0.89		0.94		0.82		0.92		0.94		0.99			

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 037

Location: : JAMBOREE ROAD
Segment: : S/O FORD RD -EASTBLUFF DR
Client: : CITY OF NEWPORT

Site: NEWPRT
Date: 05/16/12

Interval	NB				SB				Combined				Day:	Wednesday
	Begin	AM	PM		AM	PM			AM	PM				
12:00	56	142	346	1,332	27	95	482	1,836	83	237	828	3,168		
12:15	32		302		28		488		60		790			
12:30	31		360		18		434		49		794			
12:45	23		324		22		432		45		756			
01:00	25	60	366	1,507	11	43	448	1,658	36	103	814	3,165		
01:15	10		368		18		414		28		782			
01:30	12		384		7		378		19		762			
01:45	13		389		7		418		20		807			
02:00	12	48	454	1,840	11	35	446	1,703	23	83	900	3,543		
02:15	10		463		6		450		16		913			
02:30	15		492		7		406		22		898			
02:45	11		431		11		401		22		832			
03:00	14	44	495	1,914	8	46	469	1,861	22	90	964	3,775		
03:15	9		478		6		500		15		978			
03:30	10		468		16		418		26		886			
03:45	11		473		16		474		27		947			
04:00	12	61	487	1,926	18	145	392	1,761	30	206	879	3,687		
04:15	11		486		21		480		32		966			
04:30	22		479		42		429		64		908			
04:45	16		474		64		460		80		934			
05:00	38	248	592	2,177	68	511	479	2,002	106	759	1,071	4,179		
05:15	48		592		78		518		126		1,110			
05:30	70		491		156		506		226		997			
05:45	92		502		209		499		301		1,001			
06:00	80	672	450	1,579	198	1,081	516	1,766	278	1,753	966	3,345		
06:15	136		420		219		510		355		930			
06:30	188		386		263		372		451		758			
06:45	268		323		401		368		669		691			
07:00	261	1,505	340	1,144	338	1,728	344	1,130	599	3,233	684	2,274		
07:15	398		301		402		288		800		589			
07:30	467		244		434		261		901		505			
07:45	379		259		554		237		933		496			
08:00	370	1,544	300	1,052	500	1,912	216	810	870	3,456	516	1,862		
08:15	397		270		448		190		845		460			
08:30	403		246		456		214		859		460			
08:45	374		236		508		190		882		426			
09:00	330	1,262	200	799	391	1,493	182	633	721	2,755	382	1,432		
09:15	298		219		370		141		668		360			
09:30	313		218		357		146		670		364			
09:45	321		162		375		164		696		326			
10:00	298	1,234	160	610	358	1,451	112	417	656	2,685	272	1,027		
10:15	289		195		352		123		641		318			
10:30	310		131		350		109		660		240			
10:45	337		124		391		73		728		197			
11:00	340	1,388	105	316	352	1,690	60	189	692	3,078	165	505		
11:15	332		88		426		48		758		136			
11:30	352		76		402		45		754		121			
11:45	364		47		510		36		874		83			
Totals	8,208		16,196		10,230		15,766		18,438		31,962			
Split%	44.5		50.7		55.5		49.3							
Day Totals		24,404				25,996				50,400				
Day Splits		48.4				51.6								
Peak Hour	07:15		05:00		07:45		05:15		07:30		05:00			
Volume	1,614		2,177		1,958		2,039		3,549		4,179			
Factor	0.86		0.92		0.88		0.98		0.95		0.94			

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Newport Beach
 Newport Center Drive
 N/ Coast Highway
 24 Hour Directional Volume Count

NPBNCNCO
 Site Code: 051-13464
 Date Start: 13-Nov-13
 Date End: 13-Nov-13

Start Time	13-Nov-13 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		2	113			8	149				
12:15		0	178			6	153				
12:30		1	132			8	134				
12:45		5	141	8	564	5	136	27	572	35	1136
01:00		1	175			1	157				
01:15		0	135			1	153				
01:30		0	148			2	130				
01:45		0	131	1	589	0	173	4	613	5	1202
02:00		0	121			2	179				
02:15		0	108			1	169				
02:30		1	161			0	181				
02:45		2	121	3	511	0	200	3	729	6	1240
03:00		0	129			0	177				
03:15		1	109			1	191				
03:30		4	127			1	170				
03:45		3	114	8	479	1	182	3	720	11	1199
04:00		4	112			2	209				
04:15		5	112			2	226				
04:30		7	78			1	198				
04:45		10	128	26	430	6	209	11	842	37	1272
05:00		20	110			6	265				
05:15		19	109			8	222				
05:30		24	92			8	206				
05:45		39	114	102	425	14	175	36	868	138	1293
06:00		40	106			15	201				
06:15		41	88			14	126				
06:30		47	81			24	140				
06:45		85	74	213	349	26	134	79	601	292	950
07:00		54	61			20	130				
07:15		82	49			23	98				
07:30		65	36			36	91				
07:45		116	53	317	199	30	94	109	413	426	612
08:00		105	24			51	89				
08:15		101	24			53	89				
08:30		131	14			43	77				
08:45		116	10	453	72	62	70	209	325	662	397
09:00		83	20			62	102				
09:15		94	16			55	67				
09:30		82	8			54	68				
09:45		94	13	353	57	54	49	225	286	578	343
10:00		150	15			77	41				
10:15		189	6			74	40				
10:30		130	3			89	17				
10:45		143	5	612	29	112	15	352	113	964	142
11:00		115	2			124	20				
11:15		154	2			116	8				
11:30		155	3			128	10				
11:45		141	1	565	8	124	9	492	47	1057	55
Total		2661	3712	2661	3712	1550	6129	1550	6129	4211	9841
Combined Total		6373		6373		7679		7679		14052	
AM Peak	10:00					11:00					
Vol.		612				492					
P.H.F.		0.810				0.961					
PM Peak			00:15				04:45				
Vol.			626				902				
P.H.F.			0.879				0.851				
Percentage		41.8%	58.2%			20.2%	79.8%				
ADT/AADT		ADT 14,052	AADT 14,052								

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Newport Beach
 Avocado Avenue
 N/ Coast Highway
 24 Hour Directional Volume Count

NPBAVNCO
 Site Code: 051-13464
 Date Start: 13-Nov-13
 Date End: 13-Nov-13

Start Time	13-Nov-13 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	126			12	130				
12:15		0	73			2	144				
12:30		0	99			0	135				
12:45		1	111	1	409	1	105	15	514	16	923
01:00		0	126			0	119				
01:15		0	106			1	122				
01:30		0	117			1	120				
01:45		0	127	0	476	0	95	2	456	2	932
02:00		0	108			0	142				
02:15		0	109			1	115				
02:30		0	119			2	136				
02:45		1	116	1	452	1	120	4	513	5	965
03:00		1	114			1	118				
03:15		0	101			0	115				
03:30		1	106			2	123				
03:45		1	91	3	412	0	117	3	473	6	885
04:00		0	105			2	112				
04:15		0	79			0	150				
04:30		3	96			0	156				
04:45		10	66	13	346	1	151	3	569	16	915
05:00		7	76			2	199				
05:15		9	88			2	159				
05:30		11	62			6	163				
05:45		20	82	47	308	4	167	14	688	61	996
06:00		24	53			9	156				
06:15		33	52			9	91				
06:30		43	54			17	105				
06:45		56	53	156	212	30	84	65	436	221	648
07:00		60	36			28	99				
07:15		80	39			21	44				
07:30		117	39			30	41				
07:45		121	28	378	142	37	64	116	248	494	390
08:00		133	25			40	58				
08:15		119	23			46	53				
08:30		107	11			69	48				
08:45		106	7	465	66	64	49	219	208	684	274
09:00		100	16			59	45				
09:15		102	11			59	21				
09:30		104	5			66	31				
09:45		124	14	430	46	68	18	252	115	682	161
10:00		153	3			86	18				
10:15		133	3			77	22				
10:30		129	11			111	12				
10:45		119	5	534	22	77	9	351	61	885	83
11:00		106	4			115	7				
11:15		115	3			89	5				
11:30		95	3			109	8				
11:45		129	2	445	12	126	4	439	24	884	36
Total		2473	2903	2473	2903	1483	4305	1483	4305	3956	7208
Combined Total		5376		5376		5788		5788		11164	
AM Peak		09:45				11:00					
Vol.		539				439					
P.H.F.		0.881				0.871					
PM Peak			01:00				05:00				
Vol.			476				688				
P.H.F.			0.937				0.864				
Percentage		46.0%	54.0%			25.6%	74.4%				
ADT/AADT		ADT 11,164	AADT 11,164								

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 050

Location : MACARTHUR BOULEVARD
Segment : N/O SAN JOAQUIN HILLS ROAD
Client : CITY OF NEWPORT

Site: NEWPORT
Date: 05/16/12

Interval	NB				SB				Combined				Day:	Wednesday
	AM		PM		AM		PM		AM		PM			
12:00	55	128	434	1,792	26	92	476	2,011	81	220	910	3,803		
12:15	34		474		28		462		62		936			
12:30	24		440		14		542		38		982			
12:45	15		444		24		531		39		975			
01:00	19	50	466	2,020	16	66	492	2,016	35	116	958	4,036		
01:15	7		516		20		492		27		1,008			
01:30	16		534		19		502		35		1,036			
01:45	8		504		11		530		19		1,034			
02:00	13	52	518	2,095	6	39	460	1,994	19	91	978	4,089		
02:15	6		526		18		530		24		1,056			
02:30	23		521		10		478		33		999			
02:45	10		530		5		526		15		1,056			
03:00	4	40	656	2,467	6	43	432	1,953	10	83	1,088	4,420		
03:15	22		612		3		524		25		1,136			
03:30	6		618		12		465		18		1,083			
03:45	8		581		22		532		30		1,113			
04:00	12	91	594	2,311	12	132	441	1,979	24	223	1,035	4,290		
04:15	25		582		23		516		48		1,098			
04:30	18		588		31		498		49		1,086			
04:45	36		547		66		524		102		1,071			
05:00	37	319	658	2,407	56	459	557	2,423	93	778	1,215	4,830		
05:15	75		700		82		580		157		1,280			
05:30	89		538		130		642		219		1,180			
05:45	118		511		191		644		309		1,155			
06:00	103	712	478	1,698	212	1,353	588	2,051	315	2,065	1,066	3,749		
06:15	168		449		286		585		454		1,034			
06:30	183		418		395		438		578		856			
06:45	258		353		460		440		718		793			
07:00	296	1,573	370	1,366	532	2,347	378	1,326	828	3,920	748	2,692		
07:15	374		377		542		359		916		736			
07:30	488		324		590		304		1,078		628			
07:45	415		295		683		285		1,098		580			
08:00	514	1,998	290	1,156	727	2,827	262	927	1,241	4,825	552	2,083		
08:15	507		296		730		242		1,237		538			
08:30	528		288		660		217		1,188		505			
08:45	449		282		710		206		1,159		488			
09:00	476	1,640	293	998	645	2,343	183	643	1,121	3,983	476	1,641		
09:15	380		254		566		171		946		425			
09:30	420		235		551		130		971		365			
09:45	364		216		581		159		945		375			
10:00	381	1,529	201	663	495	1,973	129	392	876	3,502	330	1,055		
10:15	387		164		478		92		865		256			
10:30	396		156		446		94		842		250			
10:45	365		142		554		77		919		219			
11:00	468	1,880	112	329	492	2,064	49	162	960	3,944	161	491		
11:15	472		92		513		46		985		138			
11:30	476		72		498		33		974		105			
11:45	464		53		561		34		1,025		87			
Totals	10,012		19,302		13,738		17,877		23,750		37,179			
Split%	42.2		51.9		57.8		48.1							
Day Totals		29,314				31,615				60,929				
Day Splits		48.1				51.9								
Peak Hour	08:00		04:30		08:00		05:30		08:00		05:00			
Volume	1,998		2,493		2,827		2,459		4,825		4,830			
Factor	0.95		0.89		0.97		0.95		0.97		0.94			

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 52 / 116

Location : MACARTHUR BOULEVARD
Segment : S/O SAN MIGUEL DRIVE
Client : CITY OF NEWPORT

Site: NEWPORT BCH
Date: 02/28/13

Interval	NB				SB				Combined				Day:	Thursday
	AM		PM		AM		PM		AM		PM			
12:00	18	63	239	1,025	15	58	298	1,116	33	121	537	2,141		
12:15	22		242		20		264		42		506			
12:30	14		240		11		309		25		549			
12:45	9		304		12		245		21		549			
01:00	6	27	286	1,148	9	27	249	1,096	15	54	535	2,244		
01:15	7		260		4		278		11		538			
01:30	6		312		12		308		18		620			
01:45	8		290		2		261		10		551			
02:00	5	24	294	1,143	5	15	256	1,061	10	39	550	2,204		
02:15	6		268		6		252		12		520			
02:30	6		283		3		286		9		569			
02:45	7		298		1		267		8		565			
03:00	2	17	326	1,312	3	19	336	1,132	5	36	662	2,444		
03:15	5		336		3		265		8		601			
03:30	3		295		7		270		10		565			
03:45	7		355		6		261		13		616			
04:00	4	39	336	1,277	6	60	284	1,235	10	99	620	2,512		
04:15	7		326		8		318		15		644			
04:30	10		291		14		290		24		581			
04:45	18		324		32		343		50		667			
05:00	32	229	274	1,016	26	180	361	1,551	58	409	635	2,567		
05:15	52		250		40		414		92		664			
05:30	72		267		48		378		120		645			
05:45	73		225		66		398		139		623			
06:00	88	540	260	1,034	64	619	358	1,290	152	1,159	618	2,324		
06:15	114		272		124		332		238		604			
06:30	158		244		188		322		346		566			
06:45	180		258		243		278		423		536			
07:00	228	1,297	204	705	262	974	240	822	490	2,271	444	1,527		
07:15	287		186		234		218		521		404			
07:30	398		167		210		198		608		365			
07:45	384		148		268		166		652		314			
08:00	394	1,547	141	561	280	1,105	164	653	674	2,652	305	1,214		
08:15	409		138		264		201		673		339			
08:30	382		142		245		144		627		286			
08:45	362		140		316		144		678		284			
09:00	304	1,085	125	485	247	1,038	137	500	551	2,123	262	985		
09:15	270		136		264		136		534		272			
09:30	258		124		264		124		522		248			
09:45	253		100		263		103		516		203			
10:00	238	924	92	351	252	1,017	86	303	490	1,941	178	654		
10:15	232		85		237		85		469		170			
10:30	250		99		272		72		522		171			
10:45	204		75		256		60		460		135			
11:00	236	965	65	231	248	1,076	46	129	484	2,041	111	360		
11:15	235		70		248		40		483		110			
11:30	246		60		280		21		526		81			
11:45	248		36		300		22		548		58			
Totals	6,757		10,288		6,188		10,888		12,945		21,176			
Split%	52.2		48.6		47.8		51.4							
Day Totals		17,045				17,076				34,121				
Day Splits		50.0				50.0								
Peak Hour	07:30		03:15		08:00		05:00		08:00		04:45			
Volume	1,585		1,322		1,105		1,551		2,652		2,611			
Factor	0.97		0.93		0.87		0.94		0.98		0.98			

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Newport Beach
 Newport Coast
 N/ San Joaquin
 24 Hour Directional Volume Count

NPBNCNSJ
 Site Code: 051-13464
 Date Start: 13-Nov-13
 Date End: 13-Nov-13

Start Time	13-Nov-13 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		13	169			14	168				
12:15		12	155			12	171				
12:30		13	164			5	183				
12:45		3	182	41	670	7	157	38	679	79	1349
01:00		3	183			7	185				
01:15		4	167			6	168				
01:30		5	208			2	190				
01:45		6	206	18	764	4	210	19	753	37	1517
02:00		1	196			6	194				
02:15		2	219			3	172				
02:30		1	218			0	164				
02:45		1	232	5	865	2	184	11	714	16	1579
03:00		3	225			1	185				
03:15		3	239			3	248				
03:30		2	262			1	215				
03:45		2	231	10	957	2	215	7	863	17	1820
04:00		2	195			2	191				
04:15		3	250			5	217				
04:30		14	206			8	252				
04:45		9	254	28	905	11	265	26	925	54	1830
05:00		23	267			9	283				
05:15		43	246			18	286				
05:30		36	238			22	318				
05:45		61	223	163	974	41	305	90	1192	253	2166
06:00		57	188			34	277				
06:15		90	159			40	241				
06:30		129	141			55	205				
06:45		150	130	426	618	120	234	249	957	675	1575
07:00		181	117			114	212				
07:15		264	126			153	165				
07:30		331	109			192	176				
07:45		337	81	1113	433	278	162	737	715	1850	1148
08:00		320	75			222	145				
08:15		294	66			223	112				
08:30		310	86			182	103				
08:45		298	55	1222	282	221	111	848	471	2070	753
09:00		213	82			213	92				
09:15		232	83			203	76				
09:30		208	73			200	77				
09:45		195	68	848	306	201	78	817	323	1665	629
10:00		174	62			161	58				
10:15		191	45			151	68				
10:30		186	39			145	32				
10:45		180	32	731	178	164	41	621	199	1352	377
11:00		168	39			145	21				
11:15		169	27			156	25				
11:30		170	23			195	16				
11:45		162	9	669	98	205	17	701	79	1370	177
Total		5274	7050	5274	7050	4164	7870	4164	7870	9438	14920
Combined Total		12324		12324		12034		12034		24358	
AM Peak		07:30				07:30					
Vol.		1282				915					
P.H.F.		0.951				0.823					
PM Peak			04:45				05:00				
Vol.			1005				1192				
P.H.F.			0.941				0.937				
Percentage		42.8%	57.2%			34.6%	65.4%				
ADT/AADT		ADT 24,358	AADT 24,358								

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 068

Location : BALBOA BOULEVARD
Segment : S/O WEST COAST HIGHWAY
Client : CITY OF NEWPORT

Site: NEWPORT BCH
Date: 03/13/13

Interval	NB				SB				Combined		Day:	Wednesday
	AM		PM		AM		PM		AM	PM		
12:00	21	94	147	718	38	104	192	780	59	198	339	1,498
12:15	25		188		32		170		57		358	
12:30	34		214		22		203		56		417	
12:45	14		169		12		215		26		384	
01:00	11	44	206	727	10	46	176	722	21	90	382	1,449
01:15	12		168		11		170		23		338	
01:30	8		181		18		202		26		383	
01:45	13		172		7		174		20		346	
02:00	20	44	186	730	12	26	158	702	32	70	344	1,432
02:15	8		162		2		176		10		338	
02:30	10		208		6		162		16		370	
02:45	6		174		6		206		12		380	
03:00	8	30	186	678	2	6	197	694	10	36	383	1,372
03:15	4		153		0		158		4		311	
03:30	8		178		2		167		10		345	
03:45	10		161		2		172		12		333	
04:00	8	52	150	607	4	18	156	738	12	70	306	1,345
04:15	10		162		7		220		17		382	
04:30	12		128		3		180		15		308	
04:45	22		167		4		182		26		349	
05:00	25	140	140	697	6	29	200	886	31	169	340	1,583
05:15	34		196		2		236		36		432	
05:30	39		183		8		224		47		407	
05:45	42		178		13		226		55		404	
06:00	58	310	165	677	17	171	226	974	75	481	391	1,651
06:15	72		166		38		242		110		408	
06:30	92		166		36		248		128		414	
06:45	88		180		80		258		168		438	
07:00	112	700	190	684	70	317	256	704	182	1,017	446	1,388
07:15	158		190		65		144		223		334	
07:30	200		148		88		150		288		298	
07:45	230		156		94		154		324		310	
08:00	170	793	136	439	98	450	150	536	268	1,243	286	975
08:15	237		104		117		126		354		230	
08:30	204		98		102		118		306		216	
08:45	182		101		133		142		315		243	
09:00	152	655	84	308	122	456	108	415	274	1,111	192	723
09:15	188		82		110		101		298		183	
09:30	155		66		112		114		267		180	
09:45	160		76		112		92		272		168	
10:00	126	541	68	256	128	512	90	298	254	1,053	158	554
10:15	152		68		113		89		265		157	
10:30	154		68		136		67		290		135	
10:45	109		52		135		52		244		104	
11:00	138	629	48	172	148	627	46	159	286	1,256	94	331
11:15	177		43		162		46		339		89	
11:30	156		45		130		39		286		84	
11:45	158		36		187		28		345		64	
Totals	4,032		6,693		2,762		7,608		6,794		14,301	
Split%	59.3		46.8		40.7		53.2					
Day Totals		10,725				10,370				21,095		
Day Splits		50.8				49.2						
Peak Hour	07:45		12:15		11:00		06:15		11:00		06:15	
Volume	841		777		627		1,004		1,256		1,706	
Factor	0.89		0.91		0.84		0.97		0.91		0.96	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 069

Location: : NEWPORT BOULEVARD
Segment: : S/O HOSPITAL ROAD
Client: : CITY OF NEWPORT

Site: NEWPORT
Date: 05/16/12

Interval	NB				SB				Combined				Day:	Wednesday
	AM		PM		AM		PM		AM		PM			
12:00	72	236	397	1,635	55	172	432	1,780	127	408	829	3,415		
12:15	52		411		46		454		98		865			
12:30	60		380		38		462		98		842			
12:45	52		447		33		432		85		879			
01:00	36	138	442	1,640	18	79	438	1,747	54	217	880	3,387		
01:15	42		402		21		449		63		851			
01:30	30		403		24		426		54		829			
01:45	30		393		16		434		46		827			
02:00	28	70	441	1,737	11	44	434	1,741	39	114	875	3,478		
02:15	16		442		11		444		27		886			
02:30	16		432		11		432		27		864			
02:45	10		422		11		431		21		853			
03:00	10	43	461	1,809	12	35	449	1,781	22	78	910	3,590		
03:15	7		428		9		486		16		914			
03:30	16		476		7		410		23		886			
03:45	10		444		7		436		17		880			
04:00	15	93	422	1,594	11	72	435	1,907	26	165	857	3,501		
04:15	14		378		11		448		25		826			
04:30	26		414		20		526		46		940			
04:45	38		380		30		498		68		878			
05:00	34	291	478	1,680	41	296	467	1,921	75	587	945	3,601		
05:15	59		419		49		520		108		939			
05:30	82		381		94		466		176		847			
05:45	116		402		112		468		228		870			
06:00	130	782	422	1,526	159	913	488	1,837	289	1,695	910	3,363		
06:15	176		362		198		431		374		793			
06:30	218		398		246		456		464		854			
06:45	258		344		310		462		568		806			
07:00	335	1,598	320	1,301	280	1,293	350	1,348	615	2,891	670	2,649		
07:15	386		303		322		387		708		690			
07:30	430		332		317		322		747		654			
07:45	447		346		374		289		821		635			
08:00	464	1,833	342	1,155	343	1,387	288	1,073	807	3,220	630	2,228		
08:15	427		291		354		298		781		589			
08:30	460		280		338		261		798		541			
08:45	482		242		352		226		834		468			
09:00	425	1,518	232	1,026	340	1,431	210	833	765	2,949	442	1,859		
09:15	392		287		326		206		718		493			
09:30	360		272		357		229		717		501			
09:45	341		235		408		188		749		423			
10:00	354	1,474	208	685	367	1,537	163	591	721	3,011	371	1,276		
10:15	356		183		388		160		744		343			
10:30	384		168		394		147		778		315			
10:45	380		126		388		121		768		247			
11:00	368	1,546	126	413	430	1,762	122	342	798	3,308	248	755		
11:15	385		108		442		75		827		183			
11:30	394		91		430		84		824		175			
11:45	399		88		460		61		859		149			
Totals	9,622		16,201		9,021		16,901		18,643		33,102			
Split%	51.6		48.9		48.4		51.1							
Day Totals		25,823				25,922				51,745				
Day Splits		49.9				50.1								
Peak Hour	08:00		03:00		11:00		04:30		11:00		04:30			
Volume	1,833		1,809		1,762		2,011		3,308		3,702			
Factor	0.95		0.95		0.96		0.96		0.96		0.98			

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 075

Location : MACARTHUR BOULEVARD
Segment : S/O BIRCH STREET
Client : CITY OF NEWPORT

Site: NEWPORT BCH
Date: 02/28/13

Interval	NB				SB				Combined		Day:	Thursday
	AM		PM		AM		PM		AM	PM		
12:00	23	48	136	577	4	18	191	783	27	66	327	1,360
12:15	12		164		4		194		16		358	
12:30	7		121		4		204		11		325	
12:45	6		156		6		194		12		350	
01:00	0	18	144	651	3	13	201	701	3	31	345	1,352
01:15	6		155		4		159		10		314	
01:30	3		170		3		171		6		341	
01:45	9		182		3		170		12		352	
02:00	5	15	151	619	1	8	184	659	6	23	335	1,278
02:15	4		152		2		170		6		322	
02:30	2		148		1		154		3		302	
02:45	4		168		4		151		8		319	
03:00	5	10	152	647	1	13	183	639	6	23	335	1,286
03:15	2		148		2		144		4		292	
03:30	0		173		5		160		5		333	
03:45	3		174		5		152		8		326	
04:00	1	24	174	731	5	49	173	776	6	73	347	1,507
04:15	3		172		6		193		9		365	
04:30	8		183		14		175		22		358	
04:45	12		202		24		235		36		437	
05:00	19	156	197	761	15	122	224	900	34	278	421	1,661
05:15	30		214		20		234		50		448	
05:30	48		181		39		218		87		399	
05:45	59		169		48		224		107		393	
06:00	54	290	134	502	36	259	208	586	90	549	342	1,088
06:15	66		122		53		154		119		276	
06:30	82		125		70		144		152		269	
06:45	88		121		100		80		188		201	
07:00	108	549	92	336	96	480	104	376	204	1,029	196	712
07:15	105		89		124		116		229		205	
07:30	158		88		128		88		286		176	
07:45	178		67		132		68		310		135	
08:00	192	831	68	247	152	692	65	245	344	1,523	133	492
08:15	192		50		160		74		352		124	
08:30	228		65		210		52		438		117	
08:45	219		64		170		54		389		118	
09:00	154	579	65	199	195	693	51	206	349	1,272	116	405
09:15	148		63		166		61		314		124	
09:30	121		44		158		46		279		90	
09:45	156		27		174		48		330		75	
10:00	128	501	37	133	143	570	41	150	271	1,071	78	283
10:15	118		43		133		31		251		74	
10:30	124		35		138		42		262		77	
10:45	131		18		156		36		287		54	
11:00	130	577	20	63	144	765	18	52	274	1,342	38	115
11:15	112		15		195		8		307		23	
11:30	159		14		218		14		377		28	
11:45	176		14		208		12		384		26	
Totals	3,598		5,466		3,682		6,073		7,280		11,539	
Split%	49.4		47.4		50.6		52.6					
Day Totals		9,064				9,755				18,819		
Day Splits		48.2				51.8						
Peak Hour	08:00		04:30		11:00		04:45		08:15		04:45	
Volume	831		796		765		911		1,528		1,705	
Factor	0.91		0.93		0.88		0.97		0.87		0.95	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 084

Location: : IRVINE AVENUE
Segment: : S/O MESA DRIVE
Client: : CITY OF NEWPORT

Site: NEWPORT BCH
Date: 02/26/13

Interval	NB				SB				Combined		Day:	Tuesday
	AM		PM		AM		PM		AM	PM		
12:00	10	22	160	757	12	31	256	955	22	53	416	1,712
12:15	6		194		9		232		15		426	
12:30	4		199		5		249		9		448	
12:45	2		204		5		218		7		422	
01:00	6	19	222	830	7	19	199	826	13	38	421	1,656
01:15	8		198		4		202		12		400	
01:30	3		196		4		219		7		415	
01:45	2		214		4		206		6		420	
02:00	1	13	199	729	2	11	194	857	3	24	393	1,586
02:15	4		181		3		185		7		366	
02:30	4		157		2		216		6		373	
02:45	4		192		4		262		8		454	
03:00	2	18	182	787	1	14	256	1,017	3	32	438	1,804
03:15	8		202		8		242		16		444	
03:30	0		198		2		247		2		445	
03:45	8		205		3		272		11		477	
04:00	0	28	156	784	2	25	324	1,302	2	53	480	2,086
04:15	1		219		4		284		5		503	
04:30	10		194		7		308		17		502	
04:45	17		215		12		386		29		601	
05:00	17	149	218	835	11	118	422	1,794	28	267	640	2,629
05:15	23		201		30		458		53		659	
05:30	58		190		25		472		83		662	
05:45	51		226		52		442		103		668	
06:00	60	336	194	673	38	228	402	1,234	98	564	596	1,907
06:15	72		193		44		356		116		549	
06:30	90		148		62		266		152		414	
06:45	114		138		84		210		198		348	
07:00	173	1,161	118	383	94	523	170	631	267	1,684	288	1,014
07:15	243		92		94		184		337		276	
07:30	327		84		164		152		491		236	
07:45	418		89		171		125		589		214	
08:00	402	1,605	82	281	162	692	134	475	564	2,297	216	756
08:15	419		80		206		120		625		200	
08:30	430		60		162		121		592		181	
08:45	354		59		162		100		516		159	
09:00	226	816	59	177	178	651	118	348	404	1,467	177	525
09:15	212		60		148		91		360		151	
09:30	208		30		175		67		383		97	
09:45	170		28		150		72		320		100	
10:00	182	662	26	87	148	606	52	190	330	1,268	78	277
10:15	129		24		166		38		295		62	
10:30	159		23		132		56		291		79	
10:45	192		14		160		44		352		58	
11:00	155	690	20	51	180	808	39	90	335	1,498	59	141
11:15	164		12		174		18		338		30	
11:30	200		11		222		9		422		20	
11:45	171		8		232		24		403		32	
Totals	5,519		6,374		3,726		9,719		9,245		16,093	
Split%	59.7		39.6		40.3		60.4					
Day Totals		11,893				13,445				25,338		
Day Splits		46.9				53.1						
Peak Hour	07:45		04:15		11:00		05:00		07:45		05:00	
Volume	1,669		846		808		1,794		2,370		2,629	
Factor	0.97		0.97		0.87		0.95		0.95		0.98	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 086

Location : IRVINE AVENUE
Segment : S/O SANTIAGO DRIVE
Client : CITY OF NEWPORT

Site: NEWPORT
Date: 05/16/12

Interval	NB				SB				Combined		Day:	Wednesday
	AM		PM		AM		PM		AM	PM		
12:00	9	31	174	710	11	42	226	883	20	73	400	1,593
12:15	7		146		12		234		19		380	
12:30	10		182		11		221		21		403	
12:45	5		208		8		202		13		410	
01:00	3	11	198	820	12	19	220	916	15	30	418	1,736
01:15	4		212		1		208		5		420	
01:30	2		190		1		258		3		448	
01:45	2		220		5		230		7		450	
02:00	2	6	211	809	3	11	226	858	5	17	437	1,667
02:15	2		218		3		206		5		424	
02:30	0		198		3		202		3		400	
02:45	2		182		2		224		4		406	
03:00	0	4	195	788	1	9	252	1,013	1	13	447	1,801
03:15	0		212		3		274		3		486	
03:30	2		183		1		223		3		406	
03:45	2		198		4		264		6		462	
04:00	3	26	203	799	3	18	284	1,218	6	44	487	2,017
04:15	2		202		3		296		5		498	
04:30	7		187		3		326		10		513	
04:45	14		207		9		312		23		519	
05:00	16	116	216	832	6	74	350	1,598	22	190	566	2,430
05:15	20		220		6		436		26		656	
05:30	43		200		23		408		66		608	
05:45	37		196		39		404		76		600	
06:00	52	287	194	742	32	233	346	1,217	84	520	540	1,959
06:15	55		186		40		331		95		517	
06:30	76		186		56		266		132		452	
06:45	104		176		105		274		209		450	
07:00	138	850	146	517	110	628	211	699	248	1,478	357	1,216
07:15	154		128		127		195		281		323	
07:30	251		118		172		155		423		273	
07:45	307		125		219		138		526		263	
08:00	315	1,175	114	391	192	898	124	413	507	2,073	238	804
08:15	280		93		230		106		510		199	
08:30	292		96		272		84		564		180	
08:45	288		88		204		99		492		187	
09:00	184	752	81	299	161	656	102	378	345	1,408	183	677
09:15	198		92		154		82		352		174	
09:30	185		70		168		100		353		170	
09:45	185		56		173		94		358		150	
10:00	146	617	42	134	182	648	64	200	328	1,265	106	334
10:15	150		42		162		48		312		90	
10:30	167		35		146		50		313		85	
10:45	154		15		158		38		312		53	
11:00	145	657	31	78	160	769	30	75	305	1,426	61	153
11:15	158		20		194		20		352		40	
11:30	178		15		184		13		362		28	
11:45	176		12		231		12		407		24	
Totals	4,532		6,919		4,005		9,468		8,537		16,387	
Split%	53.1		42.2		46.9		57.8					
Day Totals		11,451				13,473				24,924		
Day Splits		45.9				54.1						
Peak Hour	07:45		01:45		07:45		05:00		07:45		05:00	
Volume	1,194		847		913		1,598		2,107		2,430	
Factor	0.95		0.96		0.84		0.92		0.93		0.93	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 100

Location: : JAMBOREE ROAD
Segment: : S/O BISON AVENUE
Client: : CITY OF NEWPORT

Site: NEWPORT BCH
Date: 02/26/13

Interval	NB				SB				Combined				Day:	Tuesday
	AM		PM		AM		PM		AM		PM			
12:00	24	99	299	1,242	14	52	312	1,229	38	151	611	2,471		
12:15	25		309		19		309		44		618			
12:30	24		294		8		313		32		607			
12:45	26		340		11		295		37		635			
01:00	4	28	350	1,380	13	35	270	1,172	17	63	620	2,552		
01:15	6		344		7		336		13		680			
01:30	14		336		7		256		21		592			
01:45	4		350		8		310		12		660			
02:00	9	43	366	1,600	5	24	298	1,194	14	67	664	2,794		
02:15	16		417		7		328		23		745			
02:30	12		435		8		275		20		710			
02:45	6		382		4		293		10		675			
03:00	14	36	447	1,762	12	49	304	1,264	26	85	751	3,026		
03:15	9		405		9		294		18		699			
03:30	5		448		11		326		16		774			
03:45	8		462		17		340		25		802			
04:00	12	66	455	1,687	11	134	286	1,352	23	200	741	3,039		
04:15	6		414		28		375		34		789			
04:30	16		430		31		331		47		761			
04:45	32		388		64		360		96		748			
05:00	28	189	450	1,654	63	425	336	1,612	91	614	786	3,266		
05:15	42		450		86		403		128		853			
05:30	51		380		124		428		175		808			
05:45	68		374		152		445		220		819			
06:00	82	485	400	1,326	168	900	440	1,393	250	1,385	840	2,719		
06:15	88		338		208		378		296		716			
06:30	136		298		228		307		364		605			
06:45	179		290		296		268		475		558			
07:00	224	1,321	262	814	311	1,531	236	806	535	2,852	498	1,620		
07:15	272		182		337		202		609		384			
07:30	385		207		426		184		811		391			
07:45	440		163		457		184		897		347			
08:00	358	1,490	210	754	374	1,571	146	539	732	3,061	356	1,293		
08:15	374		205		368		148		742		353			
08:30	362		178		399		130		761		308			
08:45	396		161		430		115		826		276			
09:00	314	1,140	202	598	328	1,285	135	483	642	2,425	337	1,081		
09:15	316		152		323		131		639		283			
09:30	260		128		304		105		564		233			
09:45	250		116		330		112		580		228			
10:00	258	1,080	76	310	274	1,061	81	303	532	2,141	157	613		
10:15	258		90		247		92		505		182			
10:30	270		70		244		62		514		132			
10:45	294		74		296		68		590		142			
11:00	283	1,193	70	180	290	1,225	62	140	573	2,418	132	320		
11:15	296		39		333		24		629		63			
11:30	277		45		274		34		551		79			
11:45	337		26		328		20		665		46			
Totals	7,170		13,307		8,292		11,487		15,462		24,794			
Split%	46.4		53.7		53.6		46.3							
Day Totals		20,477				19,779				40,256				
Day Splits		50.9				49.1								
Peak Hour	07:30		03:30		07:30		05:15		07:30		05:15			
Volume	1,557		1,779		1,625		1,716		3,182		3,320			
Factor	0.88		0.96		0.89		0.96		0.89		0.97			

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 103

Location: : JAMBOREE ROAD
Segment: : S/O SANTA BARBARA DRIVE
Client: : CITY OF NEWPORT

Site: NEWPORT
Date: 05/16/12

Interval	NB				SB				Combined		Day:	Wednesday
	AM	PM	AM	PM	AM	PM	AM	PM				
12:00	31	77	248	909	32	87	348	1,324	63	164	596	2,233
12:15	16		223		21		341		37		564	
12:30	20		222		13		326		33		548	
12:45	10		216		21		309		31		525	
01:00	17	41	304	1,123	8	36	318	1,179	25	77	622	2,302
01:15	6		284		15		279		21		563	
01:30	10		242		7		280		17		522	
01:45	8		293		6		302		14		595	
02:00	8	19	292	1,120	8	19	310	1,228	16	38	602	2,348
02:15	4		286		6		332		10		618	
02:30	4		258		2		300		6		558	
02:45	3		284		3		286		6		570	
03:00	1	11	318	1,222	4	18	342	1,403	5	29	660	2,625
03:15	5		312		3		393		8		705	
03:30	2		308		3		332		5		640	
03:45	3		284		8		336		11		620	
04:00	2	59	300	1,214	4	34	332	1,445	6	93	632	2,659
04:15	11		298		5		374		16		672	
04:30	24		316		9		346		33		662	
04:45	22		300		16		393		38		693	
05:00	30	216	310	1,231	21	159	434	1,747	51	375	744	2,978
05:15	42		296		21		431		63		727	
05:30	65		326		62		450		127		776	
05:45	79		299		55		432		134		731	
06:00	78	516	285	972	62	417	450	1,472	140	933	735	2,444
06:15	100		262		84		420		184		682	
06:30	156		245		123		322		279		567	
06:45	182		180		148		280		330		460	
07:00	204	1,170	202	696	176	838	248	871	380	2,008	450	1,567
07:15	284		151		178		234		462		385	
07:30	348		171		224		207		572		378	
07:45	334		172		260		182		594		354	
08:00	355	1,370	190	638	228	1,031	150	637	583	2,401	340	1,275
08:15	314		158		248		158		562		316	
08:30	349		146		245		179		594		325	
08:45	352		144		310		150		662		294	
09:00	270	1,016	124	488	244	956	140	496	514	1,972	264	984
09:15	244		118		250		119		494		237	
09:30	258		148		218		123		476		271	
09:45	244		98		244		114		488		212	
10:00	238	928	100	406	227	969	79	286	465	1,897	179	692
10:15	198		134		205		70		403		204	
10:30	236		84		226		83		462		167	
10:45	256		88		311		54		567		142	
11:00	257	1,102	58	190	238	1,183	39	141	495	2,285	97	331
11:15	292		46		322		47		614		93	
11:30	262		54		286		37		548		91	
11:45	291		32		337		18		628		50	
Totals	6,525		10,209		5,747		12,229		12,272		22,438	
Split%	53.2		45.5		46.8		54.5					
Day Totals		16,734				17,976				34,710		
Day Splits		48.2				51.8						
Peak Hour	08:00		04:45		11:00		05:15		08:00		05:00	
Volume	1,370		1,232		1,183		1,763		2,401		2,978	
Factor	0.96		0.94		0.88		0.98		0.91		0.96	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 113

Location : MACARTHUR BOULEVARD
Segment : S/O BISON AVENUE
Client : CITY OF NEWPORT

Site: NEWPORT BCH
Date: 02/28/13

Interval	NB				SB				Combined				Day:	Thursday
	AM		PM		AM		PM		AM		PM			
12:00	42	139	543	2,091	40	118	562	2,125	82	257	1,105	4,216		
12:15	36		476		28		510		64		986			
12:30	25		510		24		545		49		1,055			
12:45	36		562		26		508		62		1,070			
01:00	19	59	528	2,254	15	68	524	2,221	34	127	1,052	4,475		
01:15	12		598		24		621		36		1,219			
01:30	10		534		18		532		28		1,066			
01:45	18		594		11		544		29		1,138			
02:00	8	53	570	2,331	12	41	528	2,291	20	94	1,098	4,622		
02:15	7		561		12		618		19		1,179			
02:30	28		573		9		533		37		1,106			
02:45	10		627		8		612		18		1,239			
03:00	10	36	616	2,573	5	46	505	2,299	15	82	1,121	4,872		
03:15	4		624		8		606		12		1,230			
03:30	11		667		18		566		29		1,233			
03:45	11		666		15		622		26		1,288			
04:00	8	91	741	2,650	10	145	544	2,446	18	236	1,285	5,096		
04:15	20		652		22		654		42		1,306			
04:30	21		616		44		595		65		1,211			
04:45	42		641		69		653		111		1,294			
05:00	70	414	578	2,370	49	482	670	2,852	119	896	1,248	5,222		
05:15	95		648		99		678		194		1,326			
05:30	115		566		146		750		261		1,316			
05:45	134		578		188		754		322		1,332			
06:00	168	930	498	1,977	198	1,452	736	2,494	366	2,382	1,234	4,471		
06:15	200		536		310		666		510		1,202			
06:30	242		460		433		588		675		1,048			
06:45	320		483		511		504		831		987			
07:00	342	2,142	460	1,556	520	2,207	498	1,598	862	4,349	958	3,154		
07:15	484		430		479		430		963		860			
07:30	682		355		590		368		1,272		723			
07:45	634		311		618		302		1,252		613			
08:00	656	2,715	307	1,156	610	2,478	371	1,259	1,266	5,193	678	2,415		
08:15	736		248		606		334		1,342		582			
08:30	709		281		598		297		1,307		578			
08:45	614		320		664		257		1,278		577			
09:00	580	2,269	258	962	578	2,201	240	946	1,158	4,470	498	1,908		
09:15	592		255		536		278		1,128		533			
09:30	567		250		515		222		1,082		472			
09:45	530		199		572		206		1,102		405			
10:00	490	1,932	216	770	499	2,118	152	548	989	4,050	368	1,318		
10:15	456		204		541		140		997		344			
10:30	452		182		515		139		967		321			
10:45	534		168		563		117		1,097		285			
11:00	481	1,999	132	419	460	2,121	96	269	941	4,120	228	688		
11:15	482		108		478		74		960		182			
11:30	512		110		614		51		1,126		161			
11:45	524		69		569		48		1,093		117			
Totals	12,779		21,109		13,477		21,348		26,256		42,457			
Split%	48.7		49.7		51.3		50.3							
Day Totals		33,888				34,825				68,713				
Day Splits		49.3				50.7								
Peak Hour	07:45		03:30		08:00		05:15		08:00		05:00			
Volume	2,735		2,726		2,478		2,918		5,193		5,222			
Factor	0.93		0.92		0.93		0.97		0.97		0.98			

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Newport Beach
 Coast Highway
 E/ Superior Avenue
 24 Hour Directional Volume Count

NPBCOESU
 Site Code: 051-13464
 Date Start: 13-Nov-13
 Date End: 13-Nov-13

Start Time	13-Nov-13 Wed	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		30	244			39	281				
12:15		19	298			32	304				
12:30		22	291			27	310				
12:45		24	253	95	1086	21	292	119	1187	214	2273
01:00		18	254			8	281				
01:15		10	255			10	279				
01:30		10	272			9	306				
01:45		7	293	45	1074	8	303	35	1169	80	2243
02:00		13	245			10	339				
02:15		12	252			6	318				
02:30		8	267			6	372				
02:45		11	270	44	1034	7	329	29	1358	73	2392
03:00		9	239			2	333				
03:15		9	297			1	435				
03:30		8	272			5	448				
03:45		14	258	40	1066	9	395	17	1611	57	2677
04:00		17	273			10	508				
04:15		19	281			7	526				
04:30		22	301			15	515				
04:45		34	268	92	1123	16	559	48	2108	140	3231
05:00		46	274			14	618				
05:15		65	288			27	619				
05:30		109	306			37	674				
05:45		119	280	339	1148	36	683	114	2594	453	3742
06:00		136	243			53	593				
06:15		248	249			79	557				
06:30		298	224			81	423				
06:45		449	196	1131	912	114	357	327	1930	1458	2842
07:00		440	129			114	355				
07:15		563	144			133	331				
07:30		644	158			233	303				
07:45		447	124	2094	555	204	237	684	1226	2778	1781
08:00		418	132			193	225				
08:15		388	95			251	236				
08:30		399	95			205	213				
08:45		408	105	1613	427	229	251	878	925	2491	1352
09:00		354	119			217	225				
09:15		360	87			200	244				
09:30		306	89			218	171				
09:45		268	90	1288	385	193	181	828	821	2116	1206
10:00		251	65			220	153				
10:15		267	68			210	179				
10:30		244	56			246	113				
10:45		271	54	1033	243	258	104	934	549	1967	792
11:00		275	36			249	99				
11:15		231	37			237	73				
11:30		249	38			266	64				
11:45		250	54	1005	165	266	50	1018	286	2023	451
Total		8819	9218	8819	9218	5031	15764	5031	15764	13850	24982
Combined Total		18037		18037		20795		20795		38832	
AM Peak		06:45				11:00					
Vol.		2096				1018					
P.H.F.		0.814				0.957					
PM Peak			05:00				05:00				
Vol.			1148				2594				
P.H.F.			0.938				0.949				
Percentage		48.9%	51.1%			24.2%	75.8%				
ADT/AADT		ADT 38,832	AADT 38,832								

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 141

Location: : CAMPUS DRIVE
Segment: : E/O VON KARMAN AVENUE
Client: : CITY OF NEWPORT

Site: NEWPORT BCH
Date: 02/26/13

Interval	EB				WB				Combined				Day:	Tuesday
	AM		PM		AM		PM		AM		PM			
12:00	2	11	95	361	7	14	104	405	9	25	199	766		
12:15	4		90		2		79		6		169			
12:30	4		92		2		106		6		198			
12:45	1		84		3		116		4		200			
01:00	3	6	107	367	3	6	113	390	6	12	220	757		
01:15	0		110		3		93		3		203			
01:30	3		82		0		92		3		174			
01:45	0		68		0		92		0		160			
02:00	1	8	82	316	3	7	71	342	4	15	153	658		
02:15	2		76		0		88		2		164			
02:30	4		76		3		101		7		177			
02:45	1		82		1		82		2		164			
03:00	1	3	70	328	3	8	86	374	4	11	156	702		
03:15	1		72		2		78		3		150			
03:30	1		98		1		122		2		220			
03:45	0		88		2		88		2		176			
04:00	2	9	94	453	3	10	148	523	5	19	242	976		
04:15	0		95		0		122		0		217			
04:30	4		145		3		119		7		264			
04:45	3		119		4		134		7		253			
05:00	2	40	182	645	10	47	193	677	12	87	375	1,322		
05:15	6		180		7		156		13		336			
05:30	10		162		10		178		20		340			
05:45	22		121		20		150		42		271			
06:00	17	122	146	406	11	104	128	395	28	226	274	801		
06:15	20		91		23		92		43		183			
06:30	41		86		36		94		77		180			
06:45	44		83		34		81		78		164			
07:00	64	324	61	193	55	327	66	194	119	651	127	387		
07:15	54		45		65		59		119		104			
07:30	78		45		78		40		156		85			
07:45	128		42		129		29		257		71			
08:00	120	463	28	133	90	430	35	139	210	893	63	272		
08:15	102		38		99		28		201		66			
08:30	102		23		120		32		222		55			
08:45	139		44		121		44		260		88			
09:00	101	355	34	91	106	385	48	141	207	740	82	232		
09:15	92		20		102		30		194		50			
09:30	94		22		97		35		191		57			
09:45	68		15		80		28		148		43			
10:00	72	258	19	64	67	272	17	64	139	530	36	128		
10:15	62		19		67		13		129		32			
10:30	67		20		73		19		140		39			
10:45	57		6		65		15		122		21			
11:00	74	329	13	32	80	360	11	31	154	689	24	63		
11:15	77		5		82		7		159		12			
11:30	84		6		88		4		172		10			
11:45	94		8		110		9		204		17			
Totals	1,928		3,389		1,970		3,675		3,898		7,064			
Split%	49.5		48.0		50.5		52.0							
Day Totals		5,317				5,645				10,962				
Day Splits		48.5				51.5								
Peak Hour	08:00		05:00		08:30		05:00		08:00		05:00			
Volume	463		645		449		677		893		1,322			
Factor	0.83		0.89		0.93		0.88		0.86		0.88			

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

Location : BIRCH STREET
Segment : S/O ORCHARD DRIVE
Client : CITY OF NEWPORT

Site: NEWPORT BCH
Date: 02/26/13

Interval	NB				SB				Combined				Day:	Tuesday
	AM		PM		AM		PM		AM		PM			
12:00	3	5	32	183	3	5	86	288	6	10	118	471		
12:15	2		53		0		68		2		121			
12:30	0		50		2		77		2		127			
12:45	0		48		0		57		0		105			
01:00	1	1	52	208	0	3	53	241	1	4	105	449		
01:15	0		58		1		72		1		130			
01:30	0		54		2		62		2		116			
01:45	0		44		0		54		0		98			
02:00	0	3	56	176	1	2	46	202	1	5	102	378		
02:15	0		41		0		44		0		85			
02:30	3		33		1		60		4		93			
02:45	0		46		0		52		0		98			
03:00	2	5	62	210	2	4	66	247	4	9	128	457		
03:15	0		64		0		66		0		130			
03:30	0		38		1		48		1		86			
03:45	3		46		1		67		4		113			
04:00	0	4	44	200	0	0	97	331	0	4	141	531		
04:15	0		41		0		68		0		109			
04:30	1		47		0		66		1		113			
04:45	3		68		0		100		3		168			
05:00	2	19	55	207	2	11	118	534	4	30	173	741		
05:15	4		54		2		156		6		210			
05:30	6		46		3		136		9		182			
05:45	7		52		4		124		11		176			
06:00	10	61	51	150	4	32	108	333	14	93	159	483		
06:15	17		32		4		91		21		123			
06:30	17		35		9		70		26		105			
06:45	17		32		15		64		32		96			
07:00	40	249	21	67	18	121	56	158	58	370	77	225		
07:15	48		12		26		32		74		44			
07:30	72		24		36		42		108		66			
07:45	89		10		41		28		130		38			
08:00	90	437	17	42	48	164	36	110	138	601	53	152		
08:15	126		12		40		29		166		41			
08:30	123		8		40		31		163		39			
08:45	98		5		36		14		134		19			
09:00	62	211	12	39	40	160	30	72	102	371	42	111		
09:15	64		13		46		12		110		25			
09:30	35		8		42		14		77		22			
09:45	50		6		32		16		82		22			
10:00	34	140	4	14	38	141	5	24	72	281	9	38		
10:15	32		2		38		6		70		8			
10:30	38		4		31		9		69		13			
10:45	36		4		34		4		70		8			
11:00	38	184	4	15	41	230	11	21	79	414	15	36		
11:15	43		3		68		2		111		5			
11:30	51		4		55		4		106		8			
11:45	52		4		66		4		118		8			

Totals	1,319		1,511		873		2,561		2,192		4,072			
Split%	60.2		37.1		39.8		62.9							

Day Totals		2,830				3,434				6,264				
Day Splits		45.2				54.8								

Peak Hour	08:00		04:30		11:00		05:00		08:00		05:00			
Volume	437		224		230		534		601		741			
Factor	0.87		0.82		0.85		0.86		0.91		0.88			

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 157

Location : COAST HIGHWAY
Segment : W/O BAYSIDE DRIVE
Client : CITY OF NEWPORT

Site: NEWPORT
Date: 05/16/12

Interval	EB				WB				Combined				Day:	Wednesday
	AM		PM		AM		PM		AM		PM			
12:00	38	129	530	2,167	64	177	550	2,230	102	306	1,080	4,397		
12:15	38		526		51		584		89		1,110			
12:30	26		526		34		566		60		1,092			
12:45	27		585		28		530		55		1,115			
01:00	20	67	550	2,247	31	90	566	2,282	51	157	1,116	4,529		
01:15	16		612		23		565		39		1,177			
01:30	18		530		20		532		38		1,062			
01:45	13		555		16		619		29		1,174			
02:00	13	45	554	2,170	16	41	598	2,337	29	86	1,152	4,507		
02:15	11		556		12		577		23		1,133			
02:30	13		530		7		604		20		1,134			
02:45	8		530		6		558		14		1,088			
03:00	8	31	532	2,244	9	22	622	2,622	17	53	1,154	4,866		
03:15	7		582		3		694		10		1,276			
03:30	9		551		3		698		12		1,249			
03:45	7		579		7		608		14		1,187			
04:00	7	79	566	2,201	5	44	640	2,656	12	123	1,206	4,857		
04:15	15		547		8		664		23		1,211			
04:30	23		558		14		656		37		1,214			
04:45	34		530		17		696		51		1,226			
05:00	47	317	574	2,383	15	250	761	2,942	62	567	1,335	5,325		
05:15	68		628		47		760		115		1,388			
05:30	86		595		74		755		160		1,350			
05:45	116		586		114		666		230		1,252			
06:00	146	961	480	1,873	94	581	644	2,270	240	1,542	1,124	4,143		
06:15	193		528		120		628		313		1,156			
06:30	270		467		147		510		417		977			
06:45	352		398		220		488		572		886			
07:00	360	2,117	414	1,436	236	1,257	424	1,555	596	3,374	838	2,991		
07:15	464		357		277		461		741		818			
07:30	628		353		332		332		960		685			
07:45	665		312		412		338		1,077		650			
08:00	624	2,656	278	972	396	1,757	324	1,253	1,020	4,413	602	2,225		
08:15	636		264		448		336		1,084		600			
08:30	666		226		453		302		1,119		528			
08:45	730		204		460		291		1,190		495			
09:00	521	2,148	203	844	444	1,793	284	1,048	965	3,941	487	1,892		
09:15	555		247		477		244		1,032		491			
09:30	526		198		444		278		970		476			
09:45	546		196		428		242		974		438			
10:00	444	1,967	174	480	449	1,885	214	700	893	3,852	388	1,180		
10:15	521		120		450		186		971		306			
10:30	462		94		482		160		944		254			
10:45	540		92		504		140		1,044		232			
11:00	506	2,104	74	240	490	2,148	104	347	996	4,252	178	587		
11:15	516		60		586		98		1,102		158			
11:30	530		64		516		90		1,046		154			
11:45	552		42		556		55		1,108		97			
Totals	12,621		19,257		10,045		22,242		22,666		41,499			
Split%	55.7		46.4		44.3		53.6							
Day Totals		31,878				32,287				64,165				
Day Splits		49.7				50.3								
Peak Hour	08:00		05:00		11:00		04:45		08:00		05:00			
Volume	2,656		2,383		2,148		2,972		4,413		5,325			
Factor	0.91		0.95		0.92		0.98		0.93		0.96			

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 164

Location : UNIVERSITY DRIVE
Segment : E/O JAMBOREE ROAD
Client : CITY OF NEWPORT

Site: NEWPORT BCH
Date: 02/28/13

Interval	WB				EB				Combined				Day:	Thursday
	AM	PM	AM	PM	AM	PM	AM	PM						
12:00	0	0	66	298	7	21	71	312	7	21	137	610		
12:15	0		68		5		76		5		144			
12:30	0		78		5		90		5		168			
12:45	0		86		4		75		4		161			
01:00	0	0	81	302	1	7	72	314	1	7	153	616		
01:15	0		62		1		78		1		140			
01:30	0		84		3		88		3		172			
01:45	0		75		2		76		2		151			
02:00	0	0	82	313	3	8	100	324	3	8	182	637		
02:15	0		70		1		72		1		142			
02:30	0		76		1		72		1		148			
02:45	0		85		3		80		3		165			
03:00	0	0	90	371	4	13	95	402	4	13	185	773		
03:15	0		92		4		100		4		192			
03:30	0		106		4		88		4		194			
03:45	0		83		1		119		1		202			
04:00	0	2	87	354	1	8	112	458	1	10	199	812		
04:15	0		92		0		102		0		194			
04:30	2		88		3		128		5		216			
04:45	0		87		4		116		4		203			
05:00	0	0	91	338	4	37	118	519	4	37	209	857		
05:15	0		104		7		139		7		243			
05:30	0		74		13		128		13		202			
05:45	0		69		13		134		13		203			
06:00	1	1	44	134	9	92	143	481	10	93	187	615		
06:15	0		48		16		141		16		189			
06:30	0		24		23		106		23		130			
06:45	0		18		44		91		44		109			
07:00	0	21	8	32	50	360	76	279	50	381	84	311		
07:15	1		14		88		77		89		91			
07:30	4		6		102		61		106		67			
07:45	16		4		120		65		136		69			
08:00	19	148	4	14	86	382	64	231	105	530	68	245		
08:15	26		2		100		62		126		64			
08:30	47		3		104		66		151		69			
08:45	56		5		92		39		148		44			
09:00	80	323	2	6	79	263	54	165	159	586	56	171		
09:15	72		2		70		50		142		52			
09:30	78		2		58		38		136		40			
09:45	93		0		56		23		149		23			
10:00	68	289	1	2	56	207	29	104	124	496	30	106		
10:15	67		0		44		27		111		27			
10:30	76		0		53		21		129		21			
10:45	78		1		54		27		132		28			
11:00	83	302	0	0	55	263	7	36	138	565	7	36		
11:15	71		0		56		9		127		9			
11:30	73		0		66		11		139		11			
11:45	75		0		86		9		161		9			
Totals	1,086		2,164		1,661		3,625		2,747		5,789			
Split%	39.5		37.4		60.5		62.6							
Day Totals		3,250				5,286				8,536				
Day Splits		38.1				61.9								
Peak Hour	09:00		02:45		07:45		05:30		08:30		04:30			
Volume	323		373		410		546		600		871			
Factor	0.87		0.88		0.85		0.95		0.94		0.90			

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 166

Location : FORD ROAD
Segment : E/O JAMBOREE ROAD
Client : CITY OF NEWPORT

Site: NEWPORT BCH
Date: 02/28/13

Interval	EB				WB				Combined		Day:	Thursday
	AM		PM		AM		PM		AM	PM		
12:00	1	9	56	338	4	9	72	255	5	18	128	593
12:15	5		102		2		74		7		176	
12:30	1		108		1		44		2		152	
12:45	2		72		2		65		4		137	
01:00	1	4	69	262	2	8	50	302	3	12	119	564
01:15	2		70		5		60		7		130	
01:30	0		50		0		76		0		126	
01:45	1		73		1		116		2		189	
02:00	2	5	144	405	1	3	112	411	3	8	256	816
02:15	0		74		1		102		1		176	
02:30	3		100		0		97		3		197	
02:45	0		87		1		100		1		187	
03:00	0	2	123	481	1	3	162	480	1	5	285	961
03:15	1		166		1		108		2		274	
03:30	1		88		0		112		1		200	
03:45	0		104		1		98		1		202	
04:00	2	5	107	436	1	15	90	341	3	20	197	777
04:15	2		102		4		78		6		180	
04:30	1		116		2		81		3		197	
04:45	0		111		8		92		8		203	
05:00	2	22	126	509	3	48	98	387	5	70	224	896
05:15	5		134		11		86		16		220	
05:30	7		118		12		93		19		211	
05:45	8		131		22		110		30		241	
06:00	10	98	140	398	16	311	89	309	26	409	229	707
06:15	12		92		39		90		51		182	
06:30	17		96		128		70		145		166	
06:45	59		70		128		60		187		130	
07:00	38	439	70	232	56	620	57	189	94	1,059	127	421
07:15	60		57		170		61		230		118	
07:30	156		59		240		31		396		90	
07:45	185		46		154		40		339		86	
08:00	70	227	60	172	80	338	26	121	150	565	86	293
08:15	40		33		97		35		137		68	
08:30	59		35		69		21		128		56	
08:45	58		44		92		39		150		83	
09:00	48	209	38	111	80	283	20	57	128	492	58	168
09:15	60		30		86		15		146		45	
09:30	52		25		54		12		106		37	
09:45	49		18		63		10		112		28	
10:00	46	186	15	50	61	217	17	45	107	403	32	95
10:15	45		16		45		11		90		27	
10:30	46		12		57		13		103		25	
10:45	49		7		54		4		103		11	
11:00	46	214	5	23	56	267	7	22	102	481	12	45
11:15	56		10		56		7		112		17	
11:30	57		4		87		2		144		6	
11:45	55		4		68		6		123		10	
Totals	1,420		3,417		2,122		2,919		3,542		6,336	
Split%	40.1		53.9		59.9		46.1					
Day Totals		4,837				5,041				9,878		
Day Splits		49.0				51.0						
Peak Hour	07:15		05:15		07:15		02:45		07:15		03:00	
Volume	471		523		644		482		1,115		961	
Factor	0.64		0.93		0.67		0.74		0.70		0.84	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 167

Location: : SAN JOAQUIN HILLS ROAD
Segment: : E/O JAMBOREE ROAD
Client: : CITY OF NEWPORT

Site: NEWPORT BCH
Date: 02/28/13

Interval	EB				WB				Combined		Day:	Thursday
	AM		PM		AM		PM		AM	PM		
12:00	5	18	156	738	15	42	194	723	20	60	350	1,461
12:15	5		195		6		160		11		355	
12:30	4		173		10		168		14		341	
12:45	4		214		11		201		15		415	
01:00	4	12	155	649	9	23	214	849	13	35	369	1,498
01:15	2		168		4		192		6		360	
01:30	4		170		5		211		9		381	
01:45	2		156		5		232		7		388	
02:00	4	12	202	737	1	18	238	900	5	30	440	1,637
02:15	0		174		3		217		3		391	
02:30	5		185		10		216		15		401	
02:45	3		176		4		229		7		405	
03:00	2	22	162	665	5	10	284	1,003	7	32	446	1,668
03:15	3		182		4		237		7		419	
03:30	1		165		1		254		2		419	
03:45	16		156		0		228		16		384	
04:00	7	49	154	640	3	14	262	964	10	63	416	1,604
04:15	5		144		2		218		7		362	
04:30	17		174		4		264		21		438	
04:45	20		168		5		220		25		388	
05:00	14	156	167	725	12	65	306	1,085	26	221	473	1,810
05:15	28		169		10		271		38		440	
05:30	38		186		18		272		56		458	
05:45	76		203		25		236		101		439	
06:00	80	402	182	574	27	226	254	831	107	628	436	1,405
06:15	100		149		38		216		138		365	
06:30	86		143		86		178		172		321	
06:45	136		100		75		183		211		283	
07:00	136	765	94	320	67	431	174	556	203	1,196	268	876
07:15	154		100		132		138		286		238	
07:30	198		66		140		146		338		212	
07:45	277		60		92		98		369		158	
08:00	198	874	55	217	100	457	106	463	298	1,331	161	680
08:15	218		70		109		148		327		218	
08:30	224		54		123		111		347		165	
08:45	234		38		125		98		359		136	
09:00	175	678	57	137	124	543	124	381	299	1,221	181	518
09:15	168		26		114		93		282		119	
09:30	164		32		146		90		310		122	
09:45	171		22		159		74		330		96	
10:00	144	639	25	77	130	526	49	192	274	1,165	74	269
10:15	124		18		120		42		244		60	
10:30	168		18		128		58		296		76	
10:45	203		16		148		43		351		59	
11:00	148	732	14	46	142	646	28	105	290	1,378	42	151
11:15	190		15		156		34		346		49	
11:30	164		8		176		23		340		31	
11:45	230		9		172		20		402		29	
Totals	4,359		5,525		3,001		8,052		7,360		13,577	
Split%	59.2		40.7		40.8		59.3					
Day Totals		9,884				11,053				20,937		
Day Splits		47.2				52.8						
Peak Hour	07:45		05:15		11:00		05:00		11:00		05:00	
Volume	917		740		646		1,085		1,378		1,810	
Factor	0.83		0.91		0.92		0.89		0.86		0.96	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 169

Location: : E. COAST HIGHWAY
Segment: : JAMBOREE RD TO NCD
Client: : CITY OF NEWPORT

Site: NEWPORT BCH
Date: 02/26/13

Interval	EB				WB				Combined				Day:	Tuesday
	AM		PM		AM		PM		AM		PM			
12:00	13	50	300	1,241	20	60	355	1,348	33	110	655	2,589		
12:15	18		324		14		327		32		651			
12:30	8		334		14		340		22		674			
12:45	11		283		12		326		23		609			
01:00	10	32	349	1,344	9	28	371	1,429	19	60	720	2,773		
01:15	7		327		6		349		13		676			
01:30	8		350		7		340		15		690			
01:45	7		318		6		369		13		687			
02:00	6	15	314	1,301	9	17	372	1,499	15	32	686	2,800		
02:15	4		334		4		384		8		718			
02:30	3		344		3		352		6		696			
02:45	2		309		1		391		3		700			
03:00	1	26	372	1,457	2	17	374	1,602	3	43	746	3,059		
03:15	6		320		2		408		8		728			
03:30	11		382		5		418		16		800			
03:45	8		383		8		402		16		785			
04:00	5	50	394	1,587	7	71	421	1,430	12	121	815	3,017		
04:15	8		391		9		362		17		753			
04:30	14		392		18		351		32		743			
04:45	23		410		37		296		60		706			
05:00	33	180	390	1,744	46	287	394	1,575	79	467	784	3,319		
05:15	31		456		72		414		103		870			
05:30	46		447		78		384		124		831			
05:45	70		451		91		383		161		834			
06:00	72	633	448	1,525	117	705	315	1,161	189	1,338	763	2,686		
06:15	102		401		150		320		252		721			
06:30	196		374		214		292		410		666			
06:45	263		302		224		234		487		536			
07:00	301	1,201	280	1,052	290	1,496	255	765	591	2,697	535	1,817		
07:15	306		296		352		173		658		469			
07:30	278		240		448		173		726		413			
07:45	316		236		406		164		722		400			
08:00	334	1,297	193	769	496	1,918	150	548	830	3,215	343	1,317		
08:15	337		210		494		144		831		354			
08:30	328		186		456		118		784		304			
08:45	298		180		472		136		770		316			
09:00	298	1,150	168	582	410	1,565	156	531	708	2,715	324	1,113		
09:15	266		168		408		130		674		298			
09:30	306		132		392		117		698		249			
09:45	280		114		355		128		635		242			
10:00	282	1,199	92	296	303	1,253	96	332	585	2,452	188	628		
10:15	308		90		312		98		620		188			
10:30	314		70		308		68		622		138			
10:45	295		44		330		70		625		114			
11:00	280	1,240	62	149	324	1,386	78	205	604	2,626	140	354		
11:15	344		31		344		46		688		77			
11:30	298		38		346		55		644		93			
11:45	318		18		372		26		690		44			
Totals	7,073		13,047		8,803		12,425		15,876		25,472			
Split%	44.6		51.2		55.4		48.8							
Day Totals		20,120				21,228				41,348				
Day Splits		48.7				51.3								
Peak Hour	07:45		05:15		08:00		03:15		08:00		05:00			
Volume	1,315		1,802		1,918		1,649		3,215		3,319			
Factor	0.98		0.99		0.97		0.98		0.97		0.95			

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Newport Beach
 San Miguel
 E/ Avocado Avenue
 24 Hour Directional Volume Count

NPBSMEAV
 Site Code: 051-13464
 Date Start: 13-Nov-13
 Date End: 13-Nov-13

Start Time	13-Nov-13 Wed	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		13	279			4	221				
12:15		2	247			1	188				
12:30		11	287			2	215				
12:45		4	230	30	1043	1	209	8	833	38	1876
01:00		5	282			5	188				
01:15		4	259			0	228				
01:30		6	248			1	232				
01:45		1	279	16	1068	0	249	6	897	22	1965
02:00		2	287			2	234				
02:15		0	283			3	204				
02:30		4	300			1	193				
02:45		6	259	12	1129	6	236	12	867	24	1996
03:00		2	304			0	199				
03:15		2	245			2	207				
03:30		1	267			4	211				
03:45		0	261	5	1077	6	251	12	868	17	1945
04:00		0	343			4	173				
04:15		0	281			13	187				
04:30		3	341			8	191				
04:45		9	314	12	1279	28	211	53	762	65	2041
05:00		9	393			21	190				
05:15		6	350			16	143				
05:30		9	340			33	171				
05:45		11	265	35	1348	57	194	127	698	162	2046
06:00		13	307			54	136				
06:15		30	235			75	103				
06:30		11	221			88	125				
06:45		21	210	75	973	131	94	348	458	423	1431
07:00		39	208			138	83				
07:15		38	150			193	85				
07:30		49	176			217	56				
07:45		65	149	191	683	240	52	788	276	979	959
08:00		79	167			249	41				
08:15		96	136			279	38				
08:30		108	152			302	22				
08:45		112	110	395	565	311	30	1141	131	1536	696
09:00		131	146			319	18				
09:15		111	109			266	15				
09:30		150	66			277	16				
09:45		156	86	548	407	296	13	1158	62	1706	469
10:00		149	78			260	7				
10:15		159	59			272	12				
10:30		215	37			243	8				
10:45		194	34	717	208	265	6	1040	33	1757	241
11:00		232	28			234	7				
11:15		195	28			235	2				
11:30		247	11			229	3				
11:45		245	15	919	82	246	6	944	18	1863	100
Total		2955	9862	2955	9862	5637	5903	5637	5903	8592	15765
Combined Total		12817		12817		11540		11540		24357	
AM Peak		11:00				08:15					
Vol.		919				1211					
P.H.F.		0.930				0.949					
PM Peak			04:30				01:15				
Vol.			1398				943				
P.H.F.			0.889				0.947				
Percentage		23.1%	76.9%			48.8%	51.2%				
ADT/AADT		ADT 24,357	AADT 24,357								

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Newport Beach
 Bison Avenue
 N/ State Route 73
 24 Hour Directional Volume Count

NPBBINSR
 Site Code: 051-13464
 Date Start: 13-Nov-13
 Date End: 13-Nov-13

Start Time	13-Nov-13 Wed	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		10	149			18	337				
12:15		6	139			7	264				
12:30		5	230			15	181				
12:45		5	265	26	783	8	158	48	940	74	1723
01:00		9	227			13	222				
01:15		1	205			8	154				
01:30		2	188			7	170				
01:45		2	161	14	781	5	119	33	665	47	1446
02:00		0	127			4	213				
02:15		3	108			4	164				
02:30		3	111			10	208				
02:45		6	114	12	460	10	157	28	742	40	1202
03:00		8	100			6	199				
03:15		2	120			7	167				
03:30		7	124			3	192				
03:45		4	128	21	472	5	203	21	761	42	1233
04:00		7	89			4	338				
04:15		7	100			0	267				
04:30		10	77			5	310				
04:45		22	107	46	373	7	273	16	1188	62	1561
05:00		19	137			31	457				
05:15		18	117			18	411				
05:30		48	128			16	366				
05:45		79	137	164	519	19	342	84	1576	248	2095
06:00		56	126			29	354				
06:15		66	110			11	313				
06:30		94	108			40	282				
06:45		119	85	335	429	35	223	115	1172	450	1601
07:00		123	79			56	245				
07:15		217	72			60	215				
07:30		297	59			79	164				
07:45		385	80	1022	290	81	112	276	736	1298	1026
08:00		403	66			97	121				
08:15		385	69			79	108				
08:30		476	59			82	139				
08:45		507	50	1771	244	85	99	343	467	2114	711
09:00		392	62			87	111				
09:15		360	53			81	81				
09:30		371	38			80	72				
09:45		317	48	1440	201	79	51	327	315	1767	516
10:00		219	39			115	66				
10:15		227	29			94	39				
10:30		213	11			88	37				
10:45		175	19	834	98	86	26	383	168	1217	266
11:00		146	23			155	39				
11:15		130	12			151	23				
11:30		152	8			227	19				
11:45		154	16	582	59	279	21	812	102	1394	161
Total		6267	4709	6267	4709	2486	8832	2486	8832	8753	13541
Combined Total		10976		10976		11318		11318		22294	
AM Peak		08:00				11:00					
Vol.		1771				812					
P.H.F.		0.873				0.728					
PM Peak			00:30				05:00				
Vol.			927				1576				
P.H.F.			0.875				0.862				
Percentage		57.1%	42.9%			22.0%	78.0%				
ADT/AADT		ADT 22,294	AADT 22,294								

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 179

Location: : BONITA CANYON DRIVE
Segment: : E/O MACARTHUR BOULEVARD
Client: : CITY OF NEWPORT

Site: NEWPORT BCH
Date: 04/24/13

Interval	EB				WB				Combined				Day:	Wednesday
	AM		PM		AM		PM		AM		PM			
12:00	13	39	175	924	16	38	216	889	29	77	391	1,813		
12:15	14		237		12		228		26		465			
12:30	6		258		4		232		10		490			
12:45	6		254		6		213		12		467			
01:00	5	25	252	930	4	15	231	1,005	9	40	483	1,935		
01:15	8		234		4		249		12		483			
01:30	7		220		2		245		9		465			
01:45	5		224		5		280		10		504			
02:00	3	7	290	1,038	1	8	305	1,104	4	15	595	2,142		
02:15	2		213		1		238		3		451			
02:30	0		265		2		275		2		540			
02:45	2		270		4		286		6		556			
03:00	2	13	272	1,223	2	9	274	1,185	4	22	546	2,408		
03:15	3		338		1		299		4		637			
03:30	3		294		3		284		6		578			
03:45	5		319		3		328		8		647			
04:00	3	26	359	1,440	2	40	282	1,175	5	66	641	2,615		
04:15	6		319		9		280		15		599			
04:30	7		362		10		301		17		663			
04:45	10		400		19		312		29		712			
05:00	10	124	458	1,764	30	209	275	1,146	40	333	733	2,910		
05:15	21		487		48		286		69		773			
05:30	29		396		55		304		84		700			
05:45	64		423		76		281		140		704			
06:00	40	361	462	1,454	94	656	262	922	134	1,017	724	2,376		
06:15	70		390		114		258		184		648			
06:30	77		336		224		198		301		534			
06:45	174		266		224		204		398		470			
07:00	158	868	264	848	218	1,489	202	658	376	2,357	466	1,506		
07:15	165		208		346		174		511		382			
07:30	257		200		490		136		747		336			
07:45	288		176		435		146		723		322			
08:00	231	801	158	590	402	1,703	122	484	633	2,504	280	1,074		
08:15	192		168		472		120		664		288			
08:30	173		134		422		122		595		256			
08:45	205		130		407		120		612		250			
09:00	184	689	149	508	318	1,247	88	275	502	1,936	237	783		
09:15	178		136		350		80		528		216			
09:30	189		135		285		66		474		201			
09:45	138		88		294		41		432		129			
10:00	130	569	67	224	220	972	70	164	350	1,541	137	388		
10:15	165		63		248		30		413		93			
10:30	122		53		245		42		367		95			
10:45	152		41		259		22		411		63			
11:00	155	753	24	82	200	922	26	77	355	1,675	50	159		
11:15	178		24		261		17		439		41			
11:30	196		14		234		17		430		31			
11:45	224		20		227		17		451		37			
Totals	4,275		11,025		7,308		9,084		11,583		20,109			
Split%	36.9		54.8		63.1		45.2							
Day Totals		15,300				16,392				31,692				
Day Splits		48.3				51.7								
Peak Hour	07:30		05:15		07:30		03:15		07:30		04:45			
Volume	968		1,768		1,799		1,193		2,767		2,918			
Factor	0.84		0.91		0.92		0.91		0.93		0.94			

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 180

Location: : SAN JOAQUIN HILLS ROAD
Segment: : E/O MACARTHUR BOULEVARD
Client: : CITY OF NEWPORT

Site: NEWPORT
Date: 05/16/12

Interval	EB				WB				Combined		Day:	Wednesday
	AM		PM		AM		PM		AM	PM		
12:00	12	32	202	750	7	25	210	711	19	57	412	1,461
12:15	7		174		9		178		16		352	
12:30	8		194		6		152		14		346	
12:45	5		180		3		171		8		351	
01:00	5	19	224	918	3	9	172	810	8	28	396	1,728
01:15	6		288		0		196		6		484	
01:30	3		230		1		251		4		481	
01:45	5		176		5		191		10		367	
02:00	4	18	207	862	3	8	180	767	7	26	387	1,629
02:15	6		212		2		200		8		412	
02:30	4		217		2		181		6		398	
02:45	4		226		1		206		5		432	
03:00	3	13	220	879	1	9	235	807	4	22	455	1,686
03:15	2		240		6		200		8		440	
03:30	1		188		0		164		1		352	
03:45	7		231		2		208		9		439	
04:00	5	27	200	892	7	39	196	702	12	66	396	1,594
04:15	3		232		5		174		8		406	
04:30	5		230		11		172		16		402	
04:45	14		230		16		160		30		390	
05:00	14	74	254	1,111	16	141	184	718	30	215	438	1,829
05:15	18		297		27		188		45		485	
05:30	13		271		46		156		59		427	
05:45	29		289		52		190		81		479	
06:00	34	292	256	969	56	386	147	529	90	678	403	1,498
06:15	44		290		70		148		114		438	
06:30	84		223		124		117		208		340	
06:45	130		200		136		117		266		317	
07:00	140	652	182	626	131	859	124	398	271	1,511	306	1,024
07:15	140		162		223		106		363		268	
07:30	157		150		266		86		423		236	
07:45	215		132		239		82		454		214	
08:00	205	689	146	502	312	1,192	82	284	517	1,881	228	786
08:15	174		144		306		70		480		214	
08:30	128		100		297		69		425		169	
08:45	182		112		277		63		459		175	
09:00	140	578	98	352	209	821	60	226	349	1,399	158	578
09:15	150		90		204		58		354		148	
09:30	144		100		186		68		330		168	
09:45	144		64		222		40		366		104	
10:00	136	598	58	197	162	691	44	138	298	1,289	102	335
10:15	146		57		154		33		300		90	
10:30	160		50		197		31		357		81	
10:45	156		32		178		30		334		62	
11:00	164	677	36	105	172	676	20	50	336	1,353	56	155
11:15	166		28		164		11		330		39	
11:30	174		18		154		14		328		32	
11:45	173		23		186		5		359		28	
Totals	3,669		8,163		4,856		6,140		8,525		14,303	
Split%	43.0		57.1		57.0		42.9					
Day Totals		11,832				10,996				22,828		
Day Splits		51.8				48.2						
Peak Hour	07:30		05:15		08:00		01:30		08:00		05:00	
Volume	751		1,113		1,192		822		1,881		1,829	
Factor	0.87		0.94		0.96		0.82		0.91		0.94	

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 182

Location: : COAST HIGHWAY
Segment: : E/O MACARTHUR BOULEVARD
Client: : CITY OF NEWPORT

Site: IEWPORT BEAC
Date: 05/16/12

Interval	EB				WB				Combined				Day:	Wednesday
	AM		PM		AM		PM		AM		PM			
Begin														
12:00	32	104	418	1,675	52	137	372	1,606	84	241	790	3,281		
12:15	26		422		34		420		60		842			
12:30	20		413		26		406		46		819			
12:45	26		422		25		408		51		830			
01:00	13	61	438	1,713	30	64	382	1,697	43	125	820	3,410		
01:15	18		450		13		420		31		870			
01:30	18		379		13		479		31		858			
01:45	12		446		8		416		20		862			
02:00	5	30	394	1,626	12	29	459	1,739	17	59	853	3,365		
02:15	9		416		9		376		18		792			
02:30	10		462		4		438		14		900			
02:45	6		354		4		466		10		820			
03:00	2	27	444	1,804	2	21	462	1,877	4	48	906	3,681		
03:15	7		440		8		449		15		889			
03:30	10		462		2		490		12		952			
03:45	8		458		9		476		17		934			
04:00	10	74	432	1,833	6	76	502	1,811	16	150	934	3,644		
04:15	14		467		14		454		28		921			
04:30	20		440		19		399		39		839			
04:45	30		494		37		456		67		950			
05:00	30	228	482	2,164	44	360	421	1,734	74	588	903	3,898		
05:15	44		582		80		454		124		1,036			
05:30	62		520		104		435		166		955			
05:45	92		580		132		424		224		1,004			
06:00	98	777	584	2,073	124	764	388	1,436	222	1,541	972	3,509		
06:15	153		520		178		368		331		888			
06:30	238		487		216		375		454		862			
06:45	288		482		246		305		534		787			
07:00	319	1,383	416	1,433	344	1,644	333	1,105	663	3,027	749	2,538		
07:15	316		392		424		278		740		670			
07:30	398		335		425		226		823		561			
07:45	350		290		451		268		801		558			
08:00	366	1,458	270	1,047	463	1,905	255	971	829	3,363	525	2,018		
08:15	370		270		475		242		845		512			
08:30	334		263		466		234		800		497			
08:45	388		244		501		240		889		484			
09:00	372	1,451	192	824	381	1,614	201	868	753	3,065	393	1,692		
09:15	380		246		460		200		840		446			
09:30	352		194		388		231		740		425			
09:45	347		192		385		236		732		428			
10:00	355	1,459	160	498	359	1,432	199	645	714	2,891	359	1,143		
10:15	358		135		345		158		703		293			
10:30	352		102		360		162		712		264			
10:45	394		101		368		126		762		227			
11:00	385	1,572	74	213	426	1,630	83	315	811	3,202	157	528		
11:15	382		56		426		106		808		162			
11:30	394		49		380		81		774		130			
11:45	411		34		398		45		809		79			
Totals	8,624		16,903		9,676		15,804		18,300		32,707			
Split%	47.1		51.7		52.9		48.3							
Day Totals		25,527				25,480				51,007				
Day Splits		50.0				50.0								
Peak Hour	11:00		05:15		08:00		03:30		08:00		05:15			
Volume	1,572		2,266		1,905		1,922		3,363		3,967			
Factor	0.96		0.97		0.95		0.96		0.95		0.96			

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 190

Location: : SAN JOAQUIN HILLS ROAD
Segment: : E/O SPYGLASS HILLS ROAD
Client: : CITY OF NEWPORT

Site: NEWPORT BCH
Date: 02/28/13

Interval	EB				WB				Combined				Day:	Thursday
	AM		PM		AM		PM		AM		PM			
12:00	12	25	114	452	4	10	128	486	16	35	242	938		
12:15	2		106		2		110		4		216			
12:30	4		116		1		114		5		230			
12:45	7		116		3		134		10		250			
01:00	6	14	127	558	1	4	126	515	7	18	253	1,073		
01:15	2		134		1		119		3		253			
01:30	3		139		2		132		5		271			
01:45	3		158		0		138		3		296			
02:00	0	0	124	608	1	7	126	609	1	7	250	1,217		
02:15	0		156		2		146		2		302			
02:30	0		154		2		170		2		324			
02:45	0		174		2		167		2		341			
03:00	1	4	151	663	0	8	157	620	1	12	308	1,283		
03:15	0		182		2		154		2		336			
03:30	3		168		5		149		8		317			
03:45	0		162		1		160		1		322			
04:00	0	13	184	723	3	22	134	594	3	35	318	1,317		
04:15	2		191		1		162		3		353			
04:30	3		184		6		152		9		336			
04:45	8		164		12		146		20		310			
05:00	8	43	189	834	13	63	158	607	21	106	347	1,441		
05:15	7		235		10		146		17		381			
05:30	14		224		15		148		29		372			
05:45	14		186		25		155		39		341			
06:00	24	161	218	741	31	241	160	594	55	402	378	1,335		
06:15	33		194		38		160		71		354			
06:30	42		185		80		148		122		333			
06:45	62		144		92		126		154		270			
07:00	94	482	166	448	104	644	88	302	198	1,126	254	750		
07:15	84		102		148		95		232		197			
07:30	131		86		187		63		318		149			
07:45	173		94		205		56		378		150			
08:00	156	512	118	411	182	753	47	175	338	1,265	165	586		
08:15	134		106		172		50		306		156			
08:30	104		85		194		46		298		131			
08:45	118		102		205		32		323		134			
09:00	130	444	93	269	150	575	28	136	280	1,019	121	405		
09:15	118		67		152		34		270		101			
09:30	106		59		136		42		242		101			
09:45	90		50		137		32		227		82			
10:00	100	404	44	139	141	508	30	97	241	912	74	236		
10:15	97		36		136		20		233		56			
10:30	115		39		108		34		223		73			
10:45	92		20		123		13		215		33			
11:00	114	486	21	68	128	501	10	37	242	987	31	105		
11:15	122		19		103		8		225		27			
11:30	106		11		144		10		250		21			
11:45	144		17		126		9		270		26			
Totals	2,588		5,914		3,336		4,772		5,924		10,686			
Split%	43.7		55.3		56.3		44.7							
Day Totals		8,502				8,108				16,610				
Day Splits		51.2				48.8								
Peak Hour	07:30		05:15		07:45		02:30		07:30		05:15			
Volume	594		863		753		648		1,340		1,472			
Factor	0.86		0.92		0.92		0.95		0.89		0.97			

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 195

Location : COAST HIGHWAY
Segment : E/O NEWPORT COAST
Client : CITY OF NEWPORT

Site: NEWPORT
Date: 05/16/12

Interval	EB				WB				Combined				Day:	Wednesday
	AM		PM		AM		PM		AM		PM			
12:00	15	63	292	1,177	25	78	274	1,075	40	141	566	2,252		
12:15	14		316		16		244		30		560			
12:30	23		281		23		251		46		532			
12:45	11		288		14		306		25		594			
01:00	15	39	311	1,216	8	29	294	1,183	23	68	605	2,399		
01:15	12		321		9		300		21		621			
01:30	6		284		10		269		16		553			
01:45	6		300		2		320		8		620			
02:00	2	16	288	1,214	6	18	282	1,224	8	34	570	2,438		
02:15	7		326		6		326		13		652			
02:30	6		288		3		296		9		584			
02:45	1		312		3		320		4		632			
03:00	2	11	350	1,374	0	24	306	1,318	2	35	656	2,692		
03:15	0		379		9		306		9		685			
03:30	5		348		8		336		13		684			
03:45	4		297		7		370		11		667			
04:00	6	35	384	1,574	9	57	384	1,451	15	92	768	3,025		
04:15	4		391		8		373		12		764			
04:30	6		374		12		348		18		722			
04:45	19		425		28		346		47		771			
05:00	19	117	416	1,859	39	277	366	1,356	58	394	782	3,215		
05:15	10		500		68		372		78		872			
05:30	30		472		54		321		84		793			
05:45	58		471		116		297		174		768			
06:00	44	444	460	1,754	96	658	331	1,119	140	1,102	791	2,873		
06:15	99		539		134		236		233		775			
06:30	118		385		205		314		323		699			
06:45	183		370		223		238		406		608			
07:00	200	899	324	1,132	254	1,517	192	749	454	2,416	516	1,881		
07:15	212		300		357		197		569		497			
07:30	236		254		404		152		640		406			
07:45	251		254		502		208		753		462			
08:00	224	950	204	758	400	1,732	197	724	624	2,682	401	1,482		
08:15	270		217		452		189		722		406			
08:30	224		161		406		154		630		315			
08:45	232		176		474		184		706		360			
09:00	250	976	162	570	350	1,290	192	626	600	2,266	354	1,196		
09:15	228		160		315		146		543		306			
09:30	244		132		291		152		535		284			
09:45	254		116		334		136		588		252			
10:00	227	962	94	350	282	1,083	142	415	509	2,045	236	765		
10:15	238		90		273		100		511		190			
10:30	228		88		256		90		484		178			
10:45	269		78		272		83		541		161			
11:00	270	1,104	68	170	290	1,124	72	226	560	2,228	140	396		
11:15	296		36		273		60		569		96			
11:30	262		41		283		51		545		92			
11:45	276		25		278		43		554		68			
Totals	5,616		13,148		7,887		11,466		13,503		24,614			
Split%	41.6		53.4		58.4		46.6							
Day Totals		18,764				19,353				38,117				
Day Splits		49.2				50.8								
Peak Hour	11:00		05:30		07:45		03:45		07:30		05:15			
Volume	1,104		1,942		1,760		1,475		2,739		3,224			
Factor	0.93		0.90		0.88		0.96		0.91		0.92			

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Newport Beach
Coast Highway
W/ Superior Avenue
24 Hour Directional Volume Count

NPBCOWSU
Site Code: 051-13464
Date Start: 13-Nov-13
Date End: 13-Nov-13

Start Time	13-Nov-13 Wed	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		33	283			46	305				
12:15		32	293			29	334				
12:30		30	314			32	325				
12:45		33	343	128	1233	28	319	135	1283	263	2516
01:00		22	312			16	308				
01:15		26	317			15	350				
01:30		9	347			17	342				
01:45		9	319	66	1295	15	345	63	1345	129	2640
02:00		16	265			26	355				
02:15		11	334			14	389				
02:30		8	361			12	440				
02:45		11	360	46	1320	14	402	66	1586	112	2906
03:00		14	312			3	429				
03:15		7	348			5	475				
03:30		10	311			5	486				
03:45		10	332	41	1303	13	485	26	1875	67	3178
04:00		16	298			16	601				
04:15		24	339			11	614				
04:30		25	334			19	635				
04:45		34	302	99	1273	20	647	66	2497	165	3770
05:00		54	331			15	753				
05:15		69	341			38	798				
05:30		109	392			42	721				
05:45		137	348	369	1412	51	756	146	3028	515	4440
06:00		169	312			77	572				
06:15		263	277			106	585				
06:30		370	298			117	456				
06:45		513	229	1315	1116	145	341	445	1954	1760	3070
07:00		561	165			142	324				
07:15		681	162			168	303				
07:30		913	164			251	319				
07:45		818	166	2973	657	240	234	801	1180	3774	1837
08:00		723	131			252	230				
08:15		718	118			239	220				
08:30		743	129			221	194				
08:45		778	148	2962	526	236	236	948	880	3910	1406
09:00		747	129			235	219				
09:15		712	114			223	205				
09:30		354	117			235	178				
09:45		352	98	2165	458	230	163	923	765	3088	1223
10:00		323	91			247	139				
10:15		338	72			255	135				
10:30		325	65			274	100				
10:45		346	67	1332	295	283	83	1059	457	2391	752
11:00		321	58			261	85				
11:15		296	48			277	69				
11:30		291	59			326	71				
11:45		318	57	1226	222	283	44	1147	269	2373	491
Total		12722	11110	12722	11110	5825	17119	5825	17119	18547	28229
Combined Total		23832		23832		22944		22944		46776	
AM Peak		07:30				10:45					
Vol.		3172				1147					
P.H.F.		0.869				0.880					
PM Peak			05:00				05:00				
Vol.			1412				3028				
P.H.F.			0.901				0.949				
Percentage		53.4%	46.6%			25.4%	74.6%				
ADT/AADT		ADT 46,776	AADT 46,776								

Transportation Studies, Inc.

2640 Walnut Avenue, Ste H
Tustin, CA. 92780

ID# 222

Location : W. COAST HIGHWAY
Segment : TUSTIN AVE TO DOVER DR
Client : CITY OF NEWPORT

Site: NEWPORT BCH
Date: 02/26/13

Interval	EB				WB				Combined				Day:	Tuesday
	AM		PM		AM		PM		AM		PM			
12:00	17	66	342	1,398	36	93	372	1,436	53	159	714	2,834		
12:15	25		356		21		370		46		726			
12:30	12		339		22		348		34		687			
12:45	12		361		14		346		26		707			
01:00	10	44	341	1,396	13	40	322	1,509	23	84	663	2,905		
01:15	17		332		12		415		29		747			
01:30	9		353		7		382		16		735			
01:45	8		370		8		390		16		760			
02:00	9	26	334	1,389	7	22	401	1,702	16	48	735	3,091		
02:15	5		349		6		423		11		772			
02:30	6		356		6		432		12		788			
02:45	6		350		3		446		9		796			
03:00	4	26	339	1,483	4	14	396	1,768	8	40	735	3,251		
03:15	5		398		2		488		7		886			
03:30	9		382		3		424		12		806			
03:45	8		364		5		460		13		824			
04:00	4	81	340	1,425	4	23	478	1,861	8	104	818	3,286		
04:15	15		361		5		449		20		810			
04:30	21		388		5		468		26		856			
04:45	41		336		9		466		50		802			
05:00	32	224	356	1,434	20	126	566	2,319	52	350	922	3,753		
05:15	40		369		18		619		58		988			
05:30	74		397		38		572		112		969			
05:45	78		312		50		562		128		874			
06:00	100	707	366	1,251	46	352	520	1,787	146	1,059	886	3,038		
06:15	154		321		82		488		236		809			
06:30	197		316		90		423		287		739			
06:45	256		248		134		356		390		604			
07:00	322	1,704	234	842	180	935	330	1,031	502	2,639	564	1,873		
07:15	396		202		204		233		600		435			
07:30	478		210		249		260		727		470			
07:45	508		196		302		208		810		404			
08:00	582	2,138	172	633	276	1,318	228	846	858	3,456	400	1,479		
08:15	501		160		350		191		851		351			
08:30	562		165		314		217		876		382			
08:45	493		136		378		210		871		346			
09:00	430	1,500	140	425	313	1,252	212	688	743	2,752	352	1,113		
09:15	354		112		318		170		672		282			
09:30	346		103		310		152		656		255			
09:45	370		70		311		154		681		224			
10:00	345	1,307	74	217	270	1,250	108	365	615	2,557	182	582		
10:15	327		51		314		107		641		158			
10:30	331		54		336		80		667		134			
10:45	304		38		330		70		634		108			
11:00	300	1,336	55	132	324	1,412	74	211	624	2,748	129	343		
11:15	332		22		324		55		656		77			
11:30	383		31		380		43		763		74			
11:45	321		24		384		39		705		63			
Totals	9,159		12,025		6,837		15,523		15,996		27,548			
Split%	57.3		43.7		42.7		56.3							
Day Totals		21,184				22,360				43,544				
Day Splits		48.6				51.4								
Peak Hour	07:45		03:15		11:00		05:00		08:00		05:00			
Volume	2,153		1,484		1,412		2,319		3,456		3,753			
Factor	0.92		0.93		0.92		0.94		0.99		0.95			

Counts Unlimited, Inc.
 PO Box 1178
 Corona, CA 92878
 (951) 268-6268

City of Newport Beach
 19th Street
 E/ Newport Boulevard
 24 Hour Directional Volume Count

NPB19ENE
 Site Code: 051-13464
 Date Start: 13-Nov-13
 Date End: 13-Nov-13

Start Time	13-Nov-13 Wed	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		61	243			25	237				
12:15		40	213			40	255				
12:30		40	222			20	221				
12:45		31	220	172	898	17	277	102	990	274	1888
01:00		28	214			18	257				
01:15		26	248			22	247				
01:30		18	248			10	239				
01:45		33	227	105	937	13	203	63	946	168	1883
02:00		15	222			9	242				
02:15		13	242			3	258				
02:30		14	207			8	266				
02:45		10	207	52	878	7	242	27	1008	79	1886
03:00		11	228			8	264				
03:15		12	234			11	256				
03:30		13	228			21	289				
03:45		25	218	61	908	20	307	60	1116	121	2024
04:00		4	248			6	305				
04:15		24	229			15	303				
04:30		28	245			12	314				
04:45		38	256	94	978	18	350	51	1272	145	2250
05:00		34	254			28	334				
05:15		48	221			31	347				
05:30		84	248			55	321				
05:45		87	217	253	940	60	320	174	1322	427	2262
06:00		89	213			62	274				
06:15		112	202			102	290				
06:30		171	178			105	279				
06:45		191	174	563	767	151	236	420	1079	983	1846
07:00		217	219			140	199				
07:15		259	196			137	208				
07:30		265	182			127	176				
07:45		239	150	980	747	179	159	583	742	1563	1489
08:00		276	165			188	159				
08:15		253	150			172	119				
08:30		237	159			185	142				
08:45		231	144	997	618	222	129	767	549	1764	1167
09:00		201	141			206	148				
09:15		190	126			188	171				
09:30		200	120			201	140				
09:45		200	93	791	480	235	88	830	547	1621	1027
10:00		183	93			236	91				
10:15		198	80			225	89				
10:30		229	71			208	80				
10:45		215	51	825	295	231	74	900	334	1725	629
11:00		196	68			177	62				
11:15		211	56			237	49				
11:30		196	47			272	31				
11:45		256	49	859	220	285	53	971	195	1830	415
Total		5752	8666	5752	8666	4948	10100	4948	10100	10700	18766
Combined Total		14418		14418		15048		15048		29466	
AM Peak		07:15				11:00					
Vol.		1039				971					
P.H.F.		0.941				0.852					
PM Peak			04:15				04:45				
Vol.			984				1352				
P.H.F.			0.961				0.966				
Percentage		39.9%	60.1%			32.9%	67.1%				
ADT/AADT		ADT 29,466	AADT 29,466								

ATTACHMENT 2.2

Intersection Peak Hour Traffic Count Data Sheets

City of Newport Beach
 N/S: Superior Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : NPB_Superior_Placentia AM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 1

Groups Printed- Total Volume

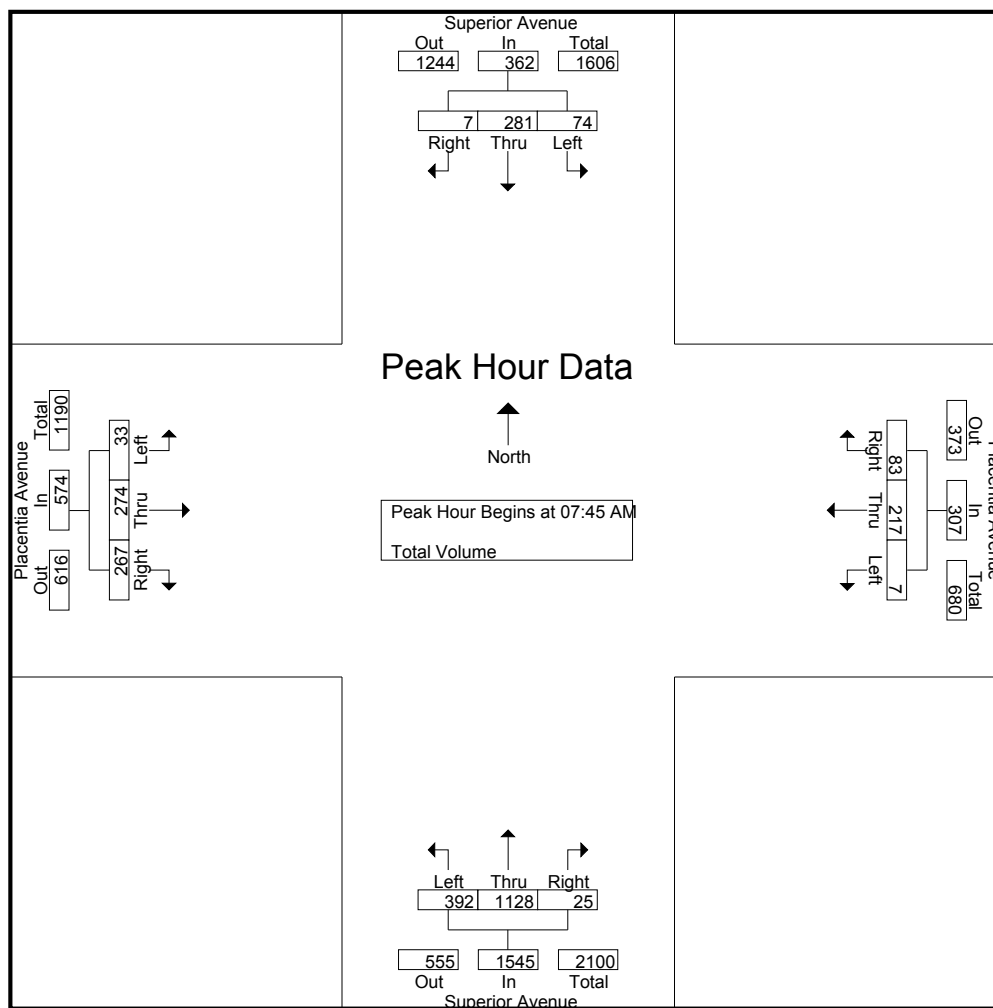
Start Time	Superior Avenue Southbound				Placentia Avenue Westbound				Superior Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	8	48	1	57	0	28	9	37	34	137	2	173	4	41	66	111	378
07:15 AM	10	53	1	64	2	29	13	44	53	198	1	252	9	60	75	144	504
07:30 AM	10	60	2	72	4	40	23	67	85	222	9	316	7	62	70	139	594
07:45 AM	13	71	0	84	0	50	21	71	133	285	6	424	8	93	82	183	762
Total	41	232	4	277	6	147	66	219	305	842	18	1165	28	256	293	577	2238
08:00 AM	13	67	7	87	3	65	14	82	74	244	6	324	5	54	68	127	620
08:15 AM	22	63	0	85	3	54	23	80	99	287	5	391	9	60	58	127	683
08:30 AM	26	80	0	106	1	48	25	74	86	312	8	406	11	67	59	137	723
08:45 AM	12	57	2	71	4	53	39	96	91	259	7	357	5	52	48	105	629
Total	73	267	9	349	11	220	101	332	350	1102	26	1478	30	233	233	496	2655
Grand Total	114	499	13	626	17	367	167	551	655	1944	44	2643	58	489	526	1073	4893
Apprch %	18.2	79.7	2.1		3.1	66.6	30.3		24.8	73.6	1.7		5.4	45.6	49		
Total %	2.3	10.2	0.3	12.8	0.3	7.5	3.4	11.3	13.4	39.7	0.9	54	1.2	10	10.8	21.9	

Start Time	Superior Avenue Southbound				Placentia Avenue Westbound				Superior Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:45 AM	13	71	0	84	0	50	21	71	133	285	6	424	8	93	82	183	762
08:00 AM	13	67	7	87	3	65	14	82	74	244	6	324	5	54	68	127	620
08:15 AM	22	63	0	85	3	54	23	80	99	287	5	391	9	60	58	127	683
08:30 AM	26	80	0	106	1	48	25	74	86	312	8	406	11	67	59	137	723
Total Volume	74	281	7	362	7	217	83	307	392	1128	25	1545	33	274	267	574	2788
% App. Total	20.4	77.6	1.9		2.3	70.7	27		25.4	73	1.6		5.7	47.7	46.5		
PHF	.712	.878	.250	.854	.583	.835	.830	.936	.737	.904	.781	.911	.750	.737	.814	.784	.915

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:45 AM

City of Newport Beach
 N/S: Superior Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : NPB_Superior_Placentia AM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45 AM				08:00 AM				07:45 AM				07:15 AM			
+0 mins.	13	71	0	84	3	65	14	82	133	285	6	424	9	60	75	144
+15 mins.	13	67	7	87	3	54	23	80	74	244	6	324	7	62	70	139
+30 mins.	22	63	0	85	1	48	25	74	99	287	5	391	8	93	82	183
+45 mins.	26	80	0	106	4	53	39	96	86	312	8	406	5	54	68	127
Total Volume	74	281	7	362	11	220	101	332	392	1128	25	1545	29	269	295	593
% App. Total	20.4	77.6	1.9		3.3	66.3	30.4		25.4	73	1.6		4.9	45.4	49.7	
PHF	.712	.878	.250	.854	.688	.846	.647	.865	.737	.904	.781	.911	.806	.723	.899	.810

City of Newport Beach
 N/S: Superior Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : NPB_Superior_Placentia PM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 1

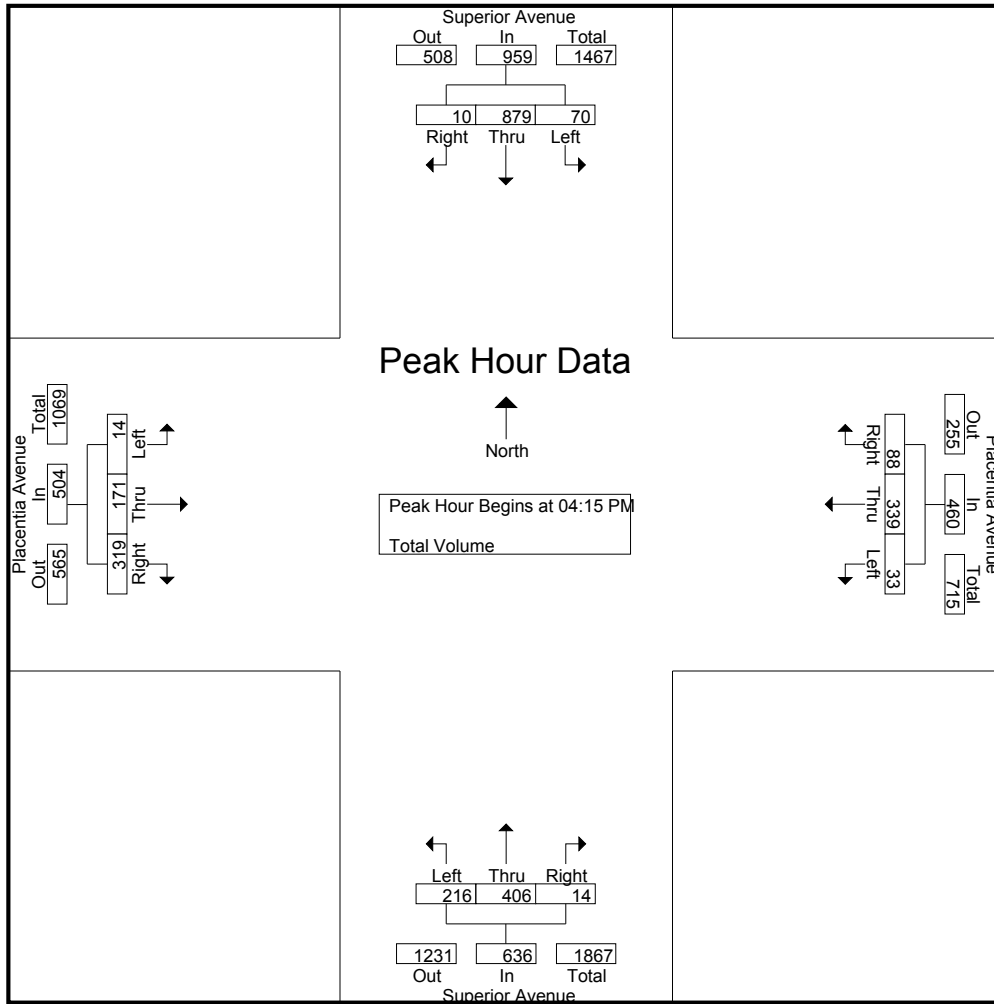
Groups Printed- Total Volume

Start Time	Superior Avenue Southbound				Placentia Avenue Westbound				Superior Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	27	200	0	227	9	87	22	118	69	108	5	182	7	41	91	139	666
04:15 PM	24	203	7	234	6	99	16	121	58	102	4	164	2	47	91	140	659
04:30 PM	17	223	0	240	8	87	31	126	52	71	2	125	7	44	84	135	626
04:45 PM	19	206	0	225	9	74	22	105	46	104	4	154	4	47	59	110	594
Total	87	832	7	926	32	347	91	470	225	385	15	625	20	179	325	524	2545
05:00 PM	10	247	3	260	10	79	19	108	60	129	4	193	1	33	85	119	680
05:15 PM	17	214	1	232	6	72	18	96	55	116	3	174	4	46	73	123	625
05:30 PM	13	263	1	277	6	57	16	79	65	91	3	159	4	47	74	125	640
05:45 PM	8	253	2	263	3	33	8	44	49	100	2	151	6	36	72	114	572
Total	48	977	7	1032	25	241	61	327	229	436	12	677	15	162	304	481	2517
Grand Total	135	1809	14	1958	57	588	152	797	454	821	27	1302	35	341	629	1005	5062
Apprch %	6.9	92.4	0.7		7.2	73.8	19.1		34.9	63.1	2.1		3.5	33.9	62.6		
Total %	2.7	35.7	0.3	38.7	1.1	11.6	3	15.7	9	16.2	0.5	25.7	0.7	6.7	12.4	19.9	

Start Time	Superior Avenue Southbound				Placentia Avenue Westbound				Superior Avenue Northbound				Placentia Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	24	203	7	234	6	99	16	121	58	102	4	164	2	47	91	140	659
04:30 PM	17	223	0	240	8	87	31	126	52	71	2	125	7	44	84	135	626
04:45 PM	19	206	0	225	9	74	22	105	46	104	4	154	4	47	59	110	594
05:00 PM	10	247	3	260	10	79	19	108	60	129	4	193	1	33	85	119	680
Total Volume	70	879	10	959	33	339	88	460	216	406	14	636	14	171	319	504	2559
% App. Total	7.3	91.7	1		7.2	73.7	19.1		34	63.8	2.2		2.8	33.9	63.3		
PHF	.729	.890	.357	.922	.825	.856	.710	.913	.900	.787	.875	.824	.500	.910	.876	.900	.941

City of Newport Beach
 N/S: Superior Avenue
 E/W: Placentia Avenue
 Weather: Clear

File Name : NPB_Superior_Placentia PM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				04:45 PM				04:00 PM			
+0 mins.	10	247	3	260	9	87	22	118	46	104	4	154	7	41	91	139
+15 mins.	17	214	1	232	6	99	16	121	60	129	4	193	2	47	91	140
+30 mins.	13	263	1	277	8	87	31	126	55	116	3	174	7	44	84	135
+45 mins.	8	253	2	263	9	74	22	105	65	91	3	159	4	47	59	110
Total Volume	48	977	7	1032	32	347	91	470	226	440	14	680	20	179	325	524
% App. Total	4.7	94.7	0.7		6.8	73.8	19.4		33.2	64.7	2.1		3.8	34.2	62	
PHF	.706	.929	.583	.931	.889	.876	.734	.933	.869	.853	.875	.881	.714	.952	.893	.936

City of Newport Beach
 N/S: Superior Avenue / Balboa Boulevard
 E/W: West Coast Highway
 Weather: Clear

File Name : NPB_Superior_W Coast Hwy AM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 1

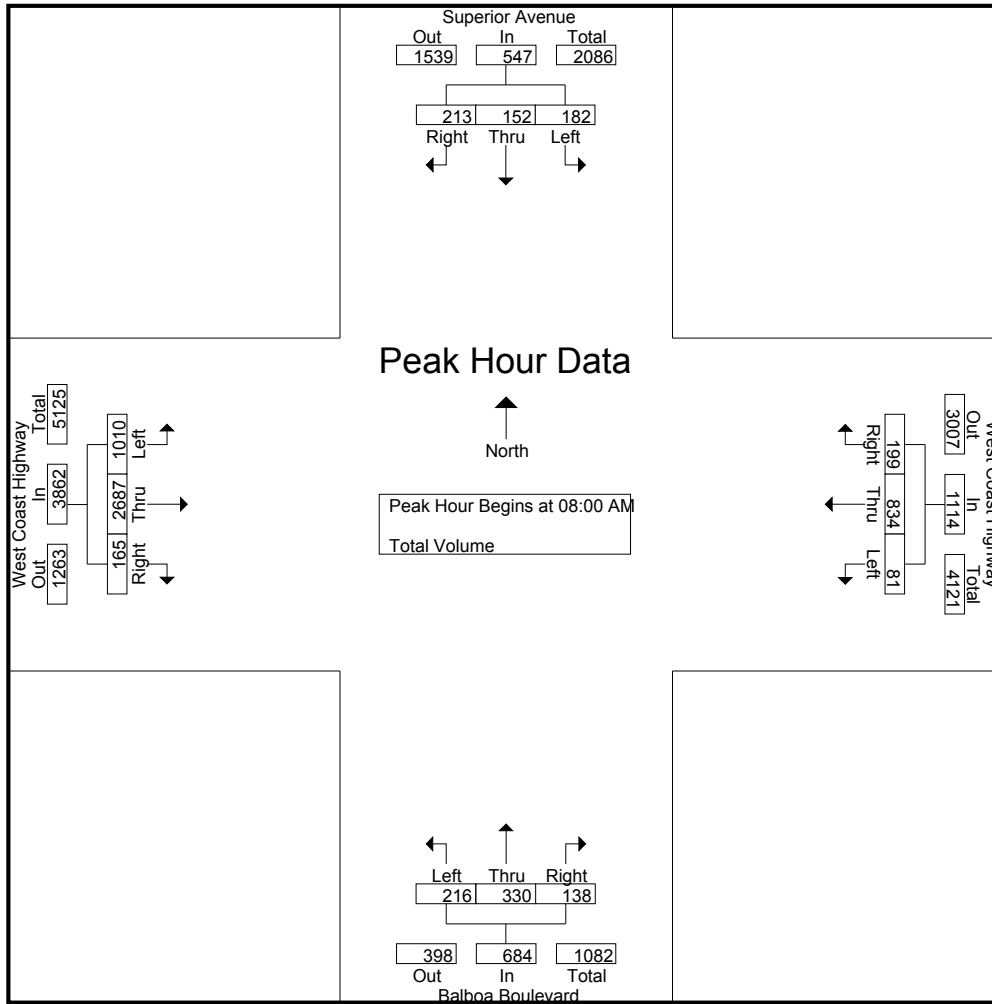
Groups Printed- Total Volume

Start Time	Superior Avenue Southbound				West Coast Highway Westbound				Balboa Boulevard Northbound				West Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	47	40	52	139	23	84	5	112	26	39	25	90	89	332	31	452	793
07:15 AM	39	34	48	121	7	135	14	156	34	66	36	136	151	466	34	651	1064
07:30 AM	64	26	62	152	14	196	38	248	29	82	24	135	241	572	79	892	1427
07:45 AM	60	42	68	170	17	169	44	230	47	97	25	169	246	570	97	913	1482
Total	210	142	230	582	61	584	101	746	136	284	110	530	727	1940	241	2908	4766
08:00 AM	50	42	50	142	17	194	32	243	79	78	37	194	217	639	36	892	1471
08:15 AM	41	34	49	124	18	207	71	296	53	84	30	167	268	720	27	1015	1602
08:30 AM	48	32	75	155	24	182	39	245	46	85	40	171	212	660	40	912	1483
08:45 AM	43	44	39	126	22	251	57	330	38	83	31	152	313	668	62	1043	1651
Total	182	152	213	547	81	834	199	1114	216	330	138	684	1010	2687	165	3862	6207
Grand Total	392	294	443	1129	142	1418	300	1860	352	614	248	1214	1737	4627	406	6770	10973
Apprch %	34.7	26	39.2		7.6	76.2	16.1		29	50.6	20.4		25.7	68.3	6		
Total %	3.6	2.7	4	10.3	1.3	12.9	2.7	17	3.2	5.6	2.3	11.1	15.8	42.2	3.7	61.7	

Start Time	Superior Avenue Southbound				West Coast Highway Westbound				Balboa Boulevard Northbound				West Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	50	42	50	142	17	194	32	243	79	78	37	194	217	639	36	892	1471
08:15 AM	41	34	49	124	18	207	71	296	53	84	30	167	268	720	27	1015	1602
08:30 AM	48	32	75	155	24	182	39	245	46	85	40	171	212	660	40	912	1483
08:45 AM	43	44	39	126	22	251	57	330	38	83	31	152	313	668	62	1043	1651
Total Volume	182	152	213	547	81	834	199	1114	216	330	138	684	1010	2687	165	3862	6207
% App. Total	33.3	27.8	38.9		7.3	74.9	17.9		31.6	48.2	20.2		26.2	69.6	4.3		
PHF	.910	.864	.710	.882	.844	.831	.701	.844	.684	.971	.863	.881	.807	.933	.665	.926	.940

City of Newport Beach
 N/S: Superior Avenue / Balboa Boulevard
 E/W: West Coast Highway
 Weather: Clear

File Name : NPB_Superior_W Coast Hwy AM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:45 AM				08:00 AM				07:45 AM				08:00 AM			
+0 mins.	60	42	68	170	17	194	32	243	47	97	25	169	217	639	36	892
+15 mins.	50	42	50	142	18	207	71	296	79	78	37	194	268	720	27	1015
+30 mins.	41	34	49	124	24	182	39	245	53	84	30	167	212	660	40	912
+45 mins.	48	32	75	155	22	251	57	330	46	85	40	171	313	668	62	1043
Total Volume	199	150	242	591	81	834	199	1114	225	344	132	701	1010	2687	165	3862
% App. Total	33.7	25.4	40.9		7.3	74.9	17.9		32.1	49.1	18.8		26.2	69.6	4.3	
PHF	.829	.893	.807	.869	.844	.831	.701	.844	.712	.887	.825	.903	.807	.933	.665	.926

City of Newport Beach
 N/S: Superior Avenue / Balboa Boulevard
 E/W: West Coast Highway
 Weather: Clear

File Name : NPB_Superior_W Coast Hwy PM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 1

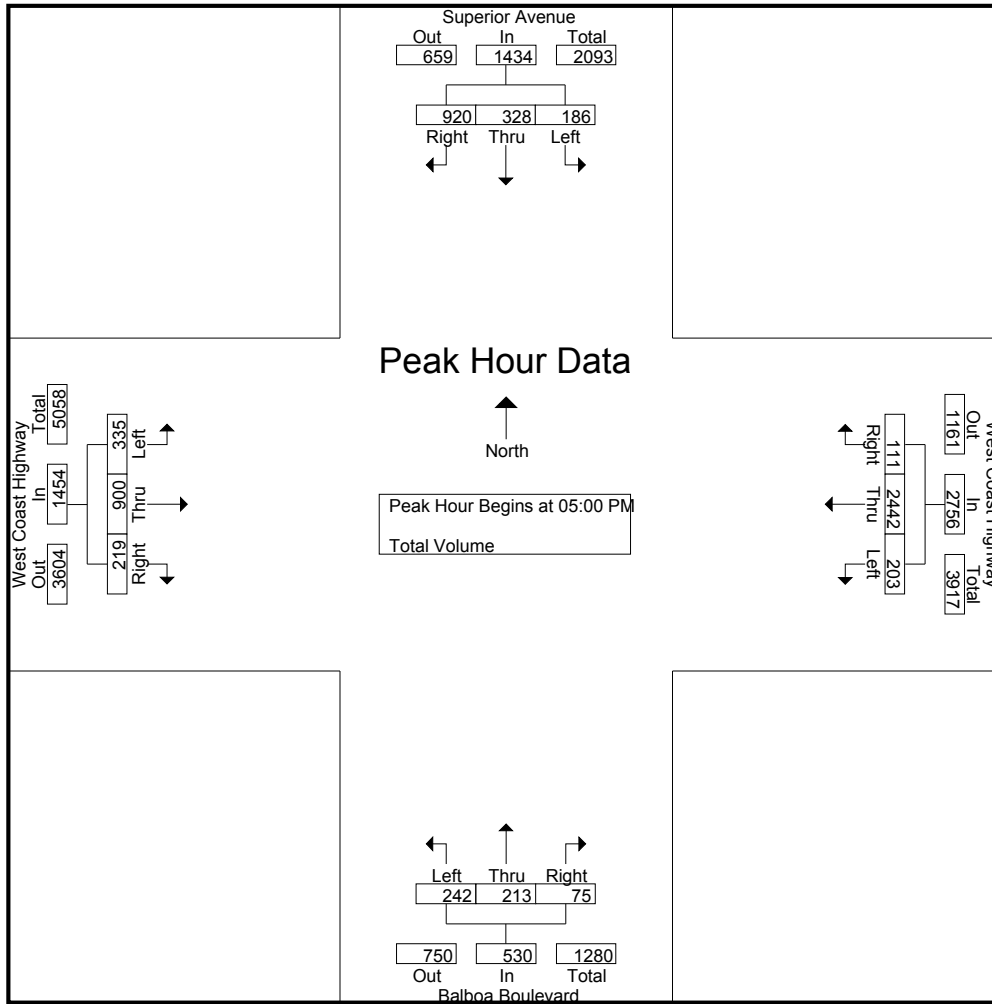
Groups Printed- Total Volume

Start Time	Superior Avenue Southbound				West Coast Highway Westbound				Balboa Boulevard Northbound				West Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	40	48	165	253	42	512	53	607	63	64	18	145	82	211	28	321	1326
04:15 PM	70	83	215	368	34	456	26	516	61	42	28	131	64	212	45	321	1336
04:30 PM	46	117	214	377	42	424	32	498	51	29	24	104	56	229	26	311	1290
04:45 PM	51	55	213	319	49	533	31	613	64	46	14	124	78	246	37	361	1417
Total	207	303	807	1317	167	1925	142	2234	239	181	84	504	280	898	136	1314	5369
05:00 PM	42	78	329	449	57	564	26	647	58	60	17	135	89	279	60	428	1659
05:15 PM	50	78	210	338	47	624	30	701	71	58	15	144	91	195	47	333	1516
05:30 PM	53	89	202	344	49	680	24	753	57	50	17	124	80	209	62	351	1572
05:45 PM	41	83	179	303	50	574	31	655	56	45	26	127	75	217	50	342	1427
Total	186	328	920	1434	203	2442	111	2756	242	213	75	530	335	900	219	1454	6174
Grand Total	393	631	1727	2751	370	4367	253	4990	481	394	159	1034	615	1798	355	2768	11543
Apprch %	14.3	22.9	62.8		7.4	87.5	5.1		46.5	38.1	15.4		22.2	65	12.8		
Total %	3.4	5.5	15	23.8	3.2	37.8	2.2	43.2	4.2	3.4	1.4	9	5.3	15.6	3.1	24	

Start Time	Superior Avenue Southbound				West Coast Highway Westbound				Balboa Boulevard Northbound				West Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	42	78	329	449	57	564	26	647	58	60	17	135	89	279	60	428	1659
05:15 PM	50	78	210	338	47	624	30	701	71	58	15	144	91	195	47	333	1516
05:30 PM	53	89	202	344	49	680	24	753	57	50	17	124	80	209	62	351	1572
05:45 PM	41	83	179	303	50	574	31	655	56	45	26	127	75	217	50	342	1427
Total Volume	186	328	920	1434	203	2442	111	2756	242	213	75	530	335	900	219	1454	6174
% App. Total	13	22.9	64.2		7.4	88.6	4		45.7	40.2	14.2		23	61.9	15.1		
PHF	.877	.921	.699	.798	.890	.898	.895	.915	.852	.888	.721	.920	.920	.806	.883	.849	.930

City of Newport Beach
 N/S: Superior Avenue / Balboa Boulevard
 E/W: West Coast Highway
 Weather: Clear

File Name : NPB_Superior_W Coast Hwy PM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:15 PM				05:00 PM				05:00 PM				04:45 PM			
+0 mins.	70	83	215	368	57	564	26	647	58	60	17	135	78	246	37	361
+15 mins.	46	117	214	377	47	624	30	701	71	58	15	144	89	279	60	428
+30 mins.	51	55	213	319	49	680	24	753	57	50	17	124	91	195	47	333
+45 mins.	42	78	329	449	50	574	31	655	56	45	26	127	80	209	62	351
Total Volume	209	333	971	1513	203	2442	111	2756	242	213	75	530	338	929	206	1473
% App. Total	13.8	22	64.2		7.4	88.6	4		45.7	40.2	14.2		22.9	63.1	14	
PHF	.746	.712	.738	.842	.890	.898	.895	.915	.852	.888	.721	.920	.929	.832	.831	.860

City of Newport Beach
 N/S: Newport Boulevard
 E/W: Hospital Road
 Weather: Clear

File Name : NPB_NEWPORT_HOSPITAL AM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 1

Groups Printed- Total Volume

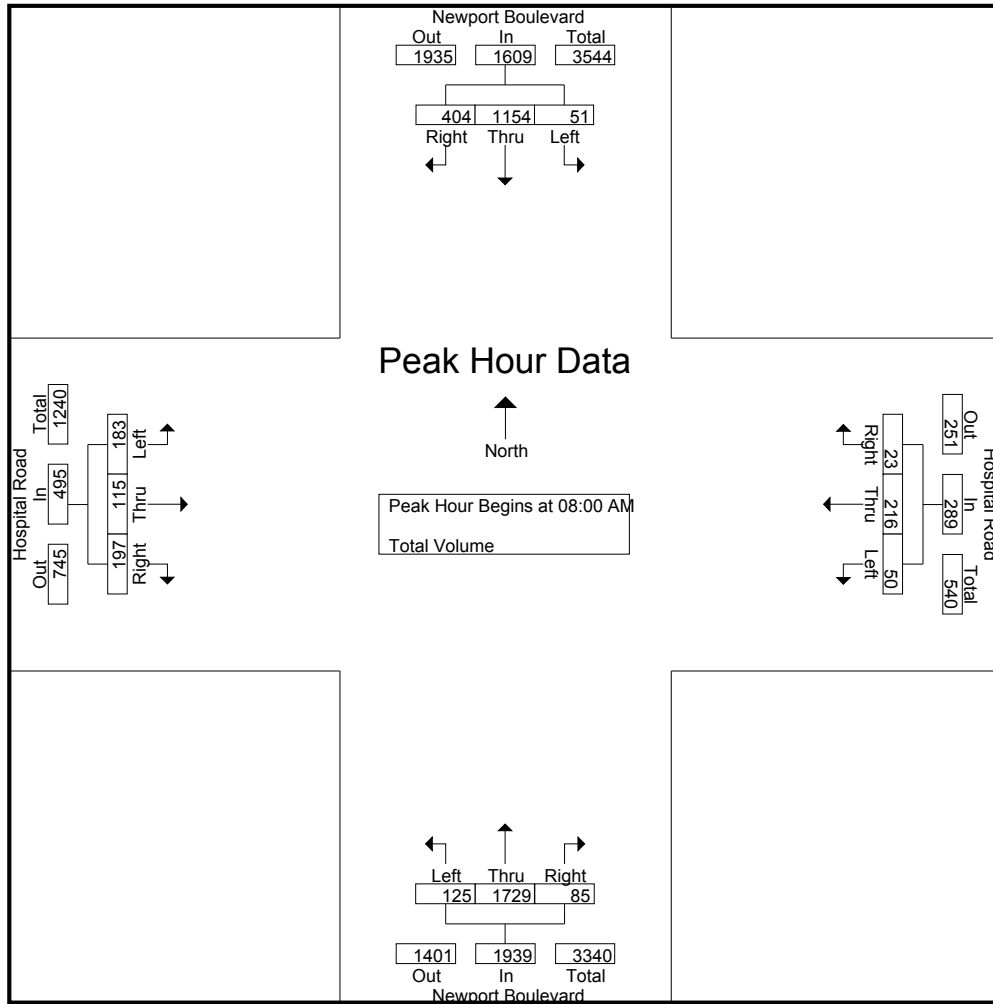
Start Time	Newport Boulevard Southbound				Hospital Road Westbound				Newport Boulevard Northbound				Hospital Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	5	215	69	289	5	26	7	38	15	313	7	335	34	11	29	74	736
07:15 AM	5	220	59	284	10	30	8	48	10	335	8	353	36	13	42	91	776
07:30 AM	8	252	70	330	12	37	8	57	17	426	14	457	100	40	38	178	1022
07:45 AM	9	251	83	343	14	65	1	80	25	384	17	426	51	69	62	182	1031
Total	27	938	281	1246	41	158	24	223	67	1458	46	1571	221	133	171	525	3565
08:00 AM	9	301	83	393	15	54	5	74	30	469	21	520	58	18	49	125	1112
08:15 AM	12	297	109	418	11	52	5	68	32	401	21	454	35	20	52	107	1047
08:30 AM	11	281	97	389	13	61	6	80	27	402	19	448	41	46	50	137	1054
08:45 AM	19	275	115	409	11	49	7	67	36	457	24	517	49	31	46	126	1119
Total	51	1154	404	1609	50	216	23	289	125	1729	85	1939	183	115	197	495	4332
Grand Total	78	2092	685	2855	91	374	47	512	192	3187	131	3510	404	248	368	1020	7897
Apprch %	2.7	73.3	24		17.8	73	9.2		5.5	90.8	3.7		39.6	24.3	36.1		
Total %	1	26.5	8.7	36.2	1.2	4.7	0.6	6.5	2.4	40.4	1.7	44.4	5.1	3.1	4.7	12.9	

Start Time	Newport Boulevard Southbound				Hospital Road Westbound				Newport Boulevard Northbound				Hospital Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	9	301	83	393	15	54	5	74	30	469	21	520	58	18	49	125	1112
08:15 AM	12	297	109	418	11	52	5	68	32	401	21	454	35	20	52	107	1047
08:30 AM	11	281	97	389	13	61	6	80	27	402	19	448	41	46	50	137	1054
08:45 AM	19	275	115	409	11	49	7	67	36	457	24	517	49	31	46	126	1119
Total Volume	51	1154	404	1609	50	216	23	289	125	1729	85	1939	183	115	197	495	4332
% App. Total	3.2	71.7	25.1		17.3	74.7	8		6.4	89.2	4.4		37	23.2	39.8		
PHF	.671	.958	.878	.962	.833	.885	.821	.903	.868	.922	.885	.932	.789	.625	.947	.903	.968

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 08:00 AM

City of Newport Beach
 N/S: Newport Boulevard
 E/W: Hospital Road
 Weather: Clear

File Name : NPB_NEWPORT_HOSPITAL AM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				08:00 AM				07:30 AM			
+0 mins.	9	301	83	393	14	65	1	80	30	469	21	520	100	40	38	178
+15 mins.	12	297	109	418	15	54	5	74	32	401	21	454	51	69	62	182
+30 mins.	11	281	97	389	11	52	5	68	27	402	19	448	58	18	49	125
+45 mins.	19	275	115	409	13	61	6	80	36	457	24	517	35	20	52	107
Total Volume	51	1154	404	1609	53	232	17	302	125	1729	85	1939	244	147	201	592
% App. Total	3.2	71.7	25.1		17.5	76.8	5.6		6.4	89.2	4.4		41.2	24.8	34	
PHF	.671	.958	.878	.962	.883	.892	.708	.944	.868	.922	.885	.932	.610	.533	.810	.813

City of Newport Beach
 N/S: Newport Boulevard
 E/W: Hospital Road
 Weather: Clear

File Name : NPB_NEWPORT_HOSPITAL PM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 1

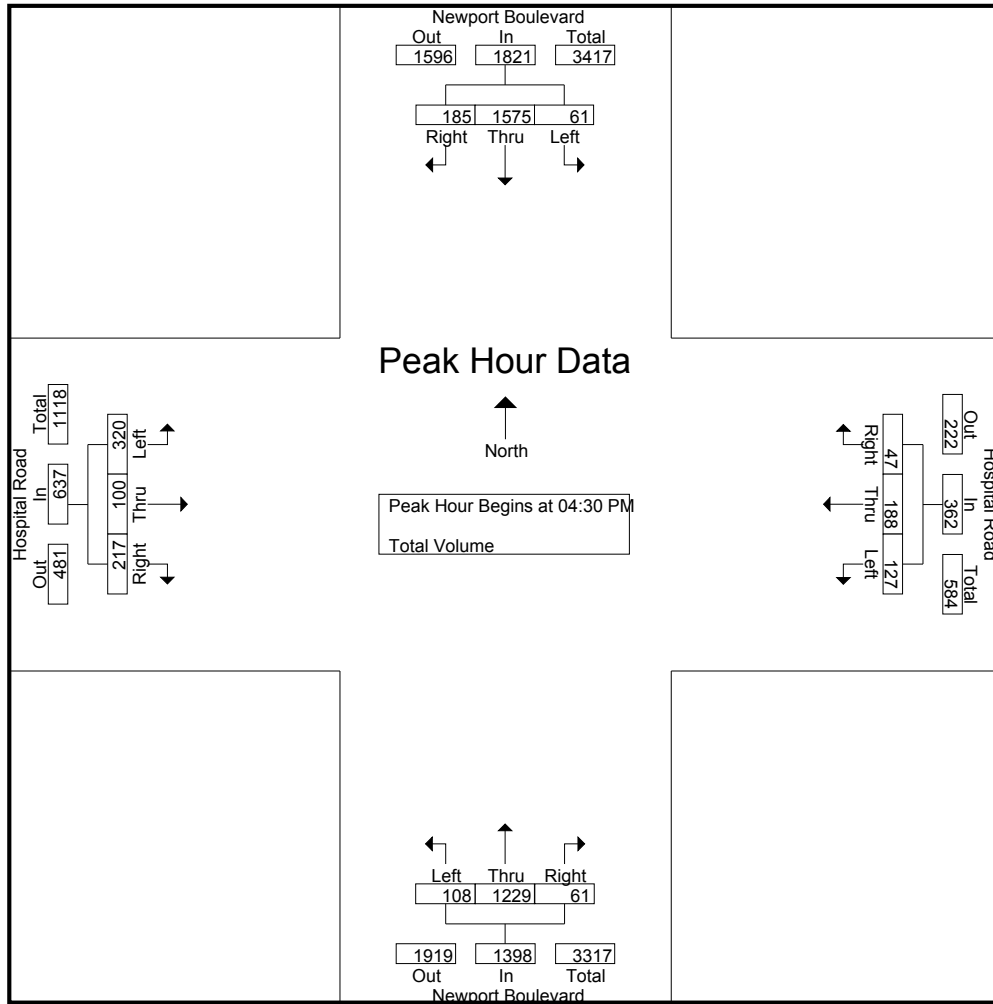
Groups Printed- Total Volume

Start Time	Newport Boulevard Southbound				Hospital Road Westbound				Newport Boulevard Northbound				Hospital Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	15	377	49	441	21	43	9	73	35	293	11	339	73	19	45	137	990
04:15 PM	16	353	52	421	21	41	13	75	37	314	12	363	67	23	53	143	1002
04:30 PM	14	355	50	419	19	47	14	80	33	321	14	368	88	29	66	183	1050
04:45 PM	19	389	49	457	30	44	17	91	30	279	11	320	73	19	57	149	1017
Total	64	1474	200	1738	91	175	53	319	135	1207	48	1390	301	90	221	612	4059
05:00 PM	12	412	45	469	44	49	8	101	18	315	15	348	85	25	49	159	1077
05:15 PM	16	419	41	476	34	48	8	90	27	314	21	362	74	27	45	146	1074
05:30 PM	16	396	60	472	45	40	9	94	28	287	11	326	58	25	45	128	1020
05:45 PM	10	382	61	453	32	33	5	70	28	301	13	342	47	20	41	108	973
Total	54	1609	207	1870	155	170	30	355	101	1217	60	1378	264	97	180	541	4144
Grand Total	118	3083	407	3608	246	345	83	674	236	2424	108	2768	565	187	401	1153	8203
Apprch %	3.3	85.4	11.3		36.5	51.2	12.3		8.5	87.6	3.9		49	16.2	34.8		
Total %	1.4	37.6	5	44	3	4.2	1	8.2	2.9	29.6	1.3	33.7	6.9	2.3	4.9	14.1	

Start Time	Newport Boulevard Southbound				Hospital Road Westbound				Newport Boulevard Northbound				Hospital Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:30 PM	14	355	50	419	19	47	14	80	33	321	14	368	88	29	66	183	1050
04:45 PM	19	389	49	457	30	44	17	91	30	279	11	320	73	19	57	149	1017
05:00 PM	12	412	45	469	44	49	8	101	18	315	15	348	85	25	49	159	1077
05:15 PM	16	419	41	476	34	48	8	90	27	314	21	362	74	27	45	146	1074
Total Volume	61	1575	185	1821	127	188	47	362	108	1229	61	1398	320	100	217	637	4218
% App. Total	3.3	86.5	10.2		35.1	51.9	13		7.7	87.9	4.4		50.2	15.7	34.1		
PHF	.803	.940	.925	.956	.722	.959	.691	.896	.818	.957	.726	.950	.909	.862	.822	.870	.979

City of Newport Beach
 N/S: Newport Boulevard
 E/W: Hospital Road
 Weather: Clear

File Name : NPB_NEWPORT_HOSPITAL PM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:15 PM				04:30 PM			
+0 mins.	19	389	49	457	30	44	17	91	37	314	12	363	88	29	66	183
+15 mins.	12	412	45	469	44	49	8	101	33	321	14	368	73	19	57	149
+30 mins.	16	419	41	476	34	48	8	90	30	279	11	320	85	25	49	159
+45 mins.	16	396	60	472	45	40	9	94	18	315	15	348	74	27	45	146
Total Volume	63	1616	195	1874	153	181	42	376	118	1229	52	1399	320	100	217	637
% App. Total	3.4	86.2	10.4		40.7	48.1	11.2		8.4	87.8	3.7		50.2	15.7	34.1	
PHF	.829	.964	.813	.984	.850	.923	.618	.931	.797	.957	.867	.950	.909	.862	.822	.870

City of Newport Beach
 N/S: Newport Boulevard
 E/W: Via Lido
 Weather: Clear

File Name : NPB_NEWPORT_VIA LIDO AM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 1

Groups Printed- Total Volume

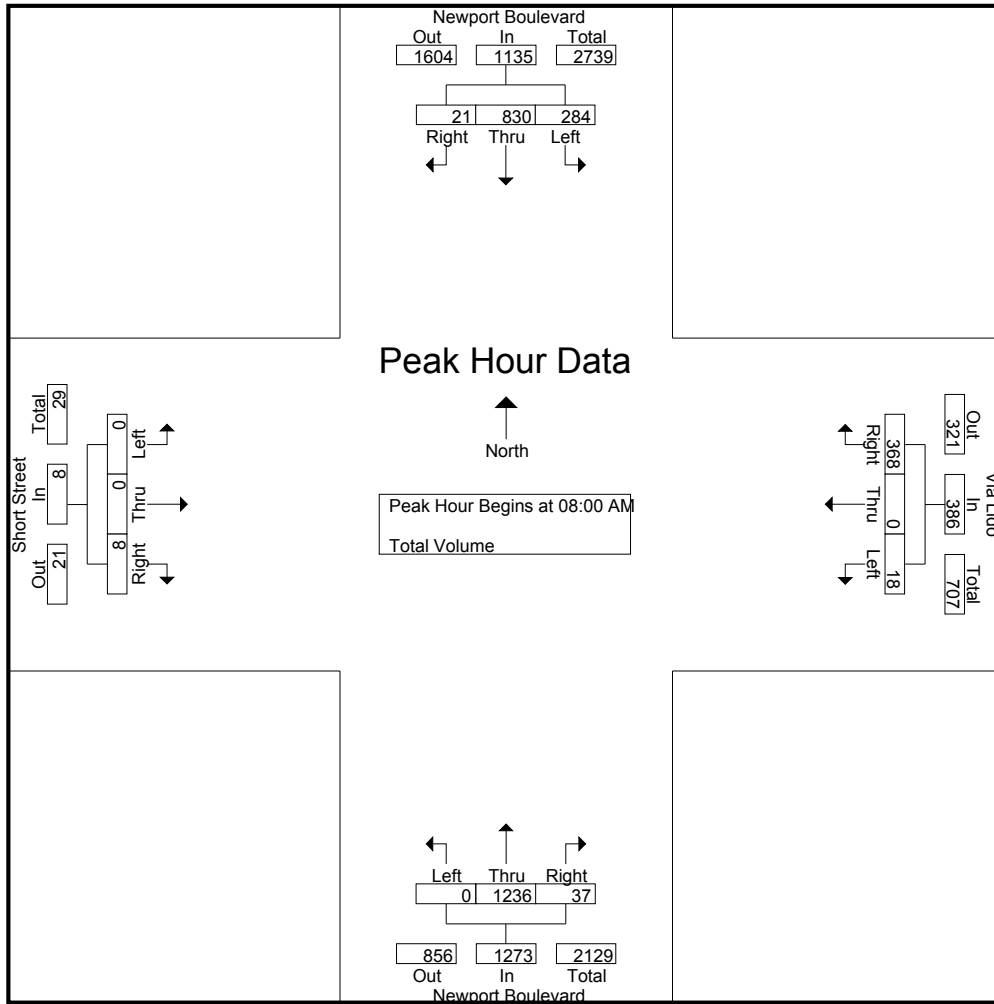
Start Time	Newport Boulevard Southbound				Via Lido Westbound				Newport Boulevard Northbound				Short Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	77	137	4	218	4	0	85	89	0	198	8	206	0	0	3	3	516
07:15 AM	69	132	6	207	5	0	86	91	0	211	8	219	0	0	2	2	519
07:30 AM	65	154	8	227	5	0	80	85	0	295	9	304	0	0	4	4	620
07:45 AM	61	214	2	277	3	0	84	87	0	308	9	317	0	0	2	2	683
Total	272	637	20	929	17	0	335	352	0	1012	34	1046	0	0	11	11	2338
08:00 AM	72	205	4	281	3	0	85	88	0	309	11	320	0	0	1	1	690
08:15 AM	63	210	4	277	5	0	83	88	0	292	8	300	0	0	2	2	667
08:30 AM	75	209	5	289	7	0	106	113	0	308	12	320	0	0	3	3	725
08:45 AM	74	206	8	288	3	0	94	97	0	327	6	333	0	0	2	2	720
Total	284	830	21	1135	18	0	368	386	0	1236	37	1273	0	0	8	8	2802
Grand Total	556	1467	41	2064	35	0	703	738	0	2248	71	2319	0	0	19	19	5140
Apprch %	26.9	71.1	2		4.7	0	95.3		0	96.9	3.1		0	0	100		
Total %	10.8	28.5	0.8	40.2	0.7	0	13.7	14.4	0	43.7	1.4	45.1	0	0	0.4	0.4	

Start Time	Newport Boulevard Southbound				Via Lido Westbound				Newport Boulevard Northbound				Short Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	72	205	4	281	3	0	85	88	0	309	11	320	0	0	1	1	690
08:15 AM	63	210	4	277	5	0	83	88	0	292	8	300	0	0	2	2	667
08:30 AM	75	209	5	289	7	0	106	113	0	308	12	320	0	0	3	3	725
08:45 AM	74	206	8	288	3	0	94	97	0	327	6	333	0	0	2	2	720
Total Volume	284	830	21	1135	18	0	368	386	0	1236	37	1273	0	0	8	8	2802
% App. Total	25	73.1	1.9		4.7	0	95.3		0	97.1	2.9		0	0	100		
PHF	.947	.988	.656	.982	.643	.000	.868	.854	.000	.945	.771	.956	.000	.000	.667	.667	.966

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 08:00 AM

City of Newport Beach
 N/S: Newport Boulevard
 E/W: Via Lido
 Weather: Clear

File Name : NPB_NEWPORT_VIA LIDO AM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				07:00 AM			
+0 mins.	72	205	4	281	3	0	85	88	0	309	11	320	0	0	3	3
+15 mins.	63	210	4	277	5	0	83	88	0	292	8	300	0	0	2	2
+30 mins.	75	209	5	289	7	0	106	113	0	308	12	320	0	0	4	4
+45 mins.	74	206	8	288	3	0	94	97	0	327	6	333	0	0	2	2
Total Volume	284	830	21	1135	18	0	368	386	0	1236	37	1273	0	0	11	11
% App. Total	25	73.1	1.9		4.7	0	95.3		0	97.1	2.9		0	0	100	
PHF	.947	.988	.656	.982	.643	.000	.868	.854	.000	.945	.771	.956	.000	.000	.688	.688

City of Newport Beach
 N/S: Newport Boulevard
 E/W: Via Lido
 Weather: Clear

File Name : NPB_NEWPORT_VIA LIDO PM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 1

Groups Printed- Total Volume

Start Time	Newport Boulevard Southbound				Via Lido Westbound				Newport Boulevard Northbound				Short Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	115	256	18	389	9	0	76	85	0	237	6	243	0	0	4	4	721
04:15 PM	106	274	13	393	5	0	70	75	0	252	6	258	0	0	4	4	730
04:30 PM	90	259	13	362	6	0	65	71	0	263	4	267	0	0	4	4	704
04:45 PM	93	288	12	393	4	0	67	71	0	208	8	216	0	0	3	3	683
Total	404	1077	56	1537	24	0	278	302	0	960	24	984	0	0	15	15	2838
05:00 PM	98	317	16	431	8	0	79	87	0	247	8	255	0	0	0	0	773
05:15 PM	100	329	8	437	10	0	73	83	0	264	4	268	0	0	2	2	790
05:30 PM	94	358	8	460	7	0	69	76	0	236	4	240	0	0	0	0	776
05:45 PM	105	336	11	452	6	0	84	90	0	222	10	232	0	0	9	9	783
Total	397	1340	43	1780	31	0	305	336	0	969	26	995	0	0	11	11	3122
Grand Total	801	2417	99	3317	55	0	583	638	0	1929	50	1979	0	0	26	26	5960
Apprch %	24.1	72.9	3		8.6	0	91.4		0	97.5	2.5		0	0	100		
Total %	13.4	40.6	1.7	55.7	0.9	0	9.8	10.7	0	32.4	0.8	33.2	0	0	0.4	0.4	

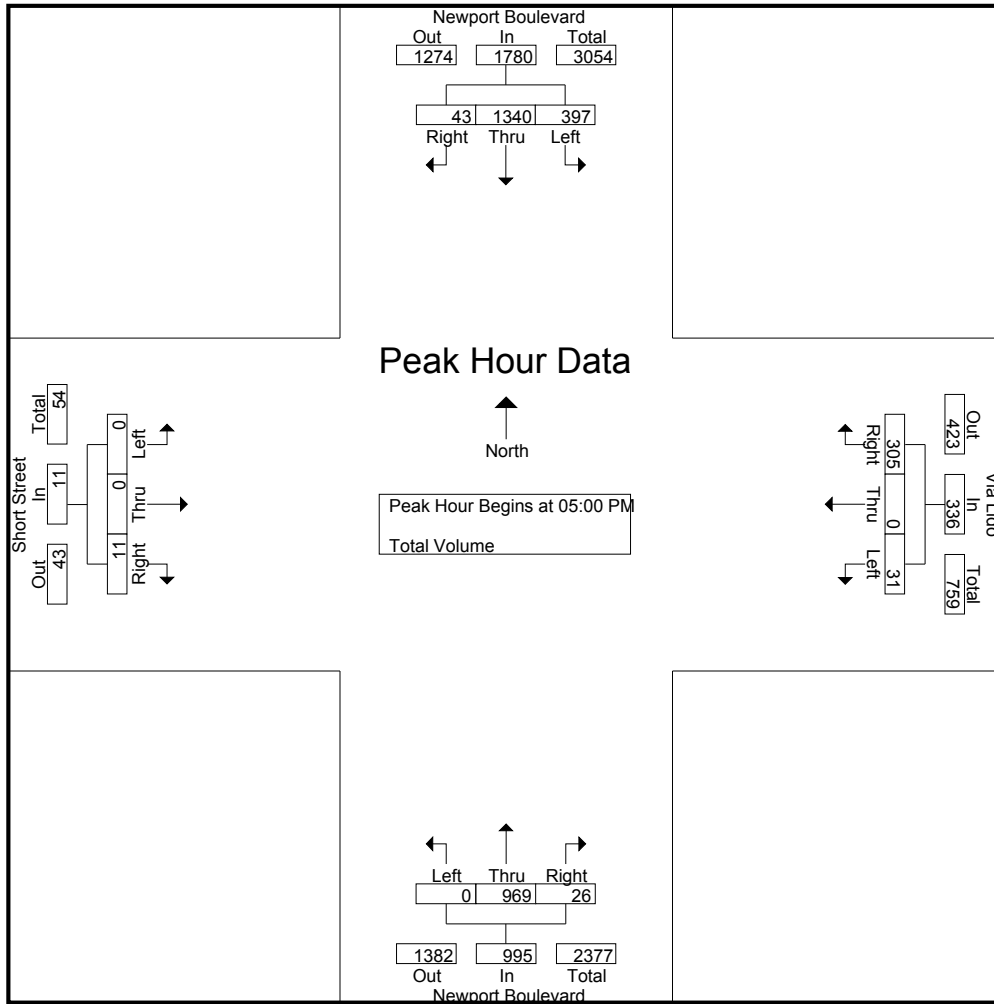
Start Time	Newport Boulevard Southbound				Via Lido Westbound				Newport Boulevard Northbound				Short Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
05:00 PM	98	317	16	431	8	0	79	87	0	247	8	255	0	0	0	0	773
05:15 PM	100	329	8	437	10	0	73	83	0	264	4	268	0	0	2	2	790
05:30 PM	94	358	8	460	7	0	69	76	0	236	4	240	0	0	0	0	776
05:45 PM	105	336	11	452	6	0	84	90	0	222	10	232	0	0	9	9	783
Total Volume	397	1340	43	1780	31	0	305	336	0	969	26	995	0	0	11	11	3122
% App. Total	22.3	75.3	2.4		9.2	0	90.8		0	97.4	2.6		0	0	100		
PHF	.945	.936	.672	.967	.775	.000	.908	.933	.000	.918	.650	.928	.000	.000	.306	.306	.988

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 PM

City of Newport Beach
 N/S: Newport Boulevard
 E/W: Via Lido
 Weather: Clear

File Name : NPB_NEWPORT_VIA LIDO PM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				04:30 PM				04:00 PM			
+0 mins.	98	317	16	431	8	0	79	87	0	263	4	267	0	0	4	4
+15 mins.	100	329	8	437	10	0	73	83	0	208	8	216	0	0	4	4
+30 mins.	94	358	8	460	7	0	69	76	0	247	8	255	0	0	4	4
+45 mins.	105	336	11	452	6	0	84	90	0	264	4	268	0	0	3	3
Total Volume	397	1340	43	1780	31	0	305	336	0	982	24	1006	0	0	15	15
% App. Total	22.3	75.3	2.4		9.2	0	90.8		0	97.6	2.4		0	0	100	
PHF	.945	.936	.672	.967	.775	.000	.908	.933	.000	.930	.750	.938	.000	.000	.938	.938

City of Newport Beach
 N/S: Newport Boulevard
 E/W: 32nd Street
 Weather: Clear

File Name : NPB_NEWPORT_32 AM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 1

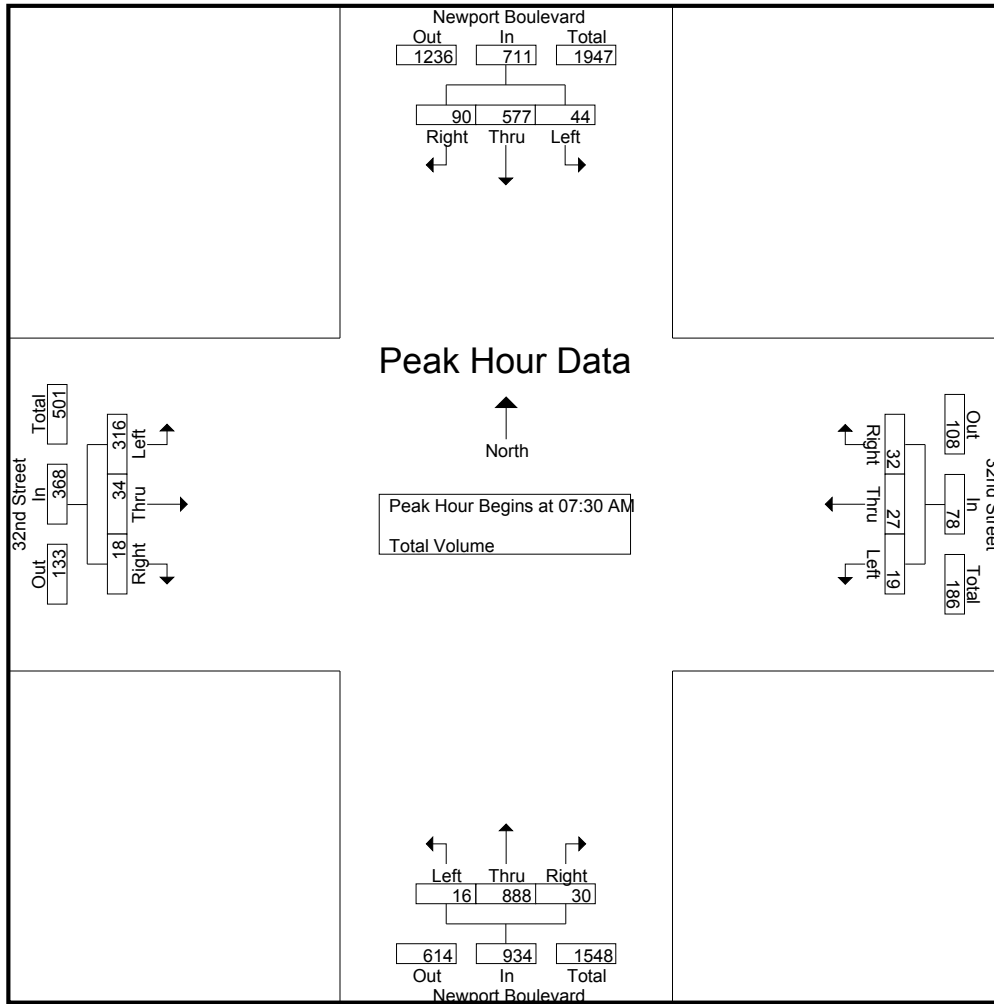
Groups Printed- Total Volume

Start Time	Newport Boulevard Southbound				32nd Street Westbound				Newport Boulevard Northbound				32nd Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	12	94	20	126	4	1	9	14	4	133	2	139	56	4	1	61	340
07:15 AM	7	122	23	152	6	11	32	49	3	179	3	185	56	4	1	61	447
07:30 AM	9	135	22	166	11	10	8	29	4	209	5	218	81	7	3	91	504
07:45 AM	9	158	20	187	4	5	7	16	5	245	4	254	76	10	4	90	547
Total	37	509	85	631	25	27	56	108	16	766	14	796	269	25	9	303	1838
08:00 AM	11	134	21	166	1	11	10	22	3	205	16	224	73	12	4	89	501
08:15 AM	15	150	27	192	3	1	7	11	4	229	5	238	86	5	7	98	539
08:30 AM	16	145	18	179	3	4	10	17	2	213	2	217	66	9	5	80	493
08:45 AM	16	151	29	196	3	6	13	22	1	158	4	163	68	4	6	78	459
Total	58	580	95	733	10	22	40	72	10	805	27	842	293	30	22	345	1992
Grand Total	95	1089	180	1364	35	49	96	180	26	1571	41	1638	562	55	31	648	3830
Apprch %	7	79.8	13.2		19.4	27.2	53.3		1.6	95.9	2.5		86.7	8.5	4.8		
Total %	2.5	28.4	4.7	35.6	0.9	1.3	2.5	4.7	0.7	41	1.1	42.8	14.7	1.4	0.8	16.9	

Start Time	Newport Boulevard Southbound				32nd Street Westbound				Newport Boulevard Northbound				32nd Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:30 AM	9	135	22	166	11	10	8	29	4	209	5	218	81	7	3	91	504
07:45 AM	9	158	20	187	4	5	7	16	5	245	4	254	76	10	4	90	547
08:00 AM	11	134	21	166	1	11	10	22	3	205	16	224	73	12	4	89	501
08:15 AM	15	150	27	192	3	1	7	11	4	229	5	238	86	5	7	98	539
Total Volume	44	577	90	711	19	27	32	78	16	888	30	934	316	34	18	368	2091
% App. Total	6.2	81.2	12.7		24.4	34.6	41		1.7	95.1	3.2		85.9	9.2	4.9		
PHF	.733	.913	.833	.926	.432	.614	.800	.672	.800	.906	.469	.919	.919	.708	.643	.939	.956

City of Newport Beach
 N/S: Newport Boulevard
 E/W: 32nd Street
 Weather: Clear

File Name : NPB_NEWPORT_32 AM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:15 AM				07:30 AM				07:30 AM			
+0 mins.	11	134	21	166	6	11	32	49	4	209	5	218	81	7	3	91
+15 mins.	15	150	27	192	11	10	8	29	5	245	4	254	76	10	4	90
+30 mins.	16	145	18	179	4	5	7	16	3	205	16	224	73	12	4	89
+45 mins.	16	151	29	196	1	11	10	22	4	229	5	238	86	5	7	98
Total Volume	58	580	95	733	22	37	57	116	16	888	30	934	316	34	18	368
% App. Total	7.9	79.1	13		19	31.9	49.1		1.7	95.1	3.2		85.9	9.2	4.9	
PHF	.906	.960	.819	.935	.500	.841	.445	.592	.800	.906	.469	.919	.919	.708	.643	.939

City of Newport Beach
 N/S: Newport Boulevard
 E/W: 32nd Street
 Weather: Clear

File Name : NPB_NEWPORT_32 PM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 1

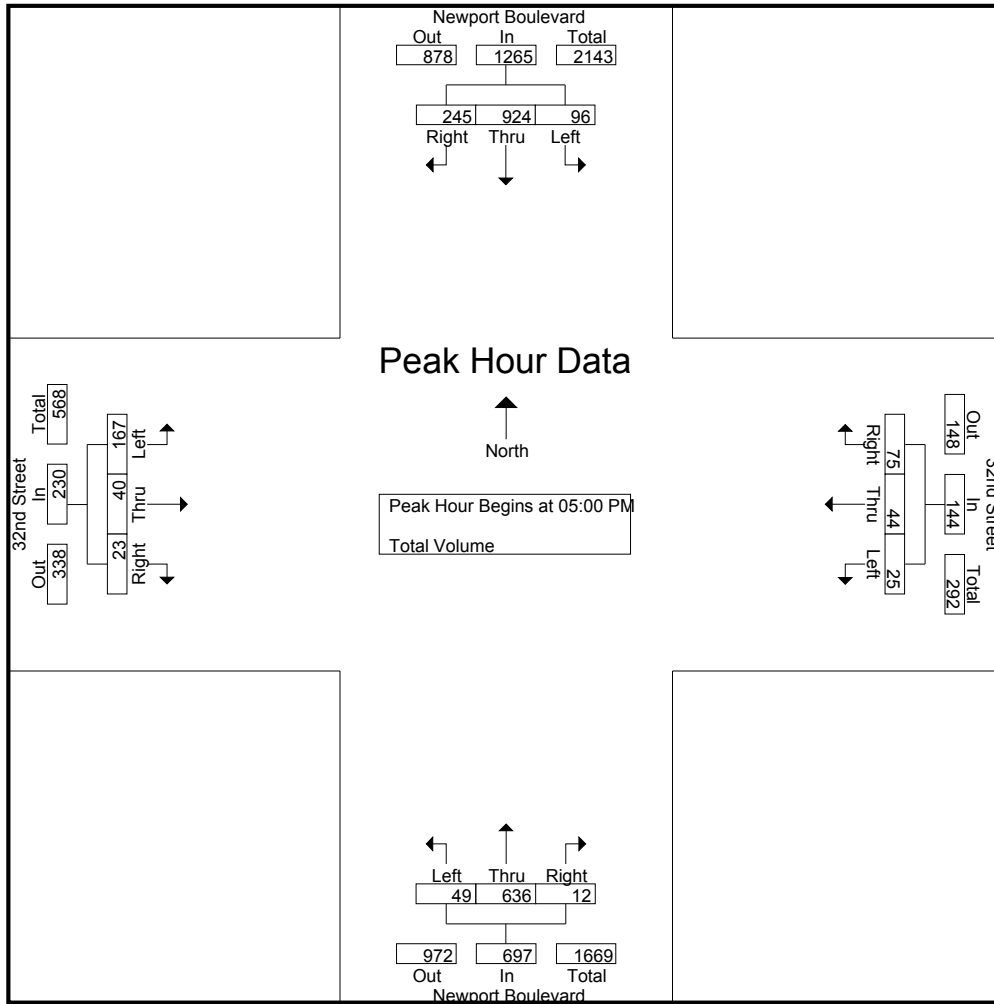
Groups Printed- Total Volume

Start Time	Newport Boulevard Southbound				32nd Street Westbound				Newport Boulevard Northbound				32nd Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	18	217	39	274	7	3	17	27	10	180	4	194	33	6	1	40	535
04:15 PM	16	211	35	262	2	5	22	29	12	183	2	197	44	14	5	63	551
04:30 PM	21	207	39	267	2	7	25	34	8	171	6	185	30	6	1	37	523
04:45 PM	24	204	40	268	4	16	34	54	13	171	2	186	46	13	3	62	570
Total	79	839	153	1071	15	31	98	144	43	705	14	762	153	39	10	202	2179
05:00 PM	21	209	55	285	6	10	29	45	15	172	1	188	43	12	4	59	577
05:15 PM	26	244	63	333	5	9	15	29	14	150	3	167	43	7	7	57	586
05:30 PM	26	229	60	315	8	11	20	39	8	138	3	149	37	12	4	53	556
05:45 PM	23	242	67	332	6	14	11	31	12	176	5	193	44	9	8	61	617
Total	96	924	245	1265	25	44	75	144	49	636	12	697	167	40	23	230	2336
Grand Total	175	1763	398	2336	40	75	173	288	92	1341	26	1459	320	79	33	432	4515
Apprch %	7.5	75.5	17		13.9	26	60.1		6.3	91.9	1.8		74.1	18.3	7.6		
Total %	3.9	39	8.8	51.7	0.9	1.7	3.8	6.4	2	29.7	0.6	32.3	7.1	1.7	0.7	9.6	

Start Time	Newport Boulevard Southbound				32nd Street Westbound				Newport Boulevard Northbound				32nd Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
05:00 PM	21	209	55	285	6	10	29	45	15	172	1	188	43	12	4	59	577
05:15 PM	26	244	63	333	5	9	15	29	14	150	3	167	43	7	7	57	586
05:30 PM	26	229	60	315	8	11	20	39	8	138	3	149	37	12	4	53	556
05:45 PM	23	242	67	332	6	14	11	31	12	176	5	193	44	9	8	61	617
Total Volume	96	924	245	1265	25	44	75	144	49	636	12	697	167	40	23	230	2336
% App. Total	7.6	73	19.4		17.4	30.6	52.1		7	91.2	1.7		72.6	17.4	10		
PHF	.923	.947	.914	.950	.781	.786	.647	.800	.817	.903	.600	.903	.949	.833	.719	.943	.947

City of Newport Beach
 N/S: Newport Boulevard
 E/W: 32nd Street
 Weather: Clear

File Name : NPB_NEWPORT_32 PM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				04:00 PM				04:45 PM			
+0 mins.	21	209	55	285	4	16	34	54	10	180	4	194	46	13	3	62
+15 mins.	26	244	63	333	6	10	29	45	12	183	2	197	43	12	4	59
+30 mins.	26	229	60	315	5	9	15	29	8	171	6	185	43	7	7	57
+45 mins.	23	242	67	332	8	11	20	39	13	171	2	186	37	12	4	53
Total Volume	96	924	245	1265	23	46	98	167	43	705	14	762	169	44	18	231
% App. Total	7.6	73	19.4		13.8	27.5	58.7		5.6	92.5	1.8		73.2	19	7.8	
PHF	.923	.947	.914	.950	.719	.719	.721	.773	.827	.963	.583	.967	.918	.846	.643	.931

City of Newport Beach
 N/S: Riverside Drive
 E/W: West Coast Highway
 Weather: Clear

File Name : NPB_Riverside_W Coast Hwy AM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 1

Groups Printed- Total Volume

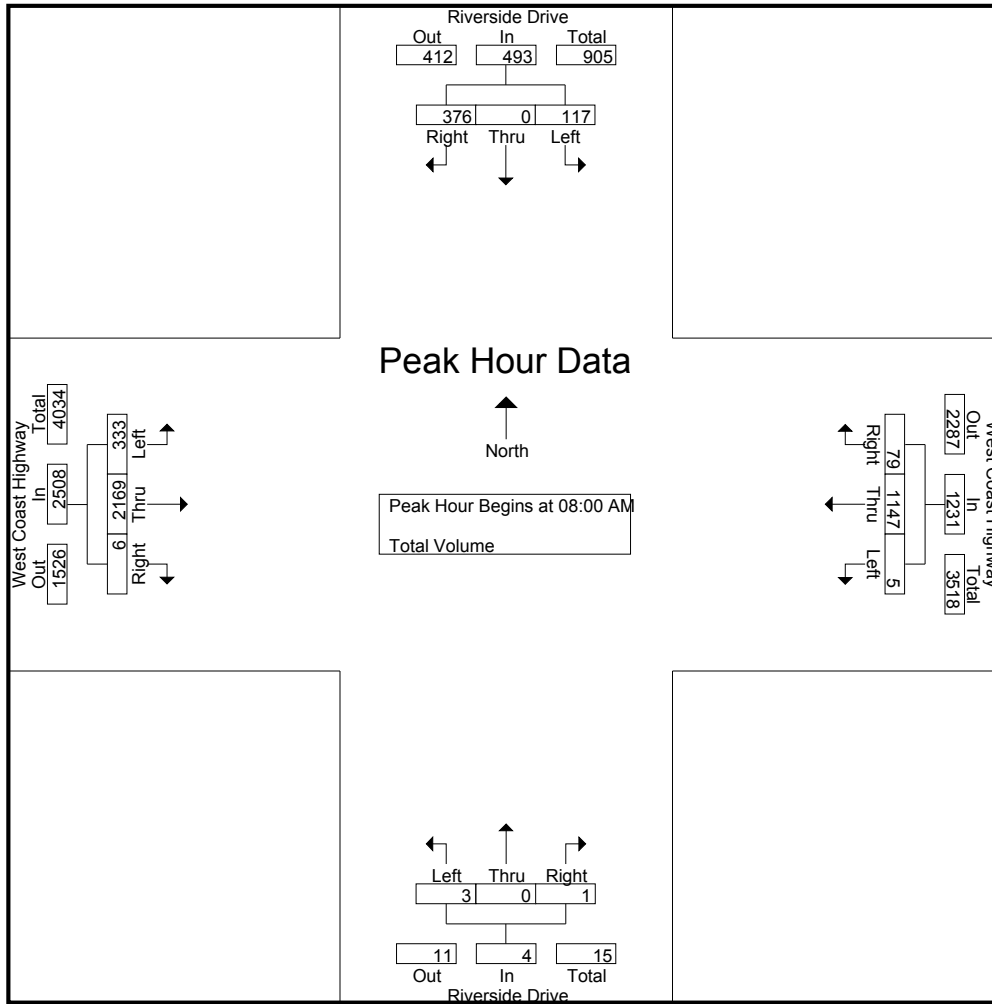
Start Time	Riverside Drive Southbound				West Coast Highway Westbound				Riverside Drive Northbound				West Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	13	0	32	45	0	178	4	182	0	0	1	1	35	325	0	360	588
07:15 AM	18	0	58	76	2	186	5	193	0	0	0	0	42	398	0	440	709
07:30 AM	19	0	79	98	0	281	8	289	1	0	0	1	58	489	0	547	935
07:45 AM	23	0	103	126	1	251	16	268	4	0	0	4	65	537	2	604	1002
Total	73	0	272	345	3	896	33	932	5	0	1	6	200	1749	2	1951	3234
08:00 AM	26	0	98	124	0	286	19	305	0	0	0	0	72	559	1	632	1061
08:15 AM	29	0	96	125	2	255	20	277	2	0	0	2	86	530	0	616	1020
08:30 AM	32	0	90	122	3	284	21	308	0	0	0	0	90	537	4	631	1061
08:45 AM	30	0	92	122	0	322	19	341	1	0	1	2	85	543	1	629	1094
Total	117	0	376	493	5	1147	79	1231	3	0	1	4	333	2169	6	2508	4236
Grand Total	190	0	648	838	8	2043	112	2163	8	0	2	10	533	3918	8	4459	7470
Apprch %	22.7	0	77.3		0.4	94.5	5.2		80	0	20		12	87.9	0.2		
Total %	2.5	0	8.7	11.2	0.1	27.3	1.5	29	0.1	0	0	0.1	7.1	52.4	0.1	59.7	

Start Time	Riverside Drive Southbound				West Coast Highway Westbound				Riverside Drive Northbound				West Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	26	0	98	124	0	286	19	305	0	0	0	0	72	559	1	632	1061
08:15 AM	29	0	96	125	2	255	20	277	2	0	0	2	86	530	0	616	1020
08:30 AM	32	0	90	122	3	284	21	308	0	0	0	0	90	537	4	631	1061
08:45 AM	30	0	92	122	0	322	19	341	1	0	1	2	85	543	1	629	1094
Total Volume	117	0	376	493	5	1147	79	1231	3	0	1	4	333	2169	6	2508	4236
% App. Total	23.7	0	76.3		0.4	93.2	6.4		75	0	25		13.3	86.5	0.2		
PHF	.914	.000	.959	.986	.417	.891	.940	.902	.375	.000	.250	.500	.925	.970	.375	.992	.968

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 08:00 AM

City of Newport Beach
 N/S: Riverside Drive
 E/W: West Coast Highway
 Weather: Clear

File Name : NPB_Riverside_W Coast Hwy AM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:45 AM				08:00 AM				07:30 AM				08:00 AM			
+0 mins.	23	0	103	126	0	286	19	305	1	0	0	1	72	559	1	632
+15 mins.	26	0	98	124	2	255	20	277	4	0	0	4	86	530	0	616
+30 mins.	29	0	96	125	3	284	21	308	0	0	0	0	90	537	4	631
+45 mins.	32	0	90	122	0	322	19	341	2	0	0	2	85	543	1	629
Total Volume	110	0	387	497	5	1147	79	1231	7	0	0	7	333	2169	6	2508
% App. Total	22.1	0	77.9		0.4	93.2	6.4		100	0	0		13.3	86.5	0.2	
PHF	.859	.000	.939	.986	.417	.891	.940	.902	.438	.000	.000	.438	.925	.970	.375	.992

City of Newport Beach
 N/S: Riverside Drive
 E/W: West Coast Highway
 Weather: Clear

File Name : NPB_Riverside_W Coast Hwy PM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 1

Groups Printed- Total Volume

Start Time	Riverside Drive Southbound				West Coast Highway Westbound				Riverside Drive Northbound				West Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	22	0	79	101	5	540	18	563	2	1	2	5	70	368	4	442	1111
04:15 PM	24	1	76	101	6	542	21	569	4	3	3	10	68	372	6	446	1126
04:30 PM	20	0	82	102	2	536	18	556	3	0	1	4	73	380	1	454	1116
04:45 PM	22	0	92	114	1	522	15	538	1	0	0	1	70	396	0	466	1119
Total	88	1	329	418	14	2140	72	2226	10	4	6	20	281	1516	11	1808	4472
05:00 PM	24	1	106	131	9	516	16	541	4	0	6	10	71	404	0	475	1157
05:15 PM	22	0	98	120	6	512	13	531	2	1	5	8	64	386	1	451	1110
05:30 PM	19	1	95	115	7	568	12	587	1	0	4	5	59	346	0	405	1112
05:45 PM	16	0	94	110	8	623	10	641	1	2	2	5	56	339	1	396	1152
Total	81	2	393	476	30	2219	51	2300	8	3	17	28	250	1475	2	1727	4531
Grand Total	169	3	722	894	44	4359	123	4526	18	7	23	48	531	2991	13	3535	9003
Apprch %	18.9	0.3	80.8		1	96.3	2.7		37.5	14.6	47.9		15	84.6	0.4		
Total %	1.9	0	8	9.9	0.5	48.4	1.4	50.3	0.2	0.1	0.3	0.5	5.9	33.2	0.1	39.3	

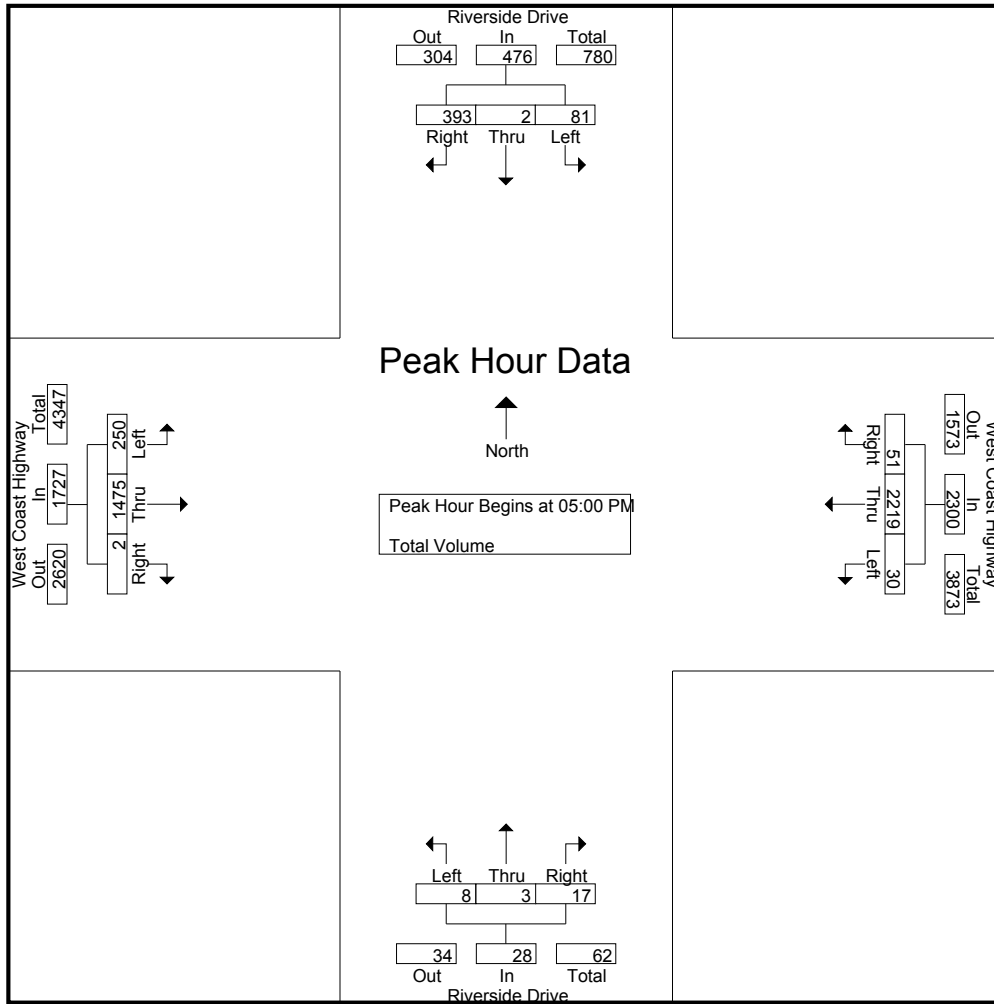
Start Time	Riverside Drive Southbound				West Coast Highway Westbound				Riverside Drive Northbound				West Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
05:00 PM	24	1	106	131	9	516	16	541	4	0	6	10	71	404	0	475	1157
05:15 PM	22	0	98	120	6	512	13	531	2	1	5	8	64	386	1	451	1110
05:30 PM	19	1	95	115	7	568	12	587	1	0	4	5	59	346	0	405	1112
05:45 PM	16	0	94	110	8	623	10	641	1	2	2	5	56	339	1	396	1152
Total Volume	81	2	393	476	30	2219	51	2300	8	3	17	28	250	1475	2	1727	4531
% App. Total	17	0.4	82.6		1.3	96.5	2.2		28.6	10.7	60.7		14.5	85.4	0.1		
PHF	.844	.500	.927	.908	.833	.890	.797	.897	.500	.375	.708	.700	.880	.913	.500	.909	.979

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 PM

City of Newport Beach
 N/S: Riverside Drive
 E/W: West Coast Highway
 Weather: Clear

File Name : NPB_Riverside_W Coast Hwy PM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM				05:00 PM				05:00 PM				04:30 PM			
+0 mins.	22	0	92	114	9	516	16	541	4	0	6	10	73	380	1	454
+15 mins.	24	1	106	131	6	512	13	531	2	1	5	8	70	396	0	466
+30 mins.	22	0	98	120	7	568	12	587	1	0	4	5	71	404	0	475
+45 mins.	19	1	95	115	8	623	10	641	1	2	2	5	64	386	1	451
Total Volume	87	2	391	480	30	2219	51	2300	8	3	17	28	278	1566	2	1846
% App. Total	18.1	0.4	81.5		1.3	96.5	2.2		28.6	10.7	60.7		15.1	84.8	0.1	
PHF	.906	.500	.922	.916	.833	.890	.797	.897	.500	.375	.708	.700	.952	.969	.500	.972

City of Newport Beach
 N/S: Tustin Avenue
 E/W: West Coast Highway
 Weather: Clear

File Name : NPB_Tustin_W Coast Hwy AM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 1

Groups Printed- Total Volume

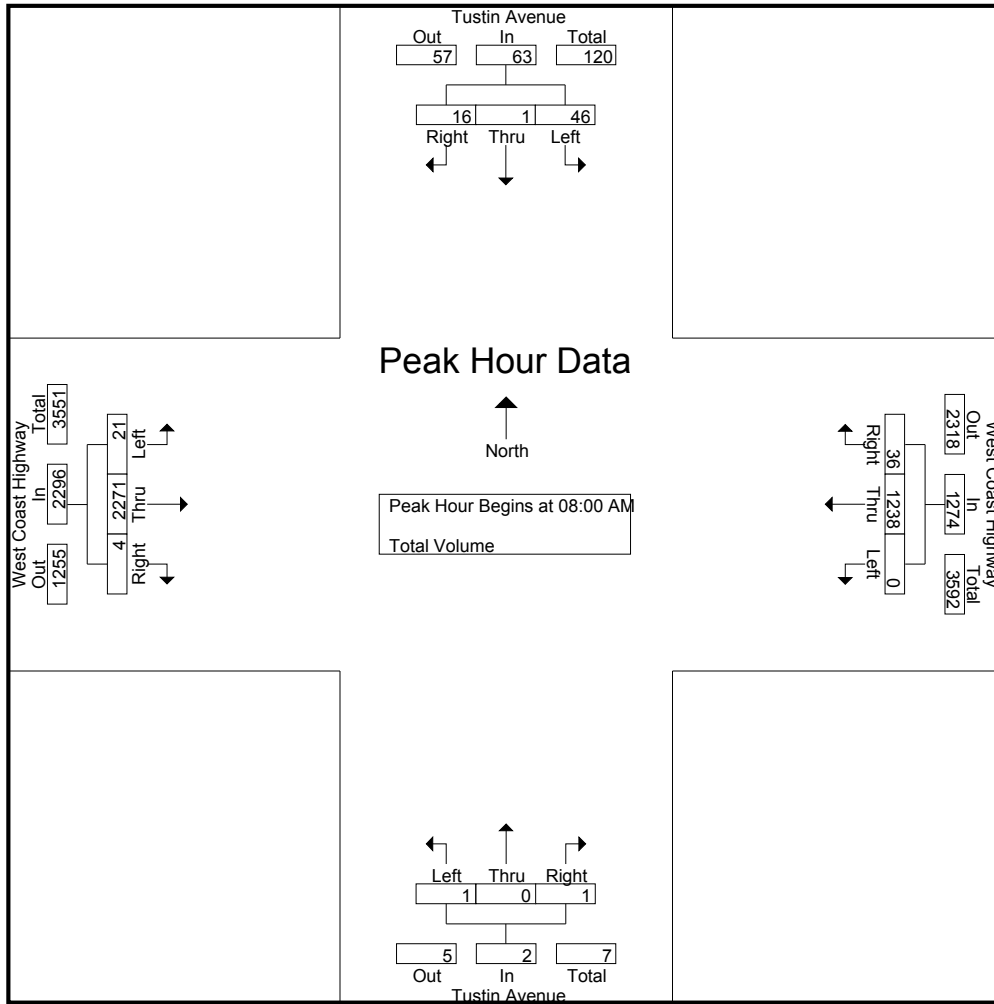
Start Time	Tustin Avenue Southbound				West Coast Highway Westbound				Tustin Avenue Northbound				West Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	2	1	2	5	0	180	6	186	0	0	0	0	4	336	0	340	531
07:15 AM	2	0	1	3	0	198	1	199	0	0	1	1	2	426	1	429	632
07:30 AM	5	0	4	9	0	282	5	287	0	0	0	0	2	518	0	520	816
07:45 AM	8	1	6	15	0	280	7	287	0	0	1	1	4	538	1	543	846
Total	17	2	13	32	0	940	19	959	0	0	2	2	12	1818	2	1832	2825
08:00 AM	7	0	7	14	0	307	6	313	0	0	0	0	1	562	1	564	891
08:15 AM	10	0	3	13	0	287	6	293	0	0	0	0	9	549	2	560	866
08:30 AM	7	0	4	11	0	305	13	318	0	0	1	1	7	580	1	588	918
08:45 AM	22	1	2	25	0	339	11	350	1	0	0	1	4	580	0	584	960
Total	46	1	16	63	0	1238	36	1274	1	0	1	2	21	2271	4	2296	3635
Grand Total	63	3	29	95	0	2178	55	2233	1	0	3	4	33	4089	6	4128	6460
Apprch %	66.3	3.2	30.5		0	97.5	2.5		25	0	75		0.8	99.1	0.1		
Total %	1	0	0.4	1.5	0	33.7	0.9	34.6	0	0	0	0.1	0.5	63.3	0.1	63.9	

Start Time	Tustin Avenue Southbound				West Coast Highway Westbound				Tustin Avenue Northbound				West Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	7	0	7	14	0	307	6	313	0	0	0	0	1	562	1	564	891
08:15 AM	10	0	3	13	0	287	6	293	0	0	0	0	9	549	2	560	866
08:30 AM	7	0	4	11	0	305	13	318	0	0	1	1	7	580	1	588	918
08:45 AM	22	1	2	25	0	339	11	350	1	0	0	1	4	580	0	584	960
Total Volume	46	1	16	63	0	1238	36	1274	1	0	1	2	21	2271	4	2296	3635
% App. Total	73	1.6	25.4		0	97.2	2.8		50	0	50		0.9	98.9	0.2		
PHF	.523	.250	.571	.630	.000	.913	.692	.910	.250	.000	.250	.500	.583	.979	.500	.976	.947

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 08:00 AM

City of Newport Beach
 N/S: Tustin Avenue
 E/W: West Coast Highway
 Weather: Clear

File Name : NPB_Tustin_W Coast Hwy AM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				07:00 AM				08:00 AM			
+0 mins.	7	0	7	14	0	307	6	313	0	0	0	0	1	562	1	564
+15 mins.	10	0	3	13	0	287	6	293	0	0	1	1	9	549	2	560
+30 mins.	7	0	4	11	0	305	13	318	0	0	0	0	7	580	1	588
+45 mins.	22	1	2	25	0	339	11	350	0	0	1	1	4	580	0	584
Total Volume	46	1	16	63	0	1238	36	1274	0	0	2	2	21	2271	4	2296
% App. Total	73	1.6	25.4		0	97.2	2.8		0	0	100		0.9	98.9	0.2	
PHF	.523	.250	.571	.630	.000	.913	.692	.910	.000	.000	.500	.500	.583	.979	.500	.976

City of Newport Beach
 N/S: Tustin Avenue
 E/W: West Coast Highway
 Weather: Clear

File Name : NPB_Tustin_W Coast Hwy PM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 1

Groups Printed- Total Volume

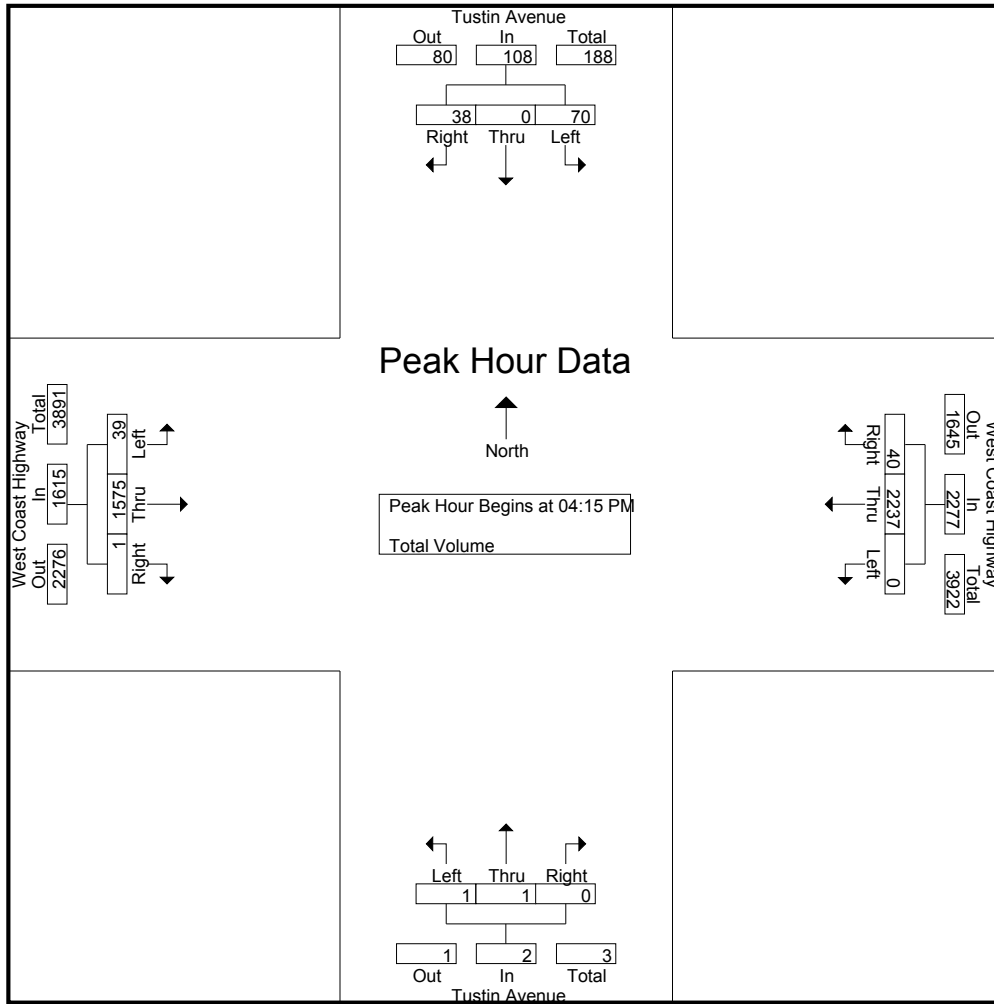
Start Time	Tustin Avenue Southbound				West Coast Highway Westbound				Tustin Avenue Northbound				West Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	18	1	12	31	0	520	2	522	0	0	0	0	9	369	0	378	931
04:15 PM	12	0	9	21	0	602	12	614	0	0	0	0	7	408	0	415	1050
04:30 PM	14	0	7	21	0	548	6	554	1	0	0	1	16	375	1	392	968
04:45 PM	21	0	10	31	0	558	16	574	0	0	0	0	7	398	0	405	1010
Total	65	1	38	104	0	2228	36	2264	1	0	0	1	39	1550	1	1590	3959
05:00 PM	23	0	12	35	0	529	6	535	0	1	0	1	9	394	0	403	974
05:15 PM	14	0	6	20	0	534	5	539	0	0	0	0	10	389	1	400	959
05:30 PM	12	0	7	19	0	575	6	581	1	0	0	1	7	364	1	372	973
05:45 PM	16	0	5	21	0	624	3	627	0	0	0	0	3	359	2	364	1012
Total	65	0	30	95	0	2262	20	2282	1	1	0	2	29	1506	4	1539	3918
Grand Total	130	1	68	199	0	4490	56	4546	2	1	0	3	68	3056	5	3129	7877
Apprch %	65.3	0.5	34.2		0	98.8	1.2		66.7	33.3	0		2.2	97.7	0.2		
Total %	1.7	0	0.9	2.5	0	57	0.7	57.7	0	0	0	0	0.9	38.8	0.1	39.7	

Start Time	Tustin Avenue Southbound				West Coast Highway Westbound				Tustin Avenue Northbound				West Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:15 PM	12	0	9	21	0	602	12	614	0	0	0	0	7	408	0	415	1050
04:30 PM	14	0	7	21	0	548	6	554	1	0	0	1	16	375	1	392	968
04:45 PM	21	0	10	31	0	558	16	574	0	0	0	0	7	398	0	405	1010
05:00 PM	23	0	12	35	0	529	6	535	0	1	0	1	9	394	0	403	974
Total Volume	70	0	38	108	0	2237	40	2277	1	1	0	2	39	1575	1	1615	4002
% App. Total	64.8	0	35.2		0	98.2	1.8		50	50	0		2.4	97.5	0.1		
PHF	.761	.000	.792	.771	.000	.929	.625	.927	.250	.250	.000	.500	.609	.965	.250	.973	.953

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:15 PM

City of Newport Beach
 N/S: Tustin Avenue
 E/W: West Coast Highway
 Weather: Clear

File Name : NPB_Tustin_W Coast Hwy PM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:15 PM				05:00 PM				04:15 PM				04:15 PM			
+0 mins.	12	0	9	21	0	529	6	535	0	0	0	0	7	408	0	415
+15 mins.	14	0	7	21	0	534	5	539	1	0	0	1	16	375	1	392
+30 mins.	21	0	10	31	0	575	6	581	0	0	0	0	7	398	0	405
+45 mins.	23	0	12	35	0	624	3	627	0	1	0	1	9	394	0	403
Total Volume	70	0	38	108	0	2262	20	2282	1	1	0	2	39	1575	1	1615
% App. Total	64.8	0	35.2		0	99.1	0.9		50	50	0		2.4	97.5	0.1	
PHF	.761	.000	.792	.771	.000	.906	.833	.910	.250	.250	.000	.500	.609	.965	.250	.973

ITM Peak Hour Summary

Prepared by:

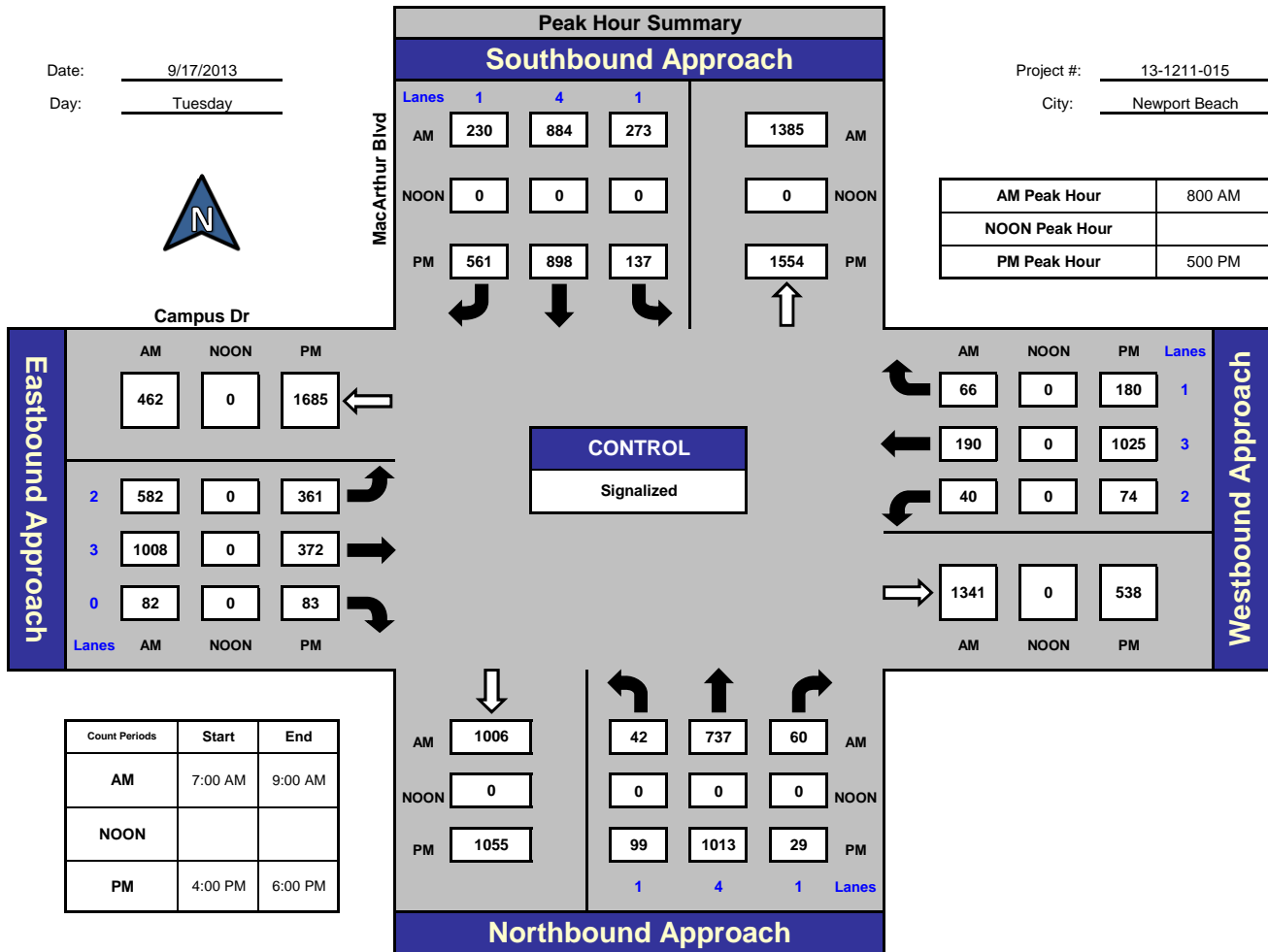


National Data & Surveying Services

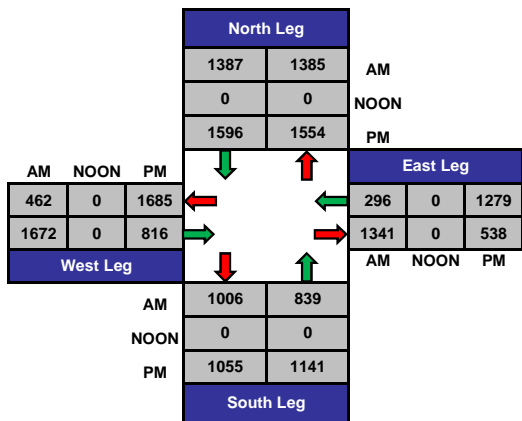
MacArthur Blvd and Campus Dr., Newport Beach

Date: 9/17/2013
Day: Tuesday

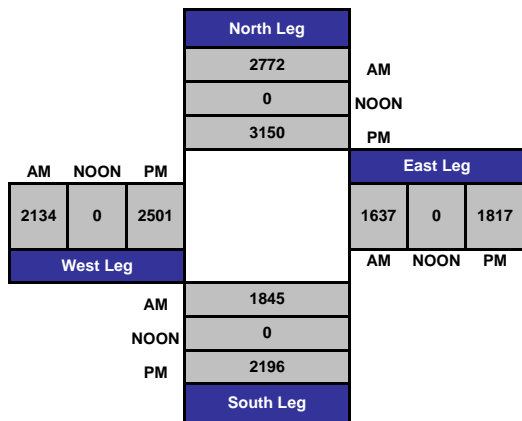
Project #: 13-1211-015
City: Newport Beach



Total Ins & Outs



Total Volume Per Leg



City: NEWPORT BEACH
 N-S Direction: MACARTHUR BOULEVARD
 E-W Direction: BIRCH STREET

File Name : h1302030
 Site Code : 00003874
 Start Date : 4/9/2013
 Page No : 1

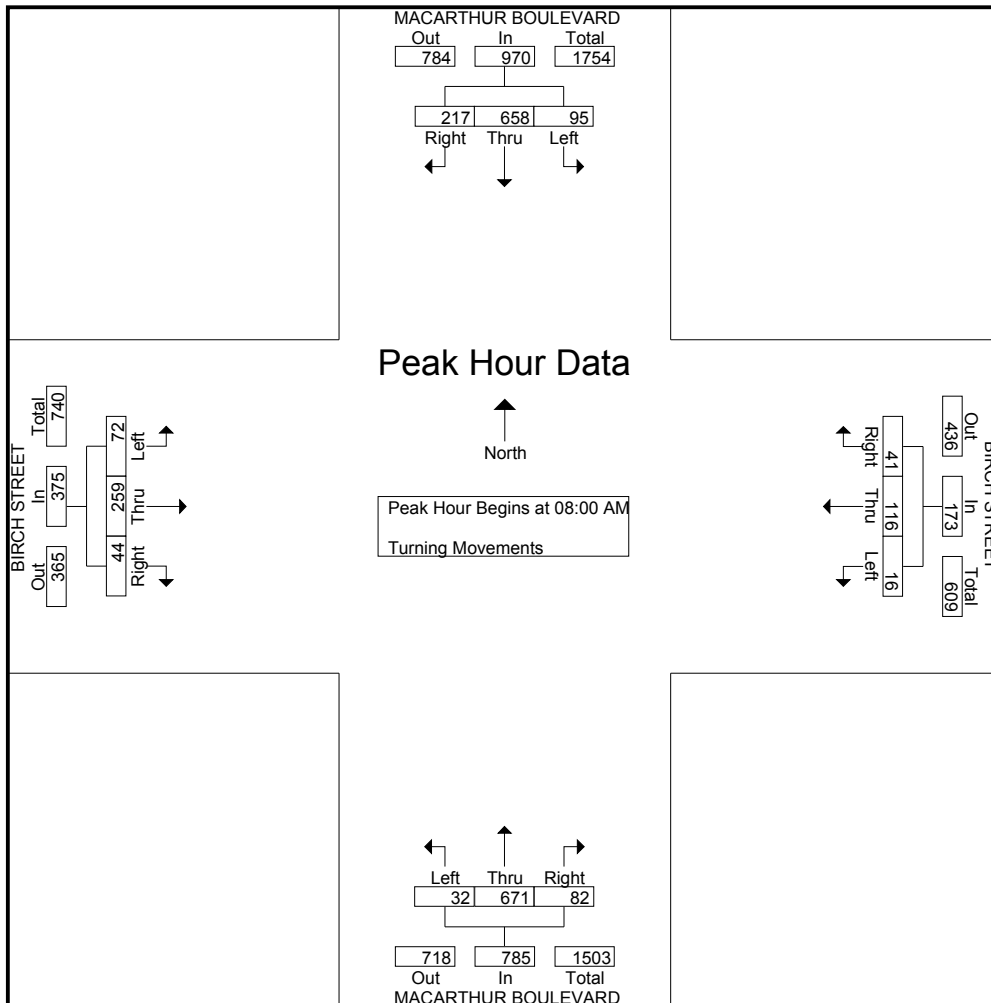
Groups Printed- Turning Movements

Start Time	MACARTHUR BOULEVARD Southbound			BIRCH STREET Westbound			MACARTHUR BOULEVARD Northbound			BIRCH STREET Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	27	90	14	7	7	2	5	77	5	8	25	13	280
07:15 AM	30	108	19	6	9	5	11	80	6	5	32	12	323
07:30 AM	25	134	26	11	8	6	14	96	5	6	32	21	384
07:45 AM	49	139	18	10	17	1	19	145	23	16	73	34	544
Total	131	471	77	34	41	14	49	398	39	35	162	80	1531
08:00 AM	50	165	24	9	19	9	16	158	8	10	75	13	556
08:15 AM	49	162	23	11	30	3	29	176	6	11	66	22	588
08:30 AM	61	174	23	10	34	2	24	165	5	10	67	19	594
08:45 AM	57	157	25	11	33	2	13	172	13	13	51	18	565
Total	217	658	95	41	116	16	82	671	32	44	259	72	2303
*** BREAK ***													
04:30 PM	44	158	12	26	53	18	10	176	19	18	49	60	643
04:45 PM	35	122	11	26	66	9	6	179	18	10	31	64	577
Total	79	280	23	52	119	27	16	355	37	28	80	124	1220
05:00 PM	50	261	10	25	65	27	8	147	15	9	45	48	710
05:15 PM	48	247	13	28	131	19	9	183	36	10	62	81	867
05:30 PM	37	234	15	39	86	25	5	160	40	9	62	58	770
05:45 PM	57	257	7	35	100	22	7	186	29	9	41	65	815
Total	192	999	45	127	382	93	29	676	120	37	210	252	3162
06:00 PM	49	152	10	35	90	27	4	131	28	9	61	105	701
06:15 PM	29	152	8	21	67	20	6	117	28	19	85	186	738
Grand Total	697	2712	258	310	815	197	186	2348	284	172	857	819	9655
Apprch %	19	74	7	23.4	61.6	14.9	6.6	83.3	10.1	9.3	46.4	44.3	
Total %	7.2	28.1	2.7	3.2	8.4	2	1.9	24.3	2.9	1.8	8.9	8.5	

City: NEWPORT BEACH
 N-S Direction: MACARTHUR BOULEVARD
 E-W Direction: BIRCH STREET

File Name : h1302030
 Site Code : 00003874
 Start Date : 4/9/2013
 Page No : 2

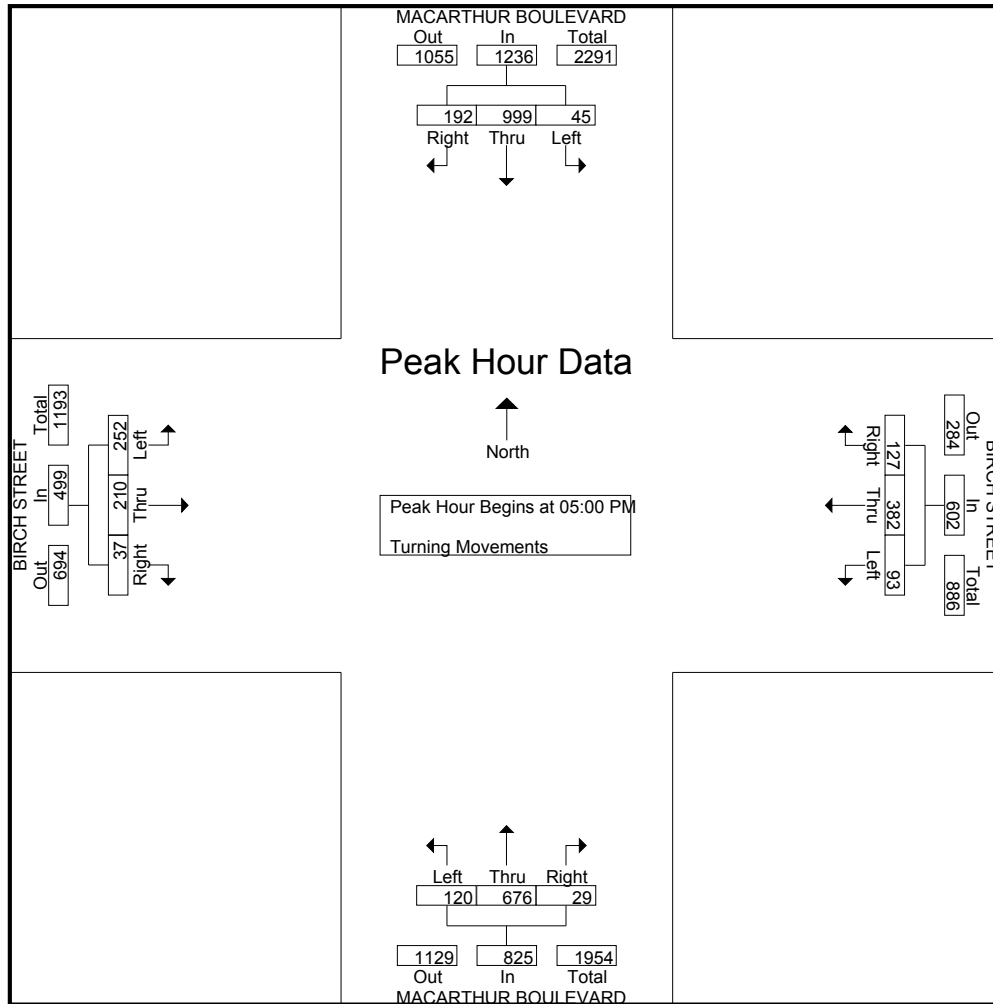
Start Time	MACARTHUR BOULEVARD Southbound				BIRCH STREET Westbound				MACARTHUR BOULEVARD Northbound				BIRCH STREET Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	50	165	24	239	9	19	9	37	16	158	8	182	10	75	13	98	556
08:15 AM	49	162	23	234	11	30	3	44	29	176	6	211	11	66	22	99	588
08:30 AM	61	174	23	258	10	34	2	46	24	165	5	194	10	67	19	96	594
08:45 AM	57	157	25	239	11	33	2	46	13	172	13	198	13	51	18	82	565
Total Volume	217	658	95	970	41	116	16	173	82	671	32	785	44	259	72	375	2303
% App. Total	22.4	67.8	9.8		23.7	67.1	9.2		10.4	85.5	4.1		11.7	69.1	19.2		
PHF	.889	.945	.950	.940	.932	.853	.444	.940	.707	.953	.615	.930	.846	.863	.818	.947	.969



City: NEWPORT BEACH
 N-S Direction: MACARTHUR BOULEVARD
 E-W Direction: BIRCH STREET

File Name : h1302030
 Site Code : 00003874
 Start Date : 4/9/2013
 Page No : 3

Start Time	MACARTHUR BOULEVARD Southbound				BIRCH STREET Westbound				MACARTHUR BOULEVARD Northbound				BIRCH STREET Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	50	261	10	321	25	65	27	117	8	147	15	170	9	45	48	102	710
05:15 PM	48	247	13	308	28	131	19	178	9	183	36	228	10	62	81	153	867
05:30 PM	37	234	15	286	39	86	25	150	5	160	40	205	9	62	58	129	770
05:45 PM	57	257	7	321	35	100	22	157	7	186	29	222	9	41	65	115	815
Total Volume	192	999	45	1236	127	382	93	602	29	676	120	825	37	210	252	499	3162
% App. Total	15.5	80.8	3.6		21.1	63.5	15.4		3.5	81.9	14.5		7.4	42.1	50.5		
PHF	.842	.957	.750	.963	.814	.729	.861	.846	.806	.909	.750	.905	.925	.847	.778	.815	.912



ITM Peak Hour Summary

Prepared by:

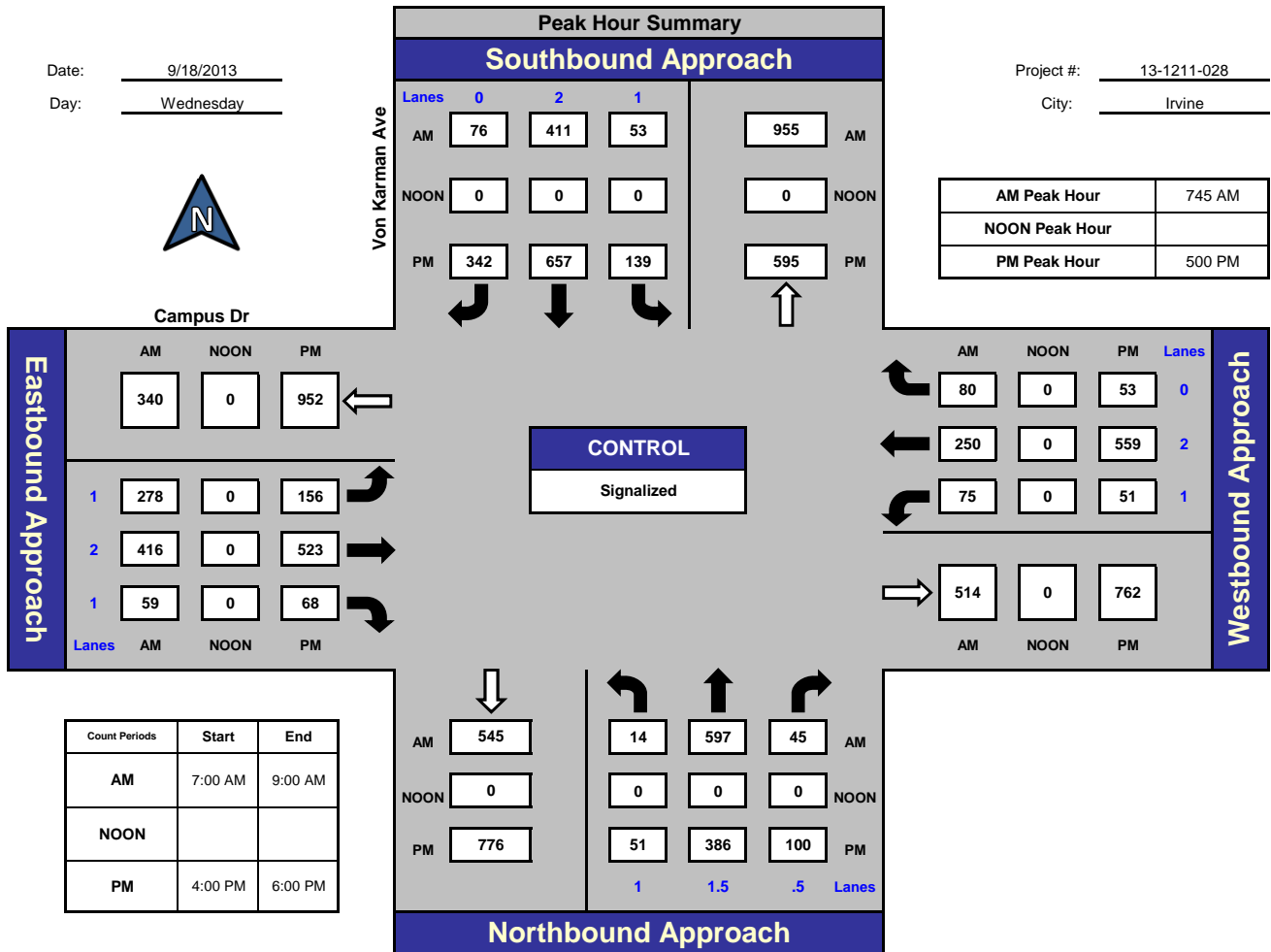


National Data & Surveying Services

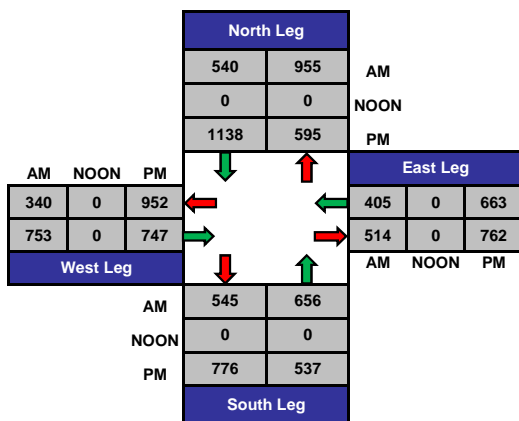
Von Karman Ave and Campus Dr., Irvine

Date: 9/18/2013
Day: Wednesday

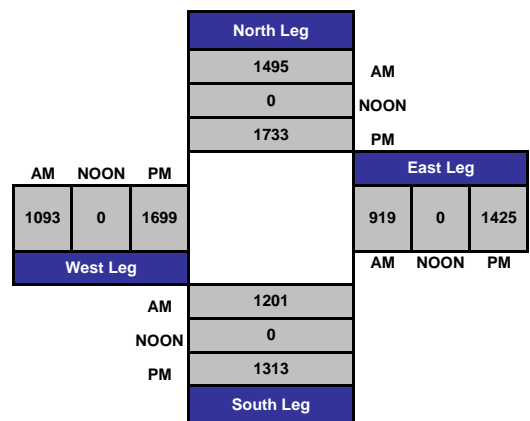
Project #: 13-1211-028
City: Irvine



Total Ins & Outs



Total Volume Per Leg



City: NEWPORT BEACH
 N-S Direction: MACARTHUR BOULEVARD
 E-W Direction: VON KARMAN AVENUE

File Name : H1302032
 Site Code : 00000557
 Start Date : 4/9/2013
 Page No : 1

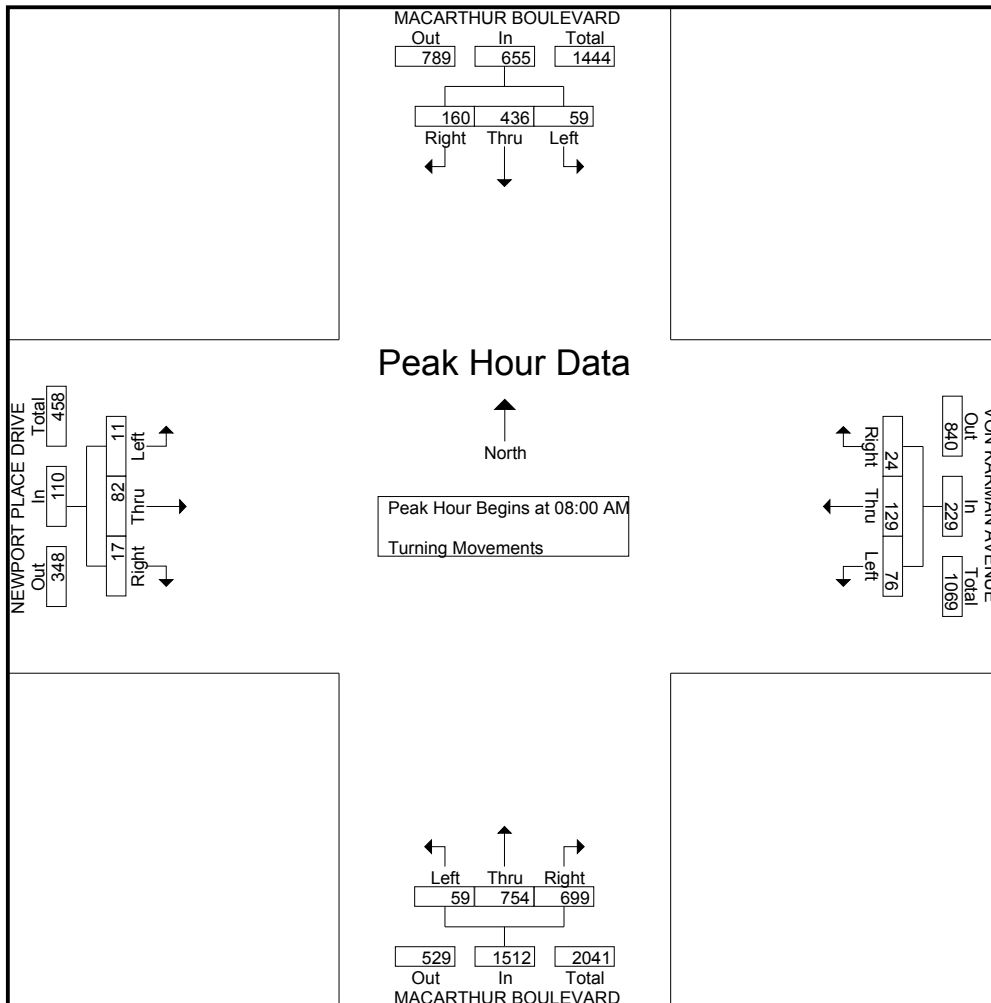
Groups Printed- Turning Movements

Start Time	MACARTHUR BOULEVARD Southbound			VON KARMAN AVENUE Westbound			MACARTHUR BOULEVARD Northbound			NEWPORT PLACE DRIVE Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	22	65	1	1	11	6	55	90	5	2	6	1	265
07:15 AM	21	80	6	3	12	12	57	102	5	1	7	3	309
07:30 AM	29	74	5	4	21	11	85	115	5	3	8	4	364
07:45 AM	33	106	12	0	21	18	132	196	12	3	10	7	550
Total	105	325	24	8	65	47	329	503	27	9	31	15	1488
08:00 AM	34	90	10	3	31	19	181	171	18	2	19	5	583
08:15 AM	44	122	19	7	34	18	187	205	14	6	21	3	680
08:30 AM	44	116	15	4	29	16	166	185	15	6	19	2	617
08:45 AM	38	108	15	10	35	23	165	193	12	3	23	1	626
Total	160	436	59	24	129	76	699	754	59	17	82	11	2506
*** BREAK ***													
04:30 PM	12	118	4	15	19	60	25	181	8	26	54	21	543
04:45 PM	19	142	5	17	27	89	23	190	6	40	37	15	610
Total	31	260	9	32	46	149	48	371	14	66	91	36	1153
05:00 PM	18	208	5	18	25	100	25	138	12	49	48	30	676
05:15 PM	22	278	3	33	22	170	31	165	5	36	57	26	848
05:30 PM	15	296	6	25	24	151	34	138	12	43	37	22	803
05:45 PM	8	298	13	22	26	170	25	137	11	44	32	23	809
Total	63	1080	27	98	97	591	115	578	40	172	174	101	3136
06:00 PM	9	216	11	26	25	158	22	118	7	41	24	15	672
06:15 PM	5	158	7	22	17	110	33	106	5	24	38	27	552
Grand Total	373	2475	137	210	379	1131	1246	2430	152	329	440	205	9507
Apprch %	12.5	82.9	4.6	12.2	22	65.8	32.5	63.5	4	33.8	45.2	21	
Total %	3.9	26	1.4	2.2	4	11.9	13.1	25.6	1.6	3.5	4.6	2.2	

City: NEWPORT BEACH
 N-S Direction: MACARTHUR BOULEVARD
 E-W Direction: VON KARMAN AVENUE

File Name : H1302032
 Site Code : 0000557
 Start Date : 4/9/2013
 Page No : 2

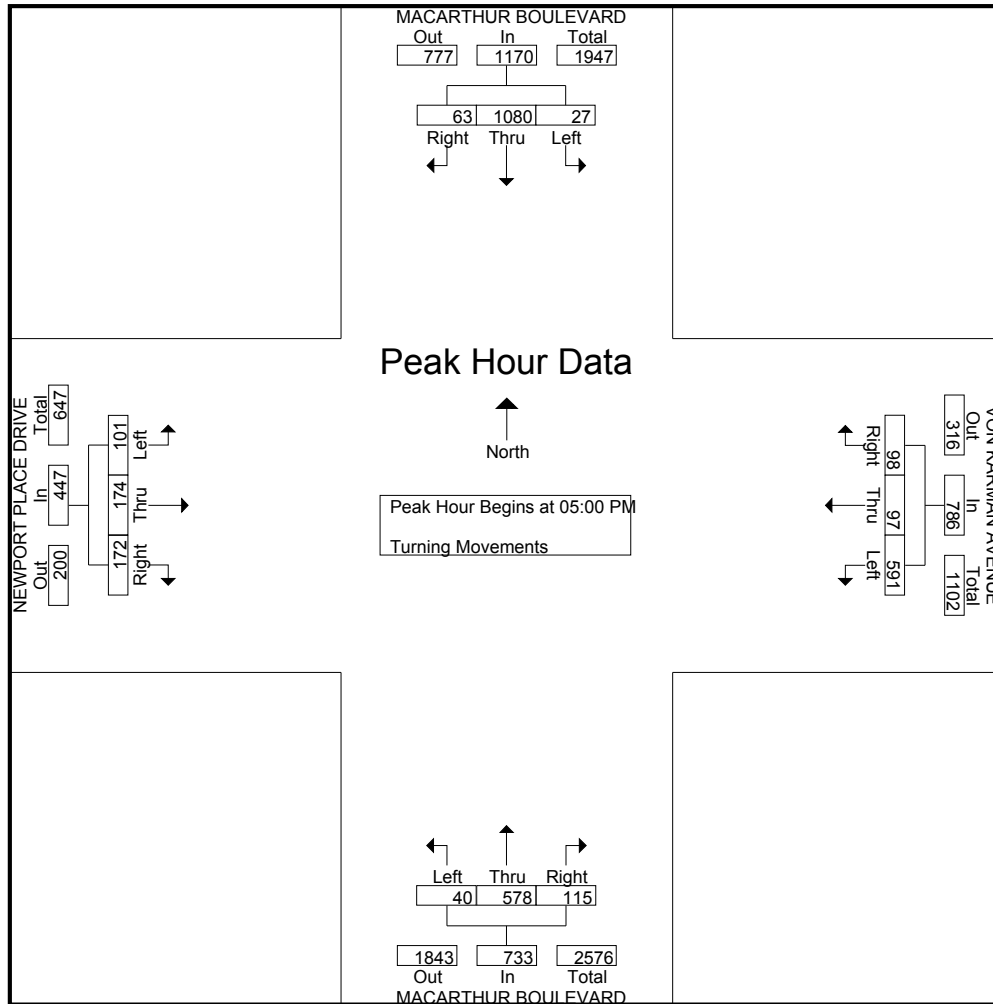
	MACARTHUR BOULEVARD Southbound				VON KARMAN AVENUE Westbound				MACARTHUR BOULEVARD Northbound				NEWPORT PLACE DRIVE Eastbound					
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 08:00 AM																		
08:00 AM	34	90	10	134	3	31	19	53	181	171	18	370	2	19	5	26	583	
08:15 AM	44	122	19	185	7	34	18	59	187	205	14	406	6	21	3	30	680	
08:30 AM	44	116	15	175	4	29	16	49	166	185	15	366	6	19	2	27	617	
08:45 AM	38	108	15	161	10	35	23	68	165	193	12	370	3	23	1	27	626	
Total Volume	160	436	59	655	24	129	76	229	699	754	59	1512	17	82	11	110	2506	
% App. Total	24.4	66.6	9		10.5	56.3	33.2		46.2	49.9	3.9		15.5	74.5	10			
PHF	.909	.893	.776	.885	.600	.921	.826	.842	.934	.920	.819	.931	.708	.891	.550	.917	.921	



City: NEWPORT BEACH
 N-S Direction: MACARTHUR BOULEVARD
 E-W Direction: VON KARMAN AVENUE

File Name : H1302032
 Site Code : 00000557
 Start Date : 4/9/2013
 Page No : 3

Start Time	MACARTHUR BOULEVARD Southbound				VON KARMAN AVENUE Westbound				MACARTHUR BOULEVARD Northbound				NEWPORT PLACE DRIVE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	18	208	5	231	18	25	100	143	25	138	12	175	49	48	30	127	676
05:15 PM	22	278	3	303	33	22	170	225	31	165	5	201	36	57	26	119	848
05:30 PM	15	296	6	317	25	24	151	200	34	138	12	184	43	37	22	102	803
05:45 PM	8	298	13	319	22	26	170	218	25	137	11	173	44	32	23	99	809
Total Volume	63	1080	27	1170	98	97	591	786	115	578	40	733	172	174	101	447	3136
% App. Total	5.4	92.3	2.3		12.5	12.3	75.2		15.7	78.9	5.5		38.5	38.9	22.6		
PHF	.716	.906	.519	.917	.742	.933	.869	.873	.846	.876	.833	.912	.878	.763	.842	.880	.925



ITM Peak Hour Summary

Prepared by:

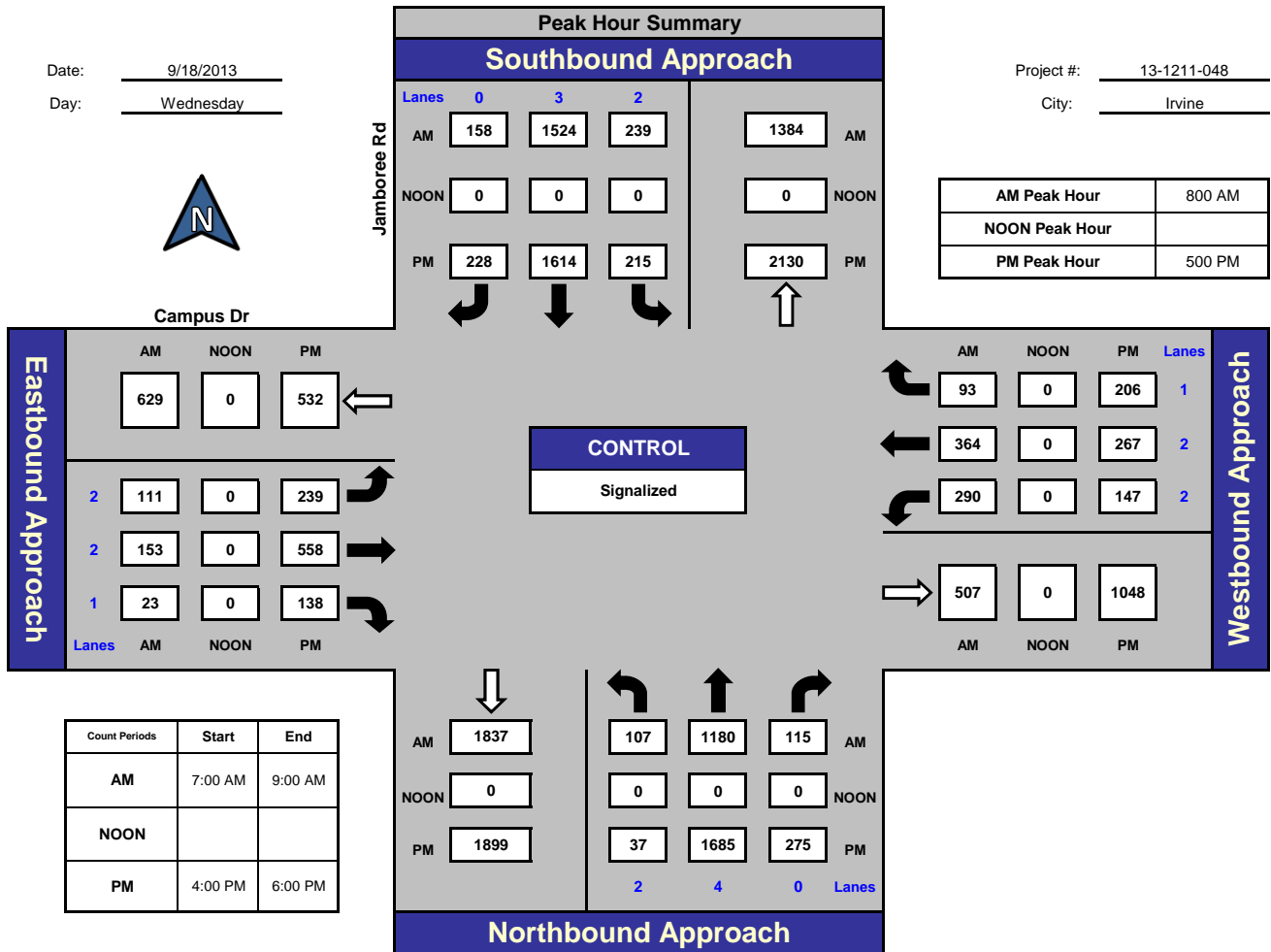


National Data & Surveying Services

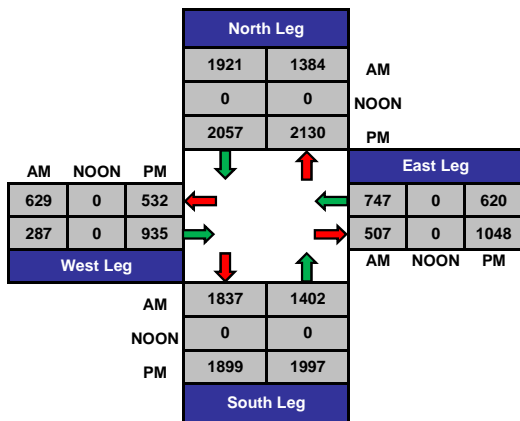
Jamboree Rd and Campus Dr, Irvine

Date: 9/18/2013
Day: Wednesday

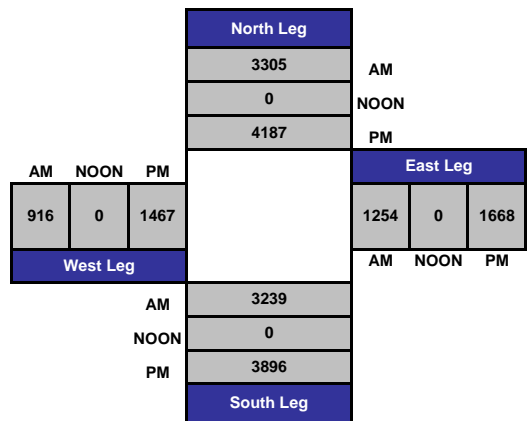
Project #: 13-1211-048
City: Irvine



Total Ins & Outs



Total Volume Per Leg



City: NEWPORT BEACH
 N-S Direction: JAMBOREE ROAD
 E-W Direction: BIRCH STREET

File Name : H1302024
 Site Code : 00003873
 Start Date : 3/14/2013
 Page No : 1

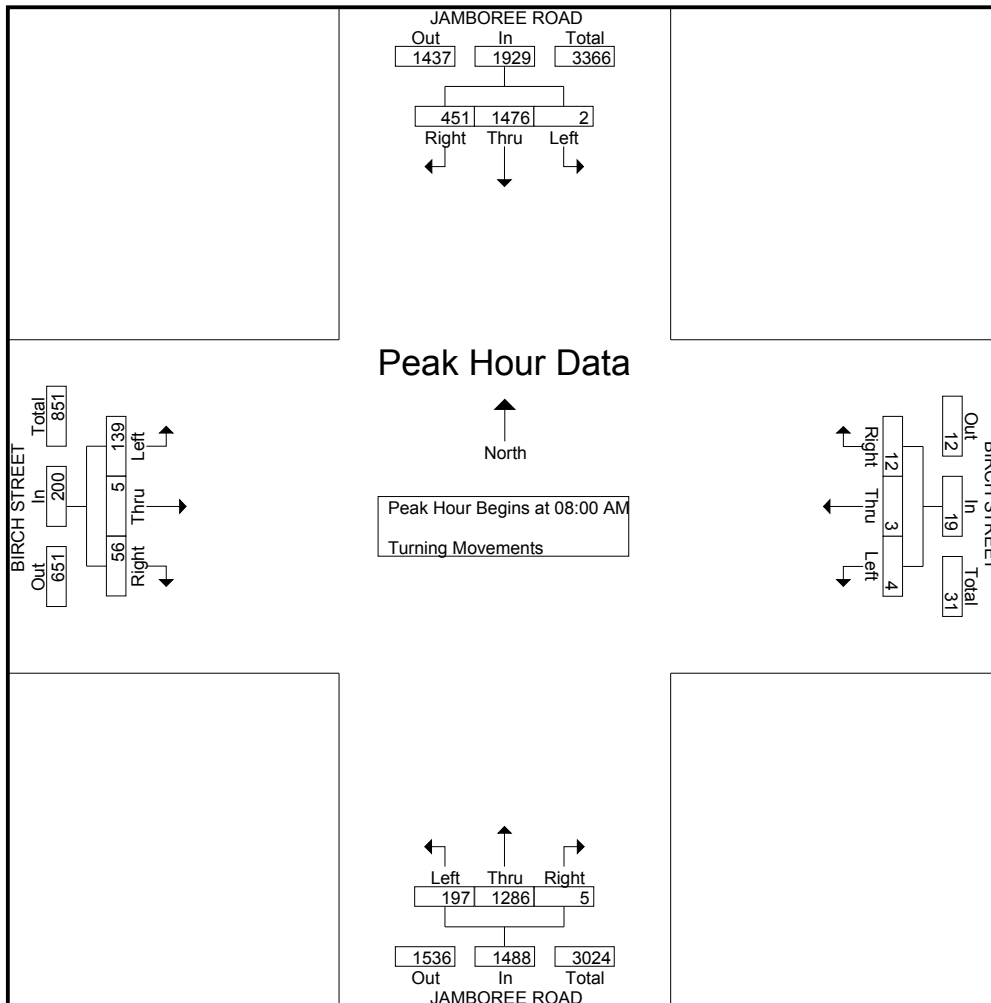
Groups Printed- Turning Movements

Start Time	JAMBOREE ROAD Southbound			BIRCH STREET Westbound			JAMBOREE ROAD Northbound			BIRCH STREET Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	46	194	1	2	0	1	2	110	11	8	0	14	389
07:15 AM	55	152	0	2	0	1	0	165	16	6	1	18	416
07:30 AM	83	156	0	3	0	0	0	206	15	6	0	16	485
07:45 AM	77	159	1	0	0	0	1	277	26	11	0	19	571
Total	261	661	2	7	0	2	3	758	68	31	1	67	1861
08:00 AM	91	360	1	3	1	1	1	302	37	10	2	23	832
08:15 AM	108	355	1	6	0	0	3	307	52	16	0	43	891
08:30 AM	156	366	0	2	0	1	1	363	45	10	1	37	982
08:45 AM	96	395	0	1	2	2	0	314	63	20	2	36	931
Total	451	1476	2	12	3	4	5	1286	197	56	5	139	3636
*** BREAK ***													
04:30 PM	27	296	0	0	0	0	0	280	7	33	0	51	694
04:45 PM	30	373	0	0	0	0	0	363	8	19	0	52	845
Total	57	669	0	0	0	0	0	643	15	52	0	103	1539
05:00 PM	17	381	0	0	0	0	0	366	9	24	0	60	857
05:15 PM	33	468	0	0	0	0	0	406	4	27	0	62	1000
05:30 PM	15	442	0	0	0	0	0	362	9	38	0	55	921
05:45 PM	18	425	0	0	0	0	0	395	7	34	0	82	961
Total	83	1716	0	0	0	0	0	1529	29	123	0	259	3739
06:00 PM	16	561	0	0	0	0	0	366	13	25	0	52	1033
06:15 PM	26	464	0	0	0	0	0	323	7	27	0	58	905
Grand Total	894	5547	4	19	3	6	8	4905	329	314	6	678	12713
Apprch %	13.9	86.1	0.1	67.9	10.7	21.4	0.2	93.6	6.3	31.5	0.6	67.9	
Total %	7	43.6	0	0.1	0	0	0.1	38.6	2.6	2.5	0	5.3	

City: NEWPORT BEACH
 N-S Direction: JAMBOREE ROAD
 E-W Direction: BIRCH STREET

File Name : H1302024
 Site Code : 00003873
 Start Date : 3/14/2013
 Page No : 2

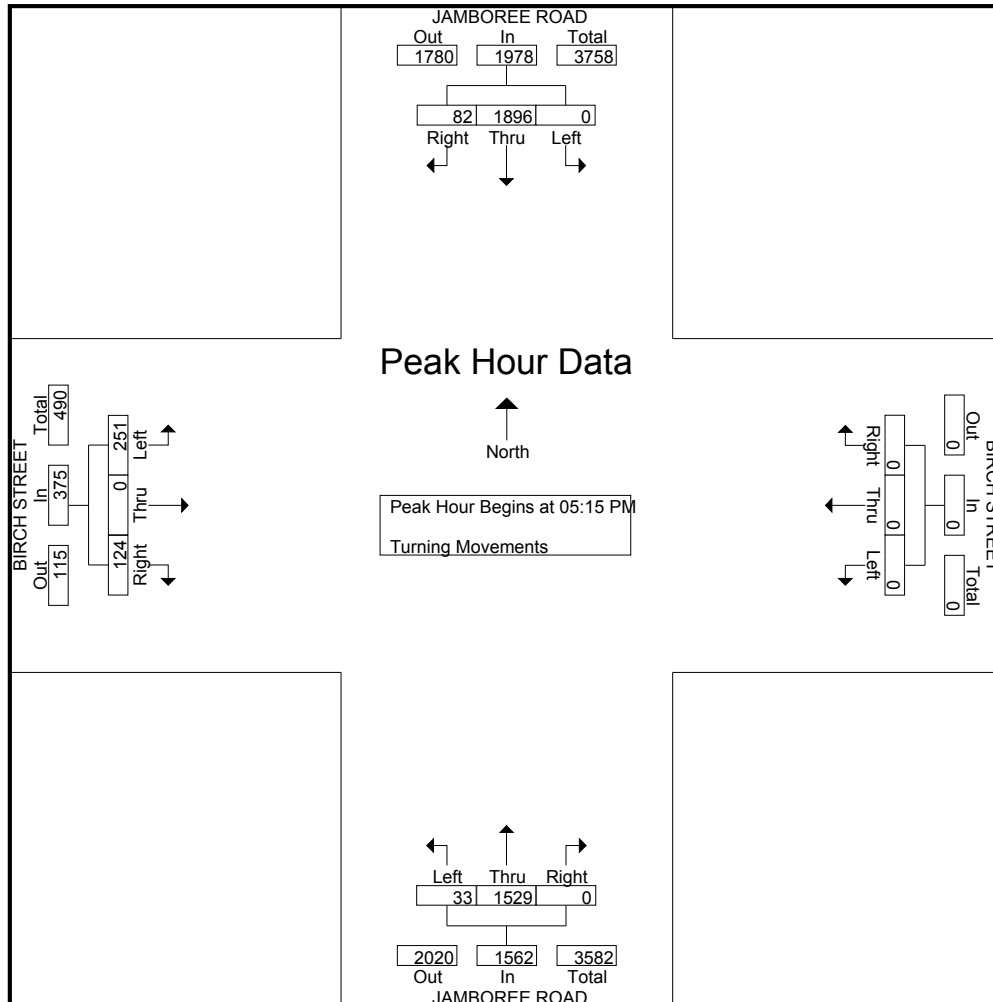
Start Time	JAMBOREE ROAD Southbound				BIRCH STREET Westbound				JAMBOREE ROAD Northbound				BIRCH STREET Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	91	360	1	452	3	1	1	5	1	302	37	340	10	2	23	35	832
08:15 AM	108	355	1	464	6	0	0	6	3	307	52	362	16	0	43	59	891
08:30 AM	156	366	0	522	2	0	1	3	1	363	45	409	10	1	37	48	982
08:45 AM	96	395	0	491	1	2	2	5	0	314	63	377	20	2	36	58	931
Total Volume	451	1476	2	1929	12	3	4	19	5	1286	197	1488	56	5	139	200	3636
% App. Total	23.4	76.5	0.1		63.2	15.8	21.1		0.3	86.4	13.2		28	2.5	69.5		
PHF	.723	.934	.500	.924	.500	.375	.500	.792	.417	.886	.782	.910	.700	.625	.808	.847	.926



City: NEWPORT BEACH
 N-S Direction: JAMBOREE ROAD
 E-W Direction: BIRCH STREET

File Name : H1302024
 Site Code : 00003873
 Start Date : 3/14/2013
 Page No : 3

Start Time	JAMBOREE ROAD Southbound				BIRCH STREET Westbound				JAMBOREE ROAD Northbound				BIRCH STREET Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	33	468	0	501	0	0	0	0	0	406	4	410	27	0	62	89	1000
05:30 PM	15	442	0	457	0	0	0	0	0	362	9	371	38	0	55	93	921
05:45 PM	18	425	0	443	0	0	0	0	0	395	7	402	34	0	82	116	961
06:00 PM	16	561	0	577	0	0	0	0	0	366	13	379	25	0	52	77	1033
Total Volume	82	1896	0	1978	0	0	0	0	0	1529	33	1562	124	0	251	375	3915
% App. Total	4.1	95.9	0		0	0	0		0	97.9	2.1		33.1	0	66.9		
PHF	.621	.845	.000	.857	.000	.000	.000	.000	.000	.942	.635	.952	.816	.000	.765	.808	.947



City: NEWPORT BEACH
 N-S Direction: CAMPUS DRIVE
 E-W Direction: BRISTOL ST - NORTH

File Name : h1302012
 Site Code : 00005694
 Start Date : 3/5/2013
 Page No : 1

Groups Printed- Turning Movements

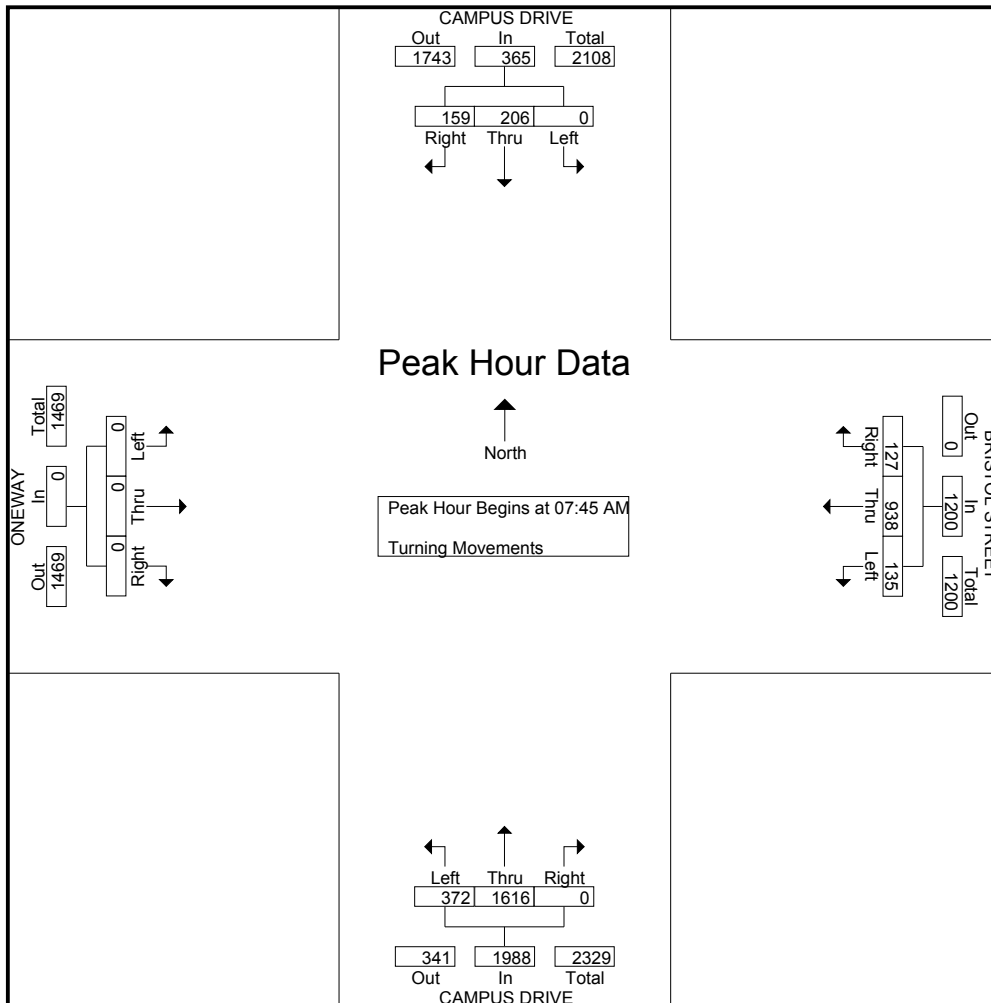
Start Time	CAMPUS DRIVE Southbound			BRISTOL STREET Westbound			CAMPUS DRIVE Northbound			ONEWAY Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	26	35	0	23	96	19	0	197	54	0	0	0	450
07:15 AM	34	30	0	16	113	23	0	218	77	0	0	0	511
07:30 AM	21	41	0	17	154	25	0	285	102	0	0	0	645
07:45 AM	41	52	0	21	231	33	0	380	103	0	0	0	861
Total	122	158	0	77	594	100	0	1080	336	0	0	0	2467
08:00 AM	35	48	0	32	239	31	0	426	92	0	0	0	903
08:15 AM	50	54	0	34	241	38	0	382	82	0	0	0	881
08:30 AM	33	52	0	40	227	33	0	428	95	0	0	0	908
08:45 AM	37	70	0	34	182	34	0	398	90	0	0	0	845
Total	155	224	0	140	889	136	0	1634	359	0	0	0	3537
*** BREAK ***													
04:30 PM	179	138	0	30	381	37	0	156	142	0	0	0	1063
04:45 PM	213	137	0	19	484	57	0	159	121	0	0	0	1190
Total	392	275	0	49	865	94	0	315	263	0	0	0	2253
05:00 PM	194	208	0	23	471	44	0	176	125	0	0	0	1241
05:15 PM	230	248	0	13	536	62	0	172	125	0	0	0	1386
05:30 PM	231	241	0	13	525	56	0	167	93	0	0	0	1326
05:45 PM	208	237	0	8	482	70	0	179	109	0	0	0	1293
Total	863	934	0	57	2014	232	0	694	452	0	0	0	5246
06:00 PM	190	199	0	15	402	77	0	155	117	0	0	0	1155
06:15 PM	152	200	0	13	384	61	0	130	101	0	0	0	1041
Grand Total	1874	1990	0	351	5148	700	0	4008	1628	0	0	0	15699
Apprch %	48.5	51.5	0	5.7	83	11.3	0	71.1	28.9	0	0	0	
Total %	11.9	12.7	0	2.2	32.8	4.5	0	25.5	10.4	0	0	0	

City: NEWPORT BEACH
 N-S Direction: CAMPUS DRIVE
 E-W Direction: BRISTOL ST - NORTH

File Name : h1302012
 Site Code : 00005694
 Start Date : 3/5/2013
 Page No : 2

Start Time	CAMPUS DRIVE Southbound				BRISTOL STREET Westbound				CAMPUS DRIVE Northbound				ONEWAY Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
07:45 AM	41	52	0	93	21	231	33	285	0	380	103	483	0	0	0	0	861
08:00 AM	35	48	0	83	32	239	31	302	0	426	92	518	0	0	0	0	903
08:15 AM	50	54	0	104	34	241	38	313	0	382	82	464	0	0	0	0	881
08:30 AM	33	52	0	85	40	227	33	300	0	428	95	523	0	0	0	0	908
Total Volume	159	206	0	365	127	938	135	1200	0	1616	372	1988	0	0	0	0	3553
% App. Total	43.6	56.4	0		10.6	78.2	11.2		0	81.3	18.7		0	0	0		
PHF	.795	.954	.000	.877	.794	.973	.888	.958	.000	.944	.903	.950	.000	.000	.000	.000	.978

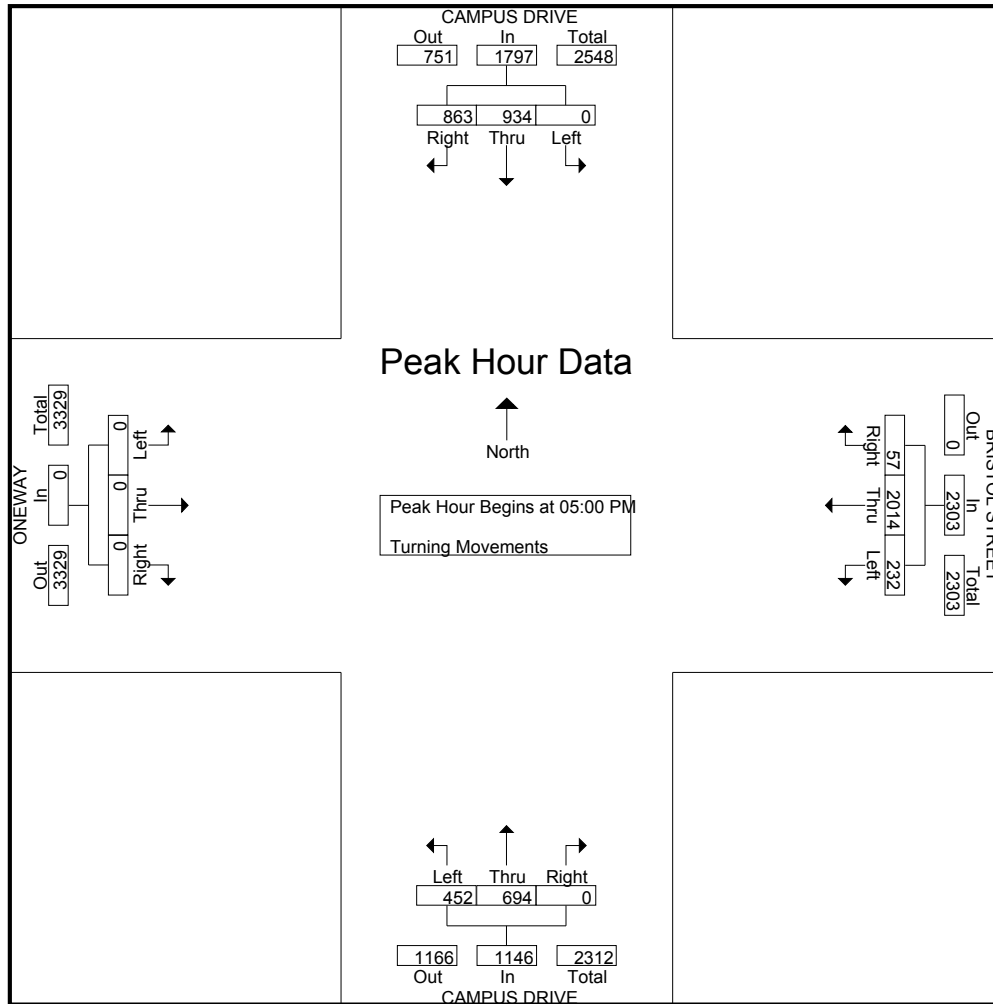
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:45 AM



City: NEWPORT BEACH
 N-S Direction: CAMPUS DRIVE
 E-W Direction: BRISTOL ST - NORTH

File Name : h1302012
 Site Code : 00005694
 Start Date : 3/5/2013
 Page No : 3

Start Time	CAMPUS DRIVE Southbound				BRISTOL STREET Westbound				CAMPUS DRIVE Northbound				ONEWAY Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	194	208	0	402	23	471	44	538	0	176	125	301	0	0	0	0	1241
05:15 PM	230	248	0	478	13	536	62	611	0	172	125	297	0	0	0	0	1386
05:30 PM	231	241	0	472	13	525	56	594	0	167	93	260	0	0	0	0	1326
05:45 PM	208	237	0	445	8	482	70	560	0	179	109	288	0	0	0	0	1293
Total Volume	863	934	0	1797	57	2014	232	2303	0	694	452	1146	0	0	0	0	5246
% App. Total	48	52	0		2.5	87.5	10.1		0	60.6	39.4		0	0	0		
PHF	.934	.942	.000	.940	.620	.939	.829	.942	.000	.969	.904	.952	.000	.000	.000	.000	.946



City: NEWPORT BEACH
 N-S Direction: BIRCH STREET-NORTH
 E-W Direction: BRISTOL STREET

File Name : H1302009
 Site Code : 00000553
 Start Date : 3/5/2013
 Page No : 1

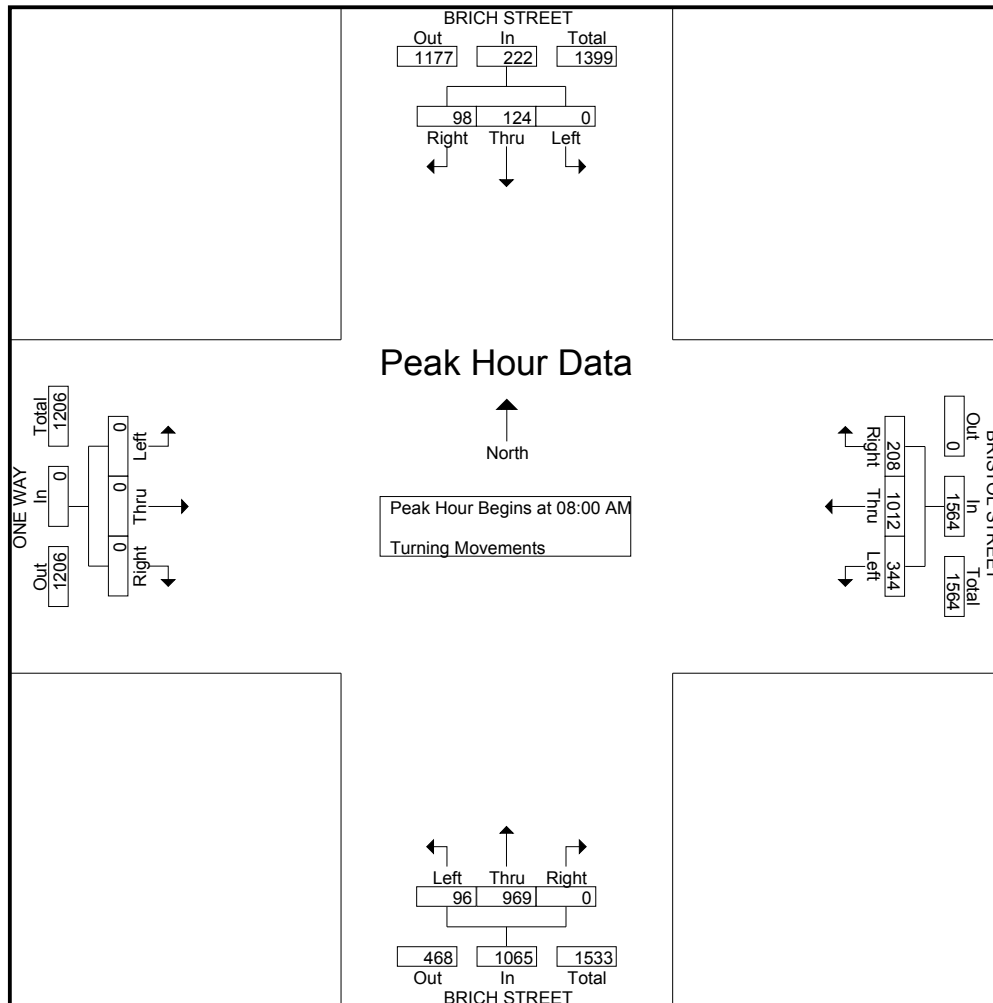
Groups Printed- Turning Movements

Start Time	BRICH STREET Southbound			BRISTOL STREET Westbound			BRICH STREET Northbound			ONE WAY Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	14	14	0	20	97	24	0	133	12	0	0	0	314
07:15 AM	11	14	0	19	137	34	0	132	18	0	0	0	365
07:30 AM	7	10	0	31	157	58	0	159	19	0	0	0	441
07:45 AM	11	18	0	35	268	73	0	174	18	0	0	0	597
Total	43	56	0	105	659	189	0	598	67	0	0	0	1717
08:00 AM	15	24	0	54	277	83	0	257	30	0	0	0	740
08:15 AM	19	24	0	43	260	80	0	234	21	0	0	0	681
08:30 AM	31	42	0	60	239	94	0	281	28	0	0	0	775
08:45 AM	33	34	0	51	236	87	0	197	17	0	0	0	655
Total	98	124	0	208	1012	344	0	969	96	0	0	0	2851
*** BREAK ***													
04:30 PM	116	65	0	19	308	86	0	80	35	0	0	0	709
04:45 PM	155	65	0	16	348	87	0	84	41	0	0	0	796
Total	271	130	0	35	656	173	0	164	76	0	0	0	1505
05:00 PM	173	100	0	30	308	72	0	63	30	0	0	0	776
05:15 PM	249	134	0	25	368	107	0	65	32	0	0	0	980
05:30 PM	164	118	0	34	397	126	0	75	38	0	0	0	952
05:45 PM	195	110	0	36	384	113	0	67	37	0	0	0	942
Total	781	462	0	125	1457	418	0	270	137	0	0	0	3650
06:00 PM	127	129	0	22	356	116	0	95	22	0	0	0	867
06:15 PM	141	121	0	17	320	76	0	77	28	0	0	0	780
Grand Total	1461	1022	0	512	4460	1316	0	2173	426	0	0	0	11370
Apprch %	58.8	41.2	0	8.1	70.9	20.9	0	83.6	16.4	0	0	0	
Total %	12.8	9	0	4.5	39.2	11.6	0	19.1	3.7	0	0	0	

City: NEWPORT BEACH
 N-S Direction: BIRCH STREET-NORTH
 E-W Direction: BRISTOL STREET

File Name : H1302009
 Site Code : 0000553
 Start Date : 3/5/2013
 Page No : 2

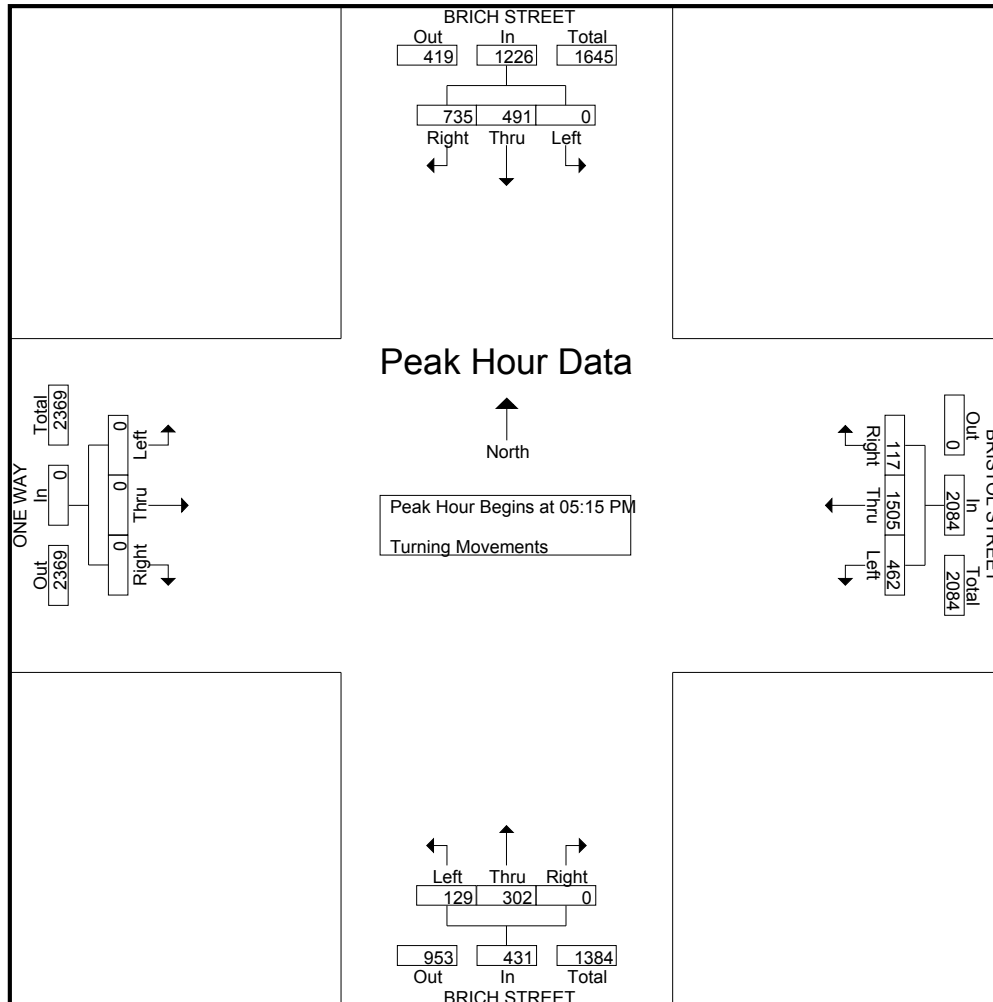
Start Time	BRICH STREET Southbound				BRISTOL STREET Westbound				BRICH STREET Northbound				ONE WAY Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	15	24	0	39	54	277	83	414	0	257	30	287	0	0	0	0	740
08:15 AM	19	24	0	43	43	260	80	383	0	234	21	255	0	0	0	0	681
08:30 AM	31	42	0	73	60	239	94	393	0	281	28	309	0	0	0	0	775
08:45 AM	33	34	0	67	51	236	87	374	0	197	17	214	0	0	0	0	655
Total Volume	98	124	0	222	208	1012	344	1564	0	969	96	1065	0	0	0	0	2851
% App. Total	44.1	55.9	0		13.3	64.7	22		0	91	9		0	0	0		
PHF	.742	.738	.000	.760	.867	.913	.915	.944	.000	.862	.800	.862	.000	.000	.000	.000	.920



City: NEWPORT BEACH
 N-S Direction: BIRCH STREET-NORTH
 E-W Direction: BRISTOL STREET

File Name : H1302009
 Site Code : 0000553
 Start Date : 3/5/2013
 Page No : 3

Start Time	BRICH STREET Southbound				BRISTOL STREET Westbound				BRICH STREET Northbound				ONE WAY Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	249	134	0	383	25	368	107	500	0	65	32	97	0	0	0	0	980
05:30 PM	164	118	0	282	34	397	126	557	0	75	38	113	0	0	0	0	952
05:45 PM	195	110	0	305	36	384	113	533	0	67	37	104	0	0	0	0	942
06:00 PM	127	129	0	256	22	356	116	494	0	95	22	117	0	0	0	0	867
Total Volume	735	491	0	1226	117	1505	462	2084	0	302	129	431	0	0	0	0	3741
% App. Total	60	40	0		5.6	72.2	22.2		0	70.1	29.9		0	0	0		
PHF	.738	.916	.000	.800	.813	.948	.917	.935	.000	.795	.849	.921	.000	.000	.000	.000	.954



City: NEWPORT BEACH
 N-S Direction: CAMPUS DRIVE
 E-W Direction: BRISTOL STREET - SOUTH

File Name : h1302011
 Site Code : 00000559
 Start Date : 3/5/2013
 Page No : 1

Groups Printed- Turning Movements

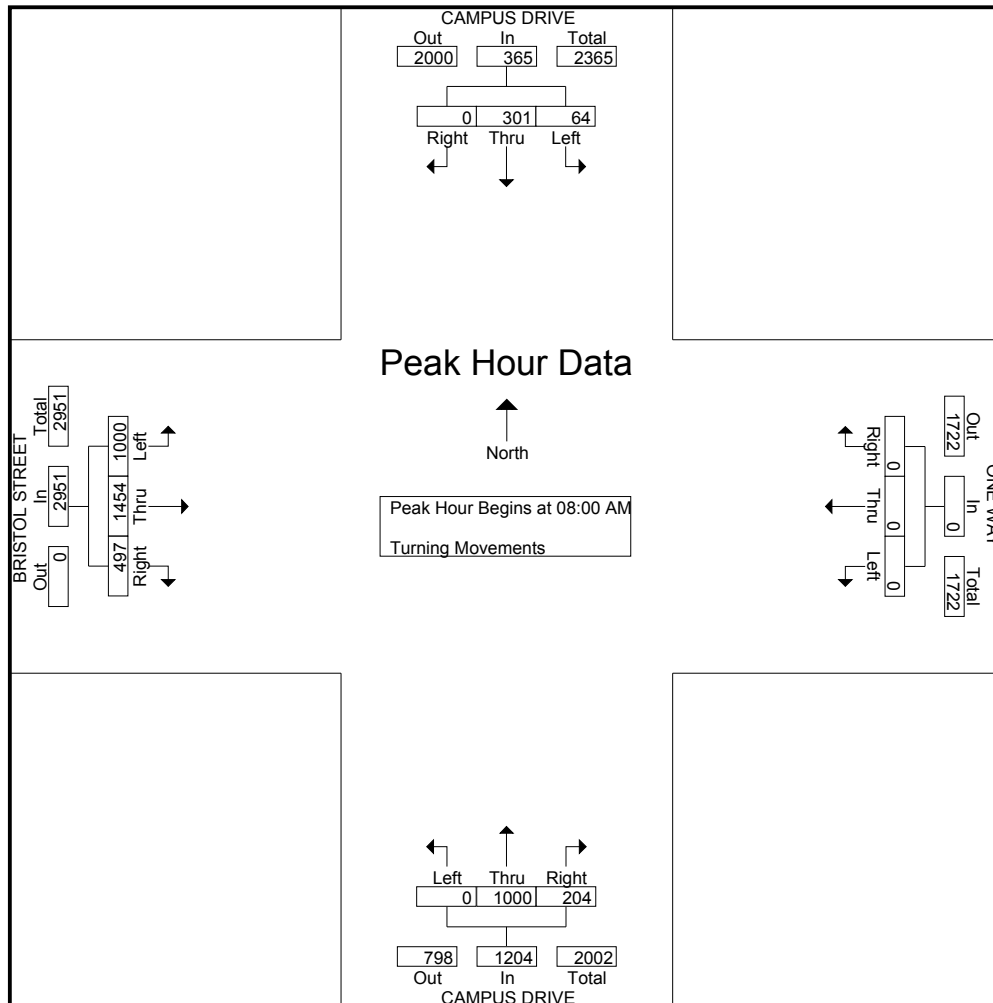
Start Time	CAMPUS DRIVE Southbound			ONE WAY Westbound			CAMPUS DRIVE Northbound			BRISTOL STREET Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	0	43	9	0	0	0	25	101	0	96	246	136	656
07:15 AM	0	37	17	0	0	0	20	133	0	73	208	125	613
07:30 AM	0	49	15	0	0	0	47	218	0	83	273	197	882
07:45 AM	0	68	17	0	0	0	39	219	0	110	312	286	1051
Total	0	197	58	0	0	0	131	671	0	362	1039	744	3202
08:00 AM	0	61	16	0	0	0	39	248	0	124	400	281	1169
08:15 AM	0	83	20	0	0	0	55	224	0	115	368	229	1094
08:30 AM	0	64	11	0	0	0	60	269	0	154	360	239	1157
08:45 AM	0	93	17	0	0	0	50	259	0	104	326	251	1100
Total	0	301	64	0	0	0	204	1000	0	497	1454	1000	4520
*** BREAK ***													
04:30 PM	0	126	43	0	0	0	47	164	0	134	226	122	862
04:45 PM	0	160	41	0	0	0	45	166	0	131	214	125	882
Total	0	286	84	0	0	0	92	330	0	265	440	247	1744
05:00 PM	0	195	55	0	0	0	50	174	0	118	219	112	923
05:15 PM	0	253	51	0	0	0	64	180	0	168	219	123	1058
05:30 PM	0	263	41	0	0	0	53	167	0	125	207	110	966
05:45 PM	0	273	36	0	0	0	50	178	0	137	211	121	1006
Total	0	984	183	0	0	0	217	699	0	548	856	466	3953
06:00 PM	0	236	47	0	0	0	58	180	0	118	208	83	930
06:15 PM	0	195	61	0	0	0	41	155	0	136	151	83	822
Grand Total	0	2199	497	0	0	0	743	3035	0	1926	4148	2623	15171
Apprch %	0	81.6	18.4	0	0	0	19.7	80.3	0	22.1	47.7	30.2	
Total %	0	14.5	3.3	0	0	0	4.9	20	0	12.7	27.3	17.3	

City: NEWPORT BEACH
 N-S Direction: CAMPUS DRIVE
 E-W Direction: BRISTOL STREET - SOUTH

File Name : h1302011
 Site Code : 00000559
 Start Date : 3/5/2013
 Page No : 2

Start Time	CAMPUS DRIVE Southbound				ONE WAY Westbound				CAMPUS DRIVE Northbound				BRISTOL STREET Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
08:00 AM	0	61	16	77	0	0	0	0	39	248	0	287	124	400	281	805	1169
08:15 AM	0	83	20	103	0	0	0	0	55	224	0	279	115	368	229	712	1094
08:30 AM	0	64	11	75	0	0	0	0	60	269	0	329	154	360	239	753	1157
08:45 AM	0	93	17	110	0	0	0	0	50	259	0	309	104	326	251	681	1100
Total Volume	0	301	64	365	0	0	0	0	204	1000	0	1204	497	1454	1000	2951	4520
% App. Total	0	82.5	17.5		0	0	0		16.9	83.1	0		16.8	49.3	33.9		
PHF	.000	.809	.800	.830	.000	.000	.000	.000	.850	.929	.000	.915	.807	.909	.890	.916	.967

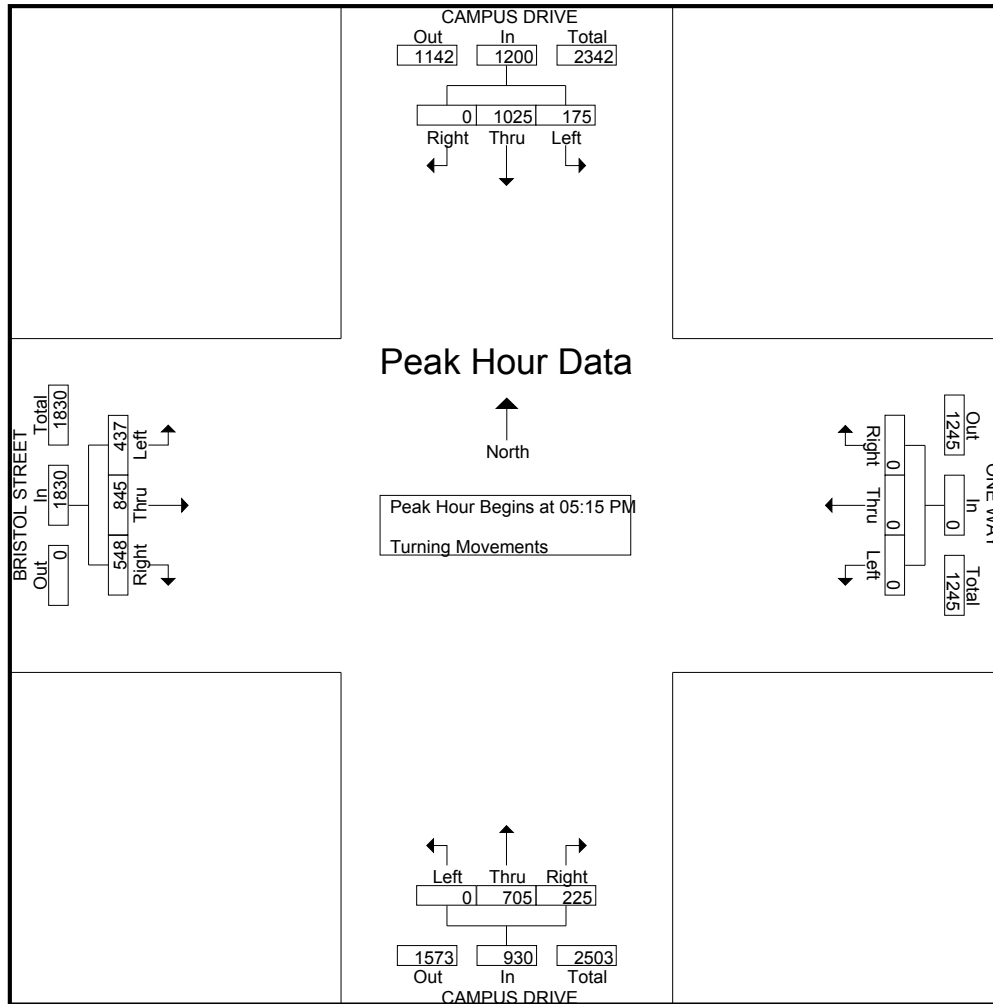
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 08:00 AM



City: NEWPORT BEACH
 N-S Direction: CAMPUS DRIVE
 E-W Direction: BRISTOL STREET - SOUTH

File Name : h1302011
 Site Code : 00000559
 Start Date : 3/5/2013
 Page No : 3

Start Time	CAMPUS DRIVE Southbound				ONE WAY Westbound				CAMPUS DRIVE Northbound				BRISTOL STREET Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	0	253	51	304	0	0	0	0	64	180	0	244	168	219	123	510	1058
05:30 PM	0	263	41	304	0	0	0	0	53	167	0	220	125	207	110	442	966
05:45 PM	0	273	36	309	0	0	0	0	50	178	0	228	137	211	121	469	1006
06:00 PM	0	236	47	283	0	0	0	0	58	180	0	238	118	208	83	409	930
Total Volume	0	1025	175	1200	0	0	0	0	225	705	0	930	548	845	437	1830	3960
% App. Total	0	85.4	14.6		0	0	0		24.2	75.8	0		29.9	46.2	23.9		
PHF	.000	.939	.858	.971	.000	.000	.000	.000	.879	.979	.000	.953	.815	.965	.888	.897	.936



City: NEWPORT BEACH
 N-S Direction: BIRCH STREET-SOUTH
 E-W Direction: BRISTOL STREET

File Name : H1302010
 Site Code : 00000562
 Start Date : 3/5/2013
 Page No : 1

Groups Printed- Turning Movements

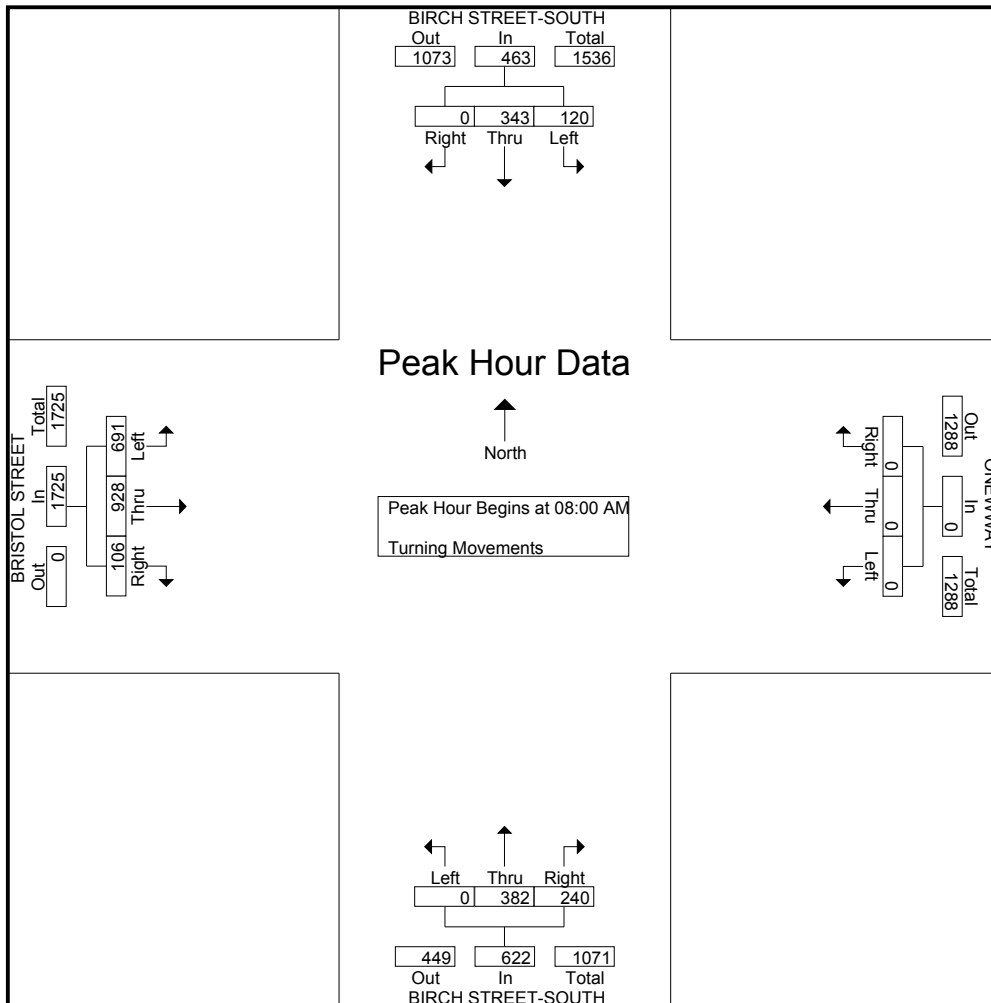
Start Time	BIRCH STREET-SOUTH Southbound			ONEWAY Westbound			BIRCH STREET-SOUTH Northbound			BRISTOL STREET Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	0	27	15	0	0	0	16	22	0	24	134	111	349
07:15 AM	0	37	12	0	0	0	30	39	0	21	133	100	372
07:30 AM	0	53	18	0	0	0	45	43	0	35	164	135	493
07:45 AM	0	62	24	0	0	0	46	58	0	34	191	155	570
Total	0	179	69	0	0	0	137	162	0	114	622	501	1784
08:00 AM	0	58	40	0	0	0	45	97	0	35	226	194	695
08:15 AM	0	77	21	0	0	0	65	97	0	15	218	175	668
08:30 AM	0	116	30	0	0	0	69	98	0	21	228	201	763
08:45 AM	0	92	29	0	0	0	61	90	0	35	256	121	684
Total	0	343	120	0	0	0	240	382	0	106	928	691	2810
*** BREAK ***													
04:30 PM	0	118	40	0	0	0	31	71	0	12	241	56	569
04:45 PM	0	120	30	0	0	0	31	67	0	14	249	45	556
Total	0	238	70	0	0	0	62	138	0	26	490	101	1125
05:00 PM	0	143	51	0	0	0	30	85	0	20	288	43	660
05:15 PM	0	205	36	0	0	0	32	31	0	13	258	26	601
05:30 PM	0	177	39	0	0	0	39	88	0	25	260	27	655
05:45 PM	0	205	33	0	0	0	35	64	0	20	264	44	665
Total	0	730	159	0	0	0	136	268	0	78	1070	140	2581
06:00 PM	0	175	51	0	0	0	22	79	0	23	239	27	616
06:15 PM	0	189	29	0	0	0	36	93	0	14	220	30	611
Grand Total	0	1854	498	0	0	0	633	1122	0	361	3569	1490	9527
Apprch %	0	78.8	21.2	0	0	0	36.1	63.9	0	6.7	65.8	27.5	
Total %	0	19.5	5.2	0	0	0	6.6	11.8	0	3.8	37.5	15.6	

City: NEWPORT BEACH
 N-S Direction: BIRCH STREET-SOUTH
 E-W Direction: BRISTOL STREET

File Name : H1302010
 Site Code : 00000562
 Start Date : 3/5/2013
 Page No : 2

Start Time	BIRCH STREET-SOUTH Southbound				ONEWAY Westbound				BIRCH STREET-SOUTH Northbound				BRISTOL STREET Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
08:00 AM	0	58	40	98	0	0	0	0	45	97	0	142	35	226	194	455	695
08:15 AM	0	77	21	98	0	0	0	0	65	97	0	162	15	218	175	408	668
08:30 AM	0	116	30	146	0	0	0	0	69	98	0	167	21	228	201	450	763
08:45 AM	0	92	29	121	0	0	0	0	61	90	0	151	35	256	121	412	684
Total Volume	0	343	120	463	0	0	0	0	240	382	0	622	106	928	691	1725	2810
% App. Total	0	74.1	25.9		0	0	0		38.6	61.4	0		6.1	53.8	40.1		
PHF	.000	.739	.750	.793	.000	.000	.000	.000	.870	.974	.000	.931	.757	.906	.859	.948	.921

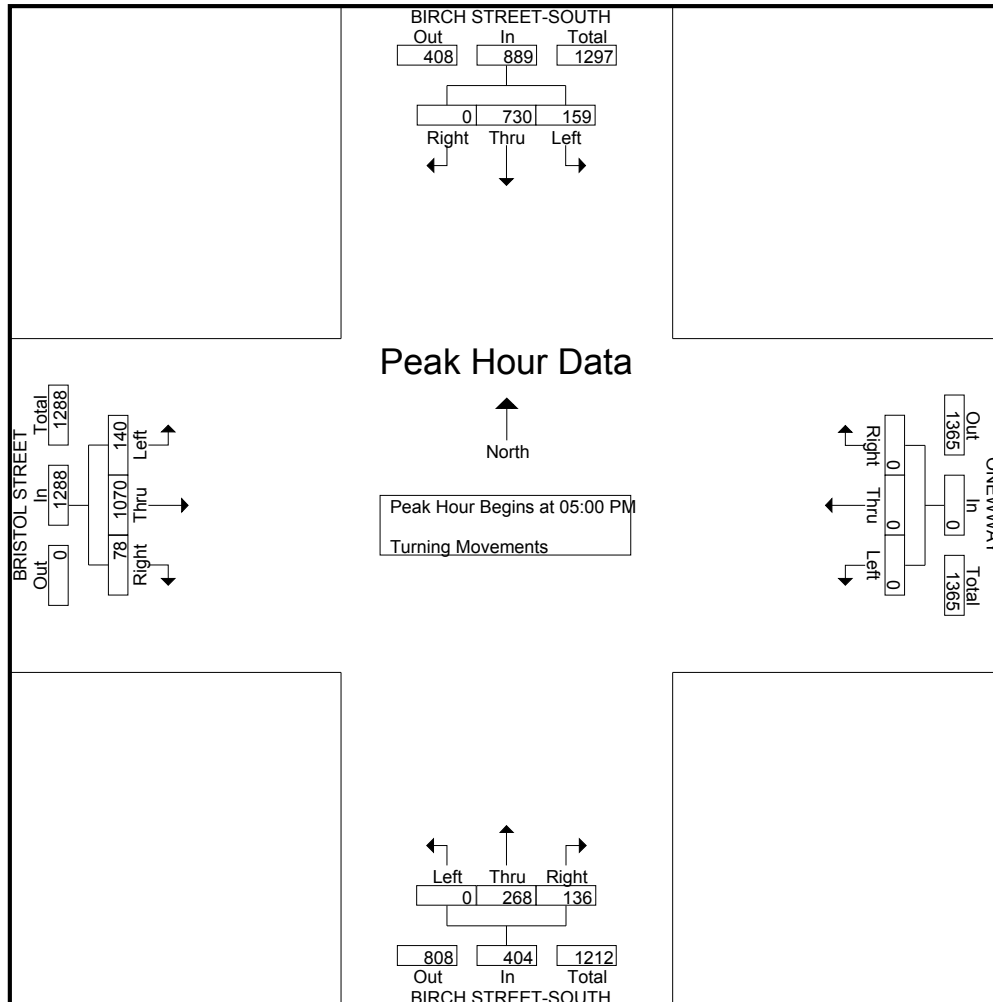
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 08:00 AM



City: NEWPORT BEACH
 N-S Direction: BIRCH STREET-SOUTH
 E-W Direction: BRISTOL STREET

File Name : H1302010
 Site Code : 00000562
 Start Date : 3/5/2013
 Page No : 3

Start Time	BIRCH STREET-SOUTH Southbound				ONEWAY Westbound				BIRCH STREET-SOUTH Northbound				BRISTOL STREET Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	143	51	194	0	0	0	0	30	85	0	115	20	288	43	351	660
05:15 PM	0	205	36	241	0	0	0	0	32	31	0	63	13	258	26	297	601
05:30 PM	0	177	39	216	0	0	0	0	39	88	0	127	25	260	27	312	655
05:45 PM	0	205	33	238	0	0	0	0	35	64	0	99	20	264	44	328	665
Total Volume	0	730	159	889	0	0	0	0	136	268	0	404	78	1070	140	1288	2581
% App. Total	0	82.1	17.9		0	0	0		33.7	66.3	0		6.1	83.1	10.9		
PHF	.000	.890	.779	.922	.000	.000	.000	.000	.872	.761	.000	.795	.780	.929	.795	.917	.970



City: NEWPORT BEACH
 N-S Direction: IRVINE AVENUE
 E-W Direction: MESA DRIVE

File Name : h1302020
 Site Code : 00005423
 Start Date : 3/12/2013
 Page No : 1

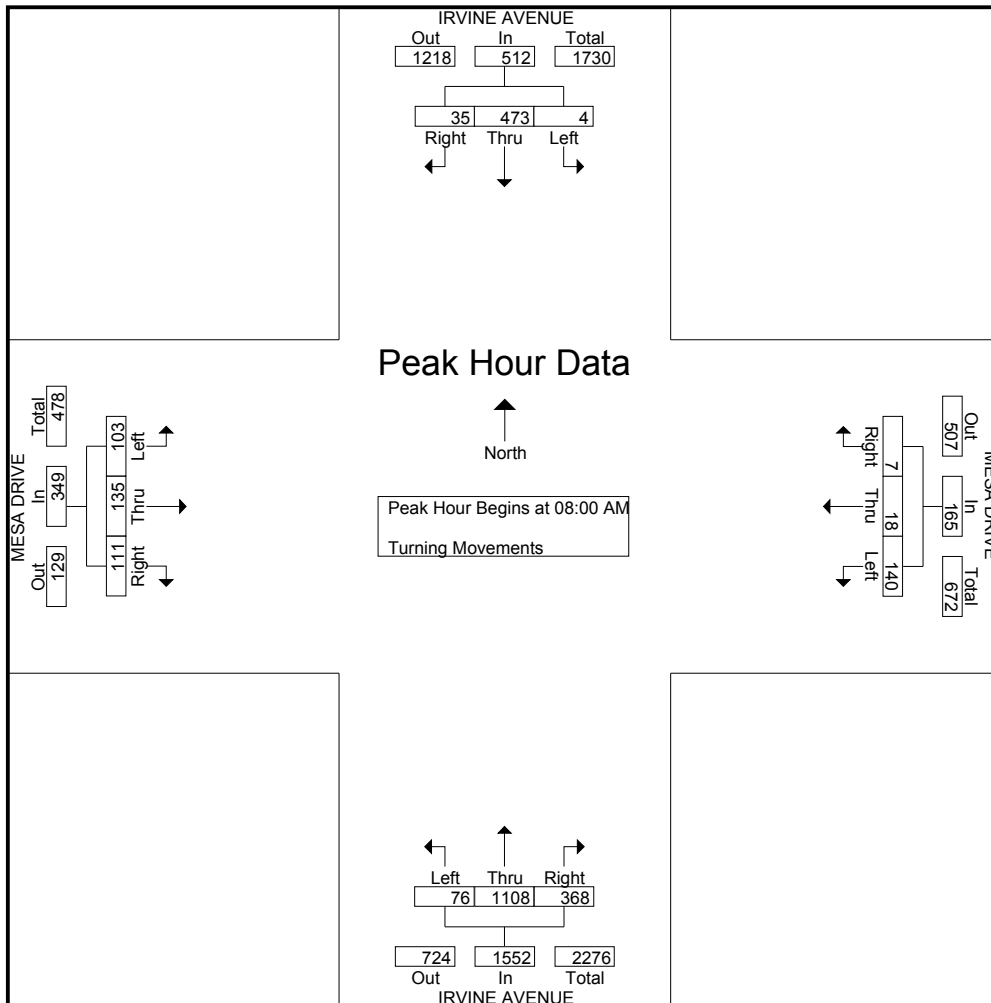
Groups Printed- Turning Movements

Start Time	IRVINE AVENUE Southbound			MESA DRIVE Westbound			IRVINE AVENUE Northbound			MESA DRIVE Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	5	68	0	0	2	15	27	119	5	9	15	7	272
07:15 AM	7	86	0	1	6	11	30	122	7	9	15	15	309
07:30 AM	4	69	0	1	2	32	66	193	9	24	20	20	440
07:45 AM	11	96	0	0	9	23	72	245	15	23	24	26	544
Total	27	319	0	2	19	81	195	679	36	65	74	68	1565
08:00 AM	8	105	1	3	4	26	90	288	25	20	39	26	635
08:15 AM	8	124	0	1	4	37	91	270	12	41	36	39	663
08:30 AM	10	134	1	1	6	41	93	285	26	28	43	18	686
08:45 AM	9	110	2	2	4	36	94	265	13	22	17	20	594
Total	35	473	4	7	18	140	368	1108	76	111	135	103	2578
*** BREAK ***													
04:30 PM	23	209	5	1	24	68	20	140	20	16	13	10	549
04:45 PM	39	267	3	3	32	83	41	148	13	35	20	8	692
Total	62	476	8	4	56	151	61	288	33	51	33	18	1241
05:00 PM	44	283	1	0	33	77	44	153	14	27	14	7	697
05:15 PM	58	352	0	4	42	123	44	145	15	36	8	9	836
05:30 PM	54	331	1	4	37	126	43	154	18	43	13	7	831
05:45 PM	47	355	0	3	33	112	34	139	18	46	13	13	813
Total	203	1321	2	11	145	438	165	591	65	152	48	36	3177
06:00 PM	39	289	0	3	20	81	29	160	16	33	7	5	682
06:15 PM	35	308	0	0	30	94	34	151	13	33	10	4	712
Grand Total	401	3186	14	27	288	985	852	2977	239	445	307	234	9955
Apprch %	11.1	88.5	0.4	2.1	22.2	75.8	20.9	73.2	5.9	45.1	31.1	23.7	
Total %	4	32	0.1	0.3	2.9	9.9	8.6	29.9	2.4	4.5	3.1	2.4	

City: NEWPORT BEACH
 N-S Direction: IRVINE AVENUE
 E-W Direction: MESA DRIVE

File Name : h1302020
 Site Code : 00005423
 Start Date : 3/12/2013
 Page No : 2

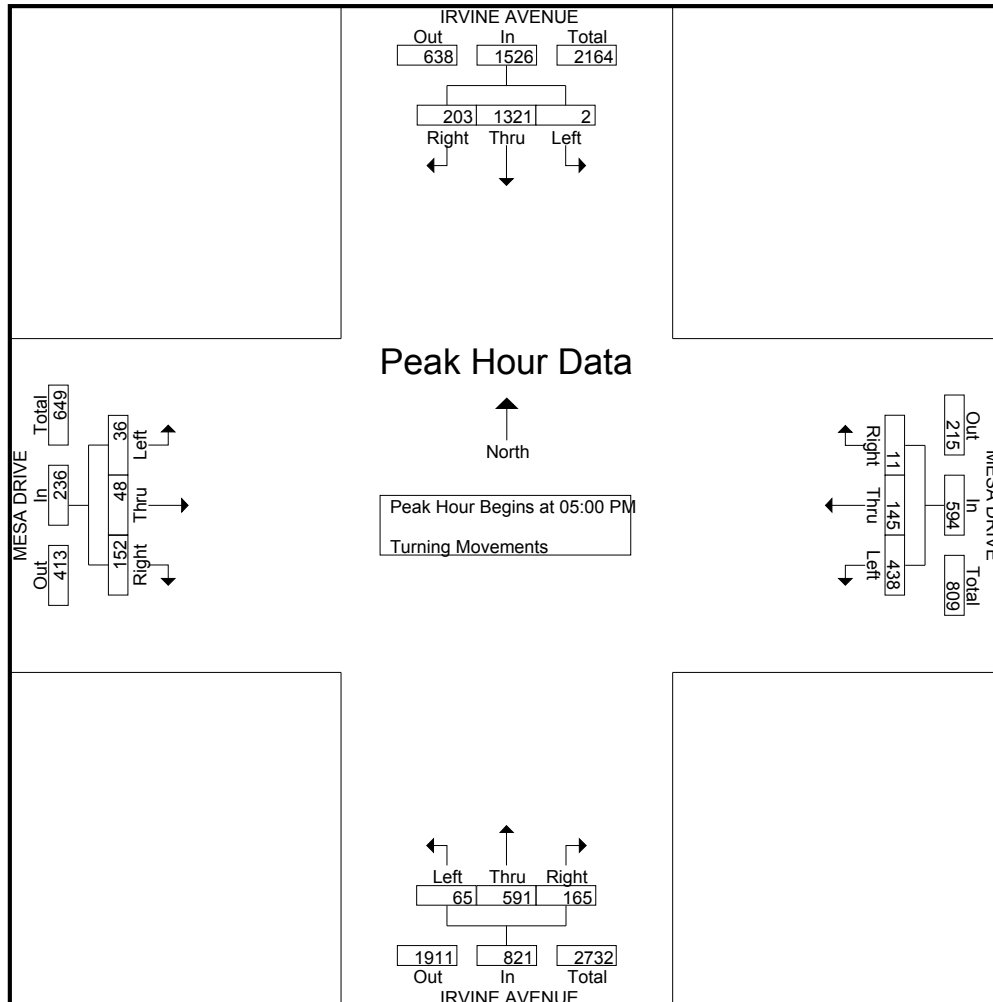
Start Time	IRVINE AVENUE Southbound				MESA DRIVE Westbound				IRVINE AVENUE Northbound				MESA DRIVE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	8	105	1	114	3	4	26	33	90	288	25	403	20	39	26	85	635
08:15 AM	8	124	0	132	1	4	37	42	91	270	12	373	41	36	39	116	663
08:30 AM	10	134	1	145	1	6	41	48	93	285	26	404	28	43	18	89	686
08:45 AM	9	110	2	121	2	4	36	42	94	265	13	372	22	17	20	59	594
Total Volume	35	473	4	512	7	18	140	165	368	1108	76	1552	111	135	103	349	2578
% App. Total	6.8	92.4	0.8		4.2	10.9	84.8		23.7	71.4	4.9		31.8	38.7	29.5		
PHF	.875	.882	.500	.883	.583	.750	.854	.859	.979	.962	.731	.960	.677	.785	.660	.752	.940



City: NEWPORT BEACH
 N-S Direction: IRVINE AVENUE
 E-W Direction: MESA DRIVE

File Name : h1302020
 Site Code : 00005423
 Start Date : 3/12/2013
 Page No : 3

Start Time	IRVINE AVENUE Southbound				MESA DRIVE Westbound				IRVINE AVENUE Northbound				MESA DRIVE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	44	283	1	328	0	33	77	110	44	153	14	211	27	14	7	48	697
05:15 PM	58	352	0	410	4	42	123	169	44	145	15	204	36	8	9	53	836
05:30 PM	54	331	1	386	4	37	126	167	43	154	18	215	43	13	7	63	831
05:45 PM	47	355	0	402	3	33	112	148	34	139	18	191	46	13	13	72	813
Total Volume	203	1321	2	1526	11	145	438	594	165	591	65	821	152	48	36	236	3177
% App. Total	13.3	86.6	0.1		1.9	24.4	73.7		20.1	72	7.9		64.4	20.3	15.3		
PHF	.875	.930	.500	.930	.688	.863	.869	.879	.938	.959	.903	.955	.826	.857	.692	.819	.950



City: NEWPORT BEACH
 N-S Direction: IRVINE AVENUE
 E-W Direction: UNIVERSITY DR / DEL MAR

File Name : H1302022
 Site Code : 00003873
 Start Date : 3/12/2013
 Page No : 1

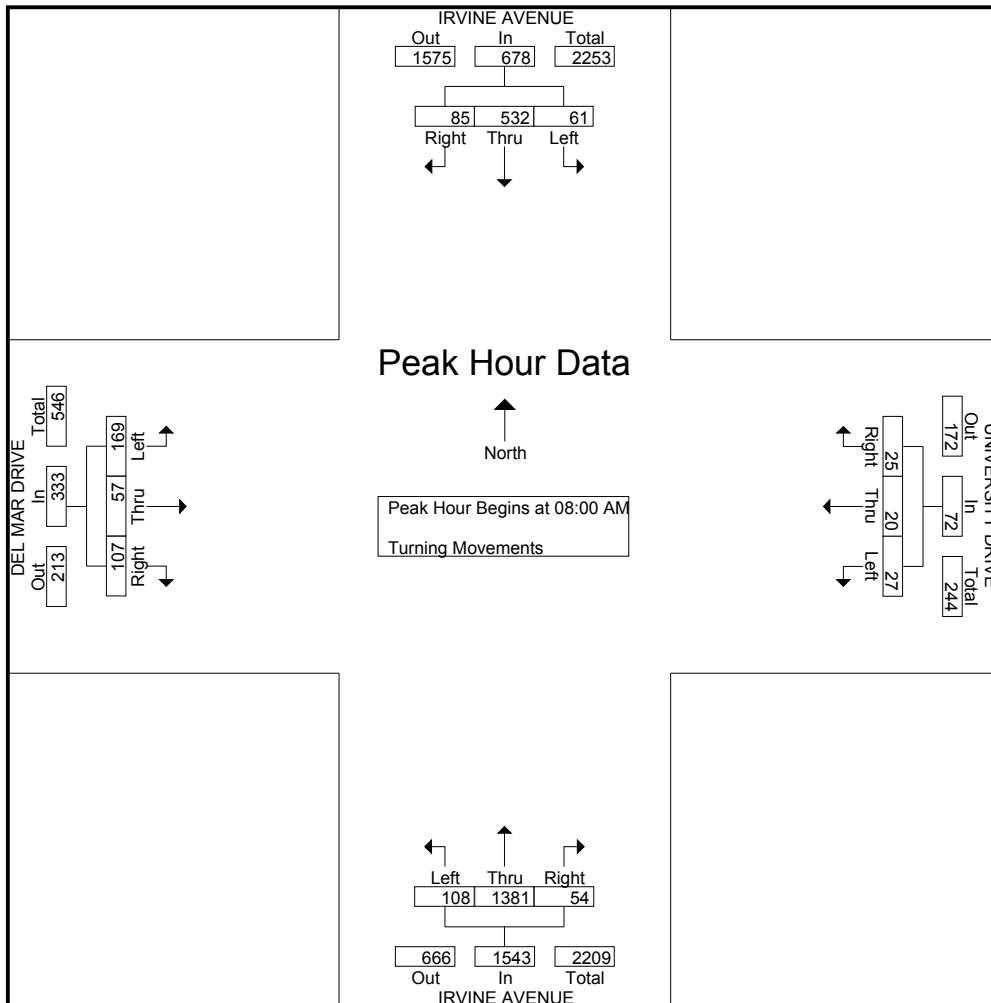
Groups Printed- Turning Movements

Start Time	IRVINE AVENUE Southbound			UNIVERSITY DRIVE Westbound			IRVINE AVENUE Northbound			DEL MAR DRIVE Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	8	86	1	7	5	14	4	134	11	18	8	14	310
07:15 AM	7	92	4	5	6	16	9	135	18	14	5	13	324
07:30 AM	21	103	1	5	6	7	8	234	21	29	6	25	466
07:45 AM	16	122	8	7	1	6	5	307	24	44	9	16	565
Total	52	403	14	24	18	43	26	810	74	105	28	68	1665
08:00 AM	13	121	15	7	4	4	7	361	27	29	19	32	639
08:15 AM	15	152	15	4	10	11	14	326	32	36	15	37	667
08:30 AM	34	127	21	5	4	7	18	350	25	26	11	57	685
08:45 AM	23	132	10	9	2	5	15	344	24	16	12	43	635
Total	85	532	61	25	20	27	54	1381	108	107	57	169	2626
*** BREAK ***													
04:30 PM	26	252	12	13	10	13	16	126	16	32	7	17	540
04:45 PM	36	336	12	11	9	18	21	170	25	39	12	24	713
Total	62	588	24	24	19	31	37	296	41	71	19	41	1253
05:00 PM	31	325	20	23	28	27	20	162	17	34	18	21	726
05:15 PM	40	433	28	16	15	21	16	175	28	40	19	28	859
05:30 PM	46	415	20	13	11	18	17	184	15	33	14	20	806
05:45 PM	48	453	6	10	14	7	12	176	14	40	8	27	815
Total	165	1626	74	62	68	73	65	697	74	147	59	96	3206
06:00 PM	37	339	4	10	17	28	10	161	16	40	9	26	697
06:15 PM	35	329	5	11	15	20	11	159	14	38	8	22	667
Grand Total	436	3817	182	156	157	222	203	3504	327	508	180	422	10114
Apprch %	9.8	86.1	4.1	29.2	29.3	41.5	5	86.9	8.1	45.8	16.2	38	
Total %	4.3	37.7	1.8	1.5	1.6	2.2	2	34.6	3.2	5	1.8	4.2	

City: NEWPORT BEACH
 N-S Direction: IRVINE AVENUE
 E-W Direction: UNIVERSITY DR / DEL MAR

File Name : H1302022
 Site Code : 00003873
 Start Date : 3/12/2013
 Page No : 2

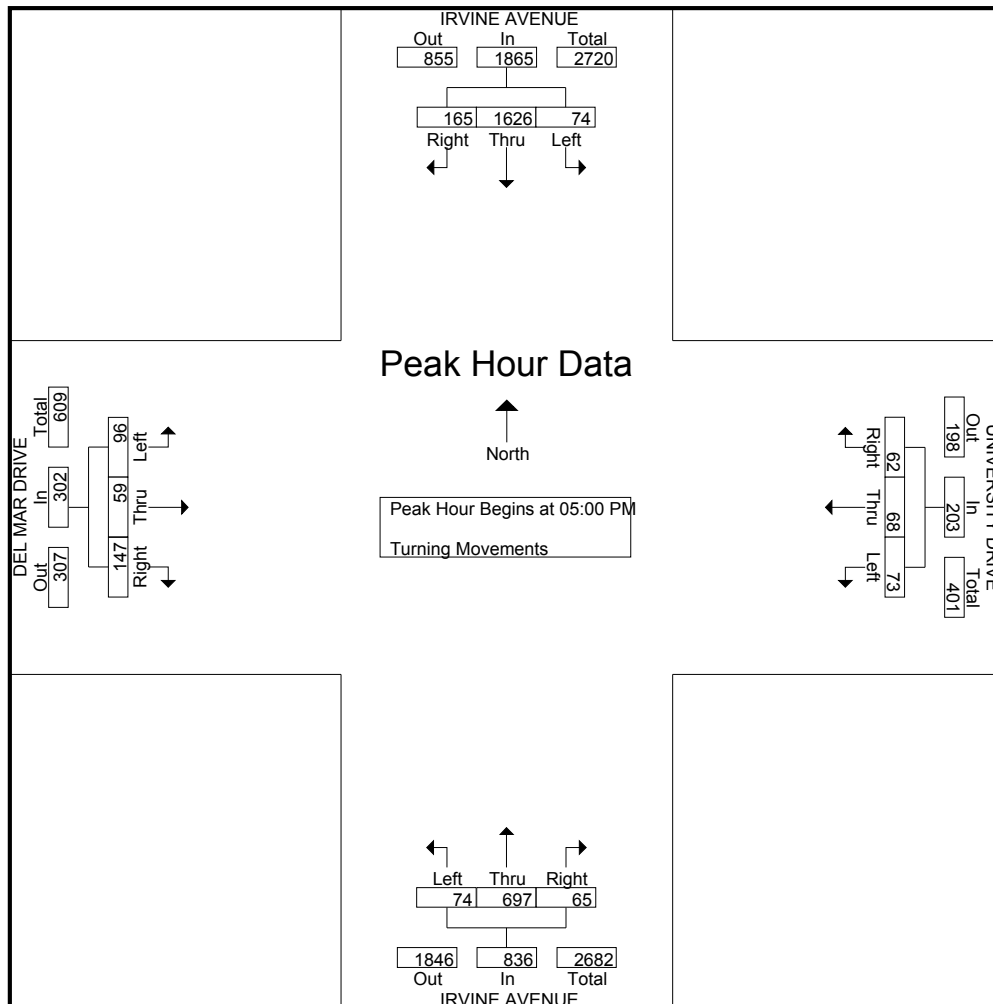
Start Time	IRVINE AVENUE Southbound				UNIVERSITY DRIVE Westbound				IRVINE AVENUE Northbound				DEL MAR DRIVE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	13	121	15	149	7	4	4	15	7	361	27	395	29	19	32	80	639
08:15 AM	15	152	15	182	4	10	11	25	14	326	32	372	36	15	37	88	667
08:30 AM	34	127	21	182	5	4	7	16	18	350	25	393	26	11	57	94	685
08:45 AM	23	132	10	165	9	2	5	16	15	344	24	383	16	12	43	71	635
Total Volume	85	532	61	678	25	20	27	72	54	1381	108	1543	107	57	169	333	2626
% App. Total	12.5	78.5	9		34.7	27.8	37.5		3.5	89.5	7		32.1	17.1	50.8		
PHF	.625	.875	.726	.931	.694	.500	.614	.720	.750	.956	.844	.977	.743	.750	.741	.886	.958



City: NEWPORT BEACH
 N-S Direction: IRVINE AVENUE
 E-W Direction: UNIVERSITY DR / DEL MAR

File Name : H1302022
 Site Code : 00003873
 Start Date : 3/12/2013
 Page No : 3

Start Time	IRVINE AVENUE Southbound				UNIVERSITY DRIVE Westbound				IRVINE AVENUE Northbound				DEL MAR DRIVE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	31	325	20	376	23	28	27	78	20	162	17	199	34	18	21	73	726
05:15 PM	40	433	28	501	16	15	21	52	16	175	28	219	40	19	28	87	859
05:30 PM	46	415	20	481	13	11	18	42	17	184	15	216	33	14	20	67	806
05:45 PM	48	453	6	507	10	14	7	31	12	176	14	202	40	8	27	75	815
Total Volume	165	1626	74	1865	62	68	73	203	65	697	74	836	147	59	96	302	3206
% App. Total	8.8	87.2	4		30.5	33.5	36		7.8	83.4	8.9		48.7	19.5	31.8		
PHF	.859	.897	.661	.920	.674	.607	.676	.651	.813	.947	.661	.954	.919	.776	.857	.868	.933



City: NEWPORT BEACH
 N-S Direction: IRVINE AVENUE
 E-W Direction: SANTIAGO DR / 22ND ST

File Name : H1302021
 Site Code : 00000056
 Start Date : 3/12/2013
 Page No : 1

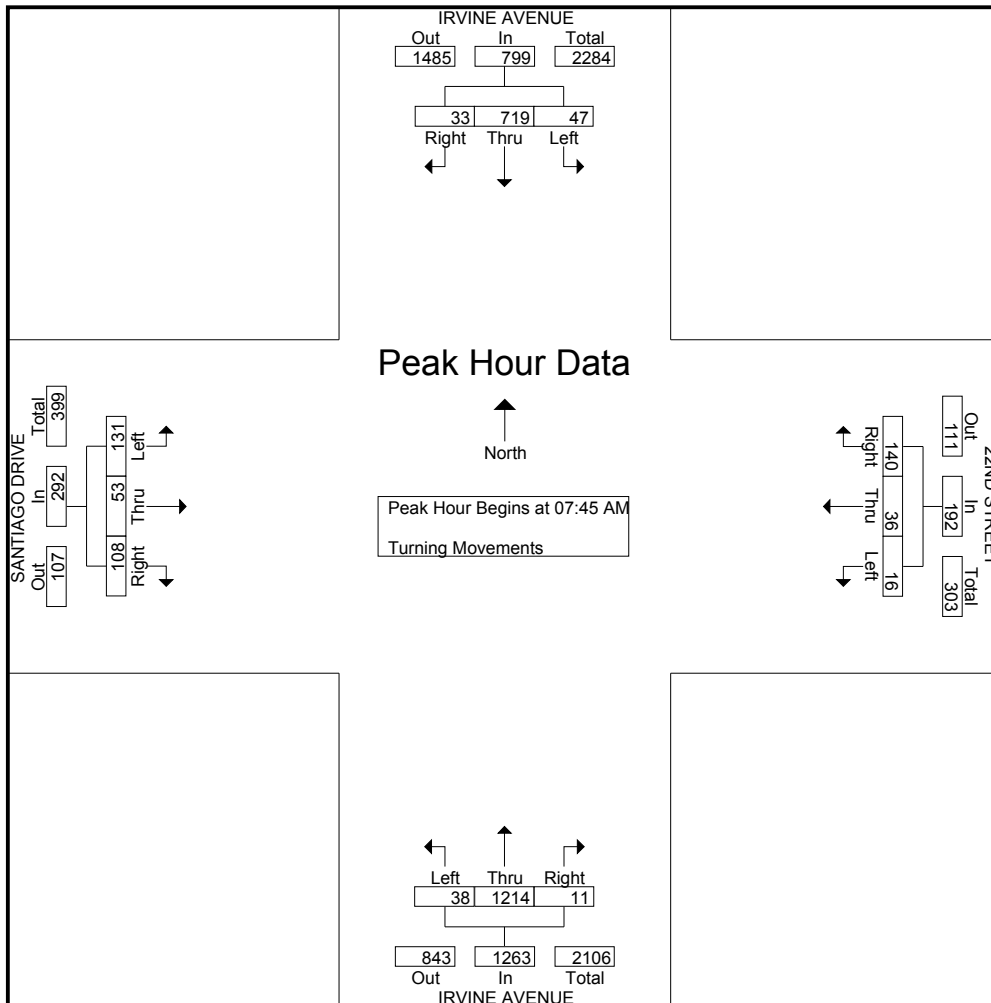
Groups Printed- Turning Movements

Start Time	IRVINE AVENUE Southbound			22ND STREET Westbound			IRVINE AVENUE Northbound			SANTIAGO DRIVE Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	6	102	13	16	7	3	1	127	3	15	12	8	313
07:15 AM	3	104	15	18	11	0	1	137	5	7	9	5	315
07:30 AM	5	174	6	37	11	1	1	196	7	38	7	19	502
07:45 AM	9	219	6	35	20	3	1	265	16	36	11	33	654
Total	23	599	40	106	49	7	4	725	31	96	39	65	1784
08:00 AM	8	170	5	30	6	0	2	366	5	26	15	22	655
08:15 AM	7	181	22	33	7	8	3	302	10	18	14	34	639
08:30 AM	9	149	14	42	3	5	5	281	7	28	13	42	598
08:45 AM	12	150	17	33	10	2	4	256	11	23	14	24	556
Total	36	650	58	138	26	15	14	1205	33	95	56	122	2448
*** BREAK ***													
04:30 PM	8	235	15	12	17	1	2	141	15	17	12	4	479
04:45 PM	12	331	19	21	13	7	4	199	28	16	20	15	685
Total	20	566	34	33	30	8	6	340	43	33	32	19	1164
05:00 PM	23	329	34	16	10	1	3	189	15	18	8	13	659
05:15 PM	22	394	26	13	14	7	5	200	26	31	8	13	759
05:30 PM	22	354	28	15	8	5	6	197	19	30	10	10	704
05:45 PM	22	374	24	20	13	9	3	165	30	23	18	9	710
Total	89	1451	112	64	45	22	17	751	90	102	44	45	2832
06:00 PM	16	340	31	27	12	10	4	179	19	21	14	16	689
06:15 PM	17	346	21	14	8	3	2	173	18	12	12	7	633
Grand Total	201	3952	296	382	170	65	47	3373	234	359	197	274	9550
Apprch %	4.5	88.8	6.7	61.9	27.6	10.5	1.3	92.3	6.4	43.3	23.7	33	
Total %	2.1	41.4	3.1	4	1.8	0.7	0.5	35.3	2.5	3.8	2.1	2.9	

City: NEWPORT BEACH
 N-S Direction: IRVINE AVENUE
 E-W Direction: SANTIAGO DR / 22ND ST

File Name : H1302021
 Site Code : 0000056
 Start Date : 3/12/2013
 Page No : 2

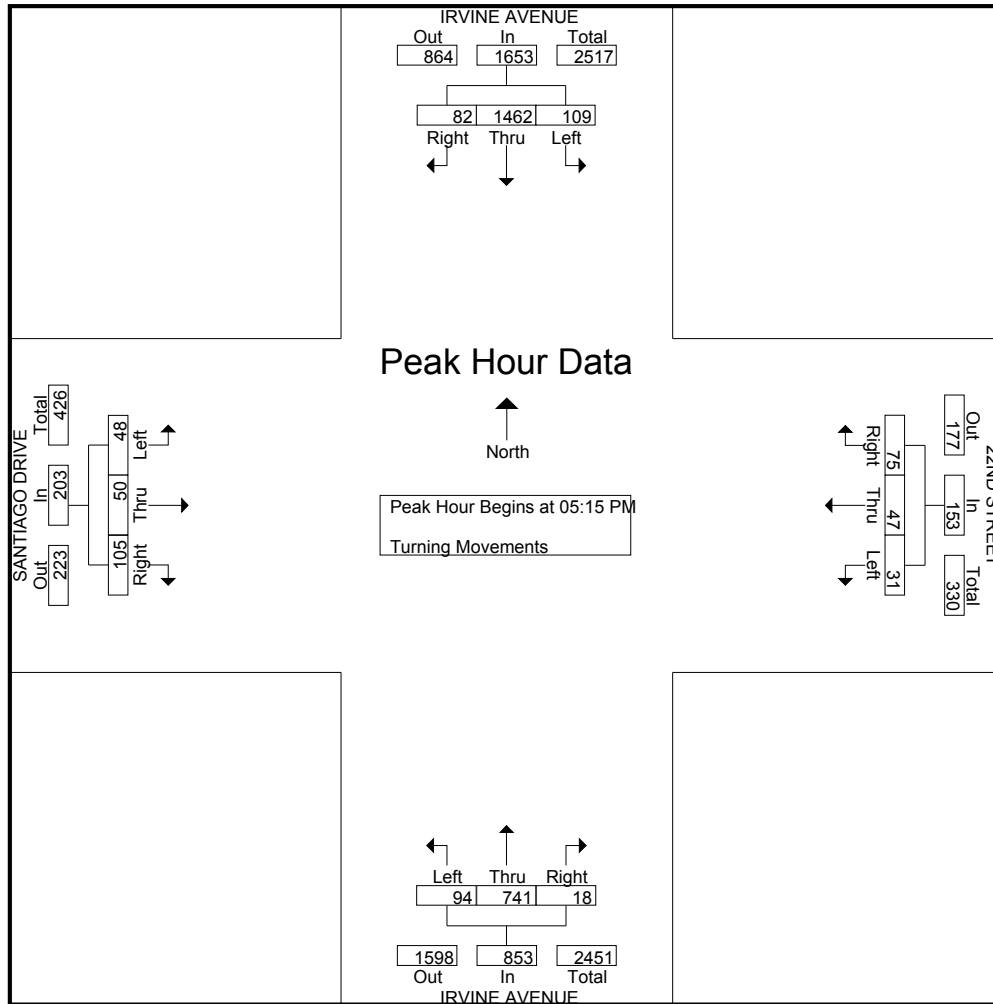
Start Time	IRVINE AVENUE Southbound				22ND STREET Westbound				IRVINE AVENUE Northbound				SANTIAGO DRIVE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	9	219	6	234	35	20	3	58	1	265	16	282	36	11	33	80	654
08:00 AM	8	170	5	183	30	6	0	36	2	366	5	373	26	15	22	63	655
08:15 AM	7	181	22	210	33	7	8	48	3	302	10	315	18	14	34	66	639
08:30 AM	9	149	14	172	42	3	5	50	5	281	7	293	28	13	42	83	598
Total Volume	33	719	47	799	140	36	16	192	11	1214	38	1263	108	53	131	292	2546
% App. Total	4.1	90	5.9		72.9	18.8	8.3		0.9	96.1	3		37	18.2	44.9		
PHF	.917	.821	.534	.854	.833	.450	.500	.828	.550	.829	.594	.847	.750	.883	.780	.880	.972



City: NEWPORT BEACH
 N-S Direction: IRVINE AVENUE
 E-W Direction: SANTIAGO DR / 22ND ST

File Name : H1302021
 Site Code : 00000056
 Start Date : 3/12/2013
 Page No : 3

Start Time	IRVINE AVENUE Southbound				22ND STREET Westbound				IRVINE AVENUE Northbound				SANTIAGO DRIVE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	22	394	26	442	13	14	7	34	5	200	26	231	31	8	13	52	759
05:30 PM	22	354	28	404	15	8	5	28	6	197	19	222	30	10	10	50	704
05:45 PM	22	374	24	420	20	13	9	42	3	165	30	198	23	18	9	50	710
06:00 PM	16	340	31	387	27	12	10	49	4	179	19	202	21	14	16	51	689
Total Volume	82	1462	109	1653	75	47	31	153	18	741	94	853	105	50	48	203	2862
% App. Total	5	88.4	6.6		49	30.7	20.3		2.1	86.9	11		51.7	24.6	23.6		
PHF	.932	.928	.879	.935	.694	.839	.775	.781	.750	.926	.783	.923	.847	.694	.750	.976	.943



City: NEWPORT BEACH
 N-S Direction: IRVINE AVENUE
 E-W Direction: HIGHLAND DR / 20TH ST

File Name : H1302019
 Site Code : 00001944
 Start Date : 3/12/2013
 Page No : 1

Groups Printed- Turning Movements

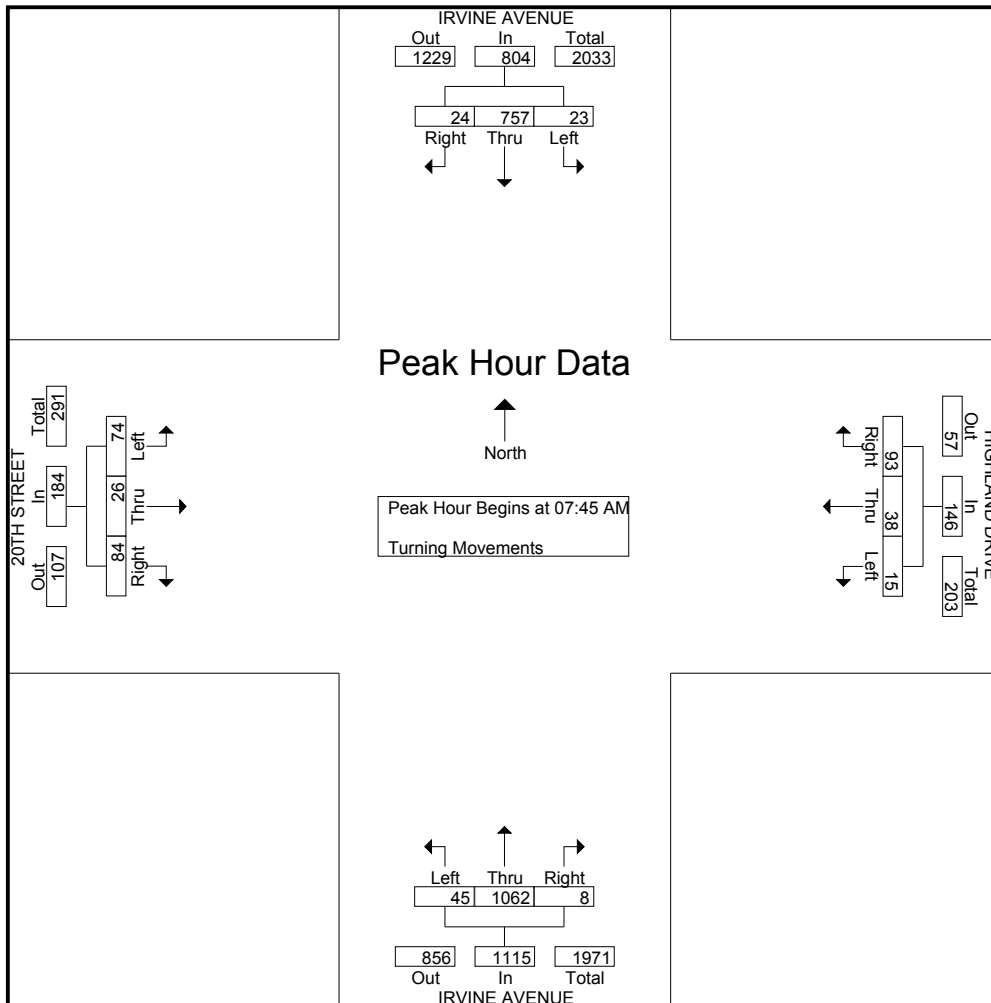
Start Time	IRVINE AVENUE Southbound			HIGHLAND DRIVE Westbound			IRVINE AVENUE Northbound			20TH STREET Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	3	111	8	9	3	1	1	113	1	11	6	5	272
07:15 AM	2	102	5	9	3	1	0	142	5	9	2	9	289
07:30 AM	1	226	1	19	5	2	1	171	6	14	4	21	471
07:45 AM	8	257	1	20	13	5	2	280	9	28	5	19	647
Total	14	696	15	57	24	9	4	706	21	62	17	54	1679
08:00 AM	5	157	6	17	6	2	1	303	14	15	7	21	554
08:15 AM	8	181	10	28	11	4	0	239	10	18	11	17	537
08:30 AM	3	162	6	28	8	4	5	240	12	23	3	17	511
08:45 AM	5	193	8	20	7	3	5	213	8	21	5	12	500
Total	21	693	30	93	32	13	11	995	44	77	26	67	2102
*** BREAK ***													
04:30 PM	8	248	9	9	5	0	5	178	11	9	4	5	491
04:45 PM	19	323	12	10	7	3	5	215	11	12	5	11	633
Total	27	571	21	19	12	3	10	393	22	21	9	16	1124
05:00 PM	19	340	8	3	7	2	7	208	18	11	8	3	634
05:15 PM	19	342	5	7	5	2	1	189	18	16	3	5	612
05:30 PM	15	358	10	7	6	5	3	196	14	8	5	4	631
05:45 PM	20	398	5	12	4	2	4	215	14	13	3	6	696
Total	73	1438	28	29	22	11	15	808	64	48	19	18	2573
06:00 PM	16	341	11	12	5	4	4	205	12	10	5	13	638
06:15 PM	10	359	8	9	7	4	2	210	8	18	5	1	641
Grand Total	161	4098	113	219	102	44	46	3317	171	236	81	169	8757
Apprch %	3.7	93.7	2.6	60	27.9	12.1	1.3	93.9	4.8	48.6	16.7	34.8	
Total %	1.8	46.8	1.3	2.5	1.2	0.5	0.5	37.9	2	2.7	0.9	1.9	

City: NEWPORT BEACH
 N-S Direction: IRVINE AVENUE
 E-W Direction: HIGHLAND DR / 20TH ST

File Name : H1302019
 Site Code : 00001944
 Start Date : 3/12/2013
 Page No : 2

Start Time	IRVINE AVENUE Southbound				HIGHLAND DRIVE Westbound				IRVINE AVENUE Northbound				20TH STREET Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
07:45 AM	8	257	1	266	20	13	5	38	2	280	9	291	28	5	19	52	647
08:00 AM	5	157	6	168	17	6	2	25	1	303	14	318	15	7	21	43	554
08:15 AM	8	181	10	199	28	11	4	43	0	239	10	249	18	11	17	46	537
08:30 AM	3	162	6	171	28	8	4	40	5	240	12	257	23	3	17	43	511
Total Volume	24	757	23	804	93	38	15	146	8	1062	45	1115	84	26	74	184	2249
% App. Total	3	94.2	2.9		63.7	26	10.3		0.7	95.2	4		45.7	14.1	40.2		
PHF	.750	.736	.575	.756	.830	.731	.750	.849	.400	.876	.804	.877	.750	.591	.881	.885	.869

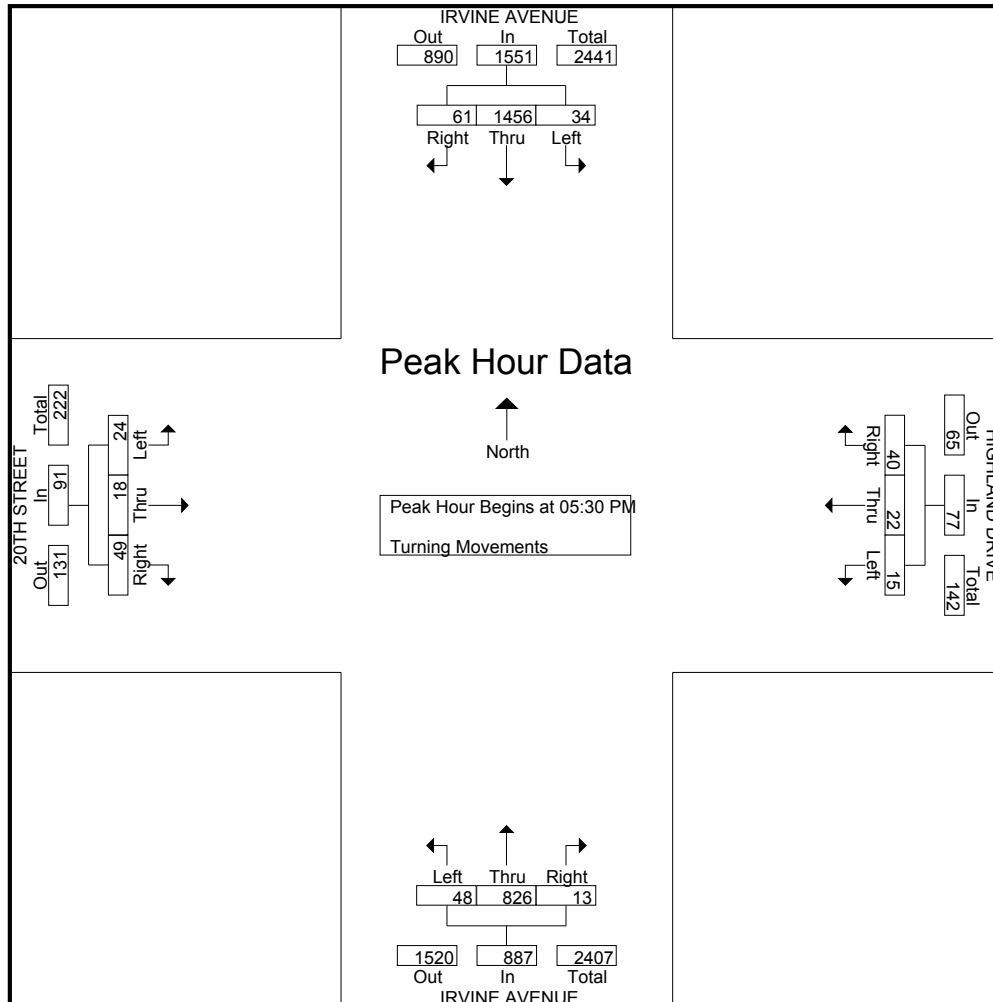
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:45 AM



City: NEWPORT BEACH
 N-S Direction: IRVINE AVENUE
 E-W Direction: HIGHLAND DR / 20TH ST

File Name : H1302019
 Site Code : 00001944
 Start Date : 3/12/2013
 Page No : 3

Start Time	IRVINE AVENUE Southbound				HIGHLAND DRIVE Westbound				IRVINE AVENUE Northbound				20TH STREET Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:30 PM																	
05:30 PM	15	358	10	383	7	6	5	18	3	196	14	213	8	5	4	17	631
05:45 PM	20	398	5	423	12	4	2	18	4	215	14	233	13	3	6	22	696
06:00 PM	16	341	11	368	12	5	4	21	4	205	12	221	10	5	13	28	638
06:15 PM	10	359	8	377	9	7	4	20	2	210	8	220	18	5	1	24	641
Total Volume	61	1456	34	1551	40	22	15	77	13	826	48	887	49	18	24	91	2606
% App. Total	3.9	93.9	2.2		51.9	28.6	19.5		1.5	93.1	5.4		53.8	19.8	26.4		
PHF	.763	.915	.773	.917	.833	.786	.750	.917	.813	.960	.857	.952	.681	.900	.462	.813	.936



City: NEWPORT BEACH
 N-S Direction: IRVINE AVENUE
 E-W Direction: DOVER DRIVE-19TH ST

File Name : H1204029
 Site Code : 00005701
 Start Date : 4/24/2012
 Page No : 1

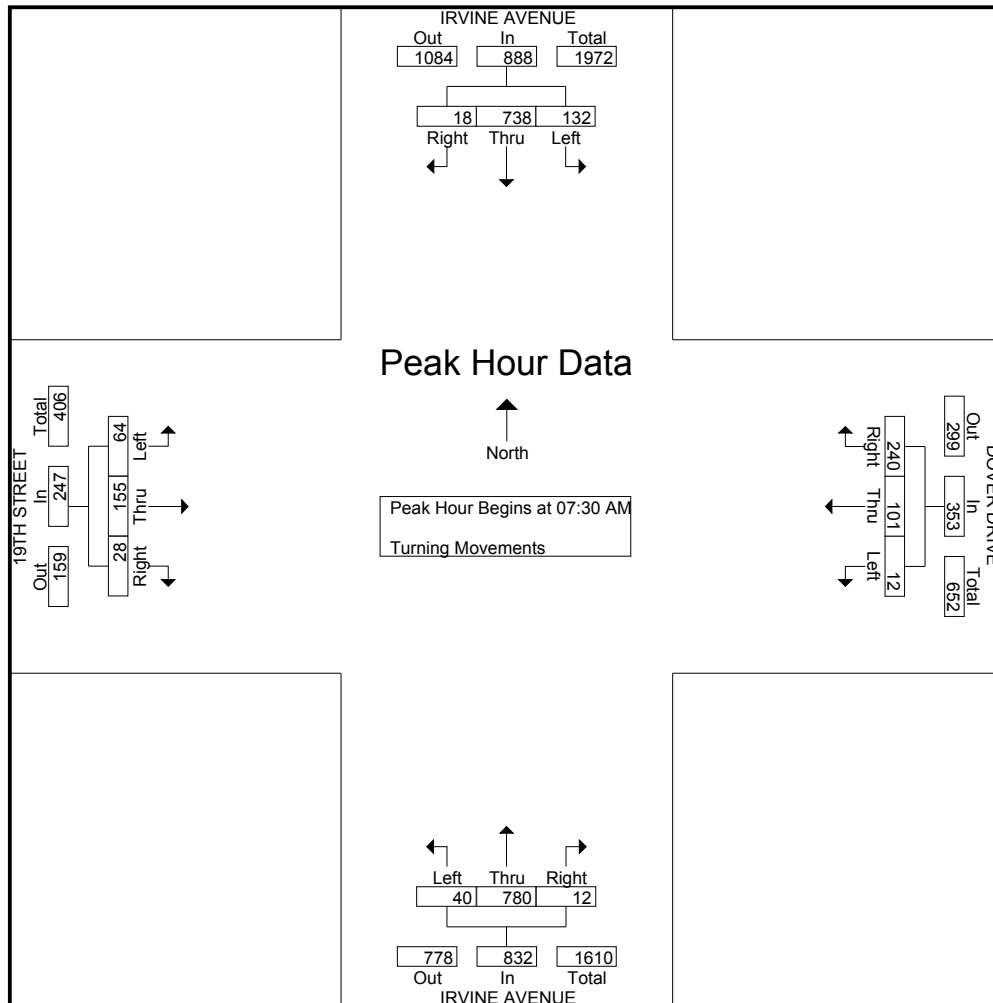
Groups Printed- Turning Movements

Start Time	IRVINE AVENUE Southbound			DOVER DRIVE Westbound			IRVINE AVENUE Northbound			19TH STREET Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	2	109	17	17	8	0	4	95	5	9	15	8	289
07:15 AM	5	107	18	26	8	3	1	102	4	6	19	10	309
07:30 AM	5	170	30	51	22	5	6	145	11	4	34	13	496
07:45 AM	0	300	44	66	22	1	2	241	8	8	51	12	755
Total	12	686	109	160	60	9	13	583	28	27	119	43	1849
08:00 AM	7	128	33	84	31	4	1	211	12	7	32	20	570
08:15 AM	6	140	25	39	26	2	3	183	9	9	38	19	499
08:30 AM	4	153	34	45	27	1	3	159	22	7	22	19	496
08:45 AM	9	151	27	43	25	0	3	167	17	16	29	15	502
Total	26	572	119	211	109	7	10	720	60	39	121	73	2067
*** BREAK ***													
04:30 PM	5	193	39	51	61	5	7	143	15	14	18	8	559
04:45 PM	14	277	39	56	46	8	10	126	43	18	38	13	688
Total	19	470	78	107	107	13	17	269	58	32	56	21	1247
05:00 PM	10	264	40	57	49	7	13	178	16	11	20	5	670
05:15 PM	21	310	37	56	48	5	12	175	23	19	26	17	749
05:30 PM	24	334	43	65	39	10	6	179	15	15	25	13	768
05:45 PM	20	299	38	58	45	7	6	150	17	12	23	13	688
Total	75	1207	158	236	181	29	37	682	71	57	94	48	2875
06:00 PM	16	293	48	47	43	9	6	156	14	4	24	7	667
06:15 PM	16	233	31	45	38	7	9	154	17	8	18	11	587
Grand Total	164	3461	543	806	538	74	92	2564	248	167	432	203	9292
Apprch %	3.9	83	13	56.8	37.9	5.2	3.2	88.3	8.5	20.8	53.9	25.3	
Total %	1.8	37.2	5.8	8.7	5.8	0.8	1	27.6	2.7	1.8	4.6	2.2	

City: NEWPORT BEACH
 N-S Direction: IRVINE AVENUE
 E-W Direction: DOVER DRIVE-19TH ST

File Name : H1204029
 Site Code : 00005701
 Start Date : 4/24/2012
 Page No : 2

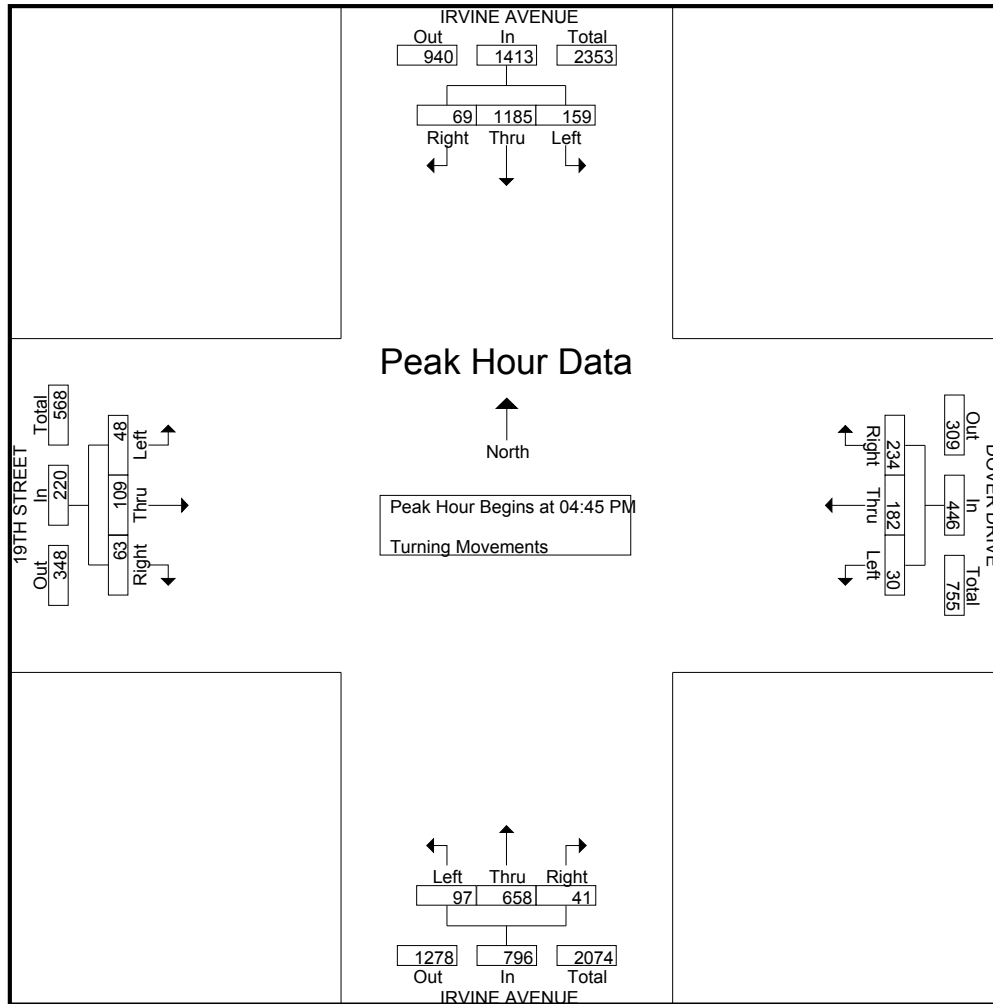
Start Time	IRVINE AVENUE Southbound				DOVER DRIVE Westbound				IRVINE AVENUE Northbound				19TH STREET Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	5	170	30	205	51	22	5	78	6	145	11	162	4	34	13	51	496
07:45 AM	0	300	44	344	66	22	1	89	2	241	8	251	8	51	12	71	755
08:00 AM	7	128	33	168	84	31	4	119	1	211	12	224	7	32	20	59	570
08:15 AM	6	140	25	171	39	26	2	67	3	183	9	195	9	38	19	66	499
Total Volume	18	738	132	888	240	101	12	353	12	780	40	832	28	155	64	247	2320
% App. Total	2	83.1	14.9		68	28.6	3.4		1.4	93.8	4.8		11.3	62.8	25.9		
PHF	.643	.615	.750	.645	.714	.815	.600	.742	.500	.809	.833	.829	.778	.760	.800	.870	.768



City: NEWPORT BEACH
 N-S Direction: IRVINE AVENUE
 E-W Direction: DOVER DRIVE-19TH ST

File Name : H1204029
 Site Code : 00005701
 Start Date : 4/24/2012
 Page No : 3

Start Time	IRVINE AVENUE Southbound				DOVER DRIVE Westbound				IRVINE AVENUE Northbound				19TH STREET Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	14	277	39	330	56	46	8	110	10	126	43	179	18	38	13	69	688
05:00 PM	10	264	40	314	57	49	7	113	13	178	16	207	11	20	5	36	670
05:15 PM	21	310	37	368	56	48	5	109	12	175	23	210	19	26	17	62	749
05:30 PM	24	334	43	401	65	39	10	114	6	179	15	200	15	25	13	53	768
Total Volume	69	1185	159	1413	234	182	30	446	41	658	97	796	63	109	48	220	2875
% App. Total	4.9	83.9	11.3		52.5	40.8	6.7		5.2	82.7	12.2		28.6	49.5	21.8		
PHF	.719	.887	.924	.881	.900	.929	.750	.978	.788	.919	.564	.948	.829	.717	.706	.797	.936



City: NEWPORT BEACH
 N-S Direction: IRVINE AVENUE
 E-W Direction: 17TH ST - WESTCLIFF DR

File Name : H1204030
 Site Code : 00003873
 Start Date : 5/3/2012
 Page No : 1

Groups Printed- Turning Movements

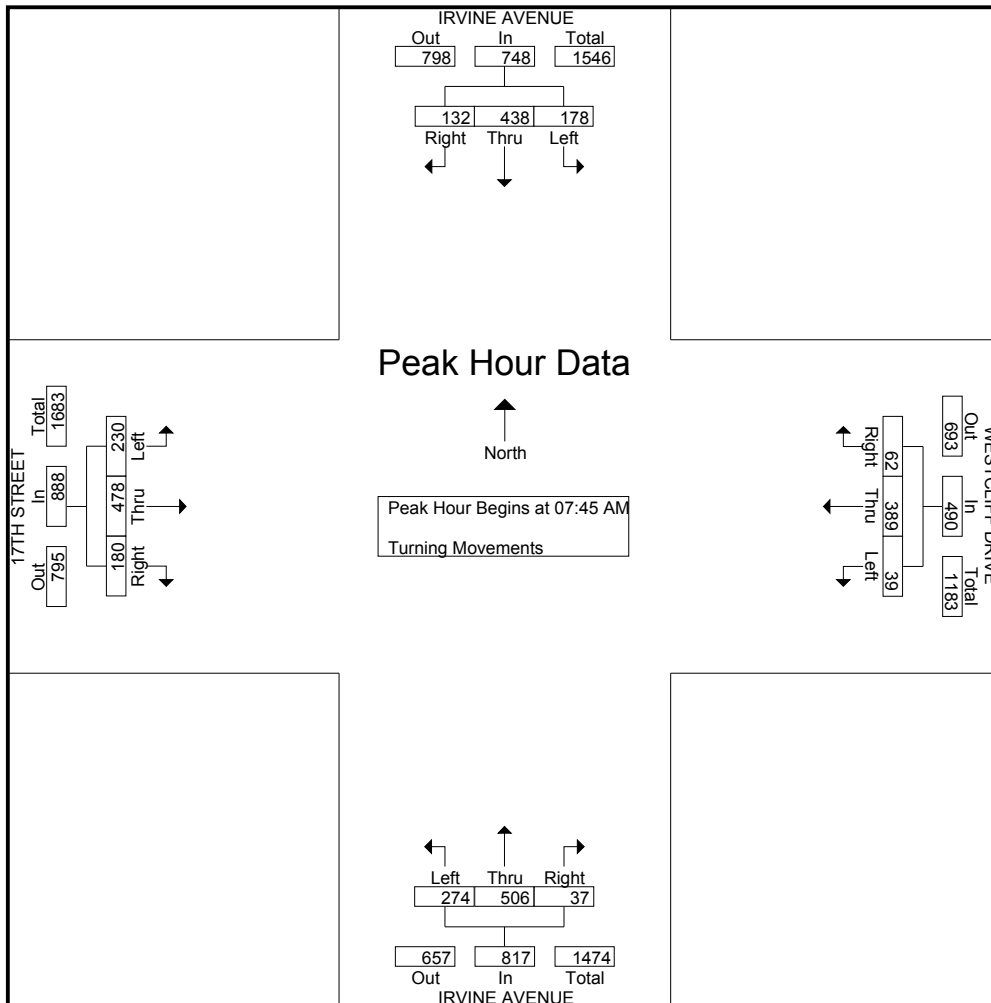
Start Time	IRVINE AVENUE Southbound			WESTCLIFF DRIVE Westbound			IRVINE AVENUE Northbound			17TH STREET Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	25	64	16	0	33	3	3	73	43	39	68	23	390
07:15 AM	26	43	13	4	42	5	3	64	59	30	80	31	400
07:30 AM	25	124	38	11	47	5	4	101	79	53	88	31	606
07:45 AM	25	194	71	18	74	5	6	130	69	80	116	53	841
Total	101	425	138	33	196	18	16	368	250	202	352	138	2237
08:00 AM	48	105	49	16	81	10	13	178	85	35	118	64	802
08:15 AM	25	63	30	12	109	7	8	108	71	28	131	49	641
08:30 AM	34	76	28	16	125	17	10	90	49	37	113	64	659
08:45 AM	50	88	58	14	135	14	4	100	68	35	116	40	722
Total	157	332	165	58	450	48	35	476	273	135	478	217	2824
*** BREAK ***													
04:30 PM	71	113	38	29	151	16	11	101	70	49	145	68	862
04:45 PM	72	113	71	17	162	15	9	95	81	46	125	77	883
Total	143	226	109	46	313	31	20	196	151	95	270	145	1745
05:00 PM	73	111	38	17	158	19	8	93	63	48	121	64	813
05:15 PM	118	142	59	38	136	16	9	128	79	55	126	58	964
05:30 PM	149	143	45	14	144	26	11	107	76	59	126	69	969
05:45 PM	135	164	38	21	143	17	9	139	81	60	109	50	966
Total	475	560	180	90	581	78	37	467	299	222	482	241	3712
06:00 PM	121	135	28	14	131	22	17	85	76	44	111	71	855
06:15 PM	94	134	35	10	143	15	12	72	73	70	125	60	843
Grand Total	1091	1812	655	251	1814	212	137	1664	1122	768	1818	872	12216
Apprch %	30.7	50.9	18.4	11	79.7	9.3	4.7	56.9	38.4	22.2	52.6	25.2	
Total %	8.9	14.8	5.4	2.1	14.8	1.7	1.1	13.6	9.2	6.3	14.9	7.1	

City: NEWPORT BEACH
 N-S Direction: IRVINE AVENUE
 E-W Direction: 17TH ST - WESTCLIFF DR

File Name : H1204030
 Site Code : 00003873
 Start Date : 5/3/2012
 Page No : 2

Start Time	IRVINE AVENUE Southbound				WESTCLIFF DRIVE Westbound				IRVINE AVENUE Northbound				17TH STREET Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
07:45 AM	25	194	71	290	18	74	5	97	6	130	69	205	80	116	53	249	841
08:00 AM	48	105	49	202	16	81	10	107	13	178	85	276	35	118	64	217	802
08:15 AM	25	63	30	118	12	109	7	128	8	108	71	187	28	131	49	208	641
08:30 AM	34	76	28	138	16	125	17	158	10	90	49	149	37	113	64	214	659
Total Volume	132	438	178	748	62	389	39	490	37	506	274	817	180	478	230	888	2943
% App. Total	17.6	58.6	23.8		12.7	79.4	8		4.5	61.9	33.5		20.3	53.8	25.9		
PHF	.688	.564	.627	.645	.861	.778	.574	.775	.712	.711	.806	.740	.563	.912	.898	.892	.875

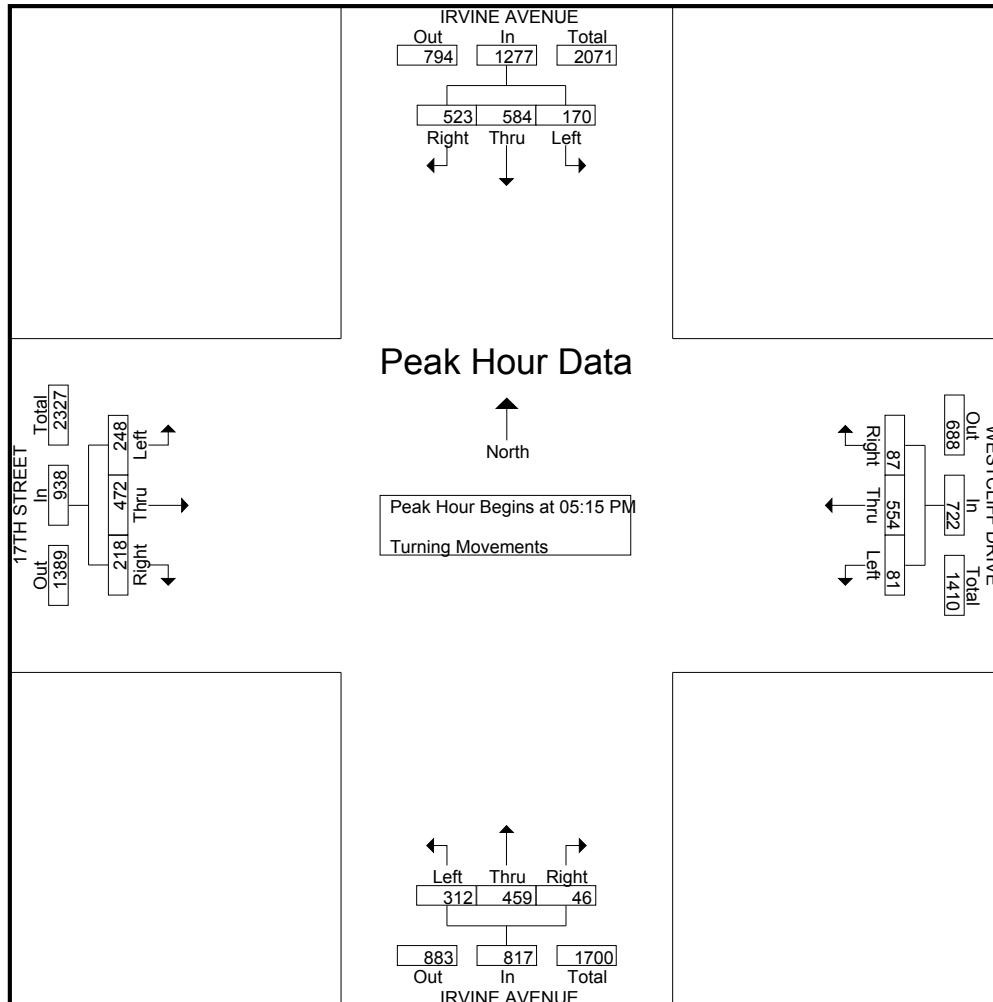
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:45 AM



City: NEWPORT BEACH
 N-S Direction: IRVINE AVENUE
 E-W Direction: 17TH ST - WESTCLIFF DR

File Name : H1204030
 Site Code : 00003873
 Start Date : 5/3/2012
 Page No : 3

Start Time	IRVINE AVENUE Southbound				WESTCLIFF DRIVE Westbound				IRVINE AVENUE Northbound				17TH STREET Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	118	142	59	319	38	136	16	190	9	128	79	216	55	126	58	239	964
05:30 PM	149	143	45	337	14	144	26	184	11	107	76	194	59	126	69	254	969
05:45 PM	135	164	38	337	21	143	17	181	9	139	81	229	60	109	50	219	966
06:00 PM	121	135	28	284	14	131	22	167	17	85	76	178	44	111	71	226	855
Total Volume	523	584	170	1277	87	554	81	722	46	459	312	817	218	472	248	938	3754
% App. Total	41	45.7	13.3		12	76.7	11.2		5.6	56.2	38.2		23.2	50.3	26.4		
PHF	.878	.890	.720	.947	.572	.962	.779	.950	.676	.826	.963	.892	.908	.937	.873	.923	.969



City: NEWPORT BEACH
 N-S Direction: DOVER DRIVE
 E-W Direction: WESTCLIFF DRIVE

File Name : H1204028
 Site Code : 00000562
 Start Date : 4/25/2012
 Page No : 1

Groups Printed- Turning Movements

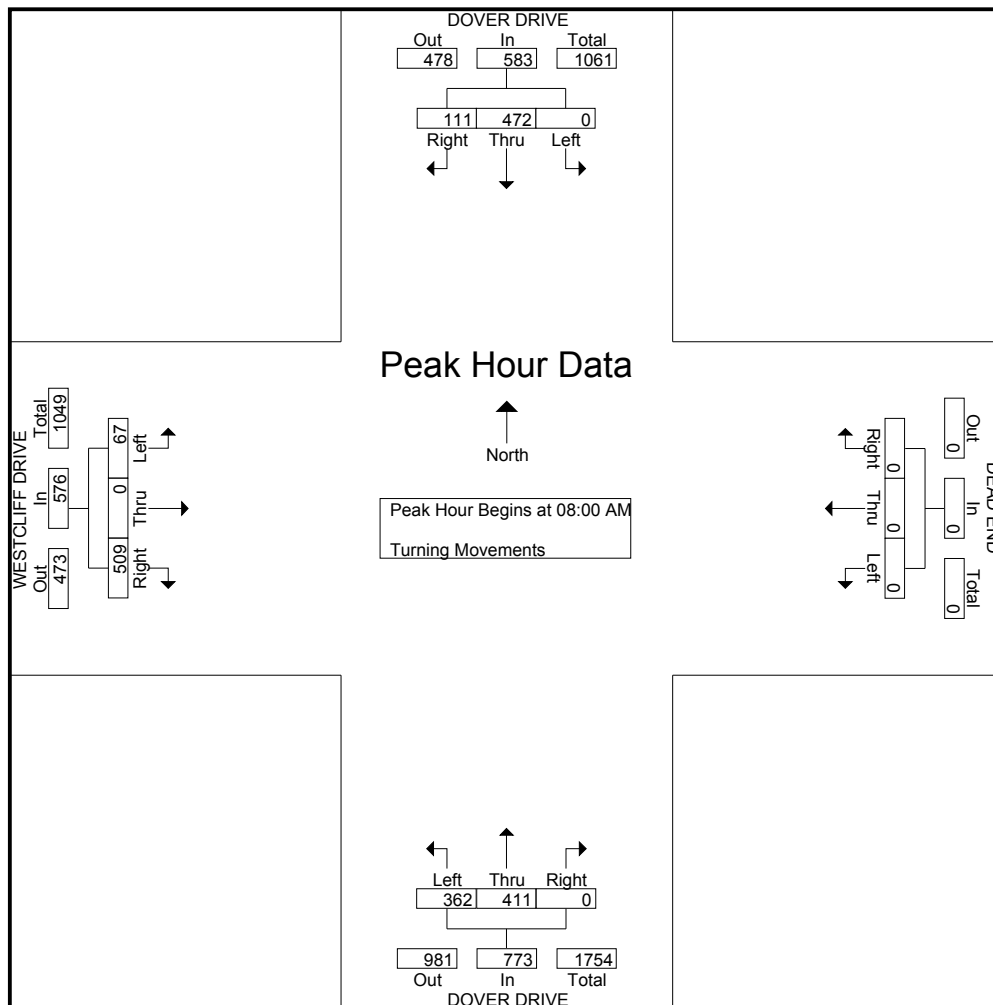
Start Time	DOVER DRIVE Southbound			DEAD END Westbound			DOVER DRIVE Northbound			WESTCLIFF DRIVE Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	8	41	0	0	0	0	0	38	27	67	0	11	192
07:15 AM	16	84	0	0	0	0	0	39	25	75	0	11	250
07:30 AM	18	94	0	0	0	0	0	81	42	96	0	8	339
07:45 AM	31	121	0	0	0	0	0	109	63	155	0	13	492
Total	73	340	0	0	0	0	0	267	157	393	0	43	1273
08:00 AM	26	81	0	0	0	0	0	109	96	104	0	19	435
08:15 AM	15	84	0	0	0	0	0	86	75	130	0	16	406
08:30 AM	39	143	0	0	0	0	0	87	100	130	0	17	516
08:45 AM	31	164	0	0	0	0	0	129	91	145	0	15	575
Total	111	472	0	0	0	0	0	411	362	509	0	67	1932
*** BREAK ***													
04:30 PM	26	78	0	0	0	0	0	127	137	130	0	25	523
04:45 PM	19	83	0	0	0	0	0	123	123	126	0	36	510
Total	45	161	0	0	0	0	0	250	260	256	0	61	1033
05:00 PM	24	86	0	0	0	0	0	111	131	120	0	30	502
05:15 PM	26	91	0	0	0	0	0	150	150	146	0	26	589
05:30 PM	24	101	0	0	0	0	0	149	132	114	0	34	554
05:45 PM	29	91	0	0	0	0	0	133	137	123	0	31	544
Total	103	369	0	0	0	0	0	543	550	503	0	121	2189
06:00 PM	32	79	0	0	0	0	0	97	117	104	0	31	460
06:15 PM	20	83	0	0	0	0	0	118	102	83	0	23	429
Grand Total	384	1504	0	0	0	0	0	1686	1548	1848	0	346	7316
Apprch %	20.3	79.7	0	0	0	0	0	52.1	47.9	84.2	0	15.8	
Total %	5.2	20.6	0	0	0	0	0	23	21.2	25.3	0	4.7	

City: NEWPORT BEACH
 N-S Direction: DOVER DRIVE
 E-W Direction: WESTCLIFF DRIVE

File Name : H1204028
 Site Code : 0000562
 Start Date : 4/25/2012
 Page No : 2

Start Time	DOVER DRIVE Southbound				DEAD END Westbound				DOVER DRIVE Northbound				WESTCLIFF DRIVE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
08:00 AM	26	81	0	107	0	0	0	0	0	109	96	205	104	0	19	123	435
08:15 AM	15	84	0	99	0	0	0	0	0	86	75	161	130	0	16	146	406
08:30 AM	39	143	0	182	0	0	0	0	0	87	100	187	130	0	17	147	516
08:45 AM	31	164	0	195	0	0	0	0	0	129	91	220	145	0	15	160	575
Total Volume	111	472	0	583	0	0	0	0	0	411	362	773	509	0	67	576	1932
% App. Total	19	81	0		0	0	0		0	53.2	46.8		88.4	0	11.6		
PHF	.712	.720	.000	.747	.000	.000	.000	.000	.000	.797	.905	.878	.878	.000	.882	.900	.840

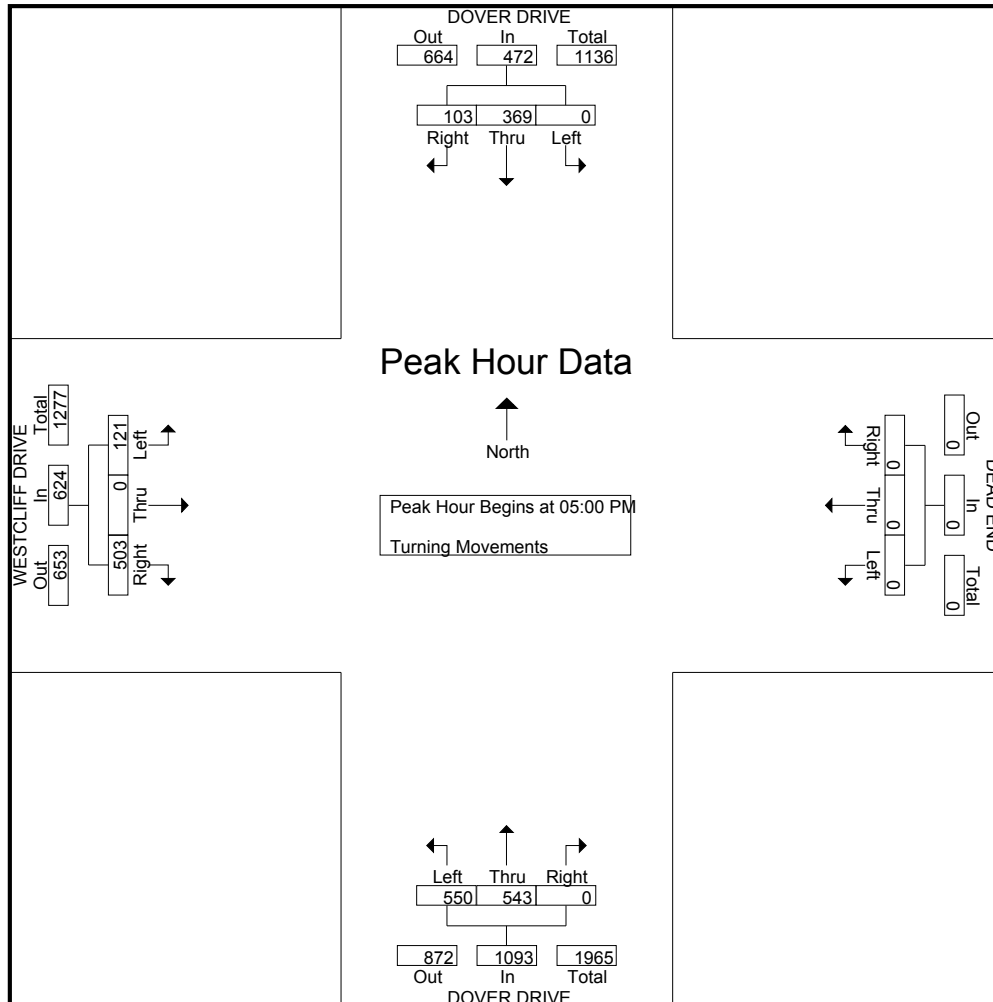
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 08:00 AM



City: NEWPORT BEACH
 N-S Direction: DOVER DRIVE
 E-W Direction: WESTCLIFF DRIVE

File Name : H1204028
 Site Code : 00000562
 Start Date : 4/25/2012
 Page No : 3

Start Time	DOVER DRIVE Southbound				DEAD END Westbound				DOVER DRIVE Northbound				WESTCLIFF DRIVE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	24	86	0	110	0	0	0	0	0	111	131	242	120	0	30	150	502
05:15 PM	26	91	0	117	0	0	0	0	0	150	150	300	146	0	26	172	589
05:30 PM	24	101	0	125	0	0	0	0	0	149	132	281	114	0	34	148	554
05:45 PM	29	91	0	120	0	0	0	0	0	133	137	270	123	0	31	154	544
Total Volume	103	369	0	472	0	0	0	0	0	543	550	1093	503	0	121	624	2189
% App. Total	21.8	78.2	0		0	0	0		0	49.7	50.3		80.6	0	19.4		
PHF	.888	.913	.000	.944	.000	.000	.000	.000	.000	.905	.917	.911	.861	.000	.890	.907	.929



City: NEWPORT BEACH
 N-S Direction: DOVER DRIVE
 E-W Direction: 16TH STREET

File Name : h1204027
 Site Code : 00005163
 Start Date : 4/25/2012
 Page No : 1

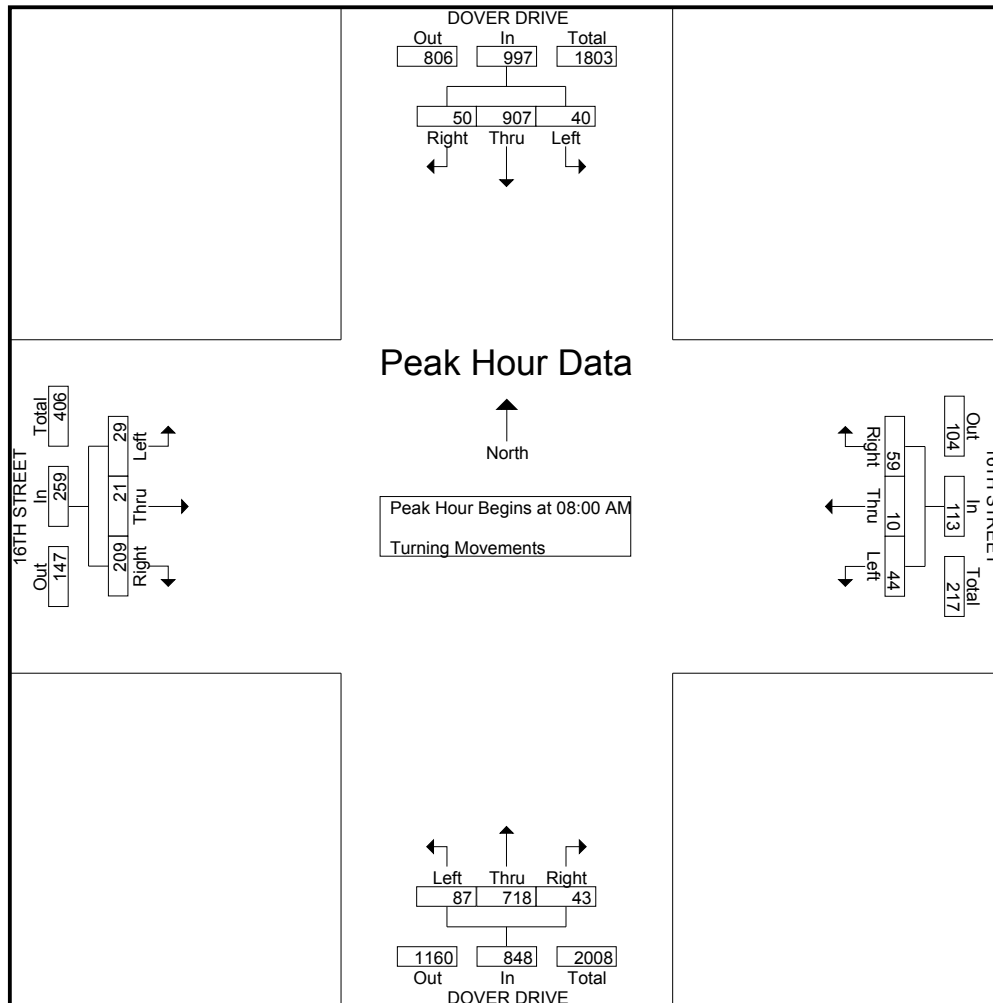
Groups Printed- Turning Movements

Start Time	DOVER DRIVE Southbound			16TH STREET Westbound			DOVER DRIVE Northbound			16TH STREET Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	1	109	5	7	1	4	2	53	8	25	1	5	221
07:15 AM	3	133	12	4	0	3	3	56	5	38	6	0	263
07:30 AM	4	180	5	12	0	21	9	107	23	46	1	3	411
07:45 AM	4	245	13	14	2	9	9	157	24	59	8	4	548
Total	12	667	35	37	3	37	23	373	60	168	16	12	1443
08:00 AM	3	194	12	16	1	6	15	193	23	53	4	2	522
08:15 AM	12	197	5	19	2	10	5	146	20	53	5	4	478
08:30 AM	24	236	11	12	5	17	9	176	21	40	3	10	564
08:45 AM	11	280	12	12	2	11	14	203	23	63	9	13	653
Total	50	907	40	59	10	44	43	718	87	209	21	29	2217
*** BREAK ***													
04:30 PM	6	188	21	17	2	6	5	234	23	38	3	5	548
04:45 PM	9	206	11	8	3	4	14	236	18	36	10	5	560
Total	15	394	32	25	5	10	19	470	41	74	13	10	1108
05:00 PM	4	190	32	15	5	10	13	229	29	37	6	10	580
05:15 PM	6	205	11	12	2	15	8	275	43	37	6	8	628
05:30 PM	7	226	20	12	3	16	14	253	22	39	5	8	625
05:45 PM	6	195	16	11	4	11	10	260	42	40	6	8	609
Total	23	816	79	50	14	52	45	1017	136	153	23	34	2442
06:00 PM	4	166	16	8	5	9	10	199	27	25	4	7	480
06:15 PM	8	177	18	8	2	5	10	214	32	21	4	2	501
Grand Total	112	3127	220	187	39	157	150	2991	383	650	81	94	8191
Apprch %	3.2	90.4	6.4	48.8	10.2	41	4.3	84.9	10.9	78.8	9.8	11.4	
Total %	1.4	38.2	2.7	2.3	0.5	1.9	1.8	36.5	4.7	7.9	1	1.1	

City: NEWPORT BEACH
 N-S Direction: DOVER DRIVE
 E-W Direction: 16TH STREET

File Name : h1204027
 Site Code : 00005163
 Start Date : 4/25/2012
 Page No : 2

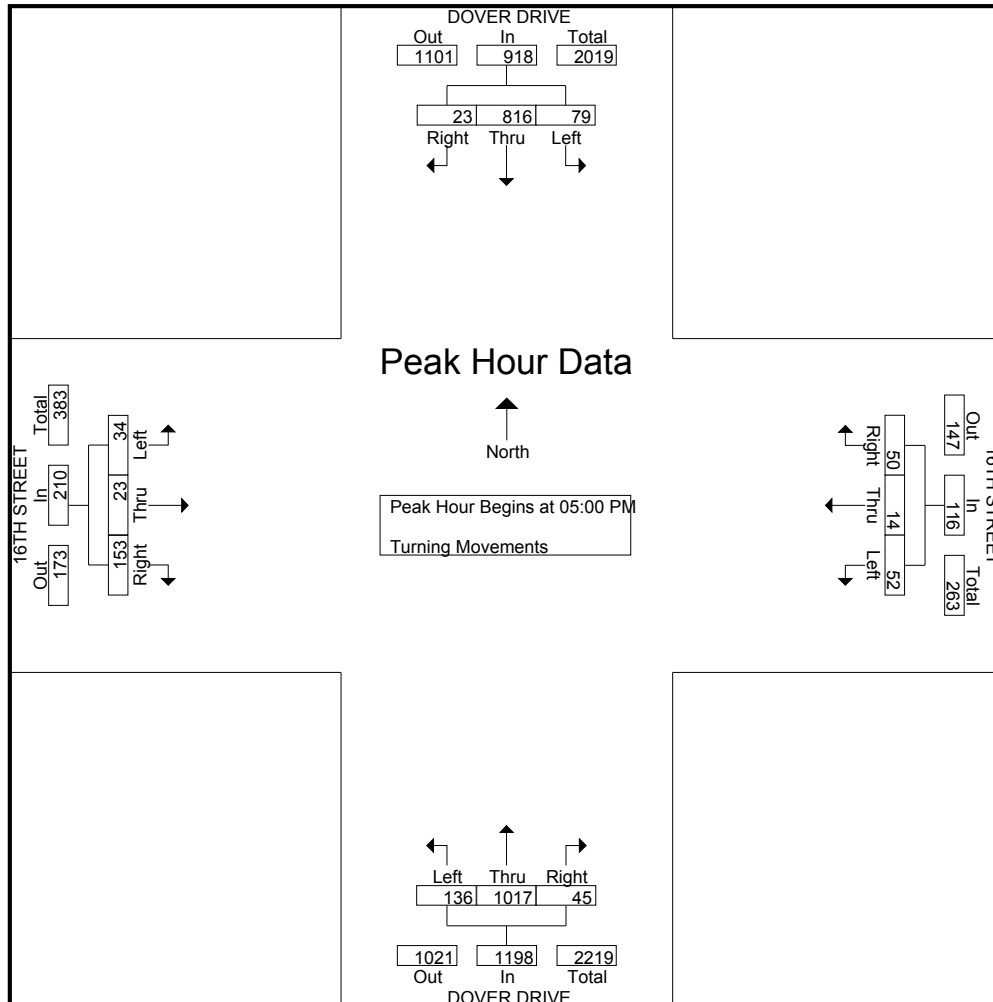
Start Time	DOVER DRIVE Southbound				16TH STREET Westbound				DOVER DRIVE Northbound				16TH STREET Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	3	194	12	209	16	1	6	23	15	193	23	231	53	4	2	59	522
08:15 AM	12	197	5	214	19	2	10	31	5	146	20	171	53	5	4	62	478
08:30 AM	24	236	11	271	12	5	17	34	9	176	21	206	40	3	10	53	564
08:45 AM	11	280	12	303	12	2	11	25	14	203	23	240	63	9	13	85	653
Total Volume	50	907	40	997	59	10	44	113	43	718	87	848	209	21	29	259	2217
% App. Total	5	91	4		52.2	8.8	38.9		5.1	84.7	10.3		80.7	8.1	11.2		
PHF	.521	.810	.833	.823	.776	.500	.647	.831	.717	.884	.946	.883	.829	.583	.558	.762	.849



City: NEWPORT BEACH
 N-S Direction: DOVER DRIVE
 E-W Direction: 16TH STREET

File Name : h1204027
 Site Code : 00005163
 Start Date : 4/25/2012
 Page No : 3

Start Time	DOVER DRIVE Southbound				16TH STREET Westbound				DOVER DRIVE Northbound				16TH STREET Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	4	190	32	226	15	5	10	30	13	229	29	271	37	6	10	53	580
05:15 PM	6	205	11	222	12	2	15	29	8	275	43	326	37	6	8	51	628
05:30 PM	7	226	20	253	12	3	16	31	14	253	22	289	39	5	8	52	625
05:45 PM	6	195	16	217	11	4	11	26	10	260	42	312	40	6	8	54	609
Total Volume	23	816	79	918	50	14	52	116	45	1017	136	1198	153	23	34	210	2442
% App. Total	2.5	88.9	8.6		43.1	12.1	44.8		3.8	84.9	11.4		72.9	11	16.2		
PHF	.821	.903	.617	.907	.833	.700	.813	.935	.804	.925	.791	.919	.956	.958	.850	.972	.972



City of Newport Beach
 N/S: Dover Drive
 E/W: West Coast Highway
 Weather: Clear

File Name : NPB_Dover_W Coast Hwy AM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 1

Groups Printed- Total Volume

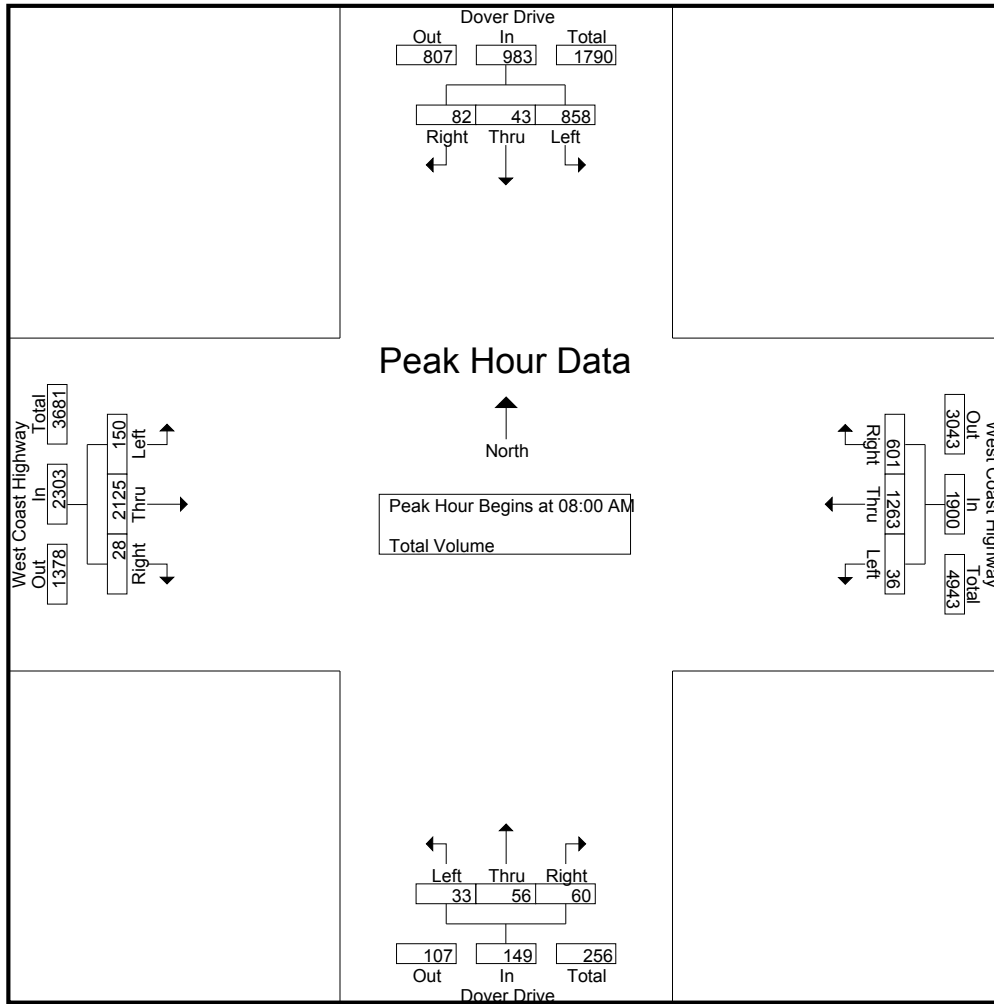
Start Time	Dover Drive Southbound				West Coast Highway Westbound				Dover Drive Northbound				West Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	141	14	22	177	9	175	73	257	4	6	3	13	25	275	14	314	761
07:15 AM	149	7	22	178	2	152	87	241	3	8	9	20	18	393	6	417	856
07:30 AM	209	5	26	240	7	267	109	383	7	7	16	30	32	407	6	445	1098
07:45 AM	207	10	14	231	11	252	144	407	7	15	15	37	24	494	8	526	1201
Total	706	36	84	826	29	846	413	1288	21	36	43	100	99	1569	34	1702	3916
08:00 AM	210	12	22	244	14	282	118	414	6	15	8	29	28	496	8	532	1219
08:15 AM	201	12	24	237	9	359	145	513	4	12	10	26	43	579	6	628	1404
08:30 AM	222	9	26	257	9	312	158	479	11	20	17	48	44	513	8	565	1349
08:45 AM	225	10	10	245	4	310	180	494	12	9	25	46	35	537	6	578	1363
Total	858	43	82	983	36	1263	601	1900	33	56	60	149	150	2125	28	2303	5335
Grand Total	1564	79	166	1809	65	2109	1014	3188	54	92	103	249	249	3694	62	4005	9251
Apprch %	86.5	4.4	9.2		2	66.2	31.8		21.7	36.9	41.4		6.2	92.2	1.5		
Total %	16.9	0.9	1.8	19.6	0.7	22.8	11	34.5	0.6	1	1.1	2.7	2.7	39.9	0.7	43.3	

Start Time	Dover Drive Southbound				West Coast Highway Westbound				Dover Drive Northbound				West Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	210	12	22	244	14	282	118	414	6	15	8	29	28	496	8	532	1219
08:15 AM	201	12	24	237	9	359	145	513	4	12	10	26	43	579	6	628	1404
08:30 AM	222	9	26	257	9	312	158	479	11	20	17	48	44	513	8	565	1349
08:45 AM	225	10	10	245	4	310	180	494	12	9	25	46	35	537	6	578	1363
Total Volume	858	43	82	983	36	1263	601	1900	33	56	60	149	150	2125	28	2303	5335
% App. Total	87.3	4.4	8.3		1.9	66.5	31.6		22.1	37.6	40.3		6.5	92.3	1.2		
PHF	.953	.896	.788	.956	.643	.880	.835	.926	.688	.700	.600	.776	.852	.918	.875	.917	.950

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 08:00 AM

City of Newport Beach
 N/S: Dover Drive
 E/W: West Coast Highway
 Weather: Clear

File Name : NPB_Dover_W Coast Hwy AM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	210	12	22	244	14	282	118	414	6	15	8	29	28	496	8	532
+15 mins.	201	12	24	237	9	359	145	513	4	12	10	26	43	579	6	628
+30 mins.	222	9	26	257	9	312	158	479	11	20	17	48	44	513	8	565
+45 mins.	225	10	10	245	4	310	180	494	12	9	25	46	35	537	6	578
Total Volume	858	43	82	983	36	1263	601	1900	33	56	60	149	150	2125	28	2303
% App. Total	87.3	4.4	8.3		1.9	66.5	31.6		22.1	37.6	40.3		6.5	92.3	1.2	
PHF	.953	.896	.788	.956	.643	.880	.835	.926	.688	.700	.600	.776	.852	.918	.875	.917

City of Newport Beach
 N/S: Dover Drive
 E/W: West Coast Highway
 Weather: Clear

File Name : NPB_Dover_W Coast Hwy PM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 1

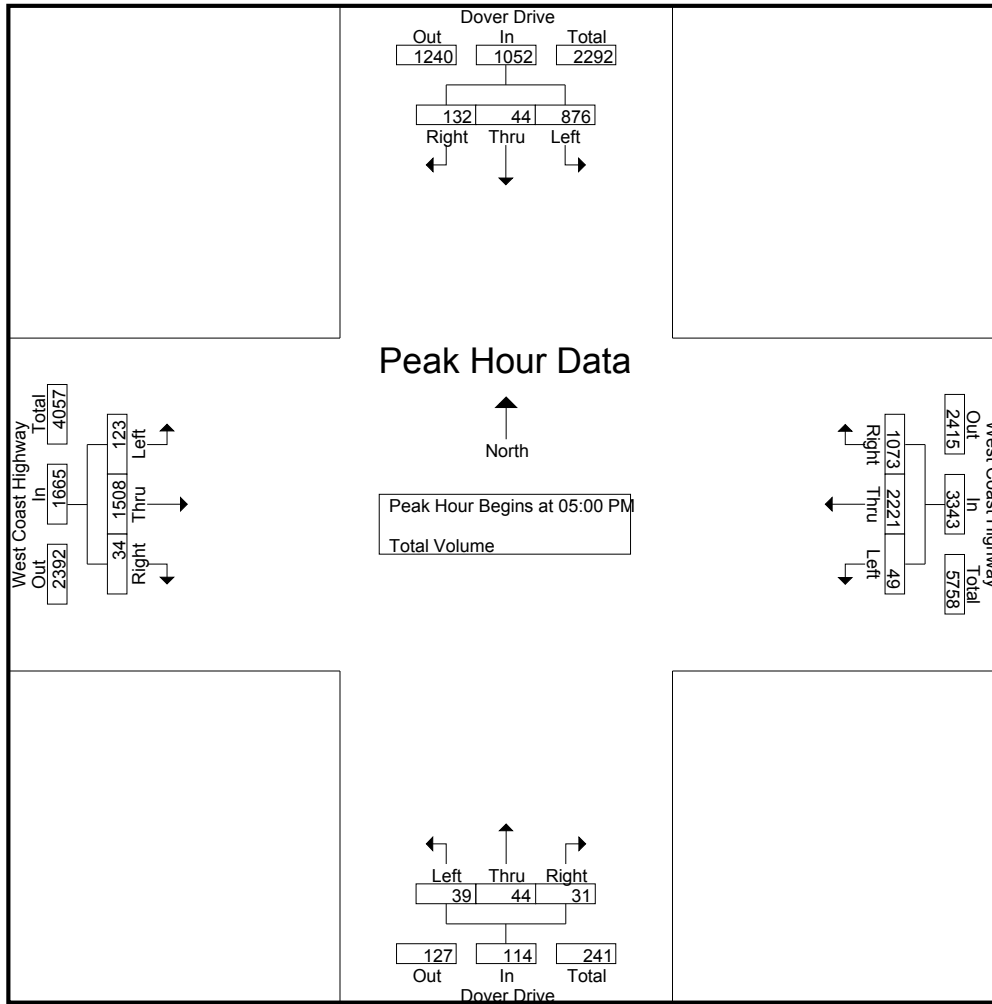
Groups Printed- Total Volume

Start Time	Dover Drive Southbound				West Coast Highway Westbound				Dover Drive Northbound				West Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	221	9	32	262	11	488	267	766	8	15	6	29	19	336	14	369	1426
04:15 PM	201	9	40	250	11	464	281	756	11	11	12	34	33	359	10	402	1442
04:30 PM	214	10	23	247	8	523	297	828	10	14	7	31	22	368	7	397	1503
04:45 PM	231	16	15	262	16	453	302	771	2	11	12	25	36	354	4	394	1452
Total	867	44	110	1021	46	1928	1147	3121	31	51	37	119	110	1417	35	1562	5823
05:00 PM	212	7	32	251	7	514	268	789	10	7	8	25	36	411	8	455	1520
05:15 PM	203	11	34	248	17	573	333	923	11	16	4	31	20	376	12	408	1610
05:30 PM	227	9	32	268	11	611	216	838	7	8	7	22	34	401	4	439	1567
05:45 PM	234	17	34	285	14	523	256	793	11	13	12	36	33	320	10	363	1477
Total	876	44	132	1052	49	2221	1073	3343	39	44	31	114	123	1508	34	1665	6174
Grand Total	1743	88	242	2073	95	4149	2220	6464	70	95	68	233	233	2925	69	3227	11997
Apprch %	84.1	4.2	11.7		1.5	64.2	34.3		30	40.8	29.2		7.2	90.6	2.1		
Total %	14.5	0.7	2	17.3	0.8	34.6	18.5	53.9	0.6	0.8	0.6	1.9	1.9	24.4	0.6	26.9	

Start Time	Dover Drive Southbound				West Coast Highway Westbound				Dover Drive Northbound				West Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
05:00 PM	212	7	32	251	7	514	268	789	10	7	8	25	36	411	8	455	1520
05:15 PM	203	11	34	248	17	573	333	923	11	16	4	31	20	376	12	408	1610
05:30 PM	227	9	32	268	11	611	216	838	7	8	7	22	34	401	4	439	1567
05:45 PM	234	17	34	285	14	523	256	793	11	13	12	36	33	320	10	363	1477
Total Volume	876	44	132	1052	49	2221	1073	3343	39	44	31	114	123	1508	34	1665	6174
% App. Total	83.3	4.2	12.5		1.5	66.4	32.1		34.2	38.6	27.2		7.4	90.6	2		
PHF	.936	.647	.971	.923	.721	.909	.806	.905	.886	.688	.646	.792	.854	.917	.708	.915	.959

City of Newport Beach
 N/S: Dover Drive
 E/W: West Coast Highway
 Weather: Clear

File Name : NPB_Dover_W Coast Hwy PM
 Site Code : 12213418
 Start Date : 10/23/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				04:00 PM				04:45 PM			
+0 mins.	212	7	32	251	7	514	268	789	8	15	6	29	36	354	4	394
+15 mins.	203	11	34	248	17	573	333	923	11	11	12	34	36	411	8	455
+30 mins.	227	9	32	268	11	611	216	838	10	14	7	31	20	376	12	408
+45 mins.	234	17	34	285	14	523	256	793	2	11	12	25	34	401	4	439
Total Volume	876	44	132	1052	49	2221	1073	3343	31	51	37	119	126	1542	28	1696
% App. Total	83.3	4.2	12.5		1.5	66.4	32.1		26.1	42.9	31.1		7.4	90.9	1.7	
PHF	.936	.647	.971	.923	.721	.909	.806	.905	.705	.850	.771	.875	.875	.938	.583	.932

City: NEWPORT BEACH
 N-S Direction: BAYSIDE DRIVE
 E-W Direction: COAST HIGHWAY

File Name : H1204022
 Site Code : 00003873
 Start Date : 5/1/2012
 Page No : 1

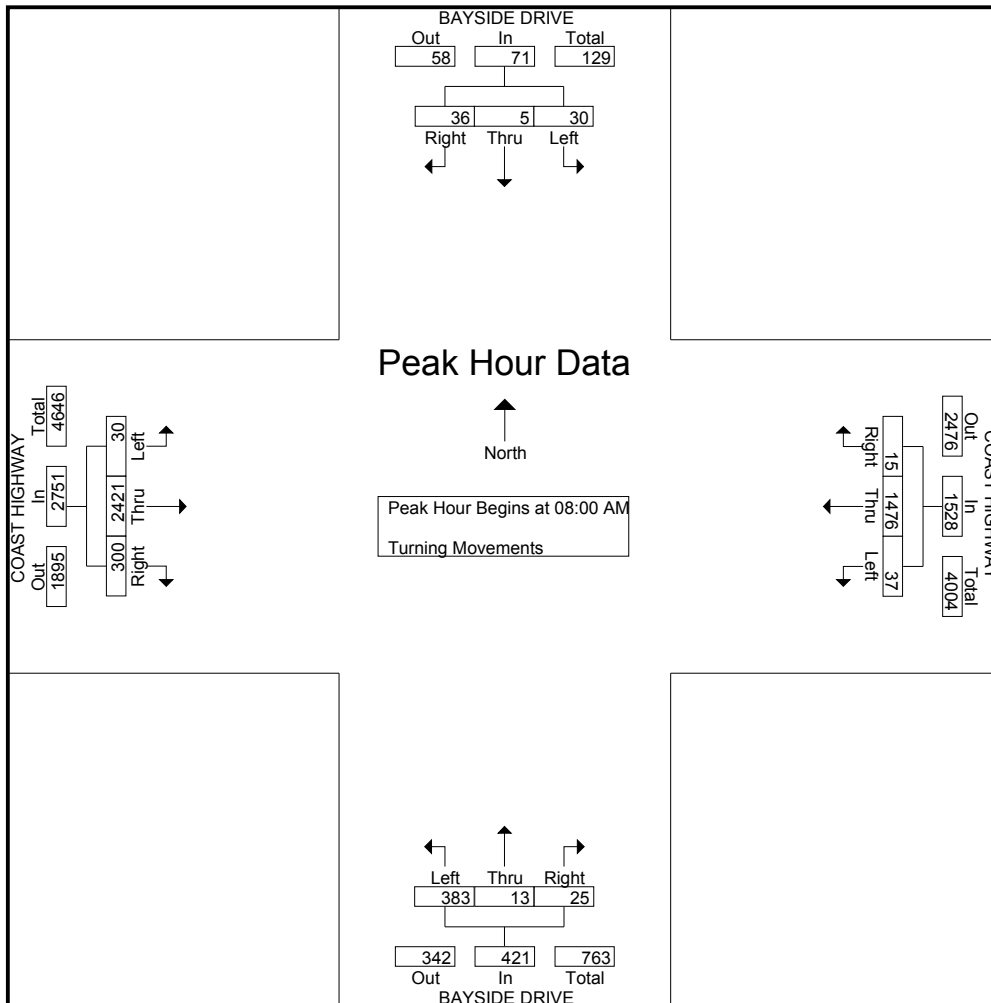
Groups Printed- Turning Movements

Start Time	BAYSIDE DRIVE Southbound			COAST HIGHWAY Westbound			BAYSIDE DRIVE Northbound			COAST HIGHWAY Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	4	0	5	1	168	3	6	0	56	45	311	7	606
07:15 AM	1	3	2	4	206	8	7	2	54	52	387	5	731
07:30 AM	10	1	1	3	232	5	9	0	63	54	460	6	844
07:45 AM	12	2	4	2	302	11	14	1	88	83	635	16	1170
Total	27	6	12	10	908	27	36	3	261	234	1793	34	3351
08:00 AM	5	1	9	3	337	9	5	1	88	82	601	10	1151
08:15 AM	10	1	10	3	385	9	4	1	87	61	605	5	1181
08:30 AM	10	0	6	7	353	8	3	4	97	75	585	7	1155
08:45 AM	11	3	5	2	401	11	13	7	111	82	630	8	1284
Total	36	5	30	15	1476	37	25	13	383	300	2421	30	4771
*** BREAK ***													
04:30 PM	10	1	6	10	615	13	10	2	112	151	463	16	1409
04:45 PM	17	0	10	8	617	18	9	0	107	125	410	12	1333
Total	27	1	16	18	1232	31	19	2	219	276	873	28	2742
05:00 PM	12	9	9	8	606	19	10	1	112	128	448	12	1374
05:15 PM	7	1	6	7	850	15	5	3	102	130	512	12	1650
05:30 PM	12	3	5	3	675	11	6	2	107	103	482	18	1427
05:45 PM	7	3	3	5	732	12	8	2	89	112	453	8	1434
Total	38	16	23	23	2863	57	29	8	410	473	1895	50	5885
06:00 PM	14	1	7	8	622	8	9	3	105	85	438	15	1315
06:15 PM	11	1	3	12	609	20	4	1	78	111	412	12	1274
Grand Total	153	30	91	86	7710	180	122	30	1456	1479	7832	169	19338
Apprch %	55.8	10.9	33.2	1.1	96.7	2.3	7.6	1.9	90.5	15.6	82.6	1.8	
Total %	0.8	0.2	0.5	0.4	39.9	0.9	0.6	0.2	7.5	7.6	40.5	0.9	

City: NEWPORT BEACH
 N-S Direction: BAYSIDE DRIVE
 E-W Direction: COAST HIGHWAY

File Name : H1204022
 Site Code : 00003873
 Start Date : 5/1/2012
 Page No : 2

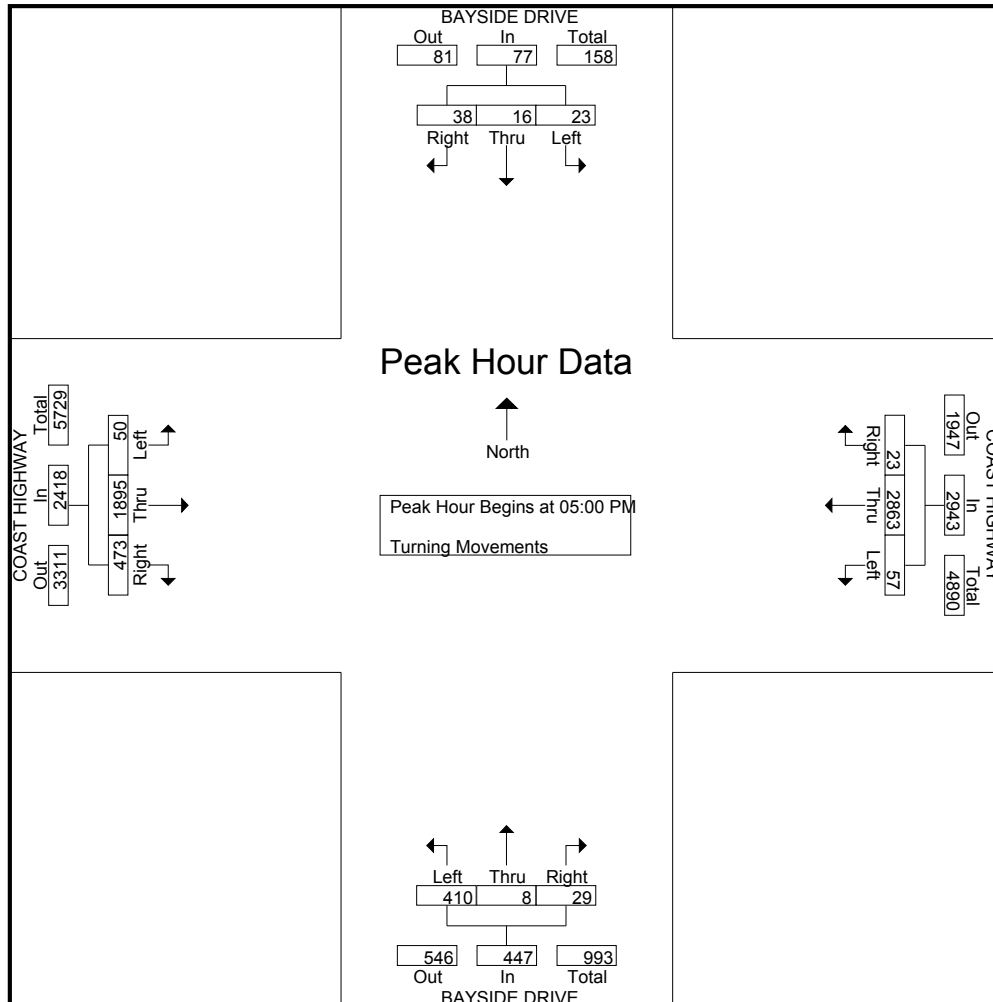
Start Time	BAYSIDE DRIVE Southbound				COAST HIGHWAY Westbound				BAYSIDE DRIVE Northbound				COAST HIGHWAY Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	5	1	9	15	3	337	9	349	5	1	88	94	82	601	10	693	1151
08:15 AM	10	1	10	21	3	385	9	397	4	1	87	92	61	605	5	671	1181
08:30 AM	10	0	6	16	7	353	8	368	3	4	97	104	75	585	7	667	1155
08:45 AM	11	3	5	19	2	401	11	414	13	7	111	131	82	630	8	720	1284
Total Volume	36	5	30	71	15	1476	37	1528	25	13	383	421	300	2421	30	2751	4771
% App. Total	50.7	7	42.3		1	96.6	2.4		5.9	3.1	91		10.9	88	1.1		
PHF	.818	.417	.750	.845	.536	.920	.841	.923	.481	.464	.863	.803	.915	.961	.750	.955	.929



City: NEWPORT BEACH
 N-S Direction: BAYSIDE DRIVE
 E-W Direction: COAST HIGHWAY

File Name : H1204022
 Site Code : 00003873
 Start Date : 5/1/2012
 Page No : 3

Start Time	BAYSIDE DRIVE Southbound				COAST HIGHWAY Westbound				BAYSIDE DRIVE Northbound				COAST HIGHWAY Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	12	9	9	30	8	606	19	633	10	1	112	123	128	448	12	588	1374
05:15 PM	7	1	6	14	7	850	15	872	5	3	102	110	130	512	12	654	1650
05:30 PM	12	3	5	20	3	675	11	689	6	2	107	115	103	482	18	603	1427
05:45 PM	7	3	3	13	5	732	12	749	8	2	89	99	112	453	8	573	1434
Total Volume	38	16	23	77	23	2863	57	2943	29	8	410	447	473	1895	50	2418	5885
% App. Total	49.4	20.8	29.9		0.8	97.3	1.9		6.5	1.8	91.7		19.6	78.4	2.1		
PHF	.792	.444	.639	.642	.719	.842	.750	.844	.725	.667	.915	.909	.910	.925	.694	.924	.892



City: NEWPORT BEACH
 N-S Direction: JAMBOREE ROAD
 E-W Direction: MACARTHUR BOULEVARD

File Name : H1302028
 Site Code : 00000557
 Start Date : 4/10/2013
 Page No : 1

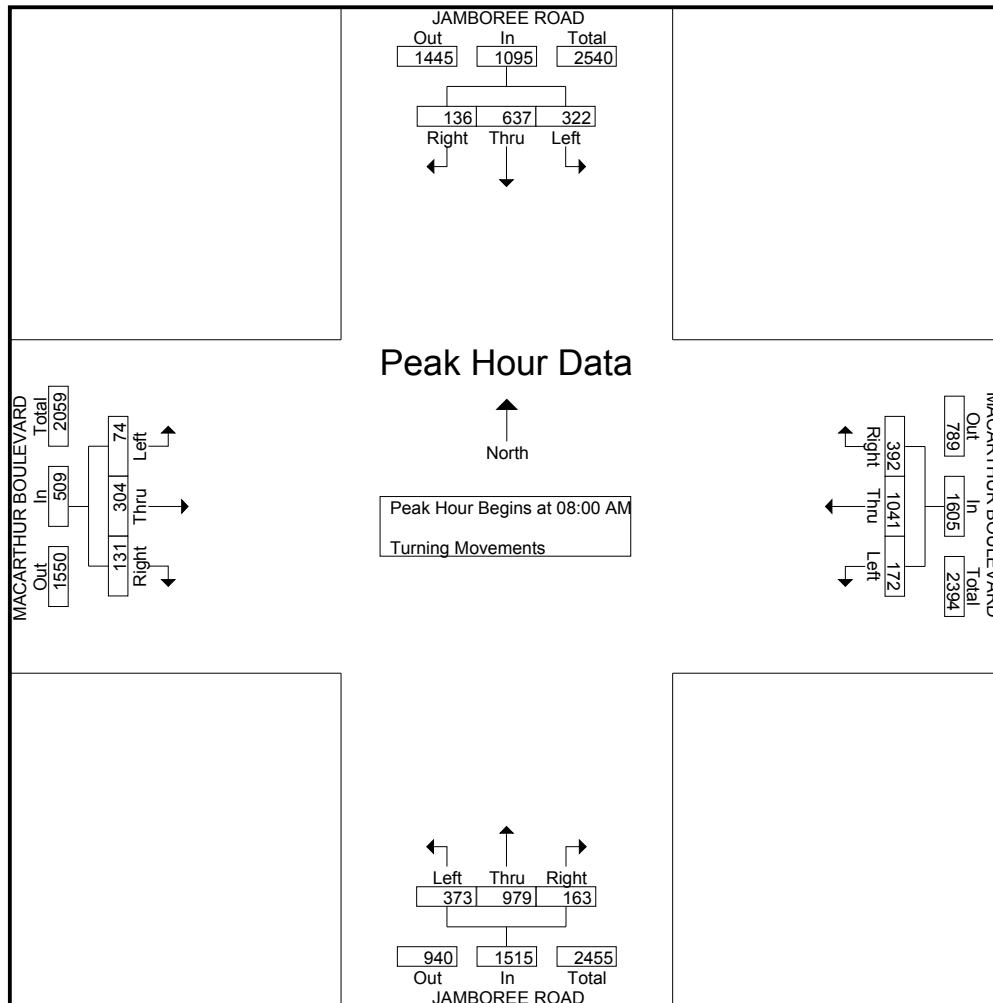
Groups Printed- Turning Movements

Start Time	JAMBOREE ROAD Southbound			MACARTHUR BOULEVARD Westbound			JAMBOREE ROAD Northbound			MACARTHUR BOULEVARD Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	17	91	52	32	76	11	27	138	46	17	34	5	546
07:15 AM	26	104	71	50	107	17	27	136	49	16	42	14	659
07:30 AM	20	125	75	62	195	22	21	153	57	24	59	11	824
07:45 AM	15	133	68	94	200	31	33	222	75	26	72	15	984
Total	78	453	266	238	578	81	108	649	227	83	207	45	3013
08:00 AM	27	156	71	91	257	31	44	245	98	30	68	12	1130
08:15 AM	46	153	74	89	323	46	33	245	90	30	93	16	1238
08:30 AM	26	132	79	107	259	38	50	241	104	39	74	34	1183
08:45 AM	37	196	98	105	202	57	36	248	81	32	69	12	1173
Total	136	637	322	392	1041	172	163	979	373	131	304	74	4724
*** BREAK ***													
04:30 PM	19	221	130	81	103	56	11	151	65	82	75	45	1039
04:45 PM	37	215	132	83	118	45	12	204	50	70	164	50	1180
Total	56	436	262	164	221	101	23	355	115	152	239	95	2219
05:00 PM	41	233	100	92	105	54	11	170	59	86	280	51	1282
05:15 PM	64	337	137	94	108	58	14	182	65	98	301	94	1552
05:30 PM	60	297	163	93	109	68	16	172	55	98	398	52	1581
05:45 PM	32	300	150	85	102	67	30	190	61	101	347	77	1542
Total	197	1167	550	364	424	247	71	714	240	383	1326	274	5957
06:00 PM	59	301	182	70	79	56	10	191	52	96	284	25	1405
06:15 PM	69	299	178	84	70	37	19	173	38	78	290	69	1404
Grand Total	595	3293	1760	1312	2413	694	394	3061	1045	923	2650	582	18722
Apprch %	10.5	58.3	31.2	29.7	54.6	15.7	8.8	68	23.2	22.2	63.8	14	
Total %	3.2	17.6	9.4	7	12.9	3.7	2.1	16.3	5.6	4.9	14.2	3.1	

City: NEWPORT BEACH
 N-S Direction: JAMBOREE ROAD
 E-W Direction: MACARTHUR BOULEVARD

File Name : H1302028
 Site Code : 00000557
 Start Date : 4/10/2013
 Page No : 2

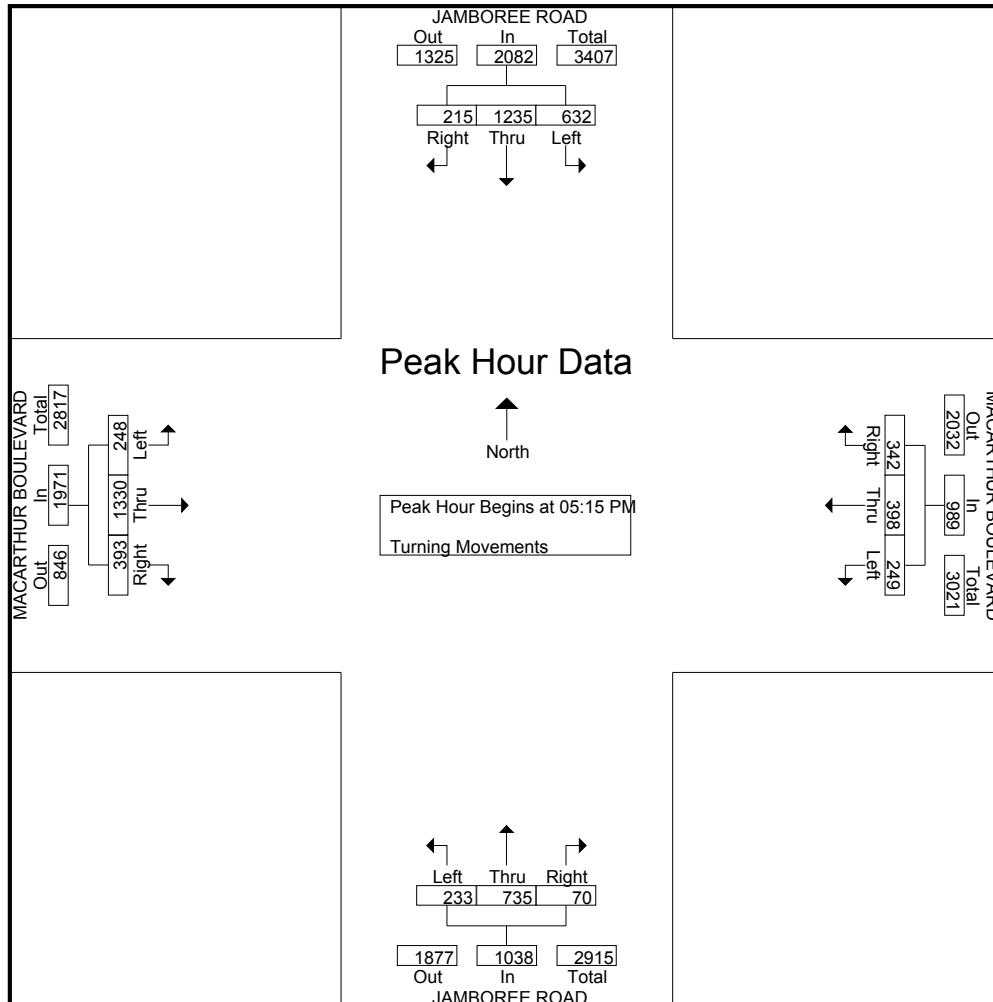
Start Time	JAMBOREE ROAD Southbound				MACARTHUR BOULEVARD Westbound				JAMBOREE ROAD Northbound				MACARTHUR BOULEVARD Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	27	156	71	254	91	257	31	379	44	245	98	387	30	68	12	110	1130
08:15 AM	46	153	74	273	89	323	46	458	33	245	90	368	30	93	16	139	1238
08:30 AM	26	132	79	237	107	259	38	404	50	241	104	395	39	74	34	147	1183
08:45 AM	37	196	98	331	105	202	57	364	36	248	81	365	32	69	12	113	1173
Total Volume	136	637	322	1095	392	1041	172	1605	163	979	373	1515	131	304	74	509	4724
% App. Total	12.4	58.2	29.4		24.4	64.9	10.7		10.8	64.6	24.6		25.7	59.7	14.5		
PHF	.739	.813	.821	.827	.916	.806	.754	.876	.815	.987	.897	.959	.840	.817	.544	.866	.954



City: NEWPORT BEACH
 N-S Direction: JAMBOREE ROAD
 E-W Direction: MACARTHUR BOULEVARD

File Name : H1302028
 Site Code : 00000557
 Start Date : 4/10/2013
 Page No : 3

Start Time	JAMBOREE ROAD Southbound				MACARTHUR BOULEVARD Westbound				JAMBOREE ROAD Northbound				MACARTHUR BOULEVARD Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	64	337	137	538	94	108	58	260	14	182	65	261	98	301	94	493	1552
05:30 PM	60	297	163	520	93	109	68	270	16	172	55	243	98	398	52	548	1581
05:45 PM	32	300	150	482	85	102	67	254	30	190	61	281	101	347	77	525	1542
06:00 PM	59	301	182	542	70	79	56	205	10	191	52	253	96	284	25	405	1405
Total Volume	215	1235	632	2082	342	398	249	989	70	735	233	1038	393	1330	248	1971	6080
% App. Total	10.3	59.3	30.4		34.6	40.2	25.2		6.7	70.8	22.4		19.9	67.5	12.6		
PHF	.840	.916	.868	.960	.910	.913	.915	.916	.583	.962	.896	.923	.973	.835	.660	.899	.961



City: NEWPORT BEACH
 N-S Direction: JAMBOREE ROAD
 E-W Direction: BRISTOL ST - NORTH

File Name : H1302025
 Site Code : 00000553
 Start Date : 4/10/2013
 Page No : 1

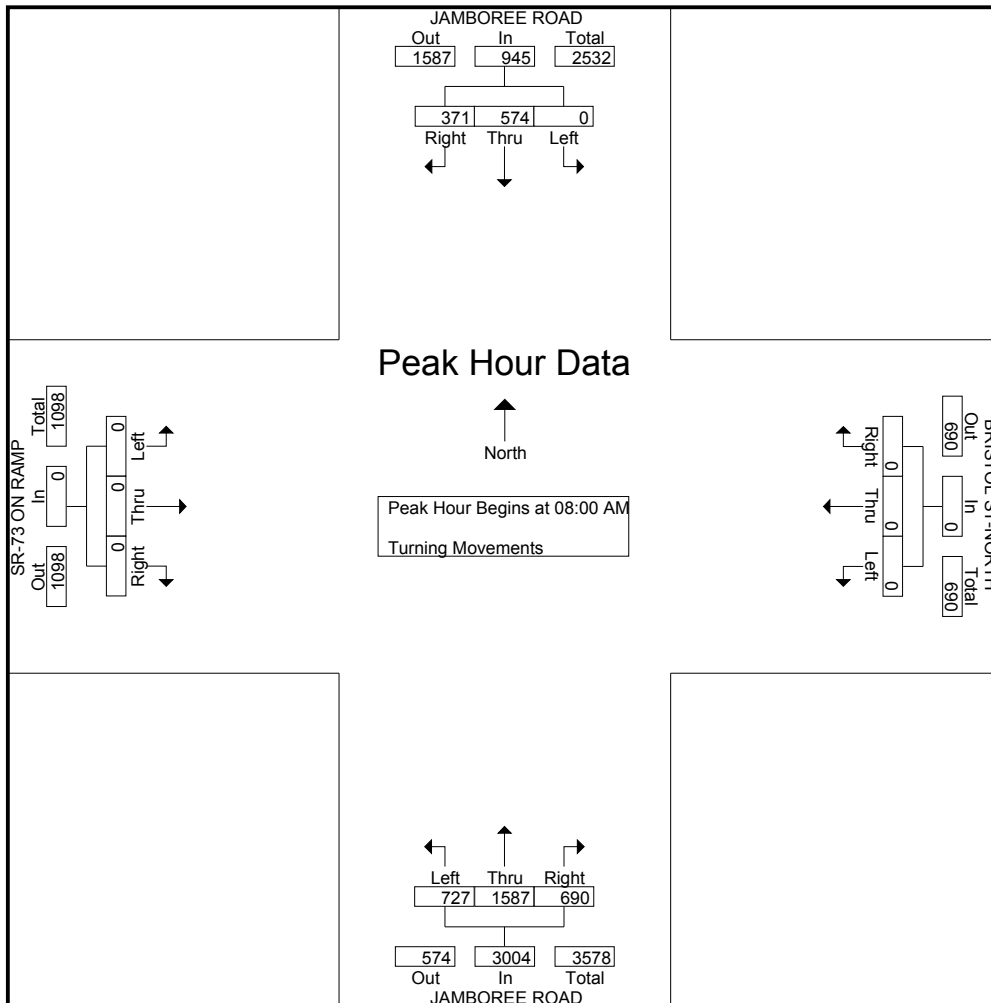
Groups Printed- Turning Movements

Start Time	JAMBOREE ROAD Southbound			BRISTOL ST-NORTH Westbound			JAMBOREE ROAD Northbound			SR-73 ON RAMP Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	32	77	0	0	0	0	132	182	91	0	0	0	514
07:15 AM	49	103	0	0	0	0	135	222	111	0	0	0	620
07:30 AM	43	118	0	0	0	0	156	258	148	0	0	0	723
07:45 AM	64	108	0	0	0	0	168	340	144	0	0	0	824
Total	188	406	0	0	0	0	591	1002	494	0	0	0	2681
08:00 AM	82	152	0	0	0	0	196	413	225	0	0	0	1068
08:15 AM	90	139	0	0	0	0	147	409	151	0	0	0	936
08:30 AM	97	128	0	0	0	0	165	364	153	0	0	0	907
08:45 AM	102	155	0	0	0	0	182	401	198	0	0	0	1038
Total	371	574	0	0	0	0	690	1587	727	0	0	0	3949
*** BREAK ***													
04:30 PM	162	215	0	0	0	0	197	242	154	0	0	0	970
04:45 PM	165	184	0	0	0	0	255	242	189	0	0	0	1035
Total	327	399	0	0	0	0	452	484	343	0	0	0	2005
05:00 PM	206	220	0	0	0	0	215	239	173	0	0	0	1053
05:15 PM	179	242	0	0	0	0	270	294	189	0	0	0	1174
05:30 PM	201	316	0	0	0	0	205	236	194	0	0	0	1152
05:45 PM	195	273	0	0	0	0	211	239	152	0	0	0	1070
Total	781	1051	0	0	0	0	901	1008	708	0	0	0	4449
06:00 PM	156	265	0	0	0	0	214	240	137	0	0	0	1012
06:15 PM	192	247	0	0	0	0	196	216	135	0	0	0	986
Grand Total	2015	2942	0	0	0	0	3044	4537	2544	0	0	0	15082
Apprch %	40.6	59.4	0	0	0	0	30.1	44.8	25.1	0	0	0	
Total %	13.4	19.5	0	0	0	0	20.2	30.1	16.9	0	0	0	

City: NEWPORT BEACH
 N-S Direction: JAMBOREE ROAD
 E-W Direction: BRISTOL ST - NORTH

File Name : H1302025
 Site Code : 0000553
 Start Date : 4/10/2013
 Page No : 2

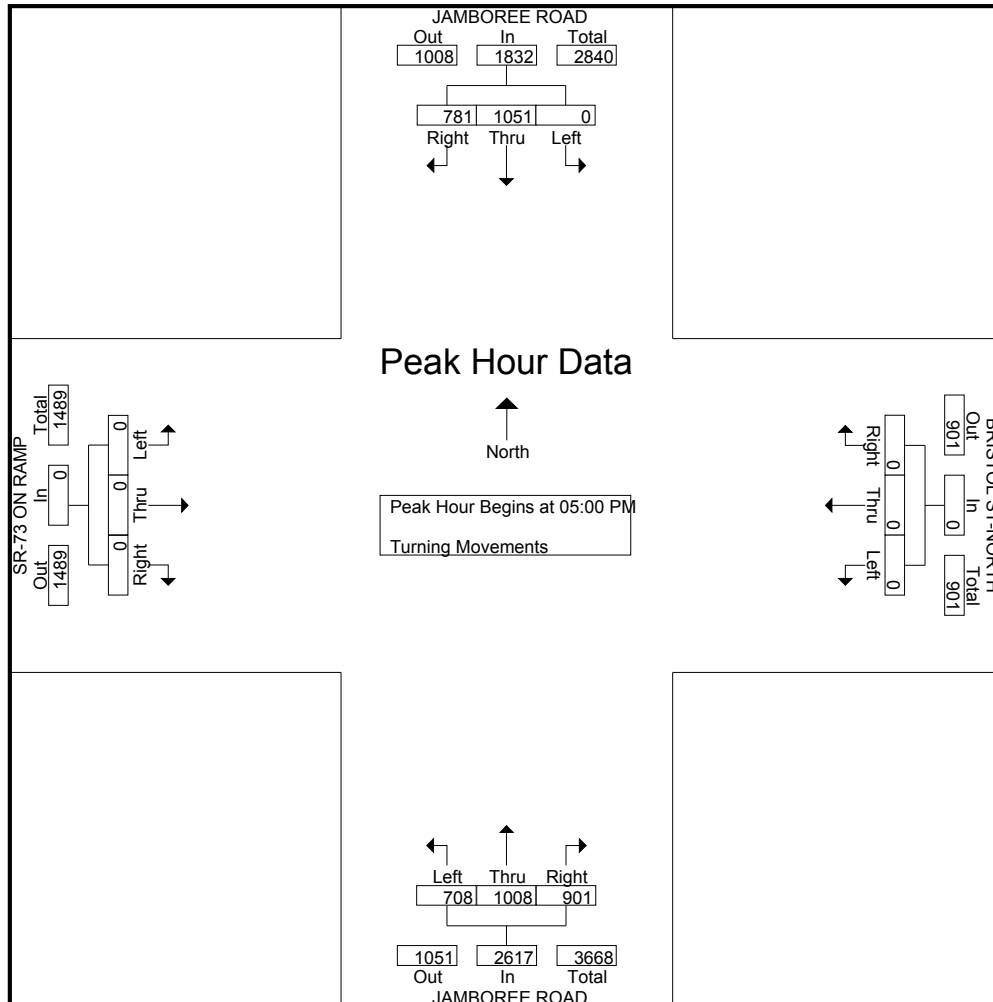
Start Time	JAMBOREE ROAD Southbound				BRISTOL ST-NORTH Westbound				JAMBOREE ROAD Northbound				SR-73 ON RAMP Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	82	152	0	234	0	0	0	0	196	413	225	834	0	0	0	0	1068
08:15 AM	90	139	0	229	0	0	0	0	147	409	151	707	0	0	0	0	936
08:30 AM	97	128	0	225	0	0	0	0	165	364	153	682	0	0	0	0	907
08:45 AM	102	155	0	257	0	0	0	0	182	401	198	781	0	0	0	0	1038
Total Volume	371	574	0	945	0	0	0	0	690	1587	727	3004	0	0	0	0	3949
% App. Total	39.3	60.7	0		0	0	0		23	52.8	24.2		0	0	0		
PHF	.909	.926	.000	.919	.000	.000	.000	.000	.880	.961	.808	.900	.000	.000	.000	.000	.924



City: NEWPORT BEACH
 N-S Direction: JAMBOREE ROAD
 E-W Direction: BRISTOL ST - NORTH

File Name : H1302025
 Site Code : 00000553
 Start Date : 4/10/2013
 Page No : 3

Start Time	JAMBOREE ROAD Southbound				BRISTOL ST-NORTH Westbound				JAMBOREE ROAD Northbound				SR-73 ON RAMP Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	206	220	0	426	0	0	0	0	215	239	173	627	0	0	0	0	1053
05:15 PM	179	242	0	421	0	0	0	0	270	294	189	753	0	0	0	0	1174
05:30 PM	201	316	0	517	0	0	0	0	205	236	194	635	0	0	0	0	1152
05:45 PM	195	273	0	468	0	0	0	0	211	239	152	602	0	0	0	0	1070
Total Volume	781	1051	0	1832	0	0	0	0	901	1008	708	2617	0	0	0	0	4449
% App. Total	42.6	57.4	0		0	0	0		34.4	38.5	27.1		0	0	0		
PHF	.948	.831	.000	.886	.000	.000	.000	.000	.834	.857	.912	.869	.000	.000	.000	.000	.947



City: NEWPORT BEACH
 N-S Direction: BAYVIEW PLACE
 E-W Direction: BRISTOL STREET

File Name : H1302008
 Site Code : 00005060
 Start Date : 3/13/2013
 Page No : 1

Groups Printed- Turning Movements

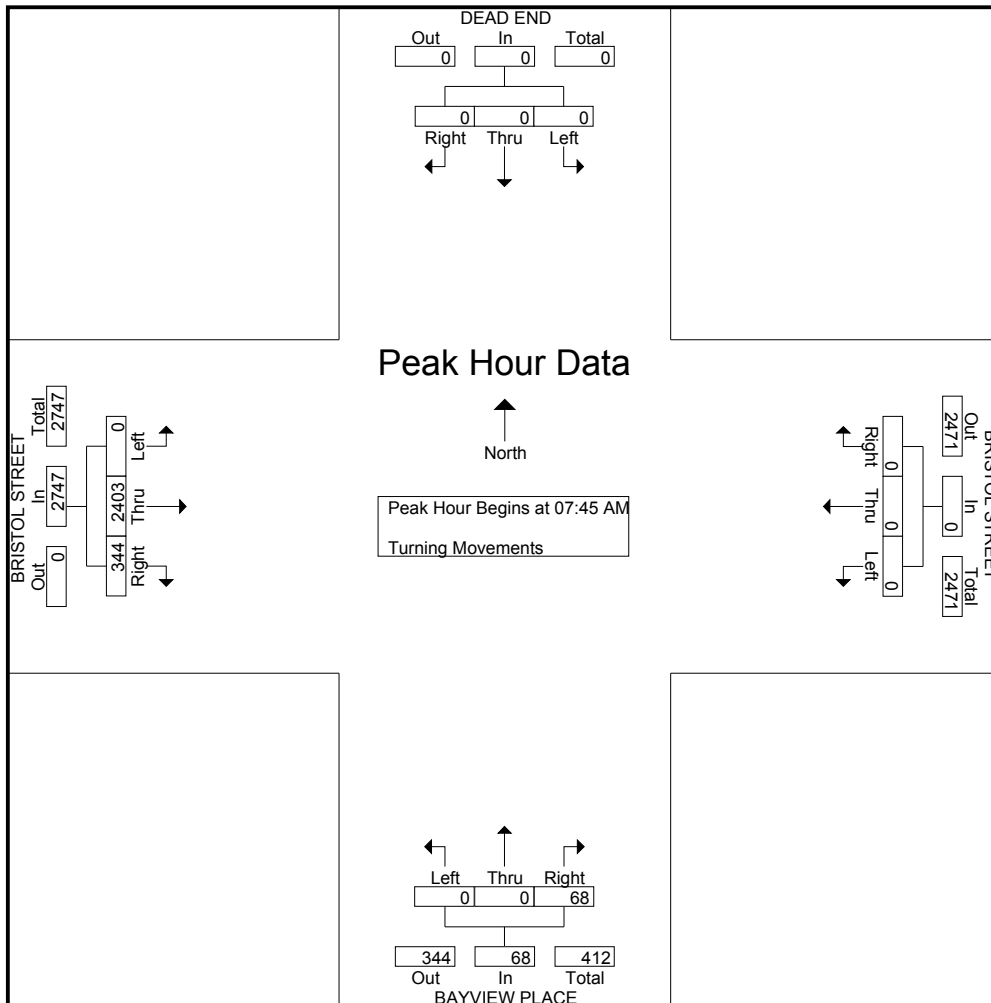
Start Time	DEAD END Southbound			BRISTOL STREET Westbound			BAYVIEW PLACE Northbound			BRISTOL STREET Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	0	0	0	0	0	0	8	0	0	40	415	0	463
07:15 AM	0	0	0	0	0	0	13	0	0	37	468	0	518
07:30 AM	0	0	0	0	0	0	12	0	0	68	560	0	640
07:45 AM	0	0	0	0	0	0	17	0	0	90	633	0	740
Total	0	0	0	0	0	0	50	0	0	235	2076	0	2361
08:00 AM	0	0	0	0	0	0	26	0	0	95	578	0	699
08:15 AM	0	0	0	0	0	0	12	0	0	79	590	0	681
08:30 AM	0	0	0	0	0	0	13	0	0	80	602	0	695
08:45 AM	0	0	0	0	0	0	24	0	0	70	604	0	698
Total	0	0	0	0	0	0	75	0	0	324	2374	0	2773
*** BREAK ***													
04:30 PM	0	0	0	0	0	0	59	0	0	29	428	0	516
04:45 PM	0	0	0	0	0	0	40	0	0	35	461	0	536
Total	0	0	0	0	0	0	99	0	0	64	889	0	1052
05:00 PM	0	0	0	0	0	0	74	0	0	34	439	0	547
05:15 PM	0	0	0	0	0	0	76	0	0	32	507	0	615
05:30 PM	0	0	0	0	0	0	57	0	0	59	463	0	579
05:45 PM	0	0	0	0	0	0	70	0	0	26	563	0	659
Total	0	0	0	0	0	0	277	0	0	151	1972	0	2400
06:00 PM	0	0	0	0	0	0	50	0	0	37	562	0	649
06:15 PM	0	0	0	0	0	0	51	0	0	28	602	0	681
Grand Total	0	0	0	0	0	0	602	0	0	839	8475	0	9916
Apprch %	0	0	0	0	0	0	100	0	0	9	91	0	
Total %	0	0	0	0	0	0	6.1	0	0	8.5	85.5	0	

City: NEWPORT BEACH
 N-S Direction: BAYVIEW PLACE
 E-W Direction: BRISTOL STREET

File Name : H1302008
 Site Code : 00005060
 Start Date : 3/13/2013
 Page No : 2

Start Time	DEAD END Southbound				BRISTOL STREET Westbound				BAYVIEW PLACE Northbound				BRISTOL STREET Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
07:45 AM	0	0	0	0	0	0	0	0	17	0	0	17	90	633	0	723	740
08:00 AM	0	0	0	0	0	0	0	0	26	0	0	26	95	578	0	673	699
08:15 AM	0	0	0	0	0	0	0	0	12	0	0	12	79	590	0	669	681
08:30 AM	0	0	0	0	0	0	0	0	13	0	0	13	80	602	0	682	695
Total Volume	0	0	0	0	0	0	0	0	68	0	0	68	344	2403	0	2747	2815
% App. Total	0	0	0	0	0	0	0	0	100	0	0	100	12.5	87.5	0	100	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.654	.000	.000	.654	.905	.949	.000	.950	.951

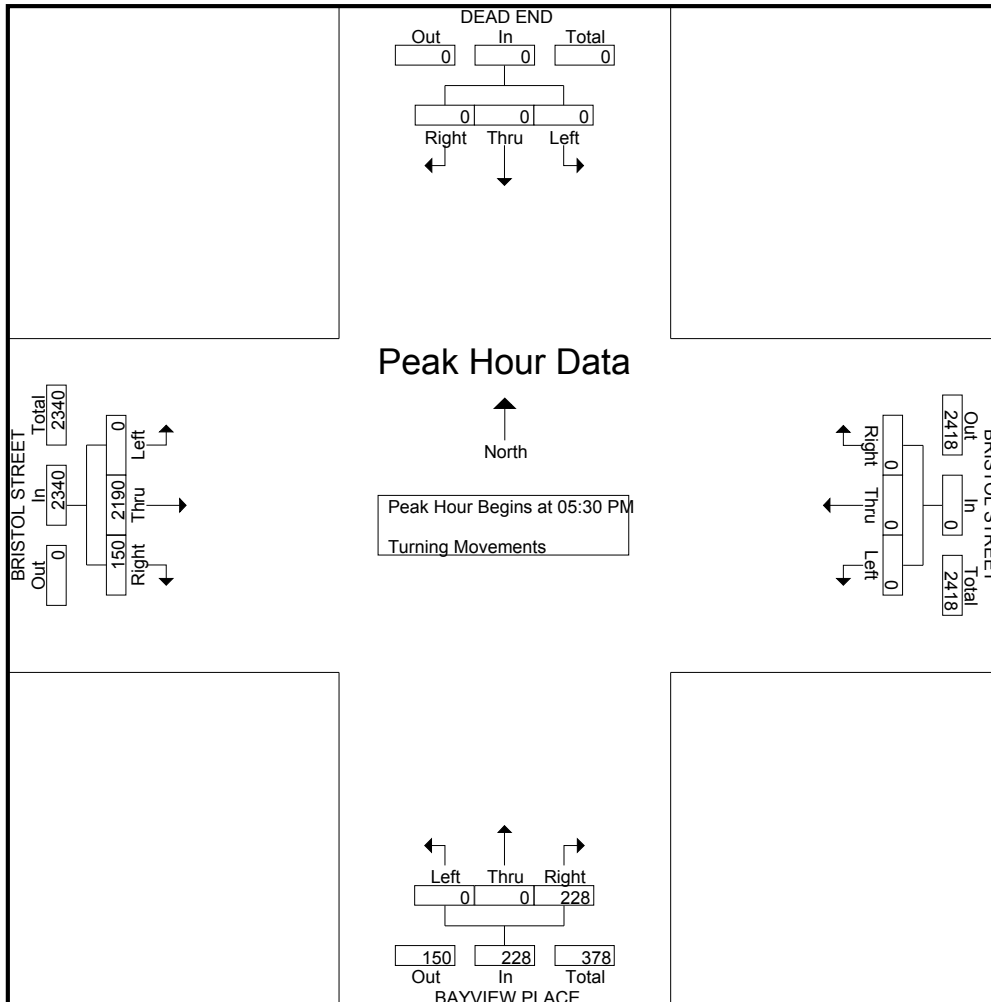
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:45 AM



City: NEWPORT BEACH
 N-S Direction: BAYVIEW PLACE
 E-W Direction: BRISTOL STREET

File Name : H1302008
 Site Code : 00005060
 Start Date : 3/13/2013
 Page No : 3

Start Time	DEAD END Southbound				BRISTOL STREET Westbound				BAYVIEW PLACE Northbound				BRISTOL STREET Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:30 PM																	
05:30 PM	0	0	0	0	0	0	0	0	57	0	0	57	59	463	0	522	579
05:45 PM	0	0	0	0	0	0	0	0	70	0	0	70	26	563	0	589	659
06:00 PM	0	0	0	0	0	0	0	0	50	0	0	50	37	562	0	599	649
06:15 PM	0	0	0	0	0	0	0	0	51	0	0	51	28	602	0	630	681
Total Volume	0	0	0	0	0	0	0	0	228	0	0	228	150	2190	0	2340	2568
% App. Total	0	0	0	0	0	0	0	0	100	0	0	100	6.4	93.6	0	100	100
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.814	.000	.000	.814	.636	.909	.000	.929	.943



City: NEWPORT BEACH
 N-S Direction: JAMBOREE ROAD
 E-W Direction: BRISTOL STREET-SOUTH

File Name : H1302026
 Site Code : 00000558
 Start Date : 4/10/2013
 Page No : 1

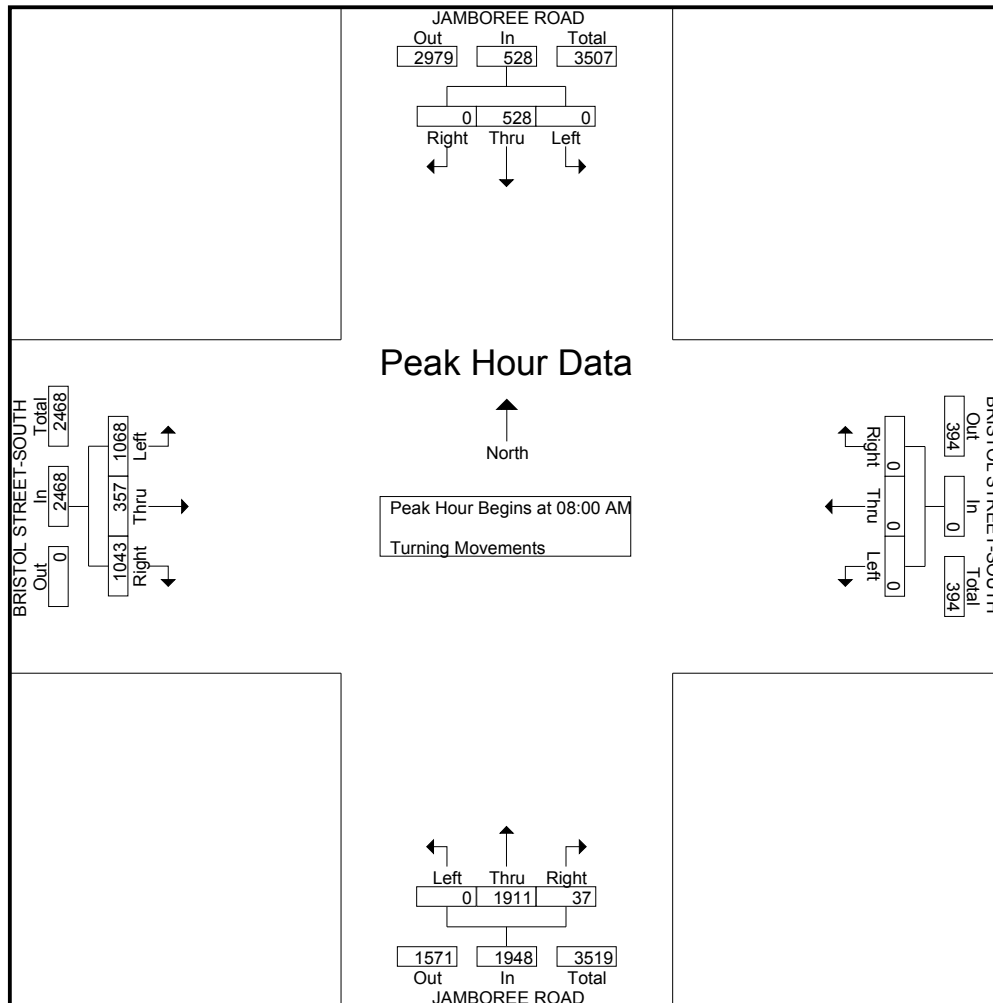
Groups Printed- Turning Movements

Start Time	JAMBOREE ROAD Southbound			BRISTOL STREET-SOUTH Westbound			JAMBOREE ROAD Northbound			BRISTOL STREET-SOUTH Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	0	71	0	0	0	0	9	307	0	242	58	174	861
07:15 AM	0	81	0	0	0	0	5	333	0	264	75	195	953
07:30 AM	0	102	0	0	0	0	5	331	0	248	53	217	956
07:45 AM	0	132	0	0	0	0	6	329	0	293	69	245	1074
Total	0	386	0	0	0	0	25	1300	0	1047	255	831	3844
08:00 AM	0	112	0	0	0	0	12	495	0	255	80	260	1214
08:15 AM	0	165	0	0	0	0	9	448	0	290	109	297	1318
08:30 AM	0	117	0	0	0	0	5	466	0	245	56	236	1125
08:45 AM	0	134	0	0	0	0	11	502	0	253	112	275	1287
Total	0	528	0	0	0	0	37	1911	0	1043	357	1068	4944
*** BREAK ***													
04:30 PM	0	229	0	0	0	0	19	540	0	212	149	170	1319
04:45 PM	0	200	0	0	0	0	11	496	0	179	112	156	1154
Total	0	429	0	0	0	0	30	1036	0	391	261	326	2473
05:00 PM	0	230	0	0	0	0	19	435	0	144	137	200	1165
05:15 PM	0	228	0	0	0	0	19	427	0	178	125	193	1170
05:30 PM	0	269	0	0	0	0	11	552	0	245	139	238	1454
05:45 PM	0	269	0	0	0	0	22	510	0	268	141	223	1433
Total	0	996	0	0	0	0	71	1924	0	835	542	854	5222
06:00 PM	0	254	0	0	0	0	19	354	0	239	190	227	1283
06:15 PM	0	223	0	0	0	0	18	376	0	234	163	200	1214
Grand Total	0	2816	0	0	0	0	200	6901	0	3789	1768	3506	18980
Apprch %	0	100	0	0	0	0	2.8	97.2	0	41.8	19.5	38.7	
Total %	0	14.8	0	0	0	0	1.1	36.4	0	20	9.3	18.5	

City: NEWPORT BEACH
 N-S Direction: JAMBOREE ROAD
 E-W Direction: BRISTOL STREET-SOUTH

File Name : H1302026
 Site Code : 0000558
 Start Date : 4/10/2013
 Page No : 2

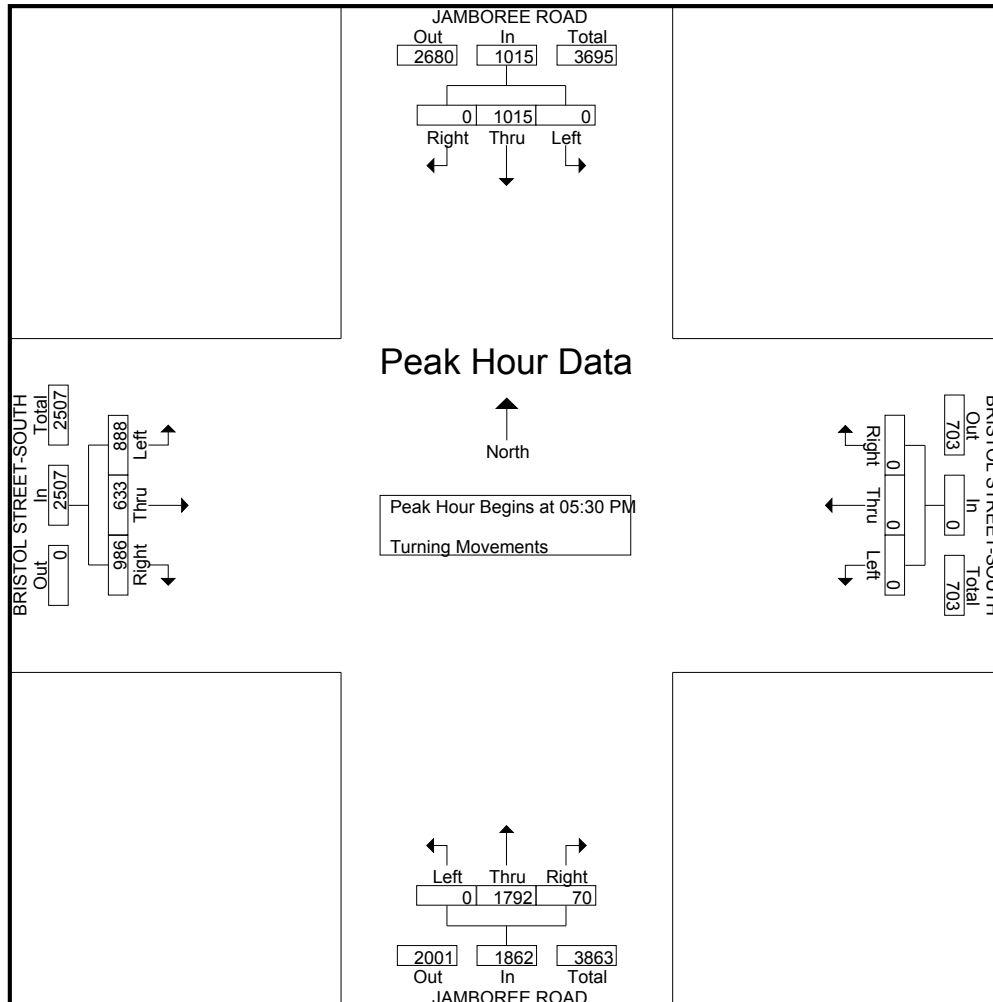
Start Time	JAMBOREE ROAD Southbound				BRISTOL STREET-SOUTH Westbound				JAMBOREE ROAD Northbound				BRISTOL STREET-SOUTH Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	112	0	112	0	0	0	0	12	495	0	507	255	80	260	595	1214
08:15 AM	0	165	0	165	0	0	0	0	9	448	0	457	290	109	297	696	1318
08:30 AM	0	117	0	117	0	0	0	0	5	466	0	471	245	56	236	537	1125
08:45 AM	0	134	0	134	0	0	0	0	11	502	0	513	253	112	275	640	1287
Total Volume	0	528	0	528	0	0	0	0	37	1911	0	1948	1043	357	1068	2468	4944
% App. Total	0	100	0		0	0	0		1.9	98.1	0		42.3	14.5	43.3		
PHF	.000	.800	.000	.800	.000	.000	.000	.000	.771	.952	.000	.949	.899	.797	.899	.886	.938



City: NEWPORT BEACH
 N-S Direction: JAMBOREE ROAD
 E-W Direction: BRISTOL STREET-SOUTH

File Name : H1302026
 Site Code : 00000558
 Start Date : 4/10/2013
 Page No : 3

Start Time	JAMBOREE ROAD Southbound				BRISTOL STREET-SOUTH Westbound				JAMBOREE ROAD Northbound				BRISTOL STREET-SOUTH Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:30 PM																	
05:30 PM	0	269	0	269	0	0	0	0	11	552	0	563	245	139	238	622	1454
05:45 PM	0	269	0	269	0	0	0	0	22	510	0	532	268	141	223	632	1433
06:00 PM	0	254	0	254	0	0	0	0	19	354	0	373	239	190	227	656	1283
06:15 PM	0	223	0	223	0	0	0	0	18	376	0	394	234	163	200	597	1214
Total Volume	0	1015	0	1015	0	0	0	0	70	1792	0	1862	986	633	888	2507	5384
% App. Total	0	100	0		0	0	0		3.8	96.2	0		39.3	25.2	35.4		
PHF	.000	.943	.000	.943	.000	.000	.000	.000	.795	.812	.000	.827	.920	.833	.933	.955	.926



City of Newport Beach
 N/S: Jamboree Road
 E/W: Bayview Way
 Weather: Clear

File Name : NPBJABAAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

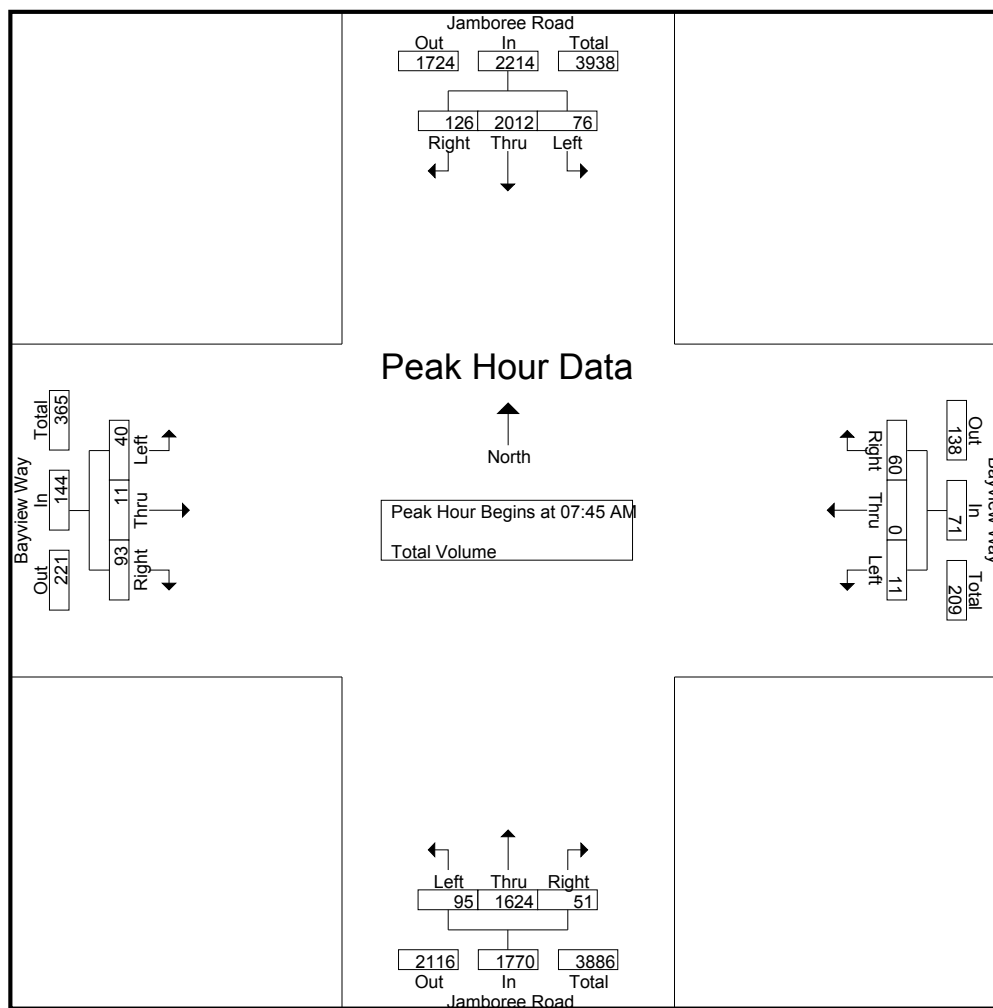
Groups Printed- Total Volume

Start Time	Jamboree Road Southbound				Bayview Way Westbound				Jamboree Road Northbound				Bayview Way Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	5	342	15	362	0	0	5	5	8	247	8	263	4	1	11	16	646
07:15 AM	8	482	20	510	2	0	15	17	10	313	6	329	16	1	20	37	893
07:30 AM	5	502	35	542	1	0	9	10	12	406	7	425	13	3	32	48	1025
07:45 AM	14	491	23	528	4	0	9	13	21	479	12	512	9	3	18	30	1083
Total	32	1817	93	1942	7	0	38	45	51	1445	33	1529	42	8	81	131	3647
08:00 AM	17	476	39	532	1	0	14	15	29	371	10	410	13	6	12	31	988
08:15 AM	24	488	39	551	2	0	20	22	21	370	15	406	10	1	28	39	1018
08:30 AM	21	557	25	603	4	0	17	21	24	404	14	442	8	1	35	44	1110
08:45 AM	29	483	32	544	1	0	21	22	34	367	18	419	14	3	35	52	1037
Total	91	2004	135	2230	8	0	72	80	108	1512	57	1677	45	11	110	166	4153
Grand Total	123	3821	228	4172	15	0	110	125	159	2957	90	3206	87	19	191	297	7800
Apprch %	2.9	91.6	5.5		12	0	88		5	92.2	2.8		29.3	6.4	64.3		
Total %	1.6	49	2.9	53.5	0.2	0	1.4	1.6	2	37.9	1.2	41.1	1.1	0.2	2.4	3.8	

Start Time	Jamboree Road Southbound				Bayview Way Westbound				Jamboree Road Northbound				Bayview Way Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	14	491	23	528	4	0	9	13	21	479	12	512	9	3	18	30	1083
08:00 AM	17	476	39	532	1	0	14	15	29	371	10	410	13	6	12	31	988
08:15 AM	24	488	39	551	2	0	20	22	21	370	15	406	10	1	28	39	1018
08:30 AM	21	557	25	603	4	0	17	21	24	404	14	442	8	1	35	44	1110
Total Volume	76	2012	126	2214	11	0	60	71	95	1624	51	1770	40	11	93	144	4199
% App. Total	3.4	90.9	5.7		15.5	0	84.5		5.4	91.8	2.9		27.8	7.6	64.6		
PHF	.792	.903	.808	.918	.688	.000	.750	.807	.819	.848	.850	.864	.769	.458	.664	.818	.946

City of Newport Beach
 N/S: Jamboree Road
 E/W: Bayview Way
 Weather: Clear

File Name : NPBJABAAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				07:45 AM				08:00 AM			
+0 mins.	17	476	39	532	1	0	14	15	21	479	12	512	13	6	12	31
+15 mins.	24	488	39	551	2	0	20	22	29	371	10	410	10	1	28	39
+30 mins.	21	557	25	603	4	0	17	21	21	370	15	406	8	1	35	44
+45 mins.	29	483	32	544	1	0	21	22	24	404	14	442	14	3	35	52
Total Volume	91	2004	135	2230	8	0	72	80	95	1624	51	1770	45	11	110	166
% App. Total	4.1	89.9	6.1		10	0	90		5.4	91.8	2.9		27.1	6.6	66.3	
PHF	.784	.899	.865	.925	.500	.000	.857	.909	.819	.848	.850	.864	.804	.458	.786	.798

City of Newport Beach
 N/S: Jamboree Road
 E/W: Bayview Way
 Weather: Clear

File Name : NPBJABAPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

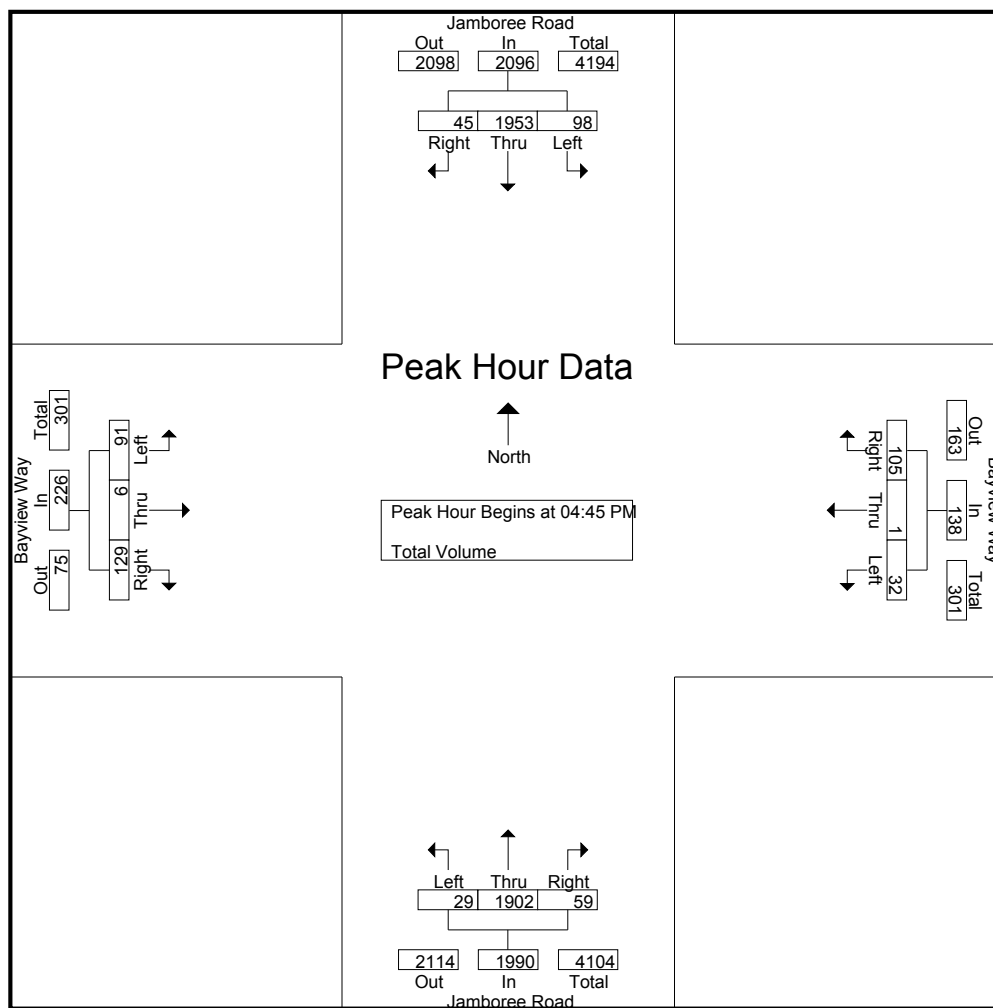
Groups Printed- Total Volume

Start Time	Jamboree Road Southbound				Bayview Way Westbound				Jamboree Road Northbound				Bayview Way Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	28	393	27	448	8	1	28	37	14	433	18	465	9	0	21	30	980
04:15 PM	21	409	14	444	8	0	27	35	10	450	18	478	11	2	25	38	995
04:30 PM	29	420	13	462	7	0	31	38	6	446	11	463	22	2	26	50	1013
04:45 PM	20	498	13	531	5	1	29	35	9	409	19	437	18	2	25	45	1048
Total	98	1720	67	1885	28	2	115	145	39	1738	66	1843	60	6	97	163	4036
05:00 PM	24	473	15	512	9	0	28	37	7	483	11	501	32	3	43	78	1128
05:15 PM	22	494	10	526	7	0	27	34	8	544	14	566	20	1	39	60	1186
05:30 PM	32	488	7	527	11	0	21	32	5	466	15	486	21	0	22	43	1088
05:45 PM	25	480	8	513	9	0	16	25	10	387	11	408	12	3	33	48	994
Total	103	1935	40	2078	36	0	92	128	30	1880	51	1961	85	7	137	229	4396
Grand Total	201	3655	107	3963	64	2	207	273	69	3618	117	3804	145	13	234	392	8432
Apprch %	5.1	92.2	2.7		23.4	0.7	75.8		1.8	95.1	3.1		37	3.3	59.7		
Total %	2.4	43.3	1.3	47	0.8	0	2.5	3.2	0.8	42.9	1.4	45.1	1.7	0.2	2.8	4.6	

Start Time	Jamboree Road Southbound				Bayview Way Westbound				Jamboree Road Northbound				Bayview Way Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	20	498	13	531	5	1	29	35	9	409	19	437	18	2	25	45	1048
05:00 PM	24	473	15	512	9	0	28	37	7	483	11	501	32	3	43	78	1128
05:15 PM	22	494	10	526	7	0	27	34	8	544	14	566	20	1	39	60	1186
05:30 PM	32	488	7	527	11	0	21	32	5	466	15	486	21	0	22	43	1088
Total Volume	98	1953	45	2096	32	1	105	138	29	1902	59	1990	91	6	129	226	4450
% App. Total	4.7	93.2	2.1		23.2	0.7	76.1		1.5	95.6	3		40.3	2.7	57.1		
PHF	.766	.980	.750	.987	.727	.250	.905	.932	.806	.874	.776	.879	.711	.500	.750	.724	.938

City of Newport Beach
 N/S: Jamboree Road
 E/W: Bayview Way
 Weather: Clear

File Name : NPBABAPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:45 PM				04:00 PM				04:45 PM				04:30 PM			
+0 mins.	20	498	13	531	8	1	28	37	9	409	19	437	22	2	26	50
+15 mins.	24	473	15	512	8	0	27	35	7	483	11	501	18	2	25	45
+30 mins.	22	494	10	526	7	0	31	38	8	544	14	566	32	3	43	78
+45 mins.	32	488	7	527	5	1	29	35	5	466	15	486	20	1	39	60
Total Volume	98	1953	45	2096	28	2	115	145	29	1902	59	1990	92	8	133	233
% App. Total	4.7	93.2	2.1		19.3	1.4	79.3		1.5	95.6	3		39.5	3.4	57.1	
PHF	.766	.980	.750	.987	.875	.500	.927	.954	.806	.874	.776	.879	.719	.667	.773	.747

City: NEWPORT BEACH
 N-S Direction: JAMBOREE ROAD
 E-W Direction: UNIVERSITY DR / EASTBLUFF

File Name : h1302029
 Site Code : 00005163
 Start Date : 4/11/2013
 Page No : 1

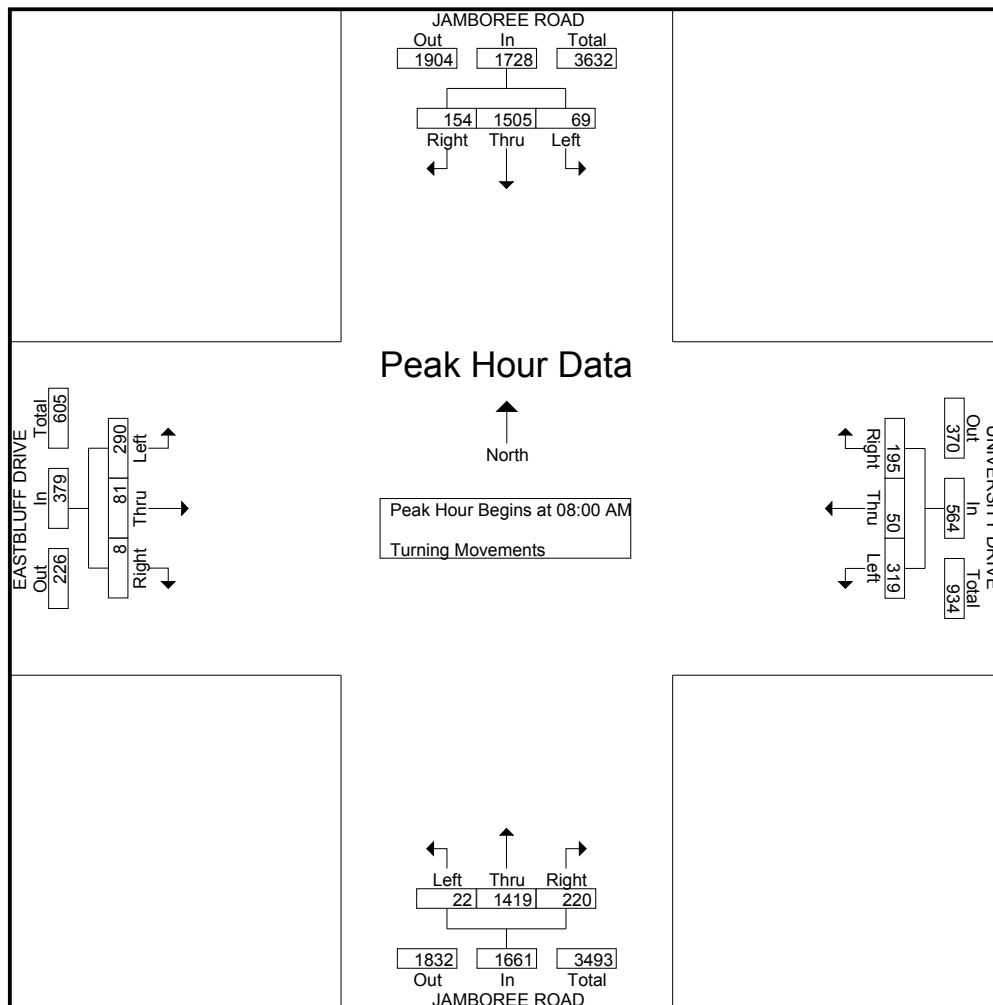
Groups Printed- Turning Movements

Start Time	JAMBOREE ROAD Southbound			UNIVERSITY DRIVE Westbound			JAMBOREE ROAD Northbound			EASTBLUFF DRIVE Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	31	249	5	26	5	49	18	204	0	0	5	30	622
07:15 AM	22	268	10	26	3	40	36	221	6	0	19	52	703
07:30 AM	58	239	10	26	21	64	39	281	8	3	12	63	824
07:45 AM	42	294	9	47	22	63	69	370	13	3	19	98	1049
Total	153	1050	34	125	51	216	162	1076	27	6	55	243	3198
08:00 AM	35	373	15	47	12	67	53	351	4	2	15	80	1054
08:15 AM	38	377	16	66	13	79	52	345	6	2	18	70	1082
08:30 AM	41	379	21	48	14	86	46	357	6	3	26	76	1103
08:45 AM	40	376	17	34	11	87	69	366	6	1	22	64	1093
Total	154	1505	69	195	50	319	220	1419	22	8	81	290	4332
*** BREAK ***													
04:30 PM	68	235	22	27	21	44	48	401	8	3	29	56	962
04:45 PM	86	311	44	26	31	46	77	429	13	3	18	45	1129
Total	154	546	66	53	52	90	125	830	21	6	47	101	2091
05:00 PM	83	370	28	18	22	45	100	438	15	2	25	57	1203
05:15 PM	89	420	50	25	26	80	77	464	9	3	19	45	1307
05:30 PM	95	432	41	25	38	61	72	360	5	7	16	45	1197
05:45 PM	91	418	34	27	29	62	79	384	10	0	21	46	1201
Total	358	1640	153	95	115	248	328	1646	39	12	81	193	4908
06:00 PM	79	307	30	38	37	64	68	339	4	5	15	47	1033
06:15 PM	91	312	38	19	26	60	55	370	4	2	19	42	1038
Grand Total	989	5360	390	525	331	997	958	5680	117	39	298	916	16600
Apprch %	14.7	79.5	5.8	28.3	17.9	53.8	14.2	84.1	1.7	3.1	23.8	73.1	
Total %	6	32.3	2.3	3.2	2	6	5.8	34.2	0.7	0.2	1.8	5.5	

City: NEWPORT BEACH
 N-S Direction: JAMBOREE ROAD
 E-W Direction: UNIVERSITY DR / EASTBLUFF

File Name : h1302029
 Site Code : 00005163
 Start Date : 4/11/2013
 Page No : 2

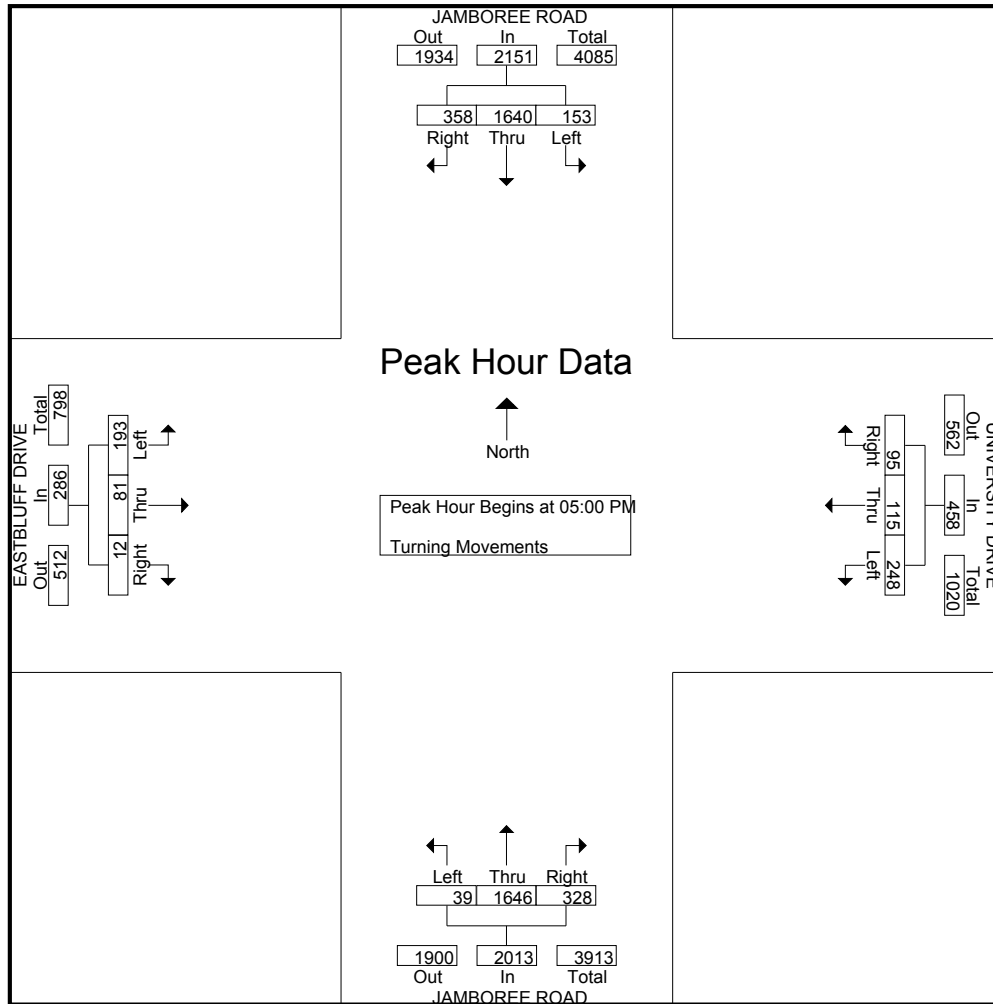
Start Time	JAMBOREE ROAD Southbound				UNIVERSITY DRIVE Westbound				JAMBOREE ROAD Northbound				EASTBLUFF DRIVE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	35	373	15	423	47	12	67	126	53	351	4	408	2	15	80	97	1054
08:15 AM	38	377	16	431	66	13	79	158	52	345	6	403	2	18	70	90	1082
08:30 AM	41	379	21	441	48	14	86	148	46	357	6	409	3	26	76	105	1103
08:45 AM	40	376	17	433	34	11	87	132	69	366	6	441	1	22	64	87	1093
Total Volume	154	1505	69	1728	195	50	319	564	220	1419	22	1661	8	81	290	379	4332
% App. Total	8.9	87.1	4		34.6	8.9	56.6		13.2	85.4	1.3		2.1	21.4	76.5		
PHF	.939	.993	.821	.980	.739	.893	.917	.892	.797	.969	.917	.942	.667	.779	.906	.902	.982



City: NEWPORT BEACH
 N-S Direction: JAMBOREE ROAD
 E-W Direction: UNIVERSITY DR / EASTBLUFF

File Name : h1302029
 Site Code : 00005163
 Start Date : 4/11/2013
 Page No : 3

Start Time	JAMBOREE ROAD Southbound				UNIVERSITY DRIVE Westbound				JAMBOREE ROAD Northbound				EASTBLUFF DRIVE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	83	370	28	481	18	22	45	85	100	438	15	553	2	25	57	84	1203
05:15 PM	89	420	50	559	25	26	80	131	77	464	9	550	3	19	45	67	1307
05:30 PM	95	432	41	568	25	38	61	124	72	360	5	437	7	16	45	68	1197
05:45 PM	91	418	34	543	27	29	62	118	79	384	10	473	0	21	46	67	1201
Total Volume	358	1640	153	2151	95	115	248	458	328	1646	39	2013	12	81	193	286	4908
% App. Total	16.6	76.2	7.1		20.7	25.1	54.1		16.3	81.8	1.9		4.2	28.3	67.5		
PHF	.942	.949	.765	.947	.880	.757	.775	.874	.820	.887	.650	.910	.429	.810	.846	.851	.939



City: NEWPORT BEACH
 N-S Direction: JAMBOREE ROAD
 E-W Direction: BISON AVENUE

File Name : H1204031
 Site Code : 00000554
 Start Date : 4/24/2012
 Page No : 1

Groups Printed- Turning Movements

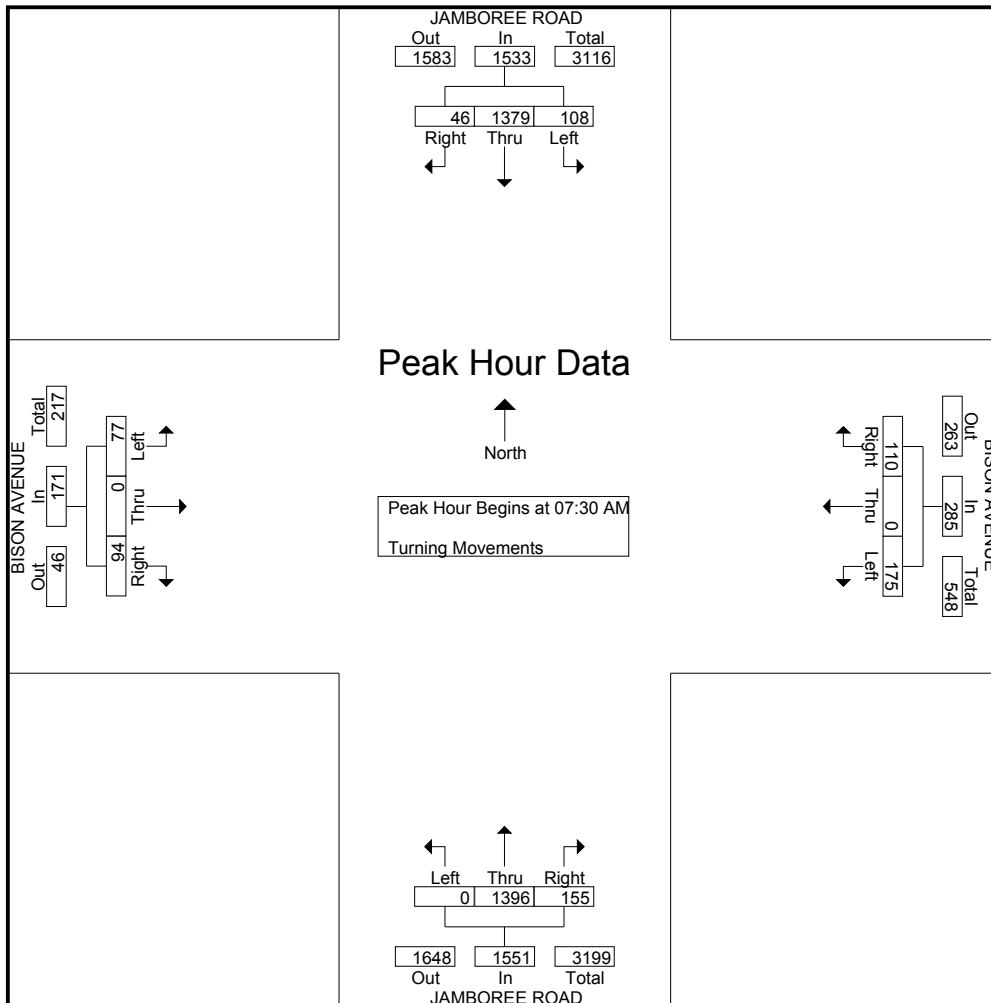
Start Time	JAMBOREE ROAD Southbound			BISON AVENUE Westbound			JAMBOREE ROAD Northbound			BISON AVENUE Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	8	266	12	13	0	7	12	82	0	3	0	13	416
07:15 AM	5	293	11	18	0	16	22	279	0	6	0	21	671
07:30 AM	11	325	17	29	0	73	38	339	0	28	0	20	880
07:45 AM	16	353	38	30	0	50	47	383	0	46	0	26	989
Total	40	1237	78	90	0	146	119	1083	0	83	0	80	2956
08:00 AM	5	350	27	27	0	33	38	326	0	12	0	15	833
08:15 AM	14	351	26	24	0	19	32	348	0	8	0	16	838
08:30 AM	11	356	22	26	0	35	32	281	0	3	0	14	780
08:45 AM	13	391	21	27	0	42	39	267	0	9	0	12	821
Total	43	1448	96	104	0	129	141	1222	0	32	0	57	3272
*** BREAK ***													
04:30 PM	14	306	15	31	0	51	38	387	0	9	0	8	859
04:45 PM	18	335	15	27	0	44	38	365	0	7	0	12	861
Total	32	641	30	58	0	95	76	752	0	16	0	20	1720
05:00 PM	25	350	27	35	0	52	44	403	0	5	0	11	952
05:15 PM	25	417	16	27	0	58	48	495	0	2	0	10	1098
05:30 PM	9	371	30	36	0	55	54	365	0	4	0	8	932
05:45 PM	20	381	26	28	0	45	39	367	0	3	0	8	917
Total	79	1519	99	126	0	210	185	1630	0	14	0	37	3899
06:00 PM	17	379	22	34	0	49	43	332	0	7	0	3	886
06:15 PM	14	326	21	28	0	36	36	330	0	1	0	17	809
Grand Total	225	5550	346	440	0	665	600	5349	0	153	0	214	13542
Apprch %	3.7	90.7	5.7	39.8	0	60.2	10.1	89.9	0	41.7	0	58.3	
Total %	1.7	41	2.6	3.2	0	4.9	4.4	39.5	0	1.1	0	1.6	

City: NEWPORT BEACH
 N-S Direction: JAMBOREE ROAD
 E-W Direction: BISON AVENUE

File Name : H1204031
 Site Code : 00000554
 Start Date : 4/24/2012
 Page No : 2

Start Time	JAMBOREE ROAD Southbound				BISON AVENUE Westbound				JAMBOREE ROAD Northbound				BISON AVENUE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
07:30 AM	11	325	17	353	29	0	73	102	38	339	0	377	28	0	20	48	880
07:45 AM	16	353	38	407	30	0	50	80	47	383	0	430	46	0	26	72	989
08:00 AM	5	350	27	382	27	0	33	60	38	326	0	364	12	0	15	27	833
08:15 AM	14	351	26	391	24	0	19	43	32	348	0	380	8	0	16	24	838
Total Volume	46	1379	108	1533	110	0	175	285	155	1396	0	1551	94	0	77	171	3540
% App. Total	3	90	7		38.6	0	61.4		10	90	0		55	0	45		
PHF	.719	.977	.711	.942	.917	.000	.599	.699	.824	.911	.000	.902	.511	.000	.740	.594	.895

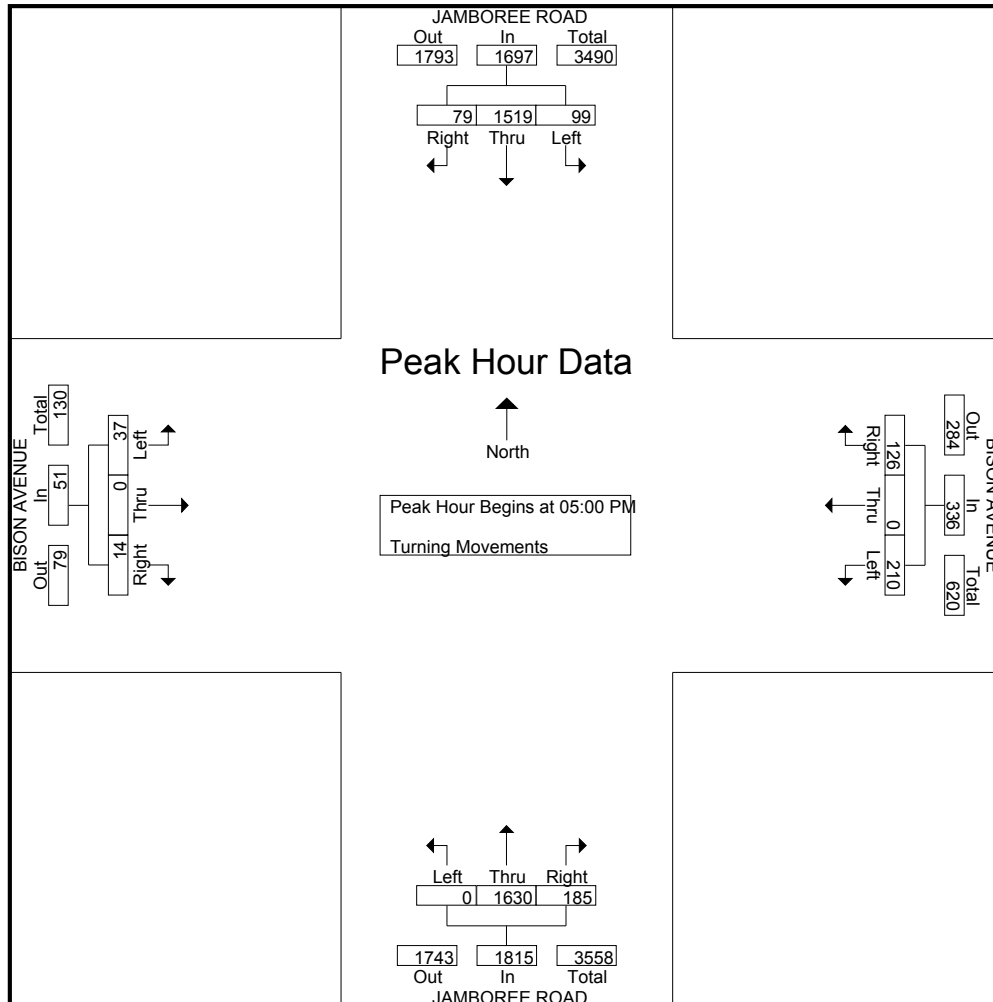
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM



City: NEWPORT BEACH
 N-S Direction: JAMBOREE ROAD
 E-W Direction: BISON AVENUE

File Name : H1204031
 Site Code : 00000554
 Start Date : 4/24/2012
 Page No : 3

Start Time	JAMBOREE ROAD Southbound				BISON AVENUE Westbound				JAMBOREE ROAD Northbound				BISON AVENUE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	25	350	27	402	35	0	52	87	44	403	0	447	5	0	11	16	952
05:15 PM	25	417	16	458	27	0	58	85	48	495	0	543	2	0	10	12	1098
05:30 PM	9	371	30	410	36	0	55	91	54	365	0	419	4	0	8	12	932
05:45 PM	20	381	26	427	28	0	45	73	39	367	0	406	3	0	8	11	917
Total Volume	79	1519	99	1697	126	0	210	336	185	1630	0	1815	14	0	37	51	3899
% App. Total	4.7	89.5	5.8		37.5	0	62.5		10.2	89.8	0		27.5	0	72.5		
PHF	.790	.911	.825	.926	.875	.000	.905	.923	.856	.823	.000	.836	.700	.000	.841	.797	.888



TRAFFIC DATA SERVICES, INC.
(949) 679-3703
Summary of Vehicular Turning Movements

N/S ST : JAMBOREE RD
E/W ST : FORD RD
CITY : NEWPORT BEACH

FILENAME: 02120401
DATE: 3/7/12
DAY: WEDNESDAY

PERIOD BEGINS	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			Total
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	2	3	0	1	3	1	1.5	1.5	1	1.5	1.5	1	
7:00 AM	54	216	12	7	278	16	35	24	54	26	50	4	776
15 AM	125	245	34	10	311	21	32	34	60	31	166	7	1076
30 AM	149	294	12	7	320	79	56	107	98	37	202	18	1379
45 AM	104	376	30	46	424	38	67	109	172	50	97	10	1523
8:00 AM	41	281	17	10	403	5	27	34	60	42	20	5	945
15 AM	49	307	15	13	368	12	9	10	56	51	24	7	921
30 AM	46	294	12	9	374	7	14	12	51	58	22	11	910
45 AM	49	317	10	10	361	9	11	13	47	66	21	10	924

PEAK HOUR BEGINS AT:													PHF: 0.81
715 AM													
VOLUMES =	419	1196	93	73	1458	143	182	284	390	160	485	40	4923

FILENAME: 02120401P
DATE: 3/7/12
DAY: WEDNESDAY

PERIOD BEGINS	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			Total
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM	64	421	43	14	315	10	10	31	45	15	54	5	1027
15 PM	76	382	36	13	338	30	29	66	105	14	58	8	1155
30 PM	72	385	41	12	335	17	25	58	93	15	57	7	1117
45 PM	88	380	52	6	277	13	15	40	74	21	49	5	1020
5:00 PM	86	483	73	8	356	18	28	52	78	38	63	6	1289
15 PM	78	439	86	9	351	22	28	56	71	39	38	6	1223
30 PM	81	452	81	6	348	19	26	60	67	44	41	7	1232
45 PM	83	443	74	8	351	16	21	66	56	43	47	8	1216

PEAK HOUR BEGINS AT:													PHF: 0.96
1700 PM													
VOLUMES =	328	1817	314	31	1406	75	103	234	272	164	189	27	4960

COMMENTS:

TRAFFIC DATA SERVICES, INC.
 (949) 679-3703
 Summary of Vehicular Turning Movements

N/S ST: JAMBOREE RD
 E/W ST: SAN JOAQUIN HILL RD
 CITY: NEWPORT BEACH

FILENAME: 02120402
 DATE: 3/13/12
 DAY: TUESDAY

PERIOD BEGINS	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			Total
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	1	3	1	2	3	1	1.5	1.5	1	1.5	1.5	1	
7:00 AM	1	194	19	133	265	5	41	3	8	14	3	4	690
15 AM	7	181	9	104	265	9	79	6	15	25	2	5	707
30 AM	3	313	17	110	272	7	84	4	10	30	0	8	858
45 AM	4	292	41	219	442	20	73	13	22	23	2	6	1157
8:00 AM	8	284	35	231	486	17	68	10	14	38	1	6	1198
15 AM	11	285	35	148	324	23	81	8	12	25	3	3	958
30 AM	3	249	29	146	352	18	77	7	10	37	2	2	932
45 AM	7	259	50	185	365	18	83	6	15	37	2	4	1031

PEAK HOUR BEGINS AT:													PHF: 0.89
745 AM													
VOLUMES =	26	1110	140	744	1604	78	299	38	58	123	8	17	4245

FILENAME: 02120402P
 DATE: 3/13/12
 DAY: TUESDAY

PERIOD BEGINS	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			Total
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM	9	307	29	118	302	22	18	5	4	39	5	138	996
15 PM	8	311	31	118	301	29	14	6	11	36	7	141	1013
30 PM	15	340	30	85	392	37	12	6	5	42	5	141	1110
45 PM	14	351	33	155	375	29	24	9	2	44	8	152	1196
5:00 PM	14	375	40	118	362	46	28	6	4	44	11	187	1235
15 PM	15	274	26	97	349	39	18	7	2	43	17	114	1001
30 PM	12	289	32	144	439	50	19	14	5	47	10	119	1180
45 PM	20	292	22	129	367	79	20	6	1	33	6	71	1046

PEAK HOUR BEGINS AT:													PHF: 0.93
1645 PM													
VOLUMES =	55	1289	131	514	1525	164	89	36	13	178	46	572	4612

COMMENTS:

TRAFFIC DATA SERVICES, INC.
 (949) 679-3703
 Summary of Vehicular Turning Movements

N/S ST: JAMBOREE RD
 E/W ST: SANTA BARBARA
 CITY: NEWPORT BEACH

FILENAME: 02120403
 DATE: 3/14/12
 DAY: WEDNESDAY

PERIOD BEGINS	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			Total
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	2	3	1	2	3	1	1	1	1	1.5	0.5	1	
7:00 AM	3	124	53	113	141	1	4	1	1	11	2	17	471
15 AM	1	158	29	98	128	0	5	1	0	9	0	18	447
30 AM	0	251	62	121	154	3	15	3	1	12	1	13	636
45 AM	1	287	62	116	224	4	21	2	5	7	1	18	748
8:00 AM	2	265	73	170	282	8	8	0	4	13	0	21	846
15 AM	3	272	79	123	262	10	9	0	4	9	2	26	799
30 AM	2	291	71	129	269	7	8	2	3	8	3	24	817
45 AM	3	287	66	121	254	4	8	3	5	9	1	28	789

PEAK HOUR BEGINS AT:													PHF: 0.96
800 AM													
VOLUMES =	10	1115	289	543	1067	29	33	5	16	39	6	99	3251

FILENAME: 02120403P
 DATE: 3/14/12
 DAY: WEDNESDAY

PERIOD BEGINS	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			Total
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM	5	294	34	51	287	9	7	2	2	55	2	67	815
15 PM	0	292	33	57	284	9	4	0	5	68	2	123	877
30 PM	9	272	36	49	334	7	3	2	3	59	0	115	889
45 PM	3	266	24	46	288	9	5	3	2	62	0	121	829
5:00 PM	1	248	31	39	322	18	11	4	1	58	4	108	845
15 PM	9	302	36	43	311	16	9	3	2	59	1	114	905
30 PM	4	315	31	36	328	19	11	4	8	64	0	119	939
45 PM	3	311	30	39	336	21	14	6	5	62	0	117	944

PEAK HOUR BEGINS AT:													PHF: 0.96
1700 PM													
VOLUMES =	17	1176	128	157	1297	74	45	17	16	243	5	458	3633

COMMENTS:

TRAFFIC DATA SERVICES, INC.
(949) 679-3703
Summary of Vehicular Turning Movements

N/S ST : JAMBOREE RD
 E/W ST: PACIFIC COAST HWY
 CITY: NEWPORT BEACH

FILENAME: 02120404
 DATE: 3/7/12
 DAY: WEDNESDAY

PERIOD BEGINS	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			Total
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	1	2	0	1	2	1	3	4	0	2	4	1	
7:00 AM	0	60	9	21	42	81	129	223	1	11	104	15	696
15 AM	4	94	18	19	37	95	171	235	5	9	152	41	880
30 AM	2	88	21	24	38	103	166	242	3	14	137	33	871
45 AM	6	67	26	43	86	165	260	481	5	15	190	23	1367
8:00 AM	3	66	25	54	70	142	186	346	3	19	211	22	1147
15 AM	3	111	15	56	73	148	191	362	2	23	271	28	1283
30 AM	5	96	22	39	62	139	151	368	9	19	249	29	1188
45 AM	6	69	19	43	66	150	204	460	11	14	256	21	1319

PEAK HOUR BEGINS AT:													PHF: 0.91
745 AM													
VOLUMES =	17	340	88	192	291	594	788	1557	19	76	921	102	4985

FILENAME: 02120404P
 DATE: 3/2/12
 DAY: WEDNESDAY

PERIOD BEGINS	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			Total
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM	9	87	24	30	42	99	110	352	12	39	346	46	1196
15 PM	8	61	26	58	96	210	141	398	11	34	391	66	1500
30 PM	4	69	27	46	101	224	180	358	14	37	371	57	1488
45 PM	11	77	25	49	115	212	174	400	19	30	407	41	1560
5:00 PM	11	72	24	43	104	228	166	382	16	30	409	61	1546
15 PM	8	80	20	52	119	211	190	389	14	33	395	62	1573
30 PM	8	78	20	48	100	216	181	406	12	33	455	52	1609
45 PM	14	60	15	36	94	201	186	412	18	36	470	30	1572

PEAK HOUR BEGINS AT:													PHF: 0.98
1700 PM													
VOLUMES =	41	290	79	179	417	856	723	1589	60	132	1729	205	6300

COMMENTS:

TRAFFIC DATA SERVICES, INC.
(949) 679-3703
Summary of Vehicular Turning Movements

N/S ST : SANTA CRUZ DR
E/W ST : SAN JOAQUIN HILLS RD
CITY : NEWPORT BEACH

FILENAME: 02120409
DATE: 3/20/12
DAY: TUESDAY

PERIOD BEGINS	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			Total
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	2	0.5	0.5	1	1.5	0.5	1	3	0	1	3	0	
7:00 AM	13	0	5	6	5	8	10	44	39	19	55	4	208
15 AM	9	1	0	2	1	13	12	67	40	16	97	2	260
30 AM	18	0	4	3	1	23	6	72	48	28	117	2	322
45 AM	11	0	2	1	2	12	14	172	90	28	59	1	392
8:00 AM	8	0	1	1	0	20	12	141	69	31	62	0	345
15 AM	15	3	4	5	3	16	11	96	59	29	73	4	318
30 AM	14	1	6	3	2	16	12	103	74	27	71	2	331
45 AM	24	0	4	2	3	15	11	99	64	29	76	0	327

PEAK HOUR BEGINS AT:													PHF: 0.88
745 AM													
VOLUMES =	48	4	13	10	7	64	49	512	292	115	265	7	1386

FILENAME: 02120409P
DATE: 3/20/12
DAY: TUESDAY

PERIOD BEGINS	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			Total
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM	129	3	24	0	0	4	14	75	21	5	83	7	365
15 PM	103	4	20	3	3	5	18	109	47	13	96	2	423
30 PM	127	0	18	2	1	6	15	114	52	11	112	9	467
45 PM	89	1	31	2	0	10	14	71	36	11	98	9	372
5:00 PM	175	7	33	1	1	9	12	123	52	18	125	5	561
15 PM	131	1	38	0	0	2	16	124	57	6	117	7	499
30 PM	107	4	33	5	2	7	28	118	43	11	104	4	466
45 PM	93	2	31	3	2	6	16	121	26	10	98	4	412

PEAK HOUR BEGINS AT:													PHF: 0.86
1700 PM													
VOLUMES =	506	14	135	9	5	24	72	486	178	45	444	20	1938

COMMENTS:

TRAFFIC DATA SERVICES, INC.
(949) 679-3703
Summary of Vehicular Turning Movements

N/S ST : SANTA ROSA DR/BIG CANYON DR
 E/W ST : SAN JOAQUIN HILLS RD
 CITY : NEWPORT BEACH

FILENAME: 02120410
 DATE: 3/21/12
 DAY: WEDNESDAY

PERIOD BEGINS	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			Total
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	1	1	1	1	1	1	1	3	0	2	3	0	
7:00 AM	6	5	21	12	4	2	17	21	24	81	72	33	298
15 AM	3	5	12	12	5	10	4	36	20	64	79	24	274
30 AM	4	3	17	15	3	6	4	69	42	91	135	13	402
45 AM	10	6	23	25	4	16	4	88	54	109	95	23	457
8:00 AM	9	3	13	21	2	10	15	48	58	122	101	32	434
15 AM	9	4	22	20	3	7	4	60	53	125	126	33	466
30 AM	11	2	25	18	0	13	12	52	48	103	76	19	379
45 AM	18	5	32	26	3	8	9	73	61	151	79	12	477

PEAK HOUR BEGINS AT:													PHF: 0.94
730 AM													
VOLUMES =	32	16	75	81	12	39	27	265	207	447	457	101	1759

FILENAME: 02120410P
 DATE: 3/21/12
 DAY: WEDNESDAY

PERIOD BEGINS	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			Total
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM	39	8	124	19	3	15	17	97	26	75	58	21	502
15 PM	42	10	91	17	5	18	13	91	27	72	50	15	451
30 PM	38	8	114	16	2	11	12	111	33	65	68	29	507
45 PM	43	9	109	12	3	7	15	112	33	79	62	36	520
5:00 PM	60	3	126	16	2	13	18	165	32	69	73	21	598
15 PM	67	12	110	19	3	11	15	111	38	106	60	16	568
30 PM	49	6	102	24	2	20	18	142	34	98	74	27	596
45 PM	45	4	105	14	4	15	16	132	29	101	73	15	553

PEAK HOUR BEGINS AT:													PHF: 0.97
1700 PM													
VOLUMES =	221	25	443	73	11	59	67	550	133	374	280	79	2315

COMMENTS:

TRAFFIC DATA SERVICES, INC.
 (949) 679-3703
 Summary of Vehicular Turning Movements

N/S ST : NEWPORT CENTER DR (S)
 E/W ST : PACIFIC COAST HWY
 CITY : NEWPORT BEACH

FILENAME: 02120418
 DATE: 3/20/12
 DAY: TUESDAY

PERIOD BEGINS	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			Total
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	X	X	X	2	X	1	2	3	X	X	3	1	
7:00 AM				5		6	22	174			137	48	392
15 AM				7		8	33	256			168	44	516
30 AM				1		5	86	246			207	33	578
45 AM				5		12	92	377			249	54	789
8:00 AM				6		17	81	422			227	46	799
15 AM				3		15	84	430			239	48	819
30 AM				6		21	77	449			287	40	880
45 AM				4		16	73	417			298	36	844

PEAK HOUR BEGINS AT:													PHF: 0.95
800 AM													
VOLUMES =	0	0	0	19	0	69	315	1718	0	0	1051	170	3342

FILENAME: 02120418P
 DATE: 3/20/12
 DAY: TUESDAY

PERIOD BEGINS	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			Total
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM				43		121	80	286			338	28	896
15 PM				51		127	90	322			361	33	984
30 PM				48		155	62	296			327	34	922
45 PM				37		148	89	318			353	31	976
5:00 PM				40		160	81	316			367	35	999
15 PM				48		172	68	328			355	33	1004
30 PM				39		155	76	306			341	29	946
45 PM				52		143	67	300			336	27	925

PEAK HOUR BEGINS AT:													PHF: 0.98
1645 PM													
VOLUMES =	0	0	0	164	0	635	314	1268	0	0	1416	128	3925

COMMENTS:

City of Newport Beach
 N/S: Avocado Avenue
 E/W: San Miguel Drive
 Weather: Clear

File Name : NPBAVSMAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

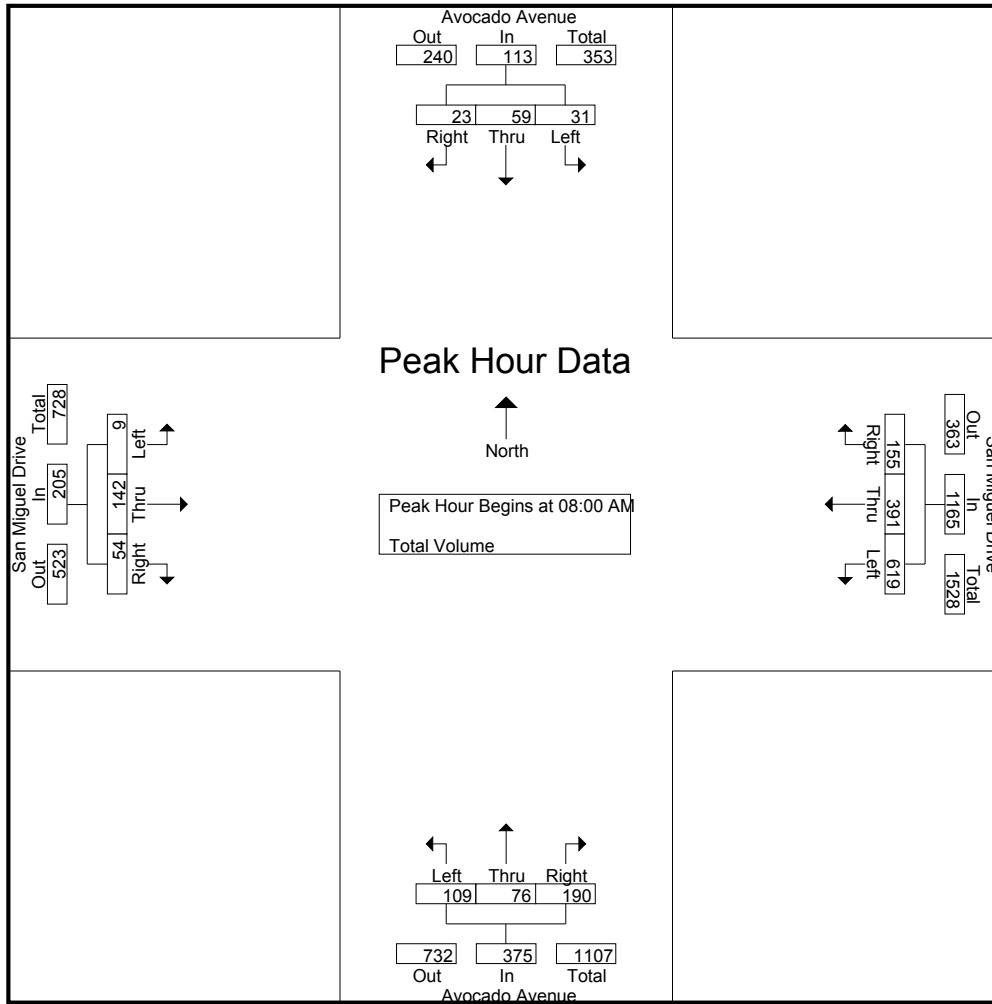
Groups Printed- Total Volume

Start Time	Avocado Avenue Southbound				San Miguel Drive Westbound				Avocado Avenue Northbound				San Miguel Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	4	16	1	21	85	41	14	140	14	10	15	39	0	17	7	24	224
07:15 AM	6	14	5	25	100	70	18	188	9	5	18	32	0	11	9	20	265
07:30 AM	3	14	6	23	109	75	30	214	22	13	22	57	0	19	9	28	322
07:45 AM	4	12	5	21	126	99	20	245	20	22	47	89	1	13	9	23	378
Total	17	56	17	90	420	285	82	787	65	50	102	217	1	60	34	95	1189
08:00 AM	6	20	3	29	123	76	40	239	27	24	44	95	0	25	12	37	400
08:15 AM	6	7	6	19	167	88	50	305	32	18	44	94	3	39	14	56	474
08:30 AM	8	17	7	32	140	99	36	275	25	14	47	86	1	45	16	62	455
08:45 AM	11	15	7	33	189	128	29	346	25	20	55	100	5	33	12	50	529
Total	31	59	23	113	619	391	155	1165	109	76	190	375	9	142	54	205	1858
Grand Total	48	115	40	203	1039	676	237	1952	174	126	292	592	10	202	88	300	3047
Apprch %	23.6	56.7	19.7		53.2	34.6	12.1		29.4	21.3	49.3		3.3	67.3	29.3		
Total %	1.6	3.8	1.3	6.7	34.1	22.2	7.8	64.1	5.7	4.1	9.6	19.4	0.3	6.6	2.9	9.8	

Start Time	Avocado Avenue Southbound				San Miguel Drive Westbound				Avocado Avenue Northbound				San Miguel Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	6	20	3	29	123	76	40	239	27	24	44	95	0	25	12	37	400
08:15 AM	6	7	6	19	167	88	50	305	32	18	44	94	3	39	14	56	474
08:30 AM	8	17	7	32	140	99	36	275	25	14	47	86	1	45	16	62	455
08:45 AM	11	15	7	33	189	128	29	346	25	20	55	100	5	33	12	50	529
Total Volume	31	59	23	113	619	391	155	1165	109	76	190	375	9	142	54	205	1858
% App. Total	27.4	52.2	20.4		53.1	33.6	13.3		29.1	20.3	50.7		4.4	69.3	26.3		
PHF	.705	.738	.821	.856	.819	.764	.775	.842	.852	.792	.864	.938	.450	.789	.844	.827	.878

City of Newport Beach
 N/S: Avocado Avenue
 E/W: San Miguel Drive
 Weather: Clear

File Name : NPBAVSMAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	6	20	3	29	123	76	40	239	27	24	44	95	0	25	12	37
+15 mins.	6	7	6	19	167	88	50	305	32	18	44	94	3	39	14	56
+30 mins.	8	17	7	32	140	99	36	275	25	14	47	86	1	45	16	62
+45 mins.	11	15	7	33	189	128	29	346	25	20	55	100	5	33	12	50
Total Volume	31	59	23	113	619	391	155	1165	109	76	190	375	9	142	54	205
% App. Total	27.4	52.2	20.4		53.1	33.6	13.3		29.1	20.3	50.7		4.4	69.3	26.3	
PHF	.705	.738	.821	.856	.819	.764	.775	.842	.852	.792	.864	.938	.450	.789	.844	.827

City of Newport Beach
 N/S: Avocado Avenue
 E/W: San Miguel Drive
 Weather: Clear

File Name : NPBAVSMPPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

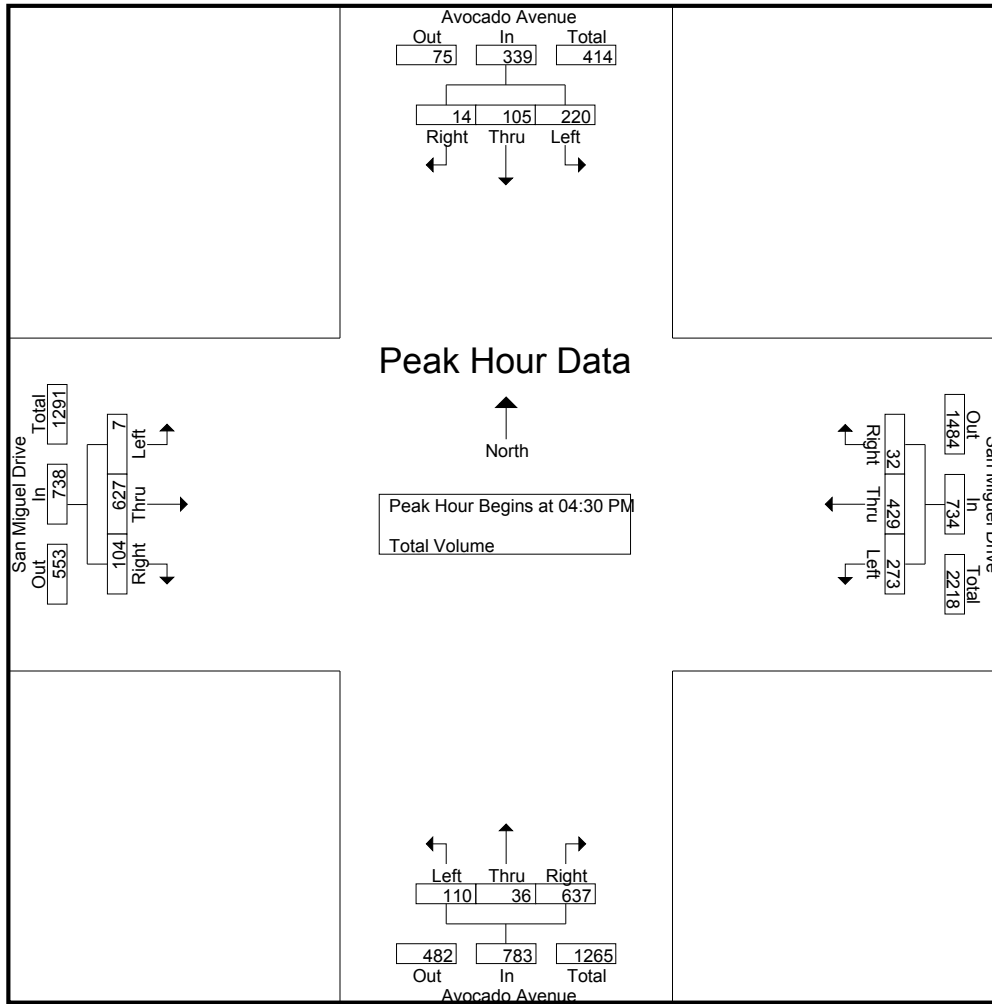
Groups Printed- Total Volume

Start Time	Avocado Avenue Southbound				San Miguel Drive Westbound				Avocado Avenue Northbound				San Miguel Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	48	21	3	72	69	94	8	171	29	5	140	174	2	177	24	203	620
04:15 PM	39	15	2	56	78	107	13	198	26	6	114	146	3	134	29	166	566
04:30 PM	53	15	1	69	71	94	6	171	27	11	144	182	2	162	29	193	615
04:45 PM	53	22	6	81	89	130	9	228	23	10	137	170	1	142	29	172	651
Total	193	73	12	278	307	425	36	768	105	32	535	672	8	615	111	734	2452
05:00 PM	67	45	3	115	64	113	14	191	30	10	187	227	2	177	29	208	741
05:15 PM	47	23	4	74	49	92	3	144	30	5	169	204	2	146	17	165	587
05:30 PM	51	24	1	76	58	103	2	163	24	8	176	208	2	131	21	154	601
05:45 PM	24	20	1	45	82	106	2	190	29	6	129	164	1	122	11	134	533
Total	189	112	9	310	253	414	21	688	113	29	661	803	7	576	78	661	2462
Grand Total	382	185	21	588	560	839	57	1456	218	61	1196	1475	15	1191	189	1395	4914
Apprch %	65	31.5	3.6		38.5	57.6	3.9		14.8	4.1	81.1		1.1	85.4	13.5		
Total %	7.8	3.8	0.4	12	11.4	17.1	1.2	29.6	4.4	1.2	24.3	30	0.3	24.2	3.8	28.4	

Start Time	Avocado Avenue Southbound				San Miguel Drive Westbound				Avocado Avenue Northbound				San Miguel Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	53	15	1	69	71	94	6	171	27	11	144	182	2	162	29	193	615
04:45 PM	53	22	6	81	89	130	9	228	23	10	137	170	1	142	29	172	651
05:00 PM	67	45	3	115	64	113	14	191	30	10	187	227	2	177	29	208	741
05:15 PM	47	23	4	74	49	92	3	144	30	5	169	204	2	146	17	165	587
Total Volume	220	105	14	339	273	429	32	734	110	36	637	783	7	627	104	738	2594
% App. Total	64.9	31	4.1		37.2	58.4	4.4		14	4.6	81.4		0.9	85	14.1		
PHF	.821	.583	.583	.737	.767	.825	.571	.805	.917	.818	.852	.862	.875	.886	.897	.887	.875

City of Newport Beach
 N/S: Avocado Avenue
 E/W: San Miguel Drive
 Weather: Clear

File Name : NPBAVSMPPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM				04:15 PM				04:45 PM				04:15 PM			
+0 mins.	53	22	6	81	78	107	13	198	23	10	137	170	3	134	29	166
+15 mins.	67	45	3	115	71	94	6	171	30	10	187	227	2	162	29	193
+30 mins.	47	23	4	74	89	130	9	228	30	5	169	204	1	142	29	172
+45 mins.	51	24	1	76	64	113	14	191	24	8	176	208	2	177	29	208
Total Volume	218	114	14	346	302	444	42	788	107	33	669	809	8	615	116	739
% App. Total	63	32.9	4		38.3	56.3	5.3		13.2	4.1	82.7		1.1	83.2	15.7	
PHF	.813	.633	.583	.752	.848	.854	.750	.864	.892	.825	.894	.891	.667	.869	1.000	.888

City of Newport Beach
 N/S: Avocado Avenue
 E/W: Pacific Coast Highway
 Weather: Clear

File Name : NPBAVPCHAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

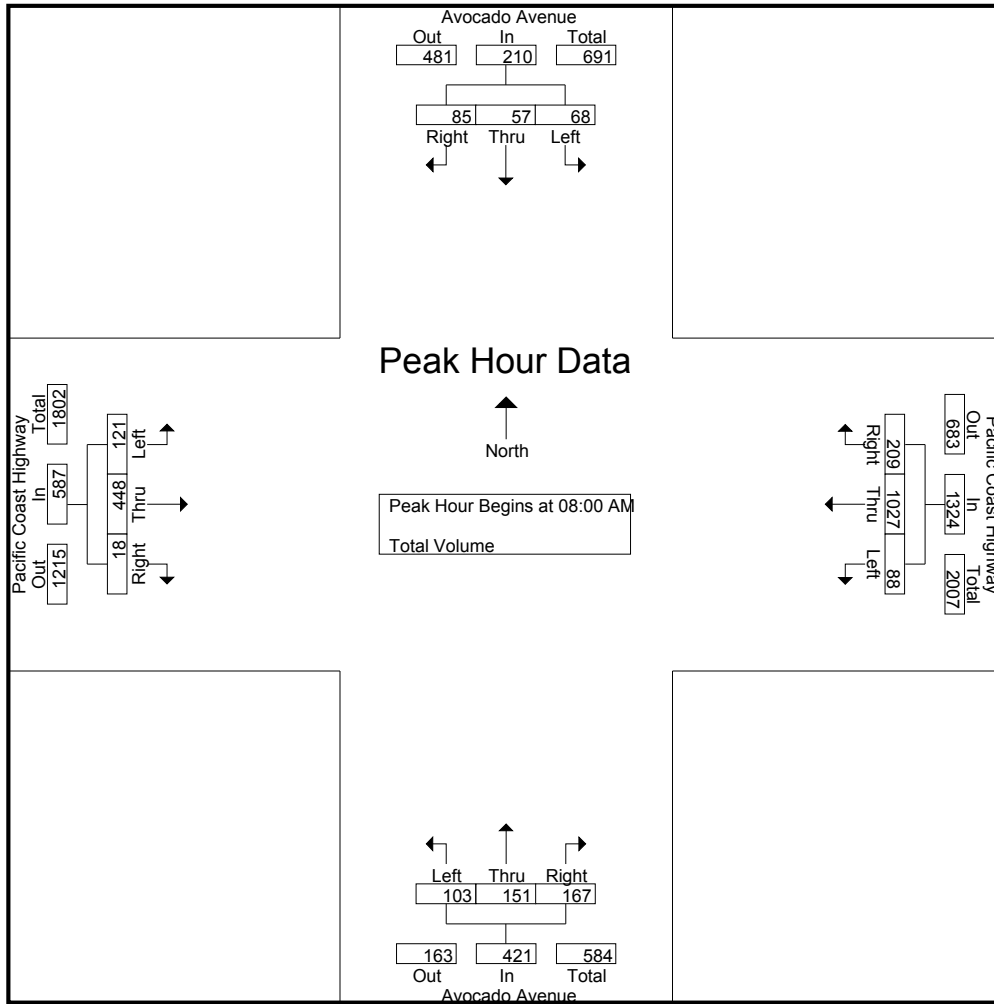
Groups Printed- Total Volume

Start Time	Avocado Avenue Southbound				Pacific Coast Highway Westbound				Avocado Avenue Northbound				Pacific Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	9	11	9	29	24	149	24	197	14	12	22	48	29	66	3	98	372
07:15 AM	6	10	6	22	13	160	22	195	22	27	32	81	25	81	10	116	414
07:30 AM	11	11	10	32	20	241	51	312	21	33	38	92	31	96	3	130	566
07:45 AM	12	17	7	36	30	196	45	271	31	38	38	107	38	152	5	195	609
Total	38	49	32	119	87	746	142	975	88	110	130	328	123	395	21	539	1961
08:00 AM	17	11	10	38	27	253	51	331	39	47	56	142	39	152	5	196	707
08:15 AM	13	13	19	45	22	280	51	353	16	40	47	103	39	87	5	131	632
08:30 AM	18	19	32	69	14	241	52	307	20	31	31	82	23	97	2	122	580
08:45 AM	20	14	24	58	25	253	55	333	28	33	33	94	20	112	6	138	623
Total	68	57	85	210	88	1027	209	1324	103	151	167	421	121	448	18	587	2542
Grand Total	106	106	117	329	175	1773	351	2299	191	261	297	749	244	843	39	1126	4503
Apprch %	32.2	32.2	35.6		7.6	77.1	15.3		25.5	34.8	39.7		21.7	74.9	3.5		
Total %	2.4	2.4	2.6	7.3	3.9	39.4	7.8	51.1	4.2	5.8	6.6	16.6	5.4	18.7	0.9	25	

Start Time	Avocado Avenue Southbound				Pacific Coast Highway Westbound				Avocado Avenue Northbound				Pacific Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	17	11	10	38	27	253	51	331	39	47	56	142	39	152	5	196	707
08:15 AM	13	13	19	45	22	280	51	353	16	40	47	103	39	87	5	131	632
08:30 AM	18	19	32	69	14	241	52	307	20	31	31	82	23	97	2	122	580
08:45 AM	20	14	24	58	25	253	55	333	28	33	33	94	20	112	6	138	623
Total Volume	68	57	85	210	88	1027	209	1324	103	151	167	421	121	448	18	587	2542
% App. Total	32.4	27.1	40.5		6.6	77.6	15.8		24.5	35.9	39.7		20.6	76.3	3.1		
PHF	.850	.750	.664	.761	.815	.917	.950	.938	.660	.803	.746	.741	.776	.737	.750	.749	.899

City of Newport Beach
 N/S: Avocado Avenue
 E/W: Pacific Coast Highway
 Weather: Clear

File Name : NPBAVPCHAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				07:30 AM				07:30 AM			
+0 mins.	17	11	10	38	27	253	51	331	21	33	38	92	31	96	3	130
+15 mins.	13	13	19	45	22	280	51	353	31	38	38	107	38	152	5	195
+30 mins.	18	19	32	69	14	241	52	307	39	47	56	142	39	152	5	196
+45 mins.	20	14	24	58	25	253	55	333	16	40	47	103	39	87	5	131
Total Volume	68	57	85	210	88	1027	209	1324	107	158	179	444	147	487	18	652
% App. Total	32.4	27.1	40.5		6.6	77.6	15.8		24.1	35.6	40.3		22.5	74.7	2.8	
PHF	.850	.750	.664	.761	.815	.917	.950	.938	.686	.840	.799	.782	.942	.801	.900	.832

City of Newport Beach
 N/S: Avocado Avenue
 E/W: Pacific Coast Highway
 Weather: Clear

File Name : NPBAVPCHPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

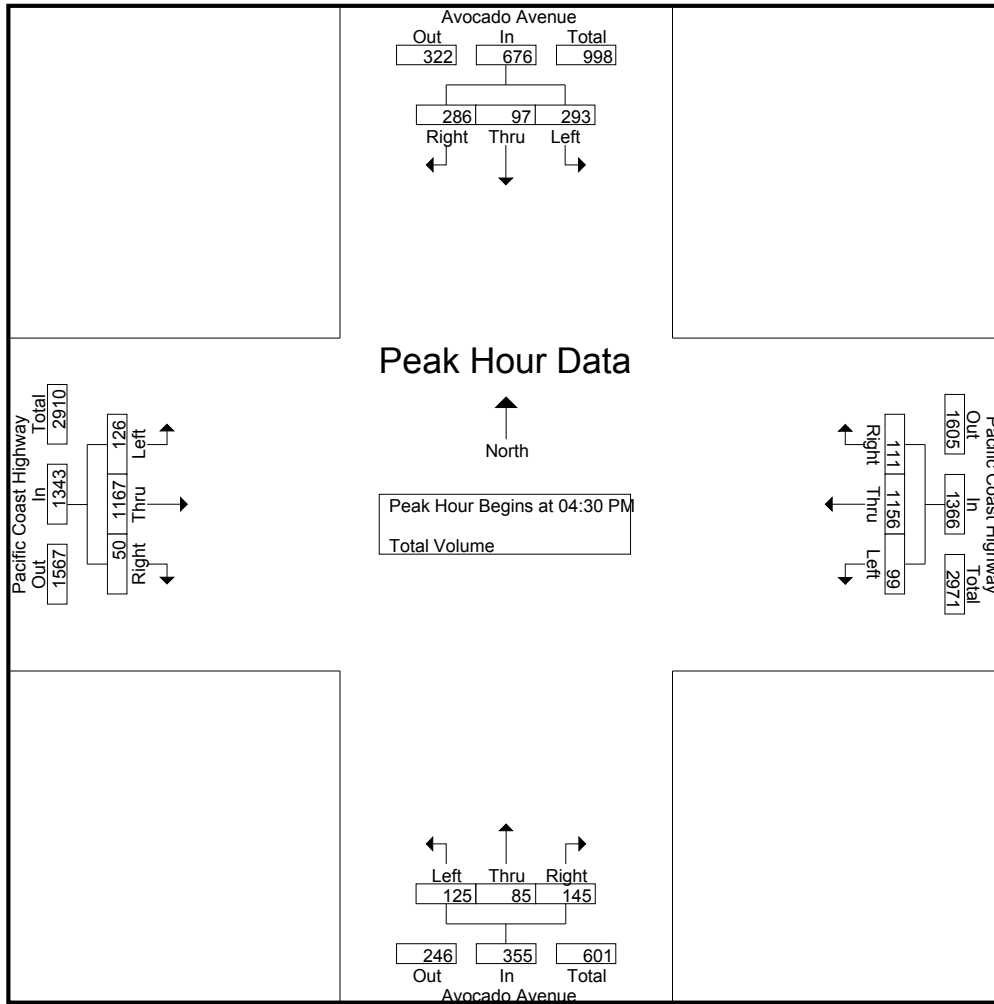
Groups Printed- Total Volume

Start Time	Avocado Avenue Southbound				Pacific Coast Highway Westbound				Avocado Avenue Northbound				Pacific Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	50	22	55	127	17	274	34	325	38	31	26	95	38	261	3	302	849
04:15 PM	58	17	65	140	14	298	31	343	33	21	24	78	33	314	21	368	929
04:30 PM	76	22	68	166	26	270	32	328	32	25	38	95	29	275	11	315	904
04:45 PM	57	14	65	136	19	278	28	325	26	20	32	78	25	281	16	322	861
Total	241	75	253	569	76	1120	125	1321	129	97	120	346	125	1131	51	1307	3543
05:00 PM	101	31	84	216	28	278	25	331	37	18	46	101	35	261	12	308	956
05:15 PM	59	30	69	158	26	330	26	382	30	22	29	81	37	350	11	398	1019
05:30 PM	59	28	68	155	25	244	23	292	27	22	21	70	19	303	14	336	853
05:45 PM	62	37	90	189	18	277	33	328	25	17	30	72	30	270	10	310	899
Total	281	126	311	718	97	1129	107	1333	119	79	126	324	121	1184	47	1352	3727
Grand Total	522	201	564	1287	173	2249	232	2654	248	176	246	670	246	2315	98	2659	7270
Apprch %	40.6	15.6	43.8		6.5	84.7	8.7		37	26.3	36.7		9.3	87.1	3.7		
Total %	7.2	2.8	7.8	17.7	2.4	30.9	3.2	36.5	3.4	2.4	3.4	9.2	3.4	31.8	1.3	36.6	

Start Time	Avocado Avenue Southbound				Pacific Coast Highway Westbound				Avocado Avenue Northbound				Pacific Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	76	22	68	166	26	270	32	328	32	25	38	95	29	275	11	315	904
04:45 PM	57	14	65	136	19	278	28	325	26	20	32	78	25	281	16	322	861
05:00 PM	101	31	84	216	28	278	25	331	37	18	46	101	35	261	12	308	956
05:15 PM	59	30	69	158	26	330	26	382	30	22	29	81	37	350	11	398	1019
Total Volume	293	97	286	676	99	1156	111	1366	125	85	145	355	126	1167	50	1343	3740
% App. Total	43.3	14.3	42.3		7.2	84.6	8.1		35.2	23.9	40.8		9.4	86.9	3.7		
PHF	.725	.782	.851	.782	.884	.876	.867	.894	.845	.850	.788	.879	.851	.834	.781	.844	.918

City of Newport Beach
 N/S: Avocado Avenue
 E/W: Pacific Coast Highway
 Weather: Clear

File Name : NPBAVPCHPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				04:30 PM				04:30 PM				04:45 PM			
+0 mins.	101	31	84	216	26	270	32	328	32	25	38	95	25	281	16	322
+15 mins.	59	30	69	158	19	278	28	325	26	20	32	78	35	261	12	308
+30 mins.	59	28	68	155	28	278	25	331	37	18	46	101	37	350	11	398
+45 mins.	62	37	90	189	26	330	26	382	30	22	29	81	19	303	14	336
Total Volume	281	126	311	718	99	1156	111	1366	125	85	145	355	116	1195	53	1364
% App. Total	39.1	17.5	43.3		7.2	84.6	8.1		35.2	23.9	40.8		8.5	87.6	3.9	
PHF	.696	.851	.864	.831	.884	.876	.867	.894	.845	.850	.788	.879	.784	.854	.828	.857

City of Newport Beach
 N/S: SR-73 Northbound Ramps
 E/W: Bison Avenue
 Weather: Clear

File Name : IRV73NBIAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

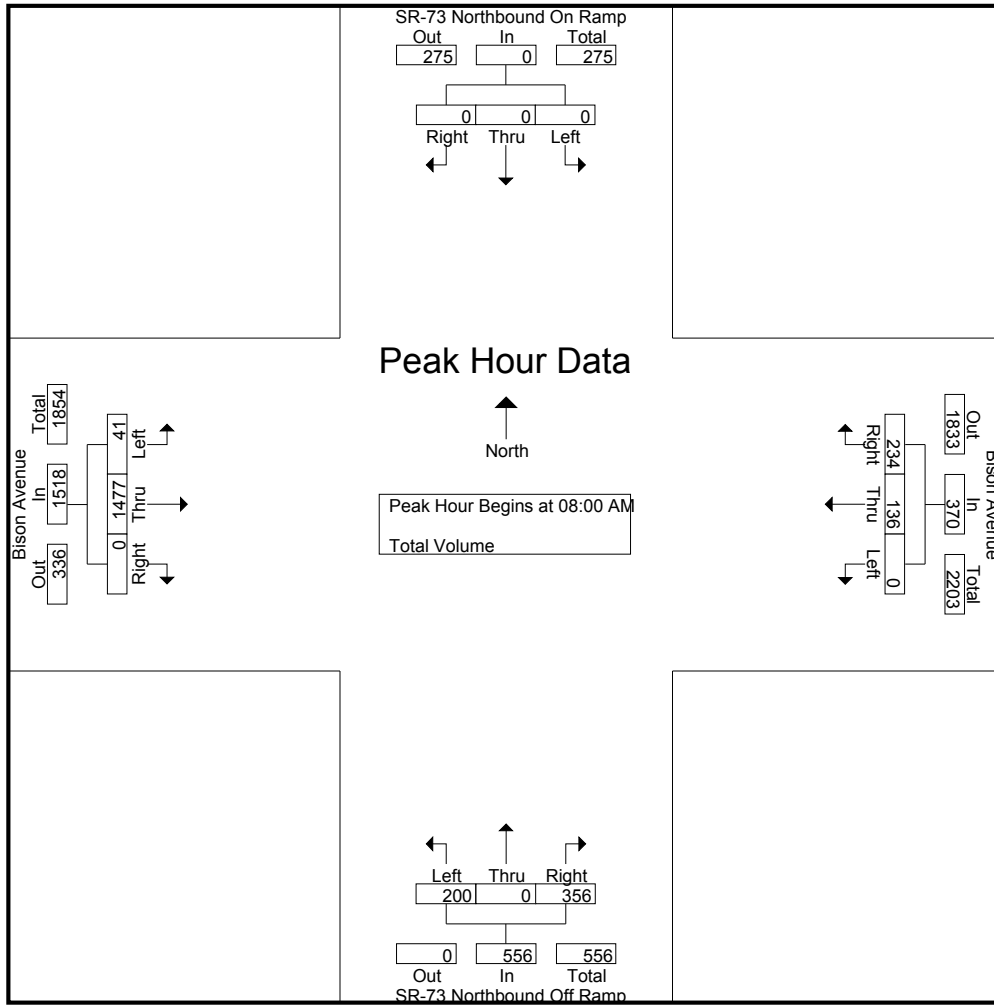
Groups Printed- Total Volume

Start Time	SR-73 Northbound On Ramp Southbound				Bison Avenue Westbound				SR-73 Northbound Off Ramp Northbound				Bison Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	0	21	42	63	44	0	32	76	8	212	0	220	359
07:15 AM	0	0	0	0	0	17	40	57	45	0	27	72	7	203	0	210	339
07:30 AM	0	0	0	0	0	26	49	75	42	0	43	85	8	236	0	244	404
07:45 AM	0	0	0	0	0	29	53	82	45	0	56	101	12	263	0	275	458
Total	0	0	0	0	0	93	184	277	176	0	158	334	35	914	0	949	1560
08:00 AM	0	0	0	0	0	34	66	100	46	0	82	128	10	334	0	344	572
08:15 AM	0	0	0	0	0	36	59	95	52	0	86	138	9	362	0	371	604
08:30 AM	0	0	0	0	0	34	55	89	49	0	91	140	12	386	0	398	627
08:45 AM	0	0	0	0	0	32	54	86	53	0	97	150	10	395	0	405	641
Total	0	0	0	0	0	136	234	370	200	0	356	556	41	1477	0	1518	2444
Grand Total	0	0	0	0	0	229	418	647	376	0	514	890	76	2391	0	2467	4004
Apprch %	0	0	0		0	35.4	64.6		42.2	0	57.8		3.1	96.9	0		
Total %	0	0	0		0	5.7	10.4	16.2	9.4	0	12.8	22.2	1.9	59.7	0	61.6	

Start Time	SR-73 Northbound On Ramp Southbound				Bison Avenue Westbound				SR-73 Northbound Off Ramp Northbound				Bison Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	34	66	100	46	0	82	128	10	334	0	344	572
08:15 AM	0	0	0	0	0	36	59	95	52	0	86	138	9	362	0	371	604
08:30 AM	0	0	0	0	0	34	55	89	49	0	91	140	12	386	0	398	627
08:45 AM	0	0	0	0	0	32	54	86	53	0	97	150	10	395	0	405	641
Total Volume	0	0	0	0	0	136	234	370	200	0	356	556	41	1477	0	1518	2444
% App. Total	0	0	0		0	36.8	63.2		36	0	64		2.7	97.3	0		
PHF	.000	.000	.000	.000	.000	.944	.886	.925	.943	.000	.918	.927	.854	.935	.000	.937	.953

City of Newport Beach
 N/S: SR-73 Northbound Ramps
 E/W: Bison Avenue
 Weather: Clear

File Name : IRV73NBIAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	34	66	100	46	0	82	128	10	334	0	344
+15 mins.	0	0	0	0	0	36	59	95	52	0	86	138	9	362	0	371
+30 mins.	0	0	0	0	0	34	55	89	49	0	91	140	12	386	0	398
+45 mins.	0	0	0	0	0	32	54	86	53	0	97	150	10	395	0	405
Total Volume	0	0	0	0	0	136	234	370	200	0	356	556	41	1477	0	1518
% App. Total	0	0	0	0	0	36.8	63.2		36	0	64		2.7	97.3	0	
PHF	.000	.000	.000	.000	.000	.944	.886	.925	.943	.000	.918	.927	.854	.935	.000	.937

City of Newport Beach
 N/S: SR-73 Northbound Ramps
 E/W: Bison Avenue
 Weather: Clear

File Name : IRV73NBIPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

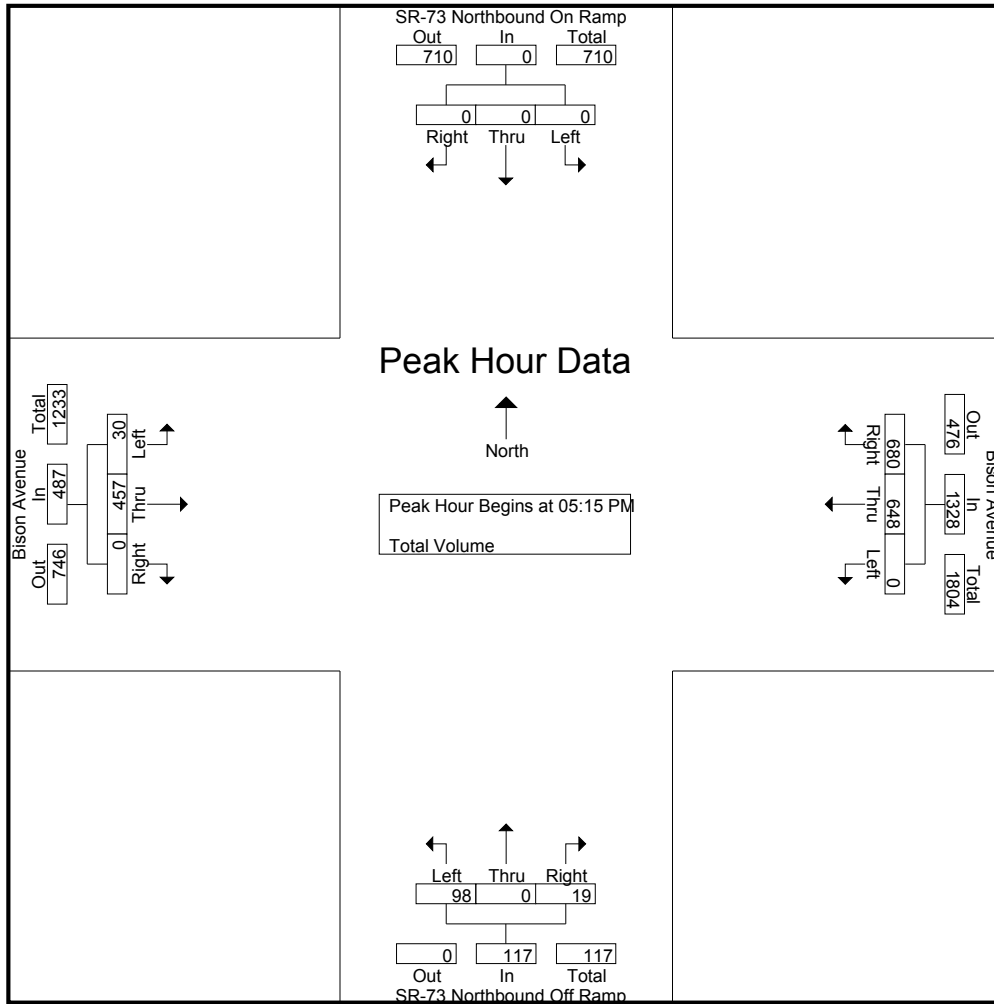
Groups Printed- Total Volume

Start Time	SR-73 Northbound On Ramp Southbound				Bison Avenue Westbound				SR-73 Northbound Off Ramp Northbound				Bison Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	0	111	221	332	25	1	6	32	7	80	0	87	451
04:15 PM	0	0	0	0	0	113	210	323	29	0	2	31	8	96	0	104	458
04:30 PM	0	0	0	0	0	108	180	288	25	0	5	30	4	104	0	108	426
04:45 PM	0	0	0	0	0	100	172	272	27	0	4	31	5	106	0	111	414
Total	0	0	0	0	0	432	783	1215	106	1	17	124	24	386	0	410	1749
05:00 PM	0	0	0	0	0	126	177	303	23	0	4	27	9	112	0	121	451
05:15 PM	0	0	0	0	0	145	171	316	20	0	6	26	7	119	0	126	468
05:30 PM	0	0	0	0	0	176	174	350	24	0	5	29	10	116	0	126	505
05:45 PM	0	0	0	0	0	165	165	330	28	0	5	33	8	113	0	121	484
Total	0	0	0	0	0	612	687	1299	95	0	20	115	34	460	0	494	1908
06:00 PM	0	0	0	0	0	162	170	332	26	0	3	29	5	109	0	114	475
06:15 PM	0	0	0	0	0	140	164	304	26	0	6	32	6	111	0	117	453
Grand Total	0	0	0	0	0	1346	1804	3150	253	1	46	300	69	1066	0	1135	4585
Apprch %	0	0	0	0	0	42.7	57.3		84.3	0.3	15.3		6.1	93.9	0		
Total %	0	0	0	0	0	29.4	39.3	68.7	5.5	0	1	6.5	1.5	23.2	0	24.8	

Start Time	SR-73 Northbound On Ramp Southbound				Bison Avenue Westbound				SR-73 Northbound Off Ramp Northbound				Bison Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	0	0	0	0	0	145	171	316	20	0	6	26	7	119	0	126	468
05:30 PM	0	0	0	0	0	176	174	350	24	0	5	29	10	116	0	126	505
05:45 PM	0	0	0	0	0	165	165	330	28	0	5	33	8	113	0	121	484
06:00 PM	0	0	0	0	0	162	170	332	26	0	3	29	5	109	0	114	475
Total Volume	0	0	0	0	0	648	680	1328	98	0	19	117	30	457	0	487	1932
% App. Total	0	0	0	0	0	48.8	51.2		83.8	0	16.2		6.2	93.8	0		
PHF	.000	.000	.000	.000	.000	.920	.977	.949	.875	.000	.792	.886	.750	.960	.000	.966	.956

City of Newport Beach
 N/S: SR-73 Northbound Ramps
 E/W: Bison Avenue
 Weather: Clear

File Name : IRV73NBIPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				05:15 PM				04:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	145	171	316	25	1	6	32	9	112	0	121
+15 mins.	0	0	0	0	0	176	174	350	29	0	2	31	7	119	0	126
+30 mins.	0	0	0	0	0	165	165	330	25	0	5	30	10	116	0	126
+45 mins.	0	0	0	0	0	162	170	332	27	0	4	31	8	113	0	121
Total Volume	0	0	0	0	0	648	680	1328	106	1	17	124	34	460	0	494
% App. Total	0	0	0	0	0	48.8	51.2		85.5	0.8	13.7		6.9	93.1	0	
PHF	.000	.000	.000	.000	.000	.920	.977	.949	.914	.250	.708	.969	.850	.966	.000	.980

City of Newport Beach
 N/S: SR-73 Southbound Ramps
 E/W: Bison Avenue
 Weather: Clear

File Name : NPB73SBIAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

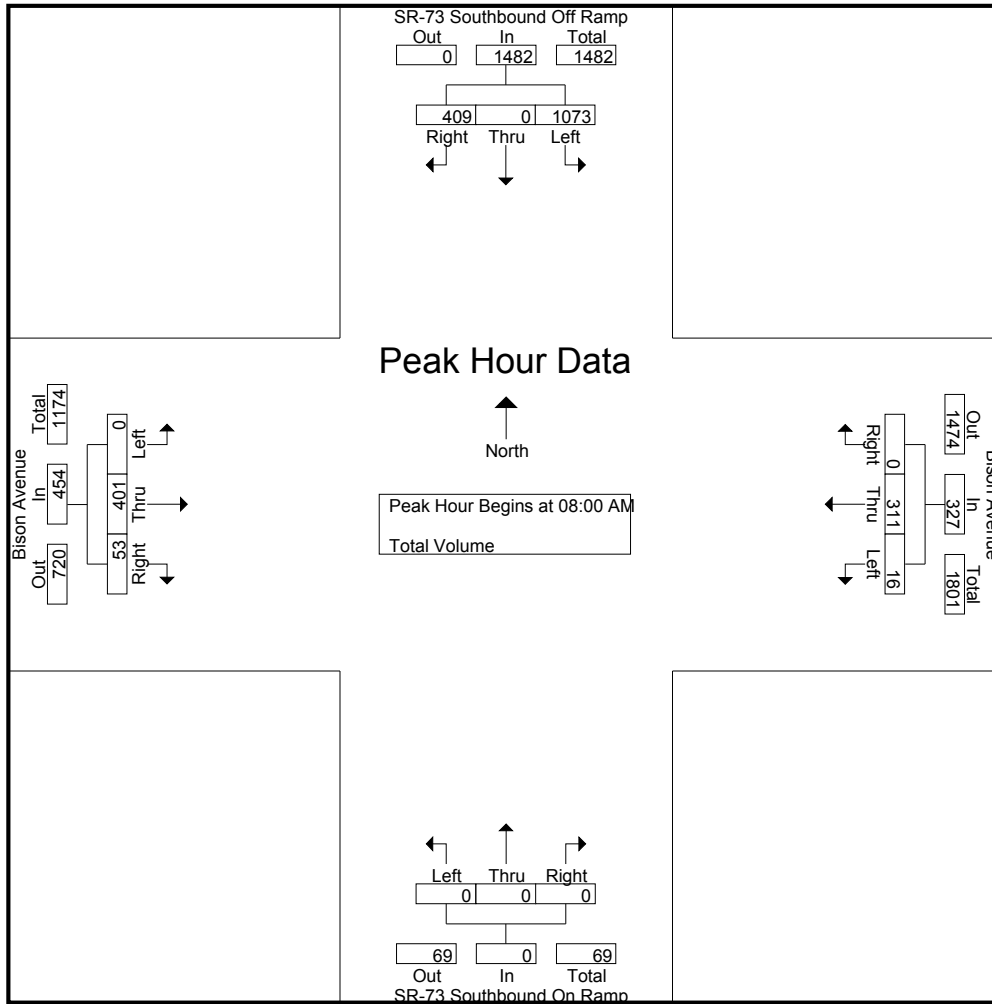
Groups Printed- Total Volume

Start Time	SR-73 Southbound Off Ramp Southbound				Bison Avenue Westbound				SR-73 Southbound On Ramp Northbound				Bison Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	163	0	79	242	1	63	0	64	0	0	0	0	0	76	8	84	390
07:15 AM	151	0	66	217	2	57	0	59	0	0	0	0	0	64	9	73	349
07:30 AM	175	0	79	254	4	62	0	66	0	0	0	0	0	75	12	87	407
07:45 AM	202	0	86	288	5	68	0	73	0	0	0	0	0	82	11	93	454
Total	691	0	310	1001	12	250	0	262	0	0	0	0	0	297	40	337	1600
08:00 AM	229	0	115	344	6	71	0	77	0	0	0	0	0	100	15	115	536
08:15 AM	249	0	108	357	2	76	0	78	0	0	0	0	0	98	12	110	545
08:30 AM	289	0	96	385	4	81	0	85	0	0	0	0	0	102	12	114	584
08:45 AM	306	0	90	396	4	83	0	87	0	0	0	0	0	101	14	115	598
Total	1073	0	409	1482	16	311	0	327	0	0	0	0	0	401	53	454	2263
Grand Total	1764	0	719	2483	28	561	0	589	0	0	0	0	0	698	93	791	3863
Apprch %	71	0	29		4.8	95.2	0		0	0	0	0	0	88.2	11.8		
Total %	45.7	0	18.6	64.3	0.7	14.5	0	15.2	0	0	0	0	0	18.1	2.4	20.5	

Start Time	SR-73 Southbound Off Ramp Southbound				Bison Avenue Westbound				SR-73 Southbound On Ramp Northbound				Bison Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	229	0	115	344	6	71	0	77	0	0	0	0	0	100	15	115	536
08:15 AM	249	0	108	357	2	76	0	78	0	0	0	0	0	98	12	110	545
08:30 AM	289	0	96	385	4	81	0	85	0	0	0	0	0	102	12	114	584
08:45 AM	306	0	90	396	4	83	0	87	0	0	0	0	0	101	14	115	598
Total Volume	1073	0	409	1482	16	311	0	327	0	0	0	0	0	401	53	454	2263
% App. Total	72.4	0	27.6		4.9	95.1	0		0	0	0	0	0	88.3	11.7		
PHF	.877	.000	.889	.936	.667	.937	.000	.940	.000	.000	.000	.000	.000	.983	.883	.987	.946

City of Newport Beach
 N/S: SR-73 Southbound Ramps
 E/W: Bison Avenue
 Weather: Clear

File Name : NPB73SBIAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				07:00 AM				08:00 AM			
+0 mins.	229	0	115	344	6	71	0	77	0	0	0	0	0	100	15	115
+15 mins.	249	0	108	357	2	76	0	78	0	0	0	0	0	98	12	110
+30 mins.	289	0	96	385	4	81	0	85	0	0	0	0	0	102	12	114
+45 mins.	306	0	90	396	4	83	0	87	0	0	0	0	0	101	14	115
Total Volume	1073	0	409	1482	16	311	0	327	0	0	0	0	0	401	53	454
% App. Total	72.4	0	27.6		4.9	95.1	0		0	0	0	0	0	88.3	11.7	
PHF	.877	.000	.889	.936	.667	.937	.000	.940	.000	.000	.000	.000	.000	.983	.883	.987

City of Newport Beach
 N/S: SR-73 Southbound Ramps
 E/W: Bison Avenue
 Weather: Clear

File Name : NPB73SBIPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

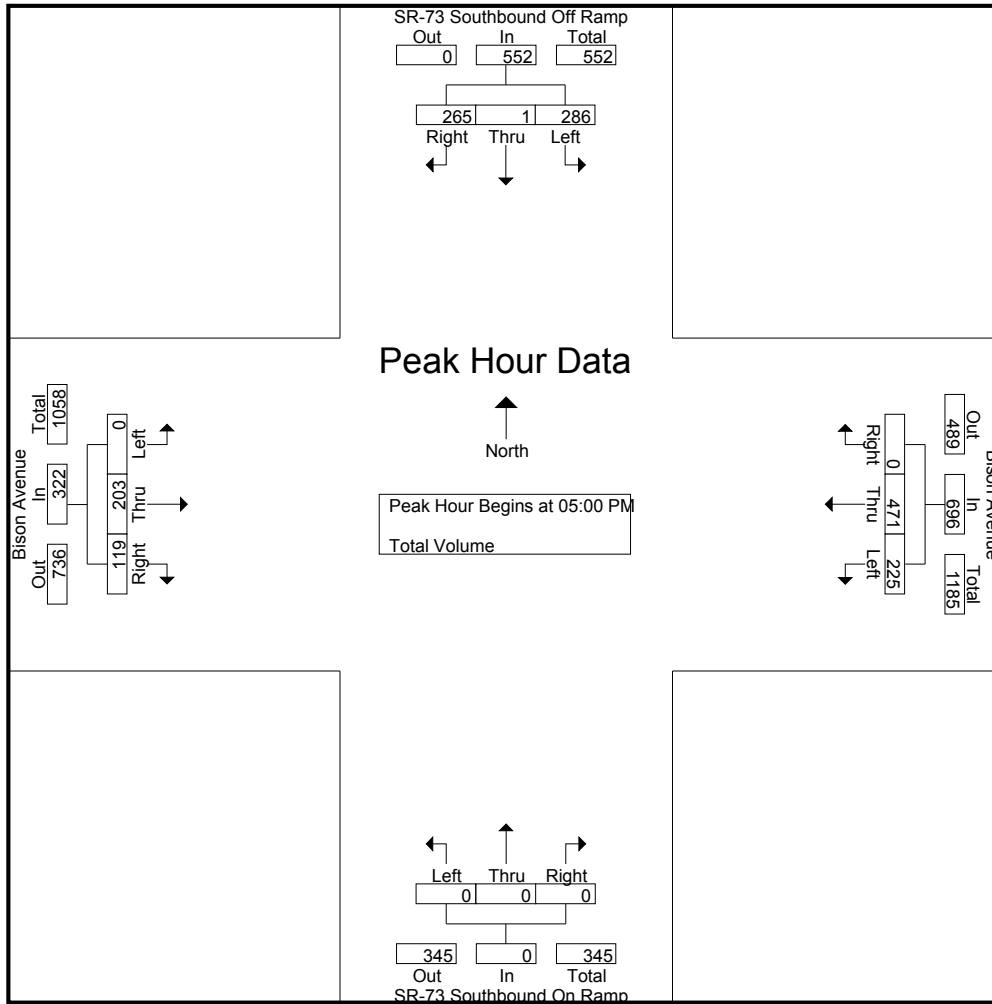
Groups Printed- Total Volume

Start Time	SR-73 Southbound Off Ramp Southbound				Bison Avenue Westbound				SR-73 Southbound On Ramp Northbound				Bison Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	51	0	34	85	36	99	0	135	0	0	0	0	0	33	27	60	280
04:15 PM	62	0	42	104	35	96	0	131	0	0	0	0	0	34	30	64	299
04:30 PM	71	0	46	117	41	89	0	130	0	0	0	0	0	41	33	74	321
04:45 PM	74	0	52	126	33	91	0	124	0	0	0	0	0	39	31	70	320
Total	258	0	174	432	145	375	0	520	0	0	0	0	0	147	121	268	1220
05:00 PM	76	1	53	130	43	106	0	149	0	0	0	0	0	43	29	72	351
05:15 PM	70	0	69	139	52	112	0	164	0	0	0	0	0	51	34	85	388
05:30 PM	72	0	78	150	69	128	0	197	0	0	0	0	0	53	31	84	431
05:45 PM	68	0	65	133	61	125	0	186	0	0	0	0	0	56	25	81	400
Total	286	1	265	552	225	471	0	696	0	0	0	0	0	203	119	322	1570
Grand Total	544	1	439	984	370	846	0	1216	0	0	0	0	0	350	240	590	2790
Apprch %	55.3	0.1	44.6		30.4	69.6	0		0	0	0	0	0	59.3	40.7		
Total %	19.5	0	15.7	35.3	13.3	30.3	0	43.6	0	0	0	0	0	12.5	8.6	21.1	

Start Time	SR-73 Southbound Off Ramp Southbound				Bison Avenue Westbound				SR-73 Southbound On Ramp Northbound				Bison Avenue Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	76	1	53	130	43	106	0	149	0	0	0	0	0	43	29	72	351
05:15 PM	70	0	69	139	52	112	0	164	0	0	0	0	0	51	34	85	388
05:30 PM	72	0	78	150	69	128	0	197	0	0	0	0	0	53	31	84	431
05:45 PM	68	0	65	133	61	125	0	186	0	0	0	0	0	56	25	81	400
Total Volume	286	1	265	552	225	471	0	696	0	0	0	0	0	203	119	322	1570
% App. Total	51.8	0.2	48		32.3	67.7	0		0	0	0	0	0	63	37		
PHF	.941	.250	.849	.920	.815	.920	.000	.883	.000	.000	.000	.000	.000	.906	.875	.947	.911

City of Newport Beach
 N/S: SR-73 Southbound Ramps
 E/W: Bison Avenue
 Weather: Clear

File Name : NPB73SBIPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				04:00 PM				05:00 PM			
+0 mins.	76	1	53	130	43	106	0	149	0	0	0	0	0	43	29	72
+15 mins.	70	0	69	139	52	112	0	164	0	0	0	0	0	51	34	85
+30 mins.	72	0	78	150	69	128	0	197	0	0	0	0	0	53	31	84
+45 mins.	68	0	65	133	61	125	0	186	0	0	0	0	0	56	25	81
Total Volume	286	1	265	552	225	471	0	696	0	0	0	0	0	203	119	322
% App. Total	51.8	0.2	48		32.3	67.7	0		0	0	0	0	0	63	37	
PHF	.941	.250	.849	.920	.815	.920	.000	.883	.000	.000	.000	.000	.000	.906	.875	.947

City: NEWPORT BEACH
 N-S Direction: MACARTHUR BOULEVARD
 E-W Direction: BISON AVENUE

File Name : H1204032
 Site Code : 00000562
 Start Date : 4/24/2012
 Page No : 1

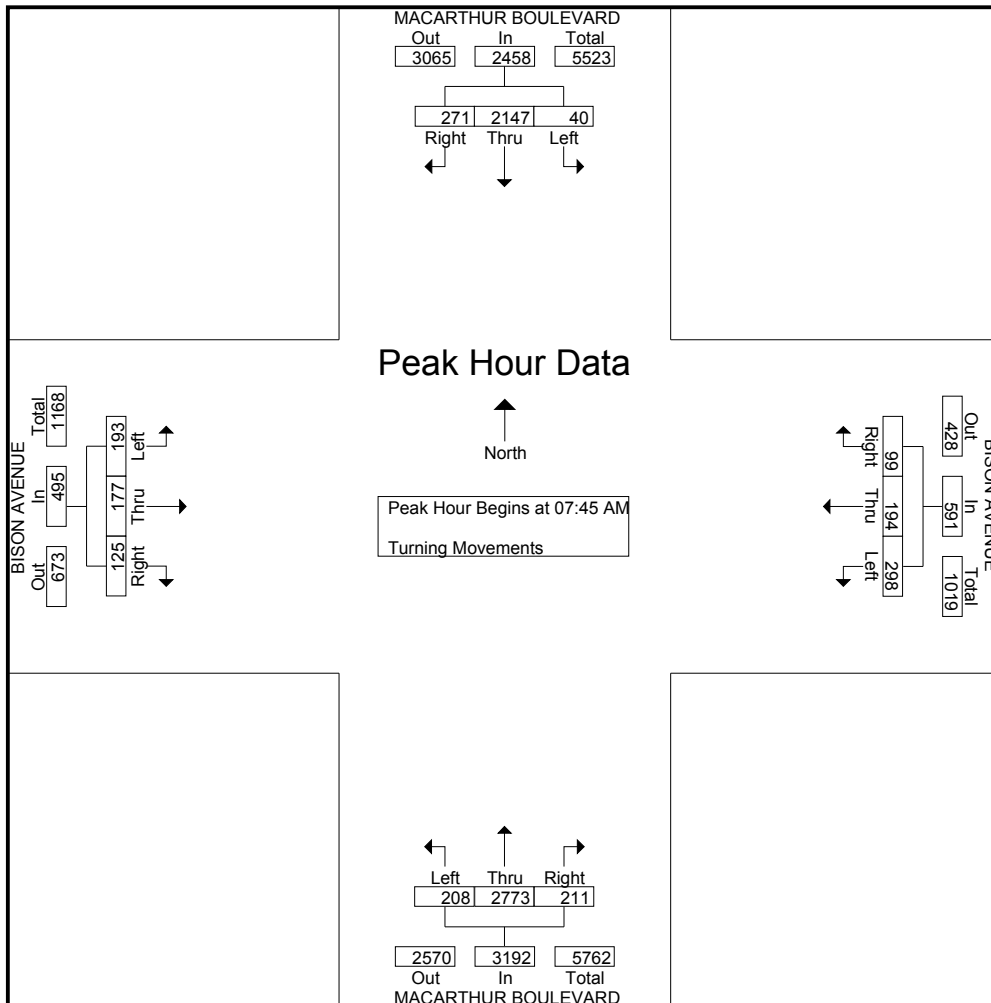
Groups Printed- Turning Movements

Start Time	MACARTHUR BOULEVARD Southbound			BISON AVENUE Westbound			MACARTHUR BOULEVARD Northbound			BISON AVENUE Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	64	384	7	16	31	34	19	349	18	21	22	28	993
07:15 AM	55	481	2	20	27	29	22	487	14	15	24	39	1215
07:30 AM	59	522	6	22	31	53	34	590	66	21	47	39	1490
07:45 AM	64	575	7	23	59	114	39	607	52	48	50	34	1672
Total	242	1962	22	81	148	230	114	2033	150	105	143	140	5370
08:00 AM	65	498	13	26	51	57	45	709	32	33	41	54	1624
08:15 AM	67	543	11	28	47	74	58	790	69	19	46	54	1806
08:30 AM	75	531	9	22	37	53	69	667	55	25	40	51	1634
08:45 AM	45	518	21	38	39	108	40	620	68	25	50	52	1624
Total	252	2090	54	114	174	292	212	2786	224	102	177	211	6688
*** BREAK ***													
04:30 PM	64	562	24	23	34	45	32	599	36	34	31	66	1550
04:45 PM	96	581	29	23	54	60	27	535	35	31	40	57	1568
Total	160	1143	53	46	88	105	59	1134	71	65	71	123	3118
05:00 PM	47	573	26	32	54	54	33	549	25	33	48	55	1529
05:15 PM	54	568	39	33	62	92	42	646	40	24	55	77	1732
05:30 PM	63	676	32	42	62	72	35	598	44	21	59	40	1744
05:45 PM	48	634	36	30	40	87	52	549	31	21	54	49	1631
Total	212	2451	133	137	218	305	162	2342	140	99	216	221	6636
06:00 PM	61	586	48	27	50	69	38	447	33	25	45	50	1479
06:15 PM	57	628	37	36	39	54	51	557	43	24	37	37	1600
Grand Total	984	8860	347	441	717	1055	636	9299	661	420	689	782	24891
Apprch %	9.7	86.9	3.4	19.9	32.4	47.7	6	87.8	6.2	22.2	36.4	41.4	
Total %	4	35.6	1.4	1.8	2.9	4.2	2.6	37.4	2.7	1.7	2.8	3.1	

City: NEWPORT BEACH
 N-S Direction: MACARTHUR BOULEVARD
 E-W Direction: BISON AVENUE

File Name : H1204032
 Site Code : 00000562
 Start Date : 4/24/2012
 Page No : 2

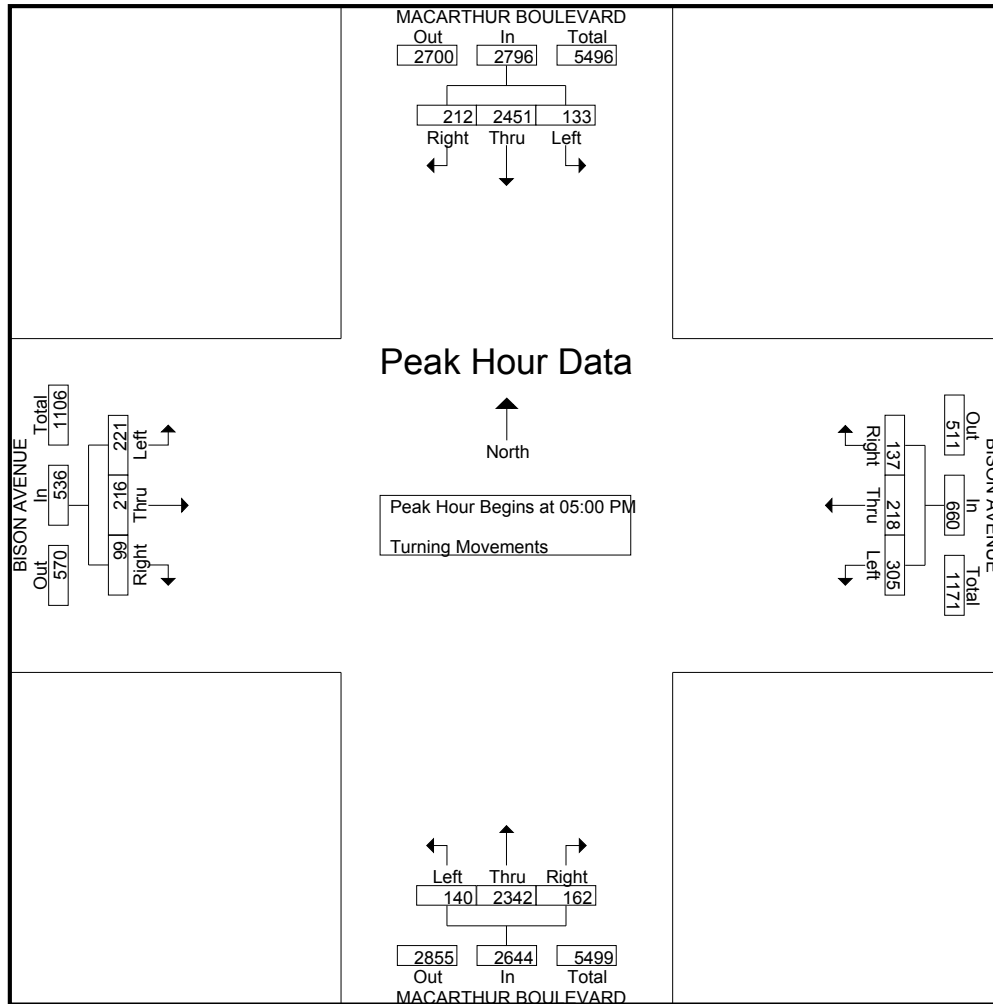
Start Time	MACARTHUR BOULEVARD Southbound				BISON AVENUE Westbound				MACARTHUR BOULEVARD Northbound				BISON AVENUE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	64	575	7	646	23	59	114	196	39	607	52	698	48	50	34	132	1672
08:00 AM	65	498	13	576	26	51	57	134	45	709	32	786	33	41	54	128	1624
08:15 AM	67	543	11	621	28	47	74	149	58	790	69	917	19	46	54	119	1806
08:30 AM	75	531	9	615	22	37	53	112	69	667	55	791	25	40	51	116	1634
Total Volume	271	2147	40	2458	99	194	298	591	211	2773	208	3192	125	177	193	495	6736
% App. Total	11	87.3	1.6		16.8	32.8	50.4		6.6	86.9	6.5		25.3	35.8	39		
PHF	.903	.933	.769	.951	.884	.822	.654	.754	.764	.878	.754	.870	.651	.885	.894	.938	.932



City: NEWPORT BEACH
 N-S Direction: MACARTHUR BOULEVARD
 E-W Direction: BISON AVENUE

File Name : H1204032
 Site Code : 0000562
 Start Date : 4/24/2012
 Page No : 3

Start Time	MACARTHUR BOULEVARD Southbound				BISON AVENUE Westbound				MACARTHUR BOULEVARD Northbound				BISON AVENUE Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	47	573	26	646	32	54	54	140	33	549	25	607	33	48	55	136	1529
05:15 PM	54	568	39	661	33	62	92	187	42	646	40	728	24	55	77	156	1732
05:30 PM	63	676	32	771	42	62	72	176	35	598	44	677	21	59	40	120	1744
05:45 PM	48	634	36	718	30	40	87	157	52	549	31	632	21	54	49	124	1631
Total Volume	212	2451	133	2796	137	218	305	660	162	2342	140	2644	99	216	221	536	6636
% App. Total	7.6	87.7	4.8		20.8	33	46.2		6.1	88.6	5.3		18.5	40.3	41.2		
PHF	.841	.906	.853	.907	.815	.879	.829	.882	.779	.906	.795	.908	.750	.915	.718	.859	.951



TRAFFIC DATA SERVICES, INC.
(949) 679-3703
Summary of Vehicular Turning Movements

N/S ST : MACARTHUR BLVD
 E/W ST : FORD RD/BONITA CANYON DR
 CITY : NEWPORT BEACH

FILENAME: 02120405
 DATE: 3/8/12
 DAY: THURSDAY

PERIOD BEGINS	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			Total
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	2	4	1	2	4	1	2	2	1	2	2	1	
7:00 AM	3	336	20	127	460	4	3	36	8	64	32	139	1232
15 AM	10	399	11	110	478	6	8	37	9	83	60	187	1398
30 AM	9	468	13	97	498	4	11	62	14	97	61	224	1558
45 AM	10	437	15	119	576	3	7	65	25	165	91	246	1759
8:00 AM	26	507	29	153	563	4	8	46	21	168	157	262	1944
15 AM	37	530	27	147	566	6	11	49	17	121	115	205	1831
30 AM	32	527	28	143	570	3	13	80	18	130	160	249	1953
45 AM	36	435	35	131	569	5	13	112	22	166	131	202	1857

PEAK HOUR BEGINS AT:													PHF: 0.97
800 AM													
VOLUMES =	131	1999	119	574	2268	18	45	287	78	585	563	918	7585

FILENAME: 02120405P
 DATE: 3/8/12
 DAY: THURSDAY

PERIOD BEGINS	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			Total
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM	16	495	119	176	501	11	11	64	11	43	55	156	1658
15 PM	36	561	143	217	554	6	8	80	9	42	93	180	1929
30 PM	26	537	139	262	578	12	11	96	15	58	56	179	1969
45 PM	16	462	121	235	441	16	5	66	11	52	81	179	1685
5:00 PM	19	450	138	269	534	5	7	67	12	40	60	121	1722
15 PM	27	568	131	350	748	13	7	114	8	74	79	170	2289
30 PM	17	516	137	164	436	11	2	67	10	66	91	157	1674
45 PM	13	405	139	257	559	4	2	54	7	74	70	111	1695

PEAK HOUR BEGINS AT:													PHF: 0.84
1630 PM													
VOLUMES =	88	2017	529	1116	2301	46	30	343	46	224	276	649	7665

COMMENTS:

City of Newport Beach
 N/S: MacArthur Boulevard
 E/W: San Joaquin Hills Road
 Weather: Clear

File Name : NPBMASJAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

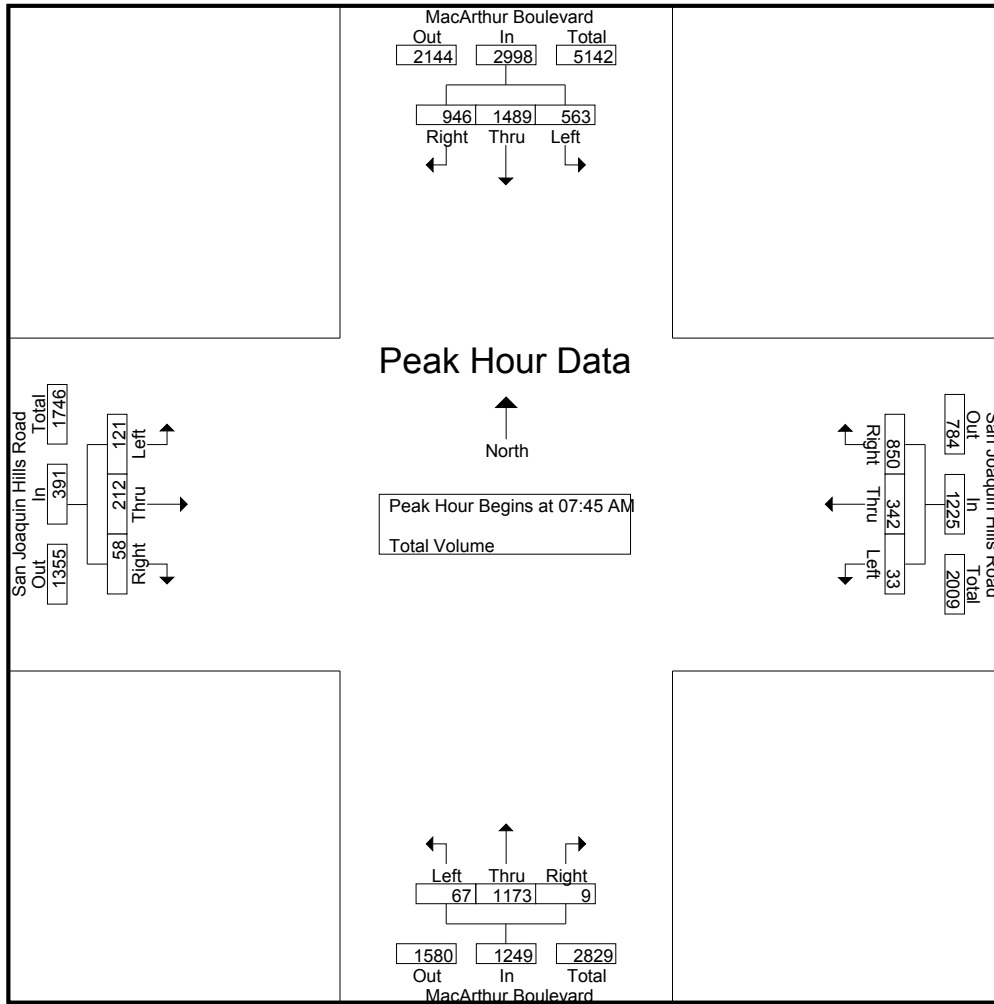
Groups Printed- Total Volume

Start Time	MacArthur Boulevard Southbound				San Joaquin Hills Road Westbound				MacArthur Boulevard Northbound				San Joaquin Hills Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	109	314	152	575	5	44	109	158	15	188	1	204	12	29	6	47	984
07:15 AM	108	328	176	612	6	105	147	258	27	212	3	242	15	29	10	54	1166
07:30 AM	109	332	195	636	1	89	177	267	18	302	3	323	31	77	30	138	1364
07:45 AM	167	375	246	788	5	70	185	260	17	248	2	267	23	73	13	109	1424
Total	493	1349	769	2611	17	308	618	943	77	950	9	1036	81	208	59	348	4938
08:00 AM	173	354	219	746	9	100	221	330	22	314	3	339	24	70	19	113	1528
08:15 AM	118	360	235	713	11	101	267	379	15	298	2	315	44	30	9	83	1490
08:30 AM	105	400	246	751	8	71	177	256	13	313	2	328	30	39	17	86	1421
08:45 AM	122	380	222	724	14	101	172	287	20	266	5	291	47	53	20	120	1422
Total	518	1494	922	2934	42	373	837	1252	70	1191	12	1273	145	192	65	402	5861
Grand Total	1011	2843	1691	5545	59	681	1455	2195	147	2141	21	2309	226	400	124	750	10799
Apprch %	18.2	51.3	30.5		2.7	31	66.3		6.4	92.7	0.9		30.1	53.3	16.5		
Total %	9.4	26.3	15.7	51.3	0.5	6.3	13.5	20.3	1.4	19.8	0.2	21.4	2.1	3.7	1.1	6.9	

Start Time	MacArthur Boulevard Southbound				San Joaquin Hills Road Westbound				MacArthur Boulevard Northbound				San Joaquin Hills Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	167	375	246	788	5	70	185	260	17	248	2	267	23	73	13	109	1424
08:00 AM	173	354	219	746	9	100	221	330	22	314	3	339	24	70	19	113	1528
08:15 AM	118	360	235	713	11	101	267	379	15	298	2	315	44	30	9	83	1490
08:30 AM	105	400	246	751	8	71	177	256	13	313	2	328	30	39	17	86	1421
Total Volume	563	1489	946	2998	33	342	850	1225	67	1173	9	1249	121	212	58	391	5863
% App. Total	18.8	49.7	31.6		2.7	27.9	69.4		5.4	93.9	0.7		30.9	54.2	14.8		
PHF	.814	.931	.961	.951	.750	.847	.796	.808	.761	.934	.750	.921	.688	.726	.763	.865	.959

City of Newport Beach
 N/S: MacArthur Boulevard
 E/W: San Joaquin Hills Road
 Weather: Clear

File Name : NPBMASJAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45 AM				08:00 AM				08:00 AM				07:30 AM			
+0 mins.	167	375	246	788	9	100	221	330	22	314	3	339	31	77	30	138
+15 mins.	173	354	219	746	11	101	267	379	15	298	2	315	23	73	13	109
+30 mins.	118	360	235	713	8	71	177	256	13	313	2	328	24	70	19	113
+45 mins.	105	400	246	751	14	101	172	287	20	266	5	291	44	30	9	83
Total Volume	563	1489	946	2998	42	373	837	1252	70	1191	12	1273	122	250	71	443
% App. Total	18.8	49.7	31.6		3.4	29.8	66.9		5.5	93.6	0.9		27.5	56.4	16	
PHF	.814	.931	.961	.951	.750	.923	.784	.826	.795	.948	.600	.939	.693	.812	.592	.803

City of Newport Beach
 N/S: MacArthur Boulevard
 E/W: San Joaquin Hills Road
 Weather: Clear

File Name : NPBMASJPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

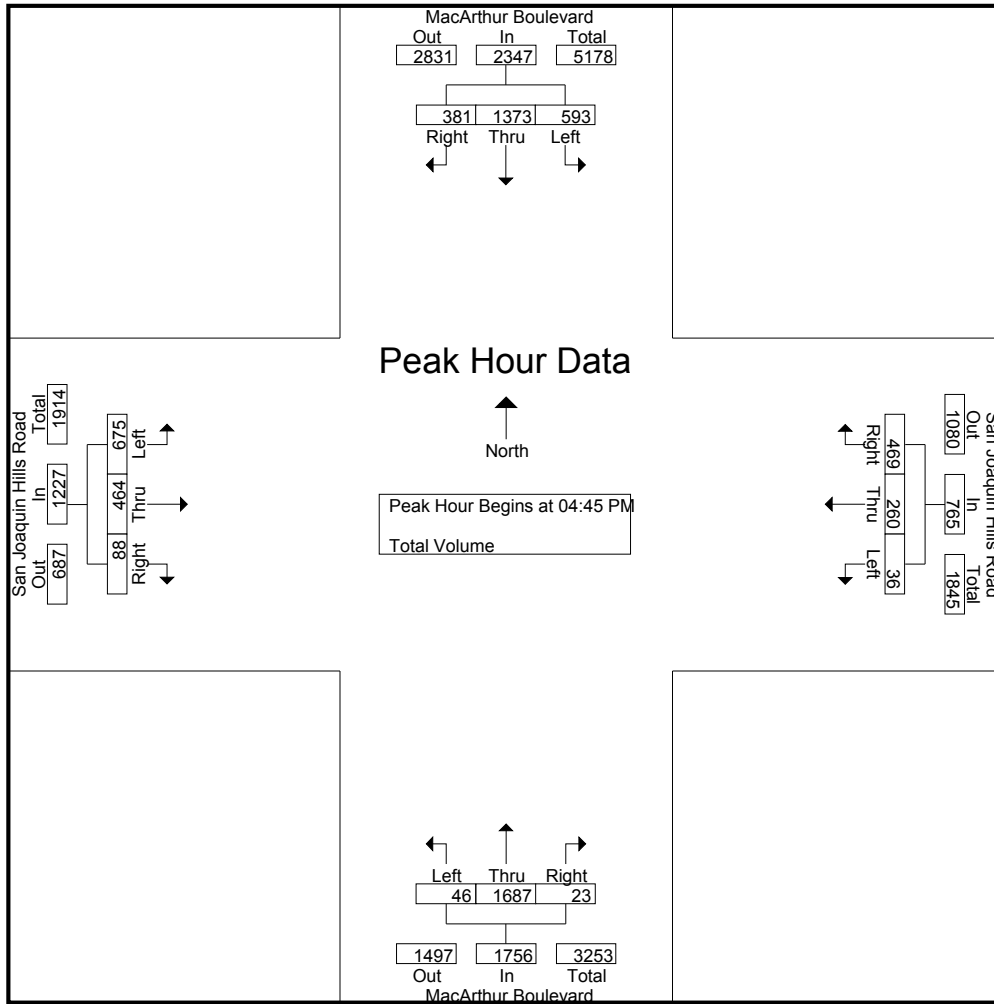
Groups Printed- Total Volume

Start Time	MacArthur Boulevard Southbound				San Joaquin Hills Road Westbound				MacArthur Boulevard Northbound				San Joaquin Hills Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	143	304	106	553	8	65	101	174	10	429	4	443	125	88	13	226	1396
04:15 PM	133	337	103	573	10	72	114	196	11	377	5	393	132	87	21	240	1402
04:30 PM	157	285	95	537	7	61	89	157	15	370	7	392	152	79	21	252	1338
04:45 PM	117	381	80	578	14	76	121	211	6	402	5	413	128	93	29	250	1452
Total	550	1307	384	2241	39	274	425	738	42	1578	21	1641	537	347	84	968	5588
05:00 PM	146	341	87	574	7	58	113	178	10	461	7	478	183	131	20	334	1564
05:15 PM	172	314	100	586	9	72	128	209	14	425	6	445	191	127	18	336	1576
05:30 PM	158	337	114	609	6	54	107	167	16	399	5	420	173	113	21	307	1503
05:45 PM	132	310	88	530	13	92	89	194	7	306	2	315	168	103	22	293	1332
Total	608	1302	389	2299	35	276	437	748	47	1591	20	1658	715	474	81	1270	5975
Grand Total	1158	2609	773	4540	74	550	862	1486	89	3169	41	3299	1252	821	165	2238	11563
Apprch %	25.5	57.5	17		5	37	58		2.7	96.1	1.2		55.9	36.7	7.4		
Total %	10	22.6	6.7	39.3	0.6	4.8	7.5	12.9	0.8	27.4	0.4	28.5	10.8	7.1	1.4	19.4	

Start Time	MacArthur Boulevard Southbound				San Joaquin Hills Road Westbound				MacArthur Boulevard Northbound				San Joaquin Hills Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	117	381	80	578	14	76	121	211	6	402	5	413	128	93	29	250	1452
05:00 PM	146	341	87	574	7	58	113	178	10	461	7	478	183	131	20	334	1564
05:15 PM	172	314	100	586	9	72	128	209	14	425	6	445	191	127	18	336	1576
05:30 PM	158	337	114	609	6	54	107	167	16	399	5	420	173	113	21	307	1503
Total Volume	593	1373	381	2347	36	260	469	765	46	1687	23	1756	675	464	88	1227	6095
% App. Total	25.3	58.5	16.2		4.7	34	61.3		2.6	96.1	1.3		55	37.8	7.2		
PHF	.862	.901	.836	.963	.643	.855	.916	.906	.719	.915	.821	.918	.884	.885	.759	.913	.967

City of Newport Beach
 N/S: MacArthur Boulevard
 E/W: San Joaquin Hills Road
 Weather: Clear

File Name : NPBMASJPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				05:00 PM			
+0 mins.	117	381	80	578	14	76	121	211	6	402	5	413	183	131	20	334
+15 mins.	146	341	87	574	7	58	113	178	10	461	7	478	191	127	18	336
+30 mins.	172	314	100	586	9	72	128	209	14	425	6	445	173	113	21	307
+45 mins.	158	337	114	609	6	54	107	167	16	399	5	420	168	103	22	293
Total Volume	593	1373	381	2347	36	260	469	765	46	1687	23	1756	715	474	81	1270
% App. Total	25.3	58.5	16.2		4.7	34	61.3		2.6	96.1	1.3		56.3	37.3	6.4	
PHF	.862	.901	.836	.963	.643	.855	.916	.906	.719	.915	.821	.918	.936	.905	.920	.945

City of Newport Beach
 N/S: MacArthur Boulevard
 E/W: San Miguel Drive
 Weather: Clear

File Name : NPBMASAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

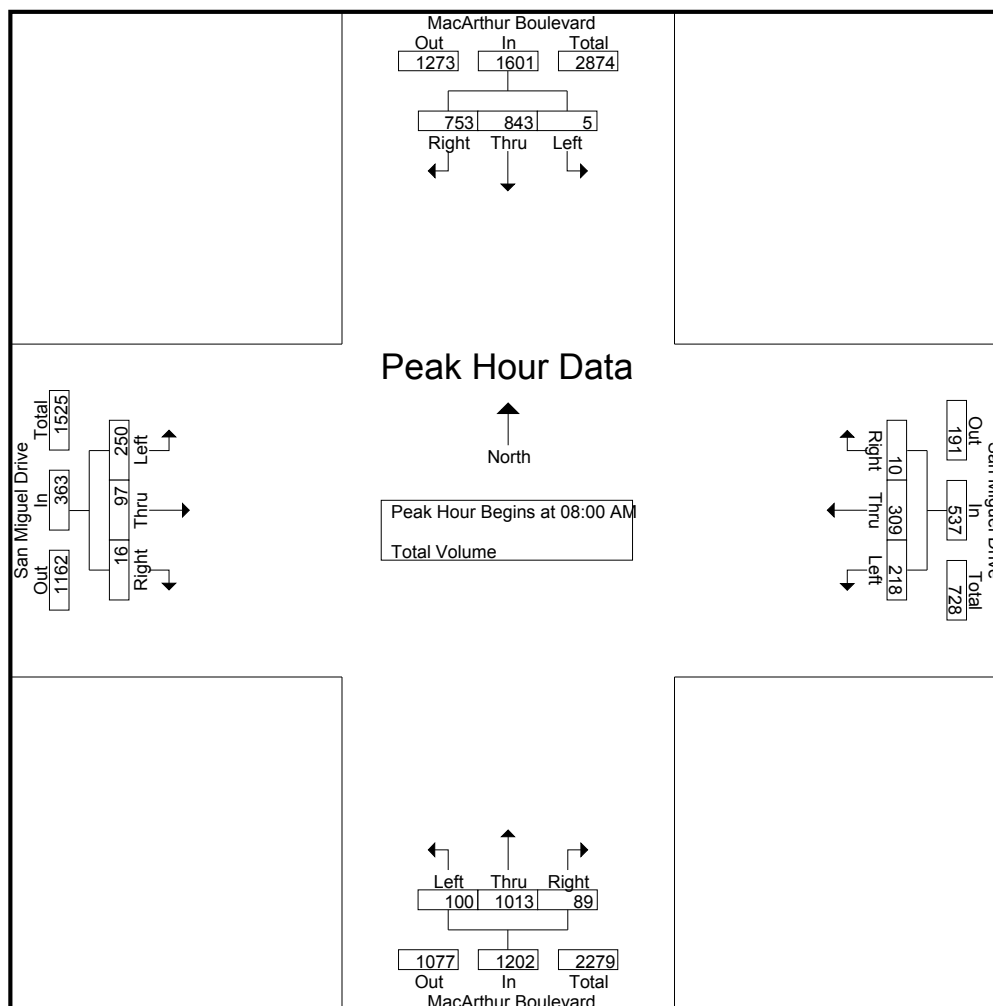
Groups Printed- Total Volume

Start Time	MacArthur Boulevard Southbound				San Miguel Drive Westbound				MacArthur Boulevard Northbound				San Miguel Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	194	111	305	27	21	2	50	12	184	15	211	25	7	1	33	599
07:15 AM	3	202	139	344	20	34	1	55	13	218	19	250	20	13	5	38	687
07:30 AM	2	225	153	380	38	32	3	73	23	285	21	329	30	6	5	41	823
07:45 AM	0	238	162	400	46	62	1	109	27	231	43	301	37	14	2	53	863
Total	5	859	565	1429	131	149	7	287	75	918	98	1091	112	40	13	165	2972
08:00 AM	2	222	153	377	61	69	2	132	15	275	34	324	46	24	3	73	906
08:15 AM	0	204	196	400	62	81	2	145	28	280	26	334	57	31	5	93	972
08:30 AM	1	228	190	419	42	59	4	105	27	239	9	275	63	21	1	85	884
08:45 AM	2	189	214	405	53	100	2	155	30	219	20	269	84	21	7	112	941
Total	5	843	753	1601	218	309	10	537	100	1013	89	1202	250	97	16	363	3703
Grand Total	10	1702	1318	3030	349	458	17	824	175	1931	187	2293	362	137	29	528	6675
Apprch %	0.3	56.2	43.5		42.4	55.6	2.1		7.6	84.2	8.2		68.6	25.9	5.5		
Total %	0.1	25.5	19.7	45.4	5.2	6.9	0.3	12.3	2.6	28.9	2.8	34.4	5.4	2.1	0.4	7.9	

Start Time	MacArthur Boulevard Southbound				San Miguel Drive Westbound				MacArthur Boulevard Northbound				San Miguel Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	2	222	153	377	61	69	2	132	15	275	34	324	46	24	3	73	906
08:15 AM	0	204	196	400	62	81	2	145	28	280	26	334	57	31	5	93	972
08:30 AM	1	228	190	419	42	59	4	105	27	239	9	275	63	21	1	85	884
08:45 AM	2	189	214	405	53	100	2	155	30	219	20	269	84	21	7	112	941
Total Volume	5	843	753	1601	218	309	10	537	100	1013	89	1202	250	97	16	363	3703
% App. Total	0.3	52.7	47		40.6	57.5	1.9		8.3	84.3	7.4		68.9	26.7	4.4		
PHF	.625	.924	.880	.955	.879	.773	.625	.866	.833	.904	.654	.900	.744	.782	.571	.810	.952

City of Newport Beach
 N/S: MacArthur Boulevard
 E/W: San Miguel Drive
 Weather: Clear

File Name : NPBMASAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				07:30 AM				08:00 AM			
+0 mins.	2	222	153	377	61	69	2	132	23	285	21	329	46	24	3	73
+15 mins.	0	204	196	400	62	81	2	145	27	231	43	301	57	31	5	93
+30 mins.	1	228	190	419	42	59	4	105	15	275	34	324	63	21	1	85
+45 mins.	2	189	214	405	53	100	2	155	28	280	26	334	84	21	7	112
Total Volume	5	843	753	1601	218	309	10	537	93	1071	124	1288	250	97	16	363
% App. Total	0.3	52.7	47		40.6	57.5	1.9		7.2	83.2	9.6		68.9	26.7	4.4	
PHF	.625	.924	.880	.955	.879	.773	.625	.866	.830	.939	.721	.964	.744	.782	.571	.810

City of Newport Beach
 N/S: MacArthur Boulevard
 E/W: San Miguel Drive
 Weather: Clear

File Name : NPBMASMPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

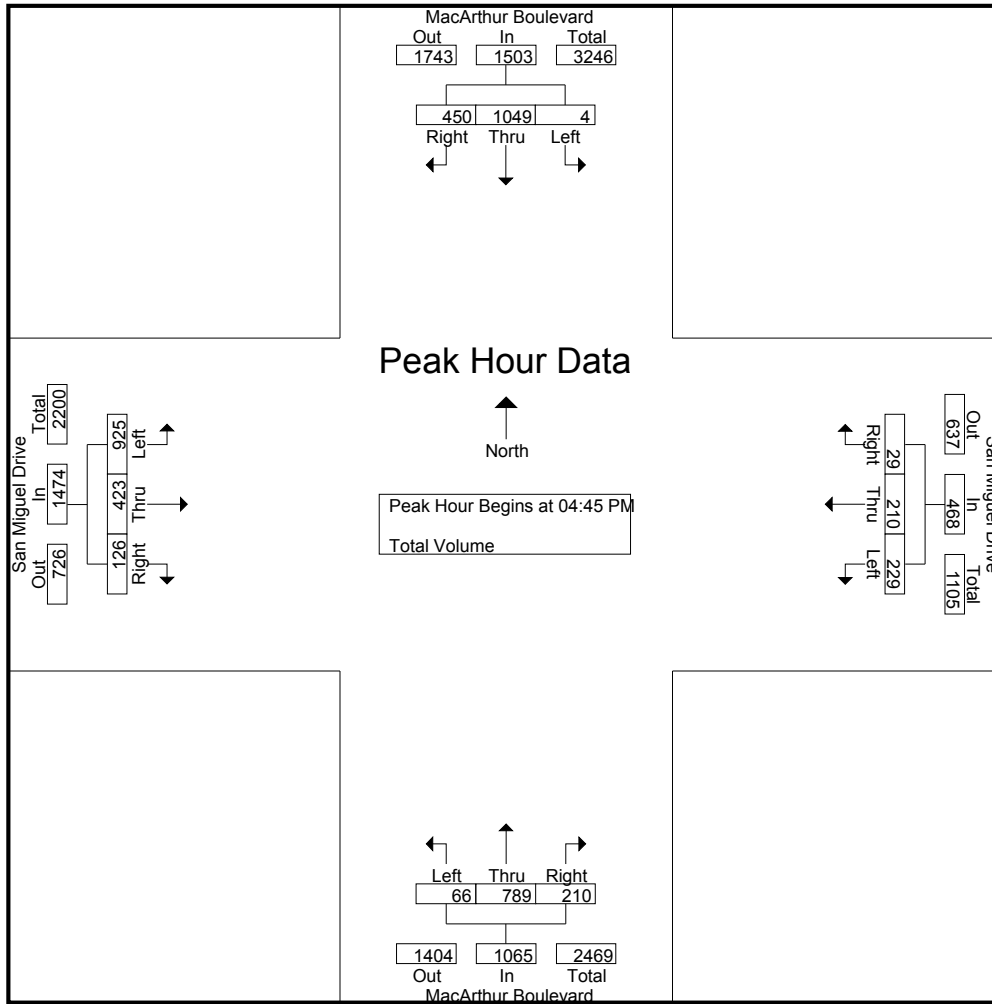
Groups Printed- Total Volume

Start Time	MacArthur Boulevard Southbound				San Miguel Drive Westbound				MacArthur Boulevard Northbound				San Miguel Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	197	125	322	63	35	13	111	16	215	63	294	219	94	35	348	1075
04:15 PM	5	243	125	373	52	60	7	119	10	223	56	289	170	97	24	291	1072
04:30 PM	2	219	111	332	52	52	9	113	13	176	56	245	231	91	35	357	1047
04:45 PM	3	241	146	390	71	61	6	138	18	179	56	253	194	104	31	329	1110
Total	10	900	507	1417	238	208	35	481	57	793	231	1081	814	386	125	1325	4304
05:00 PM	1	288	121	410	67	56	6	129	17	214	54	285	267	111	32	410	1234
05:15 PM	0	256	77	333	50	47	9	106	19	212	55	286	238	101	34	373	1098
05:30 PM	0	264	106	370	41	46	8	95	12	184	45	241	226	107	29	362	1068
05:45 PM	2	249	151	402	79	54	1	134	15	144	56	215	170	85	24	279	1030
Total	3	1057	455	1515	237	203	24	464	63	754	210	1027	901	404	119	1424	4430
Grand Total	13	1957	962	2932	475	411	59	945	120	1547	441	2108	1715	790	244	2749	8734
Apprch %	0.4	66.7	32.8		50.3	43.5	6.2		5.7	73.4	20.9		62.4	28.7	8.9		
Total %	0.1	22.4	11	33.6	5.4	4.7	0.7	10.8	1.4	17.7	5	24.1	19.6	9	2.8	31.5	

Start Time	MacArthur Boulevard Southbound				San Miguel Drive Westbound				MacArthur Boulevard Northbound				San Miguel Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	3	241	146	390	71	61	6	138	18	179	56	253	194	104	31	329	1110
05:00 PM	1	288	121	410	67	56	6	129	17	214	54	285	267	111	32	410	1234
05:15 PM	0	256	77	333	50	47	9	106	19	212	55	286	238	101	34	373	1098
05:30 PM	0	264	106	370	41	46	8	95	12	184	45	241	226	107	29	362	1068
Total Volume	4	1049	450	1503	229	210	29	468	66	789	210	1065	925	423	126	1474	4510
% App. Total	0.3	69.8	29.9		48.9	44.9	6.2		6.2	74.1	19.7		62.8	28.7	8.5		
PHF	.333	.911	.771	.916	.806	.861	.806	.848	.868	.922	.938	.931	.866	.953	.926	.899	.914

City of Newport Beach
 N/S: MacArthur Boulevard
 E/W: San Miguel Drive
 Weather: Clear

File Name : NPBMASMPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	05:00 PM				04:15 PM				04:00 PM				04:45 PM			
+0 mins.	1	288	121	410	52	60	7	119	16	215	63	294	194	104	31	329
+15 mins.	0	256	77	333	52	52	9	113	10	223	56	289	267	111	32	410
+30 mins.	0	264	106	370	71	61	6	138	13	176	56	245	238	101	34	373
+45 mins.	2	249	151	402	67	56	6	129	18	179	56	253	226	107	29	362
Total Volume	3	1057	455	1515	242	229	28	499	57	793	231	1081	925	423	126	1474
% App. Total	0.2	69.8	30		48.5	45.9	5.6		5.3	73.4	21.4		62.8	28.7	8.5	
PHF	.375	.918	.753	.924	.852	.939	.778	.904	.792	.889	.917	.919	.866	.953	.926	.899

City of Newport Beach
 N/S: MacArthur Boulevard
 E/W: Pacific Coast Highway
 Weather: Clear

File Name : NPBMAPCHAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

Groups Printed- Total Volume

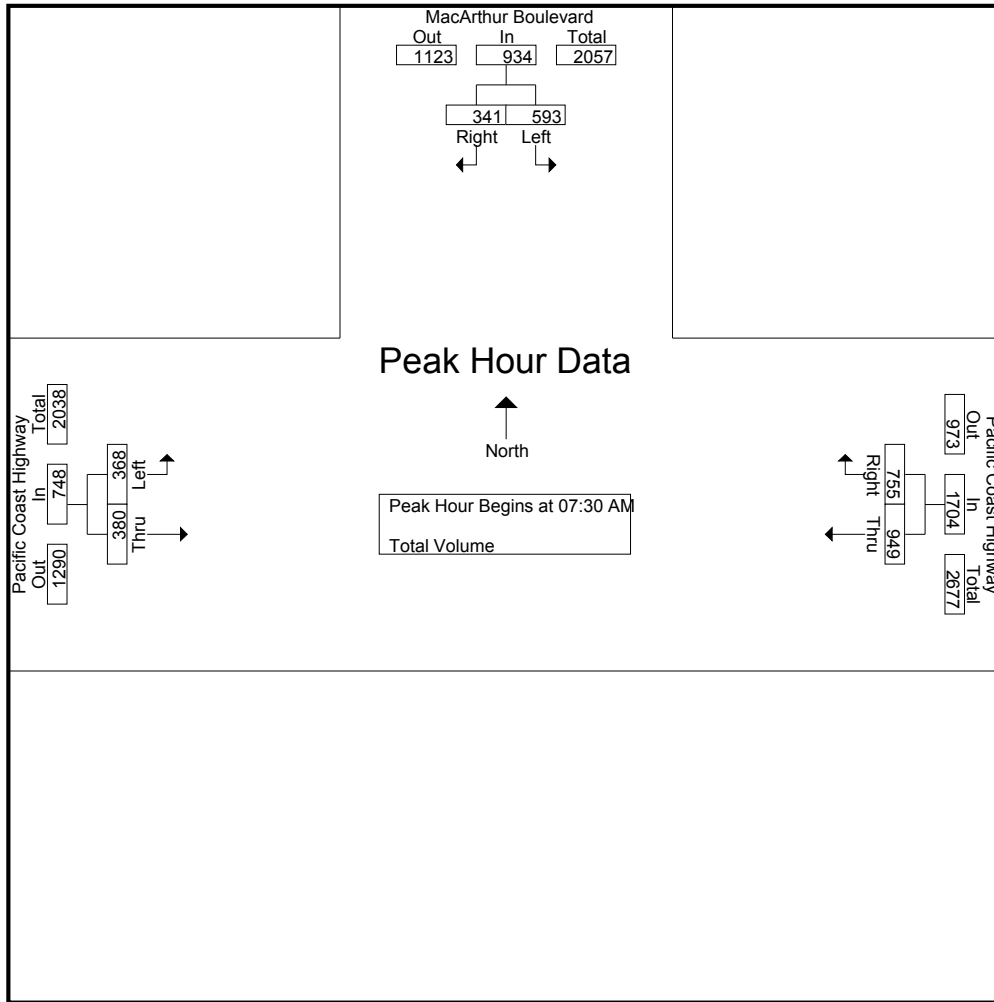
Start Time	MacArthur Boulevard Southbound			Pacific Coast Highway Westbound			Pacific Coast Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	154	44	198	151	139	290	40	60	100	588
07:15 AM	158	37	195	182	206	388	64	78	142	725
07:30 AM	183	62	245	235	198	433	63	81	144	822
07:45 AM	144	84	228	223	162	385	123	119	242	855
Total	639	227	866	791	705	1496	290	338	628	2990
08:00 AM	143	99	242	217	192	409	119	89	208	859
08:15 AM	123	96	219	274	203	477	63	91	154	850
08:30 AM	156	68	224	243	171	414	64	99	163	801
08:45 AM	148	79	227	255	171	426	63	104	167	820
Total	570	342	912	989	737	1726	309	383	692	3330
Grand Total	1209	569	1778	1780	1442	3222	599	721	1320	6320
Apprch %	68	32		55.2	44.8		45.4	54.6		
Total %	19.1	9	28.1	28.2	22.8	51	9.5	11.4	20.9	

Start Time	MacArthur Boulevard Southbound			Pacific Coast Highway Westbound			Pacific Coast Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:30 AM	183	62	245	235	198	433	63	81	144	822
07:45 AM	144	84	228	223	162	385	123	119	242	855
08:00 AM	143	99	242	217	192	409	119	89	208	859
08:15 AM	123	96	219	274	203	477	63	91	154	850
Total Volume	593	341	934	949	755	1704	368	380	748	3386
% App. Total	63.5	36.5		55.7	44.3		49.2	50.8		
PHF	.810	.861	.953	.866	.930	.893	.748	.798	.773	.985

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

City of Newport Beach
 N/S: MacArthur Boulevard
 E/W: Pacific Coast Highway
 Weather: Clear

File Name : NPBMAPCHAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM			08:00 AM			07:45 AM		
+0 mins.	183	62	245	217	192	409	123	119	242
+15 mins.	144	84	228	274	203	477	119	89	208
+30 mins.	143	99	242	243	171	414	63	91	154
+45 mins.	123	96	219	255	171	426	64	99	163
Total Volume	593	341	934	989	737	1726	369	398	767
% App. Total	63.5	36.5		57.3	42.7		48.1	51.9	
PHF	.810	.861	.953	.902	.908	.905	.750	.836	.792

City of Newport Beach
 N/S: MacArthur Boulevard
 E/W: Pacific Coast Highway
 Weather: Clear

File Name : NPBMAPCHPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

Groups Printed- Total Volume

Start Time	MacArthur Boulevard Southbound			Pacific Coast Highway Westbound			Pacific Coast Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	176	89	265	222	171	393	110	254	364	1022
04:15 PM	152	64	216	278	178	456	92	295	387	1059
04:30 PM	194	93	287	239	156	395	87	282	369	1051
04:45 PM	156	100	256	220	148	368	86	312	398	1022
Total	678	346	1024	959	653	1612	375	1143	1518	4154
05:00 PM	216	92	308	266	172	438	101	322	423	1169
05:15 PM	196	89	285	252	156	408	116	285	401	1094
05:30 PM	176	73	249	231	151	382	87	291	378	1009
05:45 PM	233	118	351	232	110	342	87	261	348	1041
Total	821	372	1193	981	589	1570	391	1159	1550	4313
Grand Total	1499	718	2217	1940	1242	3182	766	2302	3068	8467
Apprch %	67.6	32.4		61	39		25	75		
Total %	17.7	8.5	26.2	22.9	14.7	37.6	9	27.2	36.2	

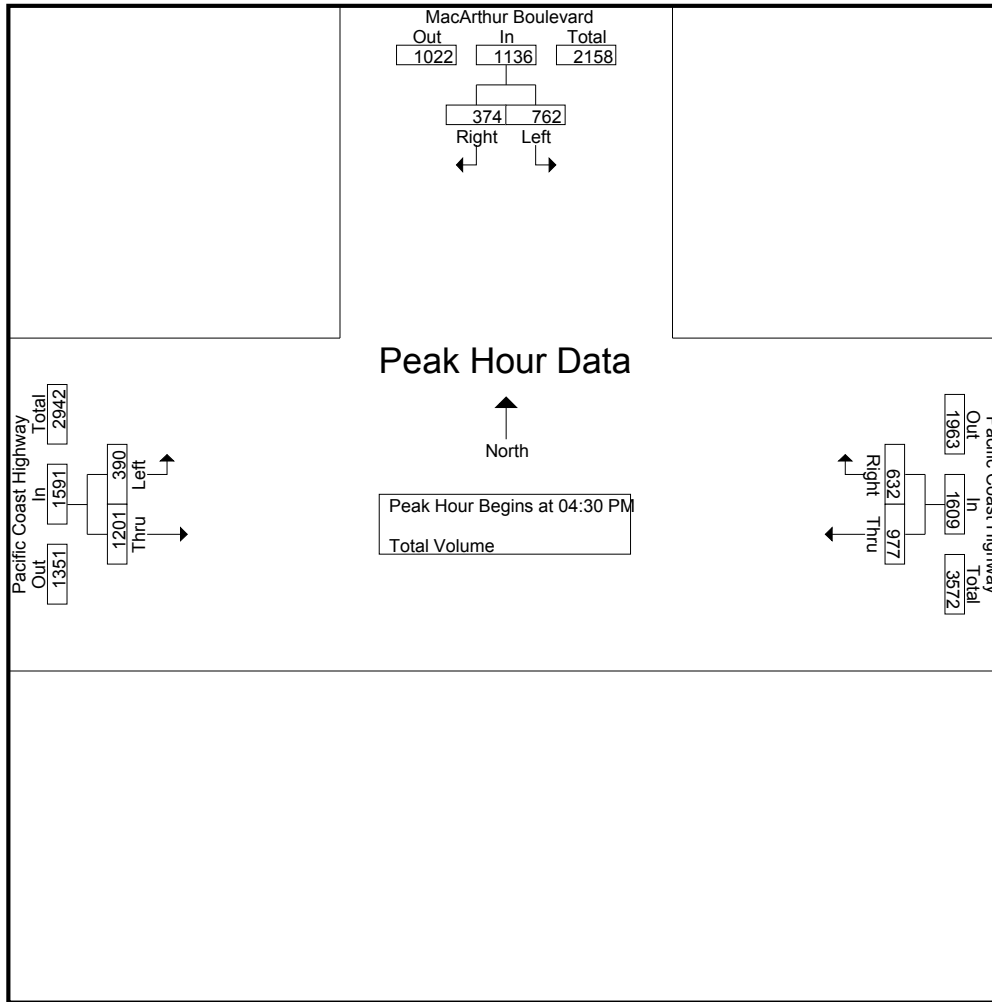
Start Time	MacArthur Boulevard Southbound			Pacific Coast Highway Westbound			Pacific Coast Highway Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:30 PM	194	93	287	239	156	395	87	282	369	1051
04:45 PM	156	100	256	220	148	368	86	312	398	1022
05:00 PM	216	92	308	266	172	438	101	322	423	1169
05:15 PM	196	89	285	252	156	408	116	285	401	1094
Total Volume	762	374	1136	977	632	1609	390	1201	1591	4336
% App. Total	67.1	32.9		60.7	39.3		24.5	75.5		
PHF	.882	.935	.922	.918	.919	.918	.841	.932	.940	.927

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

City of Newport Beach
 N/S: MacArthur Boulevard
 E/W: Pacific Coast Highway
 Weather: Clear

File Name : NPBMAPCHPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	05:00 PM			04:15 PM			04:45 PM		
+0 mins.	216	92	308	278	178	456	86	312	398
+15 mins.	196	89	285	239	156	395	101	322	423
+30 mins.	176	73	249	220	148	368	116	285	401
+45 mins.	233	118	351	266	172	438	87	291	378
Total Volume	821	372	1193	1003	654	1657	390	1210	1600
% App. Total	68.8	31.2		60.5	39.5		24.4	75.6	
PHF	.881	.788	.850	.902	.919	.908	.841	.939	.946

City of Irvine
 N/S: SR-73 Northbound Ramps
 E/W: Bonita Canyon Drive
 Weather: Clear

File Name : IRV73NBCAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

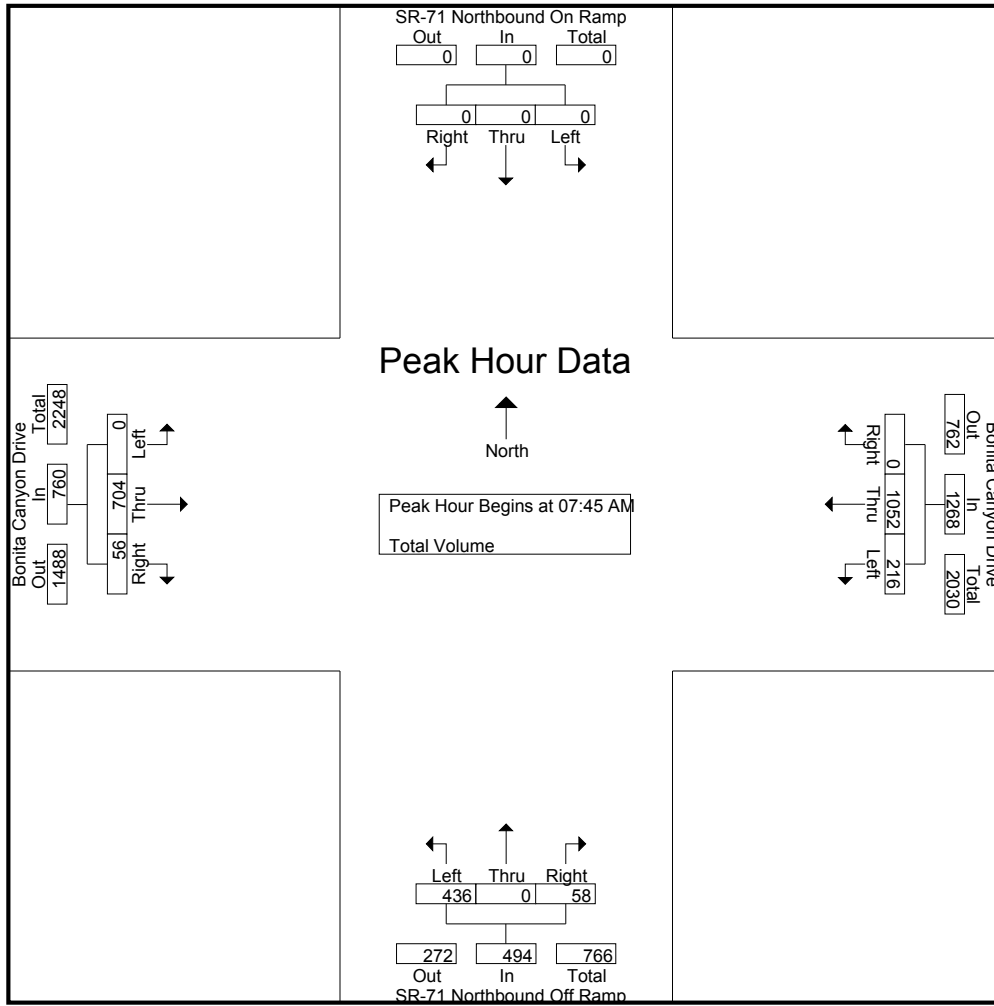
Groups Printed- Total Volume

Start Time	SR-71 Northbound On Ramp Southbound				Bonita Canyon Drive Westbound				SR-71 Northbound Off Ramp Northbound				Bonita Canyon Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	30	130	0	160	54	0	7	61	0	123	10	133	354
07:15 AM	0	0	0	0	29	171	0	200	63	0	11	74	0	123	8	131	405
07:30 AM	0	0	0	0	61	240	0	301	68	0	17	85	0	182	20	202	588
07:45 AM	0	0	0	0	59	230	0	289	99	0	17	116	0	218	12	230	635
Total	0	0	0	0	179	771	0	950	284	0	52	336	0	646	50	696	1982
08:00 AM	0	0	0	0	43	245	0	288	97	0	9	106	0	194	18	212	606
08:15 AM	0	0	0	0	52	303	0	355	129	0	18	147	0	163	16	179	681
08:30 AM	0	0	0	0	62	274	0	336	111	0	14	125	0	129	10	139	600
08:45 AM	0	0	0	0	37	238	0	275	92	0	12	104	0	137	12	149	528
Total	0	0	0	0	194	1060	0	1254	429	0	53	482	0	623	56	679	2415
Grand Total	0	0	0	0	373	1831	0	2204	713	0	105	818	0	1269	106	1375	4397
Apprch %	0	0	0	0	16.9	83.1	0		87.2	0	12.8		0	92.3	7.7		
Total %	0	0	0	0	8.5	41.6	0	50.1	16.2	0	2.4	18.6	0	28.9	2.4	31.3	

Start Time	SR-71 Northbound On Ramp Southbound				Bonita Canyon Drive Westbound				SR-71 Northbound Off Ramp Northbound				Bonita Canyon Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	59	230	0	289	99	0	17	116	0	218	12	230	635
08:00 AM	0	0	0	0	43	245	0	288	97	0	9	106	0	194	18	212	606
08:15 AM	0	0	0	0	52	303	0	355	129	0	18	147	0	163	16	179	681
08:30 AM	0	0	0	0	62	274	0	336	111	0	14	125	0	129	10	139	600
Total Volume	0	0	0	0	216	1052	0	1268	436	0	58	494	0	704	56	760	2522
% App. Total	0	0	0	0	17	83	0		88.3	0	11.7		0	92.6	7.4		
PHF	.000	.000	.000	.000	.871	.868	.000	.893	.845	.000	.806	.840	.000	.807	.778	.826	.926

City of Irvine
 N/S: SR-73 Northbound Ramps
 E/W: Bonita Canyon Drive
 Weather: Clear

File Name : IRV73NBCAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				07:45 AM				07:45 AM				07:30 AM			
+0 mins.	0	0	0	0	59	230	0	289	99	0	17	116	0	182	20	202
+15 mins.	0	0	0	0	43	245	0	288	97	0	9	106	0	218	12	230
+30 mins.	0	0	0	0	52	303	0	355	129	0	18	147	0	194	18	212
+45 mins.	0	0	0	0	62	274	0	336	111	0	14	125	0	163	16	179
Total Volume	0	0	0	0	216	1052	0	1268	436	0	58	494	0	757	66	823
% App. Total	0	0	0	0	17	83	0		88.3	0	11.7		0	92	8	
PHF	.000	.000	.000	.000	.871	.868	.000	.893	.845	.000	.806	.840	.000	.868	.825	.895

City of Irvine
 N/S: SR-73 Northbound Ramps
 E/W: Bonita Canyon Drive
 Weather: Clear

File Name : IRV73NBCPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

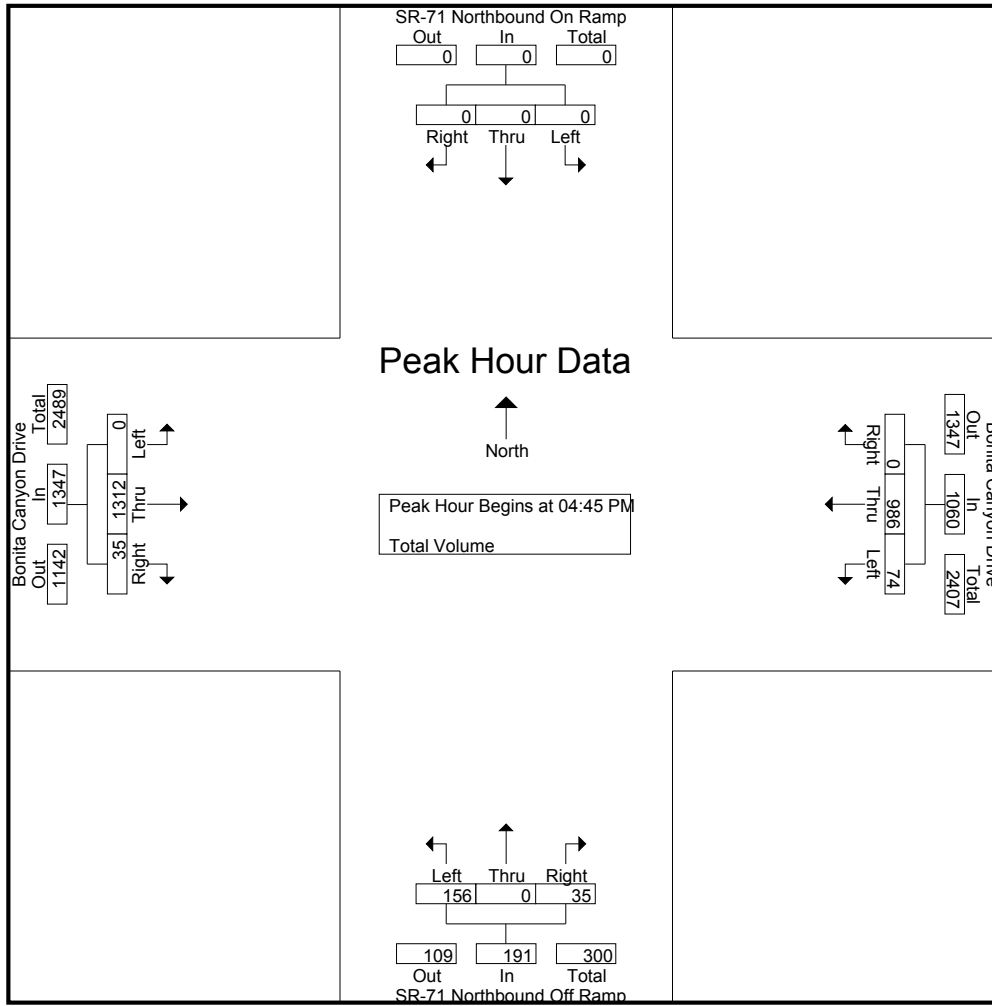
Groups Printed- Total Volume

Start Time	SR-71 Northbound On Ramp Southbound				Bonita Canyon Drive Westbound				SR-71 Northbound Off Ramp Northbound				Bonita Canyon Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	0	0	0	32	219	0	251	41	0	5	46	0	207	10	217	514
04:15 PM	0	0	0	0	17	232	0	249	37	0	5	42	0	261	7	268	559
04:30 PM	0	0	0	0	20	222	0	242	35	0	3	38	0	262	5	267	547
04:45 PM	0	0	0	0	19	232	0	251	35	0	9	44	0	237	16	253	548
Total	0	0	0	0	88	905	0	993	148	0	22	170	0	967	38	1005	2168
05:00 PM	0	0	0	0	20	256	0	276	31	0	8	39	0	353	8	361	676
05:15 PM	0	0	0	0	17	250	0	267	52	0	10	62	0	402	5	407	736
05:30 PM	0	0	0	0	18	248	0	266	38	0	8	46	0	320	6	326	638
05:45 PM	0	0	0	0	16	191	0	207	32	0	6	38	0	285	6	291	536
Total	0	0	0	0	71	945	0	1016	153	0	32	185	0	1360	25	1385	2586
06:00 PM	0	0	0	0	23	215	0	238	26	0	12	38	0	350	8	358	634
06:15 PM	0	0	0	0	14	164	0	178	27	0	9	36	0	305	2	307	521
Grand Total	0	0	0	0	196	2229	0	2425	354	0	75	429	0	2982	73	3055	5909
Apprch %	0	0	0	0	8.1	91.9	0		82.5	0	17.5		0	97.6	2.4		
Total %	0	0	0	0	3.3	37.7	0	41	6	0	1.3	7.3	0	50.5	1.2	51.7	

Start Time	SR-71 Northbound On Ramp Southbound				Bonita Canyon Drive Westbound				SR-71 Northbound Off Ramp Northbound				Bonita Canyon Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	19	232	0	251	35	0	9	44	0	237	16	253	548
05:00 PM	0	0	0	0	20	256	0	276	31	0	8	39	0	353	8	361	676
05:15 PM	0	0	0	0	17	250	0	267	52	0	10	62	0	402	5	407	736
05:30 PM	0	0	0	0	18	248	0	266	38	0	8	46	0	320	6	326	638
Total Volume	0	0	0	0	74	986	0	1060	156	0	35	191	0	1312	35	1347	2598
% App. Total	0	0	0	0	7	93	0		81.7	0	18.3		0	97.4	2.6		
PHF	.000	.000	.000	.000	.925	.963	.000	.960	.750	.000	.875	.770	.000	.816	.547	.827	.882

City of Irvine
 N/S: SR-73 Northbound Ramps
 E/W: Bonita Canyon Drive
 Weather: Clear

File Name : IRV73NBCPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM				04:45 PM				04:45 PM				05:00 PM			
+0 mins.	0	0	0	0	19	232	0	251	35	0	9	44	0	353	8	361
+15 mins.	0	0	0	0	20	256	0	276	31	0	8	39	0	402	5	407
+30 mins.	0	0	0	0	17	250	0	267	52	0	10	62	0	320	6	326
+45 mins.	0	0	0	0	18	248	0	266	38	0	8	46	0	285	6	291
Total Volume	0	0	0	0	74	986	0	1060	156	0	35	191	0	1360	25	1385
% App. Total	0	0	0	0	7	93	0		81.7	0	18.3		0	98.2	1.8	
PHF	.000	.000	.000	.000	.925	.963	.000	.960	.750	.000	.875	.770	.000	.846	.781	.851

City of Newport Beach
 N/S: SR-73 Southbound Ramps
 E/W: Bonita Canyon Drive
 Weather: Clear

File Name : NPB73SBCAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

Groups Printed- Total Volume

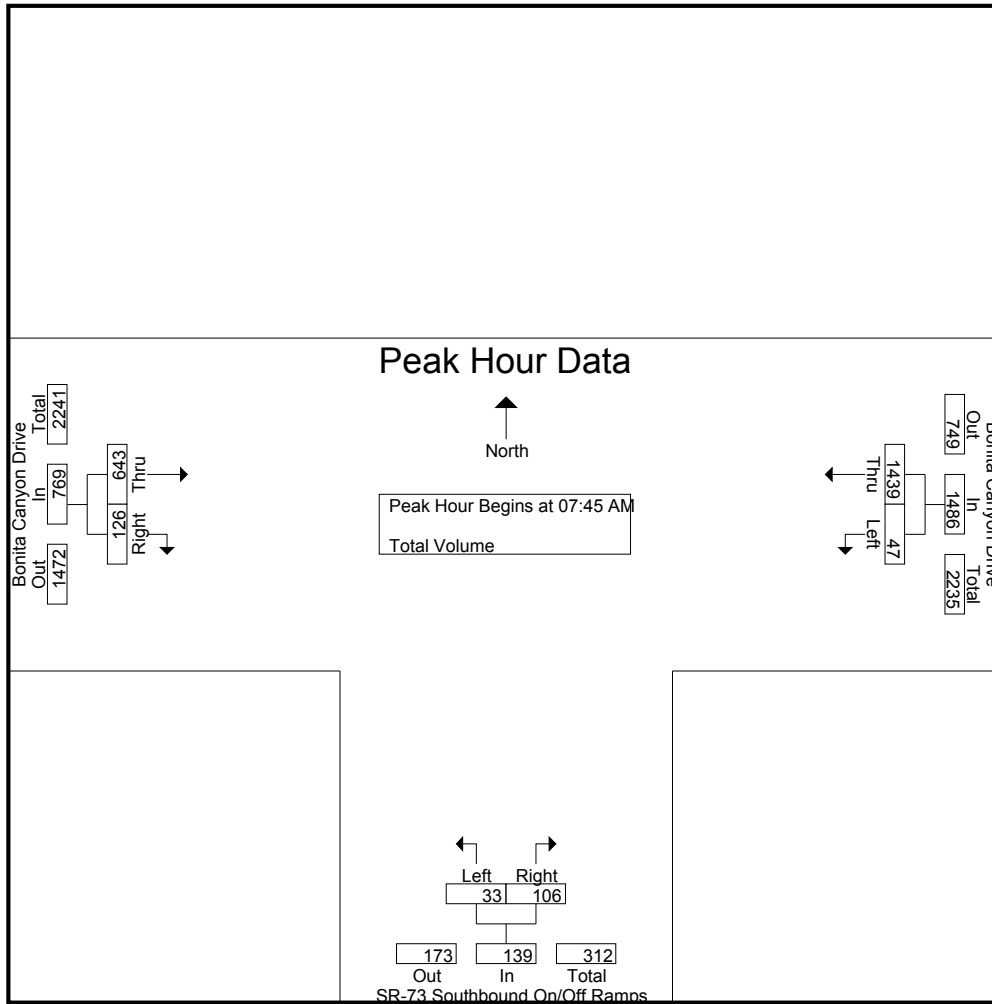
Start Time	Bonita Canyon Drive Westbound			SR-73 Southbound On/Off Ramps Northbound			Bonita Canyon Drive Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	6	180	186	4	15	19	116	30	146	351
07:15 AM	7	229	236	4	24	28	109	41	150	414
07:30 AM	11	291	302	8	30	38	190	27	217	557
07:45 AM	9	343	352	10	34	44	187	39	226	622
Total	33	1043	1076	26	103	129	602	137	739	1944
08:00 AM	13	322	335	9	37	46	160	27	187	568
08:15 AM	15	410	425	5	16	21	160	29	189	635
08:30 AM	10	364	374	9	19	28	136	31	167	569
08:45 AM	8	325	333	15	19	34	125	17	142	509
Total	46	1421	1467	38	91	129	581	104	685	2281
Grand Total	79	2464	2543	64	194	258	1183	241	1424	4225
Apprch %	3.1	96.9		24.8	75.2		83.1	16.9		
Total %	1.9	58.3	60.2	1.5	4.6	6.1	28	5.7	33.7	

Start Time	Bonita Canyon Drive Westbound			SR-73 Southbound On/Off Ramps Northbound			Bonita Canyon Drive Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:45 AM	9	343	352	10	34	44	187	39	226	622
08:00 AM	13	322	335	9	37	46	160	27	187	568
08:15 AM	15	410	425	5	16	21	160	29	189	635
08:30 AM	10	364	374	9	19	28	136	31	167	569
Total Volume	47	1439	1486	33	106	139	643	126	769	2394
% App. Total	3.2	96.8		23.7	76.3		83.6	16.4		
PHF	.783	.877	.874	.825	.716	.755	.860	.808	.851	.943

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:45 AM

City of Newport Beach
 N/S: SR-73 Southbound Ramps
 E/W: Bonita Canyon Drive
 Weather: Clear

File Name : NPB73SBCAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:45 AM			07:15 AM			07:30 AM		
+0 mins.	9	343	352	4	24	28	190	27	217
+15 mins.	13	322	335	8	30	38	187	39	226
+30 mins.	15	410	425	10	34	44	160	27	187
+45 mins.	10	364	374	9	37	46	160	29	189
Total Volume	47	1439	1486	31	125	156	697	122	819
% App. Total	3.2	96.8		19.9	80.1		85.1	14.9	
PHF	.783	.877	.874	.775	.845	.848	.917	.782	.906

City of Newport Beach
 N/S: SR-73 Southbound Ramps
 E/W: Bonita Canyon Drive
 Weather: Clear

File Name : NPB73SBCPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

Groups Printed- Total Volume

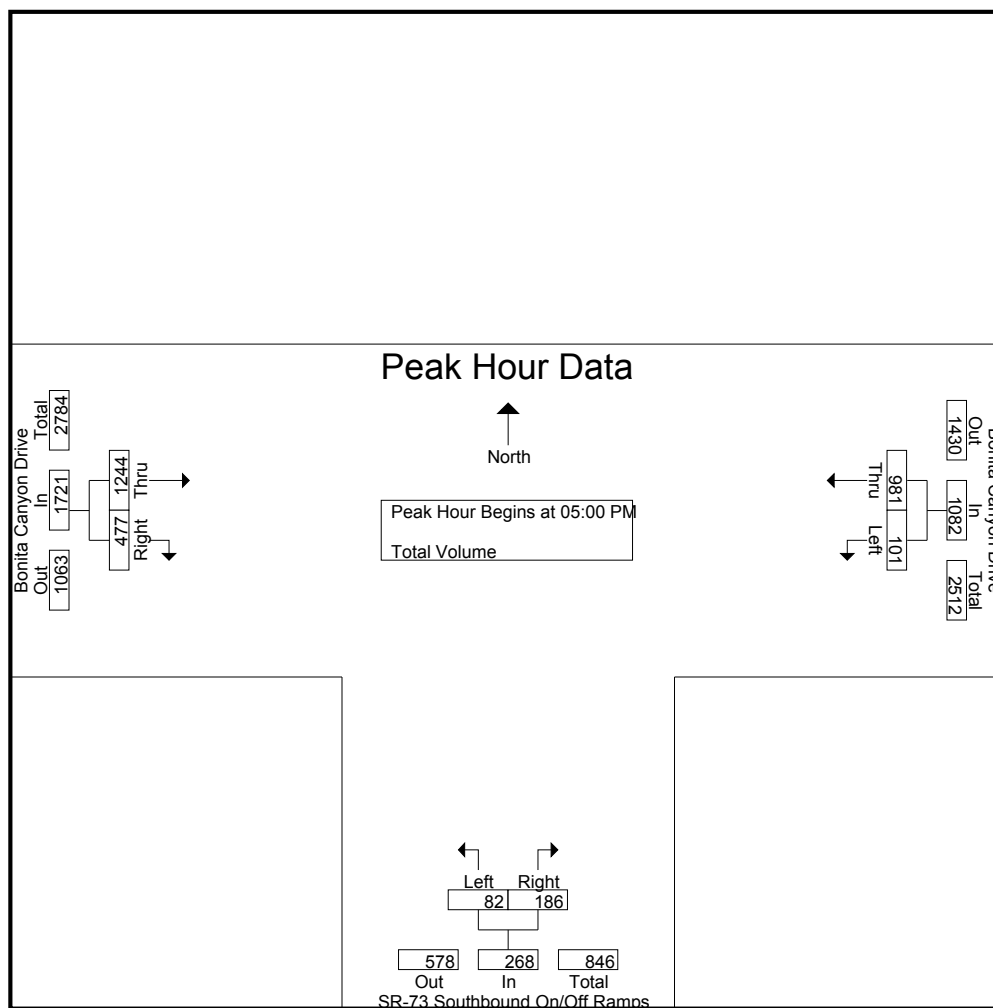
Start Time	Bonita Canyon Drive Westbound			SR-73 Southbound On/Off Ramps Northbound			Bonita Canyon Drive Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	23	239	262	12	28	40	204	78	282	584
04:15 PM	19	255	274	8	32	40	227	80	307	621
04:30 PM	18	224	242	22	38	60	216	89	305	607
04:45 PM	24	262	286	20	45	65	222	100	322	673
Total	84	980	1064	62	143	205	869	347	1216	2485
05:00 PM	27	238	265	23	40	63	334	117	451	779
05:15 PM	30	285	315	18	53	71	356	141	497	883
05:30 PM	28	241	269	17	51	68	264	114	378	715
05:45 PM	16	217	233	24	42	66	290	105	395	694
Total	101	981	1082	82	186	268	1244	477	1721	3071
Grand Total	185	1961	2146	144	329	473	2113	824	2937	5556
Apprch %	8.6	91.4		30.4	69.6		71.9	28.1		
Total %	3.3	35.3	38.6	2.6	5.9	8.5	38	14.8	52.9	

Start Time	Bonita Canyon Drive Westbound			SR-73 Southbound On/Off Ramps Northbound			Bonita Canyon Drive Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
05:00 PM	27	238	265	23	40	63	334	117	451	779
05:15 PM	30	285	315	18	53	71	356	141	497	883
05:30 PM	28	241	269	17	51	68	264	114	378	715
05:45 PM	16	217	233	24	42	66	290	105	395	694
Total Volume	101	981	1082	82	186	268	1244	477	1721	3071
% App. Total	9.3	90.7		30.6	69.4		72.3	27.7		
PHF	.842	.861	.859	.854	.877	.944	.874	.846	.866	.869

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

City of Newport Beach
 N/S: SR-73 Southbound Ramps
 E/W: Bonita Canyon Drive
 Weather: Clear

File Name : NPB73SBCPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM			05:00 PM			05:00 PM		
+0 mins.	24	262	286	23	40	63	334	117	451
+15 mins.	27	238	265	18	53	71	356	141	497
+30 mins.	30	285	315	17	51	68	264	114	378
+45 mins.	28	241	269	24	42	66	290	105	395
Total Volume	109	1026	1135	82	186	268	1244	477	1721
% App. Total	9.6	90.4		30.6	69.4		72.3	27.7	
PHF	.908	.900	.901	.854	.877	.944	.874	.846	.866

City of Newport Beach
 N/S: San Miguel Drive
 E/W: Spy Glass Hill Road
 Weather: Sunny

File Name : NPBSMSGAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

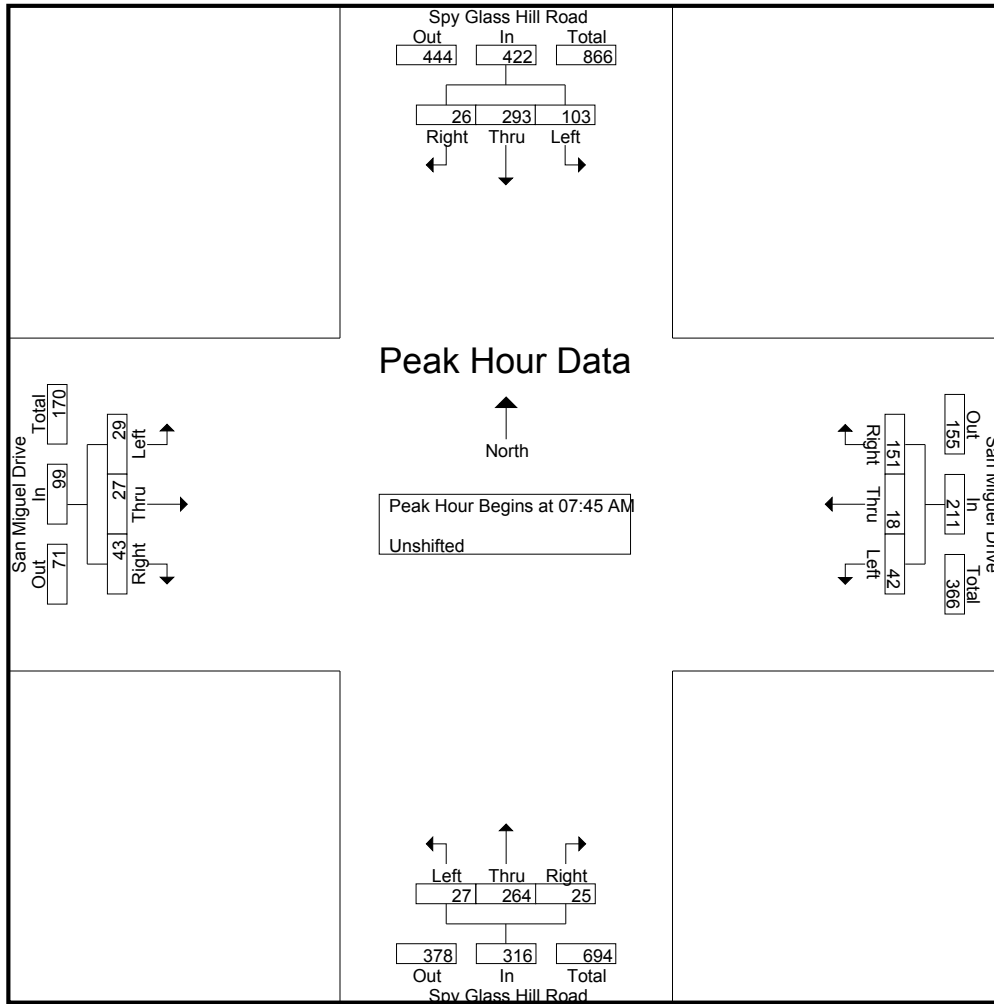
Groups Printed- Unshifted

Start Time	Spy Glass Hill Road Southbound				San Miguel Drive Westbound				Spy Glass Hill Road Northbound				San Miguel Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	22	27	6	55	7	0	31	38	2	36	3	41	5	1	6	12	146
07:15 AM	12	40	4	56	5	1	49	55	4	27	1	32	6	1	6	13	156
07:30 AM	21	45	4	70	4	2	48	54	2	31	4	37	1	4	7	12	173
07:45 AM	32	88	15	135	13	11	35	59	8	46	4	58	8	13	16	37	289
Total	87	200	29	316	29	14	163	206	16	140	12	168	20	19	35	74	764
08:00 AM	33	72	4	109	11	2	30	43	8	75	9	92	9	7	14	30	274
08:15 AM	22	61	3	86	4	1	37	42	4	73	5	82	6	4	9	19	229
08:30 AM	16	72	4	92	14	4	49	67	7	70	7	84	6	3	4	13	256
08:45 AM	18	60	2	80	9	1	32	42	3	44	6	53	6	2	15	23	198
Total	89	265	13	367	38	8	148	194	22	262	27	311	27	16	42	85	957
Grand Total	176	465	42	683	67	22	311	400	38	402	39	479	47	35	77	159	1721
Apprch %	25.8	68.1	6.1		16.8	5.5	77.8		7.9	83.9	8.1		29.6	22	48.4		
Total %	10.2	27	2.4	39.7	3.9	1.3	18.1	23.2	2.2	23.4	2.3	27.8	2.7	2	4.5	9.2	

Start Time	Spy Glass Hill Road Southbound				San Miguel Drive Westbound				Spy Glass Hill Road Northbound				San Miguel Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	32	88	15	135	13	11	35	59	8	46	4	58	8	13	16	37	289
08:00 AM	33	72	4	109	11	2	30	43	8	75	9	92	9	7	14	30	274
08:15 AM	22	61	3	86	4	1	37	42	4	73	5	82	6	4	9	19	229
08:30 AM	16	72	4	92	14	4	49	67	7	70	7	84	6	3	4	13	256
Total Volume	103	293	26	422	42	18	151	211	27	264	25	316	29	27	43	99	1048
% App. Total	24.4	69.4	6.2		19.9	8.5	71.6		8.5	83.5	7.9		29.3	27.3	43.4		
PHF	.780	.832	.433	.781	.750	.409	.770	.787	.844	.880	.694	.859	.806	.519	.672	.669	.907

City of Newport Beach
 N/S: San Miguel Drive
 E/W: Spy Glass Hill Road
 Weather: Sunny

File Name : NPBSMSGAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:45 AM				07:15 AM				07:45 AM				07:45 AM			
+0 mins.	32	88	15	135	5	1	49	55	8	46	4	58	8	13	16	37
+15 mins.	33	72	4	109	4	2	48	54	8	75	9	92	9	7	14	30
+30 mins.	22	61	3	86	13	11	35	59	4	73	5	82	6	4	9	19
+45 mins.	16	72	4	92	11	2	30	43	7	70	7	84	6	3	4	13
Total Volume	103	293	26	422	33	16	162	211	27	264	25	316	29	27	43	99
% App. Total	24.4	69.4	6.2		15.6	7.6	76.8		8.5	83.5	7.9		29.3	27.3	43.4	
PHF	.780	.832	.433	.781	.635	.364	.827	.894	.844	.880	.694	.859	.806	.519	.672	.669

City of Newport Beach
 N/S: San Miguel Drive
 E/W: Spy Glass Hill Road
 Weather: Sunny

File Name : NPBSMSGPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

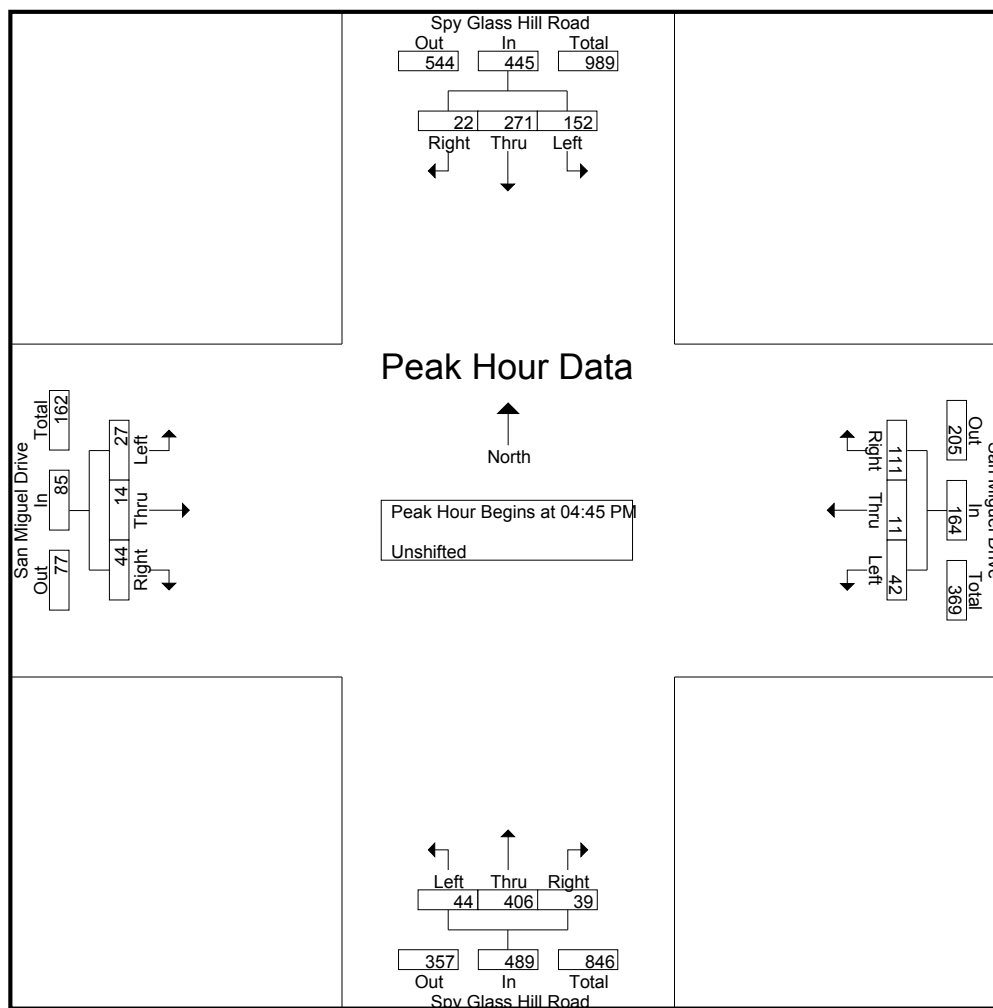
Groups Printed- Unshifted

Start Time	Spy Glass Hill Road Southbound				San Miguel Drive Westbound				Spy Glass Hill Road Northbound				San Miguel Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	30	74	4	108	7	9	43	59	9	76	10	95	6	8	10	24	286
04:15 PM	34	72	9	115	8	2	27	37	6	87	17	110	7	1	5	13	275
04:30 PM	28	63	4	95	8	5	31	44	9	81	10	100	5	4	6	15	254
04:45 PM	29	68	7	104	6	3	27	36	7	108	11	126	9	4	12	25	291
Total	121	277	24	422	29	19	128	176	31	352	48	431	27	17	33	77	1106
05:00 PM	44	76	7	127	13	4	36	53	12	104	12	128	8	3	12	23	331
05:15 PM	35	69	4	108	16	1	27	44	13	93	6	112	2	3	17	22	286
05:30 PM	44	58	4	106	7	3	21	31	12	101	10	123	8	4	3	15	275
05:45 PM	33	49	8	90	9	0	23	32	5	81	12	98	4	4	10	18	238
Total	156	252	23	431	45	8	107	160	42	379	40	461	22	14	42	78	1130
Grand Total	277	529	47	853	74	27	235	336	73	731	88	892	49	31	75	155	2236
Apprch %	32.5	62	5.5		22	8	69.9		8.2	82	9.9		31.6	20	48.4		
Total %	12.4	23.7	2.1	38.1	3.3	1.2	10.5	15	3.3	32.7	3.9	39.9	2.2	1.4	3.4	6.9	

Start Time	Spy Glass Hill Road Southbound				San Miguel Drive Westbound				Spy Glass Hill Road Northbound				San Miguel Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	29	68	7	104	6	3	27	36	7	108	11	126	9	4	12	25	291
05:00 PM	44	76	7	127	13	4	36	53	12	104	12	128	8	3	12	23	331
05:15 PM	35	69	4	108	16	1	27	44	13	93	6	112	2	3	17	22	286
05:30 PM	44	58	4	106	7	3	21	31	12	101	10	123	8	4	3	15	275
Total Volume	152	271	22	445	42	11	111	164	44	406	39	489	27	14	44	85	1183
% App. Total	34.2	60.9	4.9		25.6	6.7	67.7		9	83	8		31.8	16.5	51.8		
PHF	.864	.891	.786	.876	.656	.688	.771	.774	.846	.940	.813	.955	.750	.875	.647	.850	.894

City of Newport Beach
 N/S: San Miguel Drive
 E/W: Spy Glass Hill Road
 Weather: Sunny

File Name : NPBSMSGPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM				04:30 PM				04:45 PM				04:30 PM			
+0 mins.	29	68	7	104	8	5	31	44	7	108	11	126	5	4	6	15
+15 mins.	44	76	7	127	6	3	27	36	12	104	12	128	9	4	12	25
+30 mins.	35	69	4	108	13	4	36	53	13	93	6	112	8	3	12	23
+45 mins.	44	58	4	106	16	1	27	44	12	101	10	123	2	3	17	22
Total Volume	152	271	22	445	43	13	121	177	44	406	39	489	24	14	47	85
% App. Total	34.2	60.9	4.9		24.3	7.3	68.4		9	83	8		28.2	16.5	55.3	
PHF	.864	.891	.786	.876	.672	.650	.840	.835	.846	.940	.813	.955	.667	.875	.691	.850

City: NEWPORT BEACH
 N-S Direction: SAN MIGUEL DRIVE
 E-W Direction: SAN JOAQUIN HILLS ROAD

File Name : H1204034
 Site Code : 00005701
 Start Date : 4/25/2012
 Page No : 1

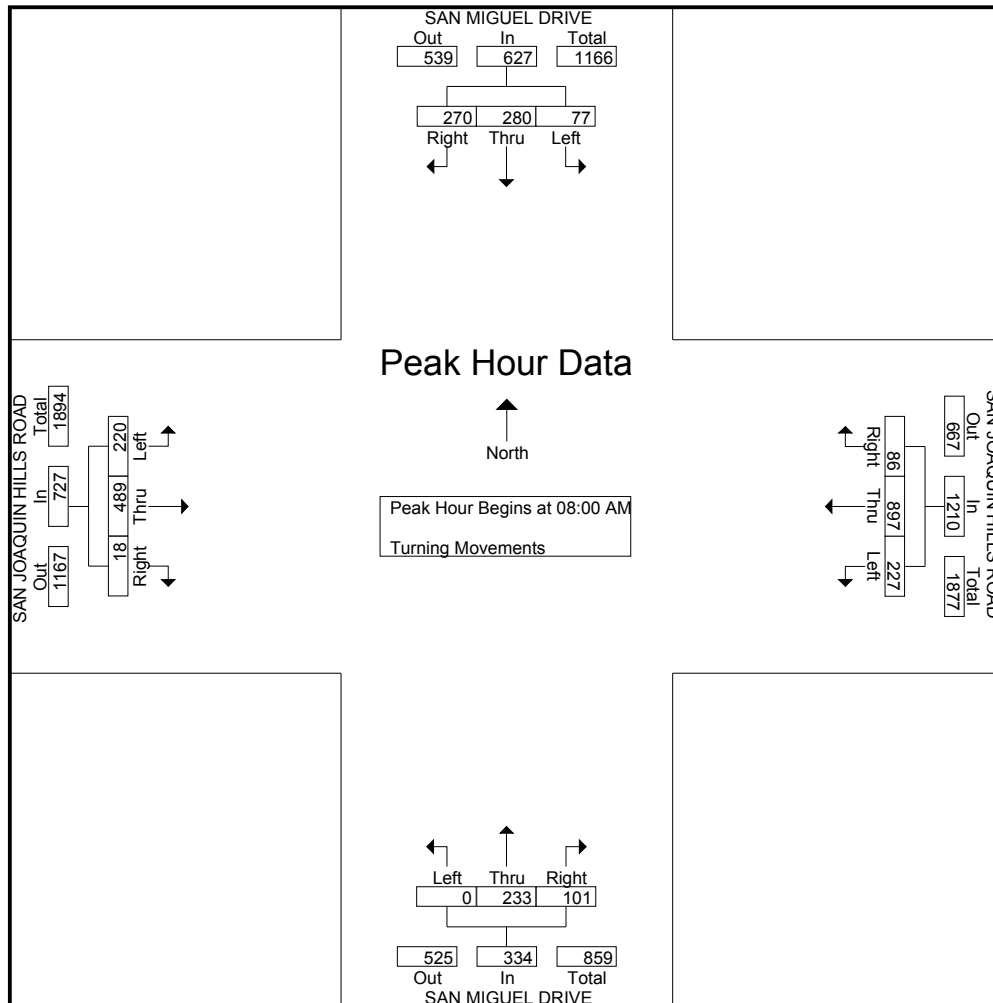
Groups Printed- Turning Movements

Start Time	SAN MIGUEL DRIVE Southbound			SAN JOAQUIN HILLS ROAD Westbound			SAN MIGUEL DRIVE Northbound			SAN JOAQUIN HILLS ROAD Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	33	19	8	11	117	21	11	22	0	7	98	18	365
07:15 AM	36	30	6	12	160	17	12	37	0	1	88	26	425
07:30 AM	44	28	15	3	255	29	21	27	0	2	105	40	569
07:45 AM	81	50	13	8	191	35	47	59	0	2	144	37	667
Total	194	127	42	34	723	102	91	145	0	12	435	121	2026
08:00 AM	70	79	20	26	253	55	26	80	0	4	150	96	859
08:15 AM	92	77	25	19	193	66	30	53	0	5	117	59	736
08:30 AM	50	43	16	16	228	48	19	40	0	4	115	31	610
08:45 AM	58	81	16	25	223	58	26	60	0	5	107	34	693
Total	270	280	77	86	897	227	101	233	0	18	489	220	2898
*** BREAK ***													
04:30 PM	28	34	25	16	142	50	56	87	0	1	143	77	659
04:45 PM	18	40	20	15	143	45	65	68	0	3	132	76	625
Total	46	74	45	31	285	95	121	155	0	4	275	153	1284
05:00 PM	57	46	19	25	167	38	53	102	1	6	148	114	776
05:15 PM	53	48	18	20	156	39	58	118	0	3	200	115	828
05:30 PM	26	61	26	13	117	46	78	79	0	4	176	106	732
05:45 PM	25	44	26	14	138	53	59	90	0	3	182	118	752
Total	161	199	89	72	578	176	248	389	1	16	706	453	3088
06:00 PM	22	58	26	19	113	43	48	121	1	2	199	121	773
06:15 PM	9	53	27	16	99	30	39	82	1	0	151	61	568
Grand Total	702	791	306	258	2695	673	648	1125	3	52	2255	1129	10637
Apprch %	39	44	17	7.1	74.3	18.6	36.5	63.3	0.2	1.5	65.6	32.9	
Total %	6.6	7.4	2.9	2.4	25.3	6.3	6.1	10.6	0	0.5	21.2	10.6	

City: NEWPORT BEACH
 N-S Direction: SAN MIGUEL DRIVE
 E-W Direction: SAN JOAQUIN HILLS ROAD

File Name : H1204034
 Site Code : 00005701
 Start Date : 4/25/2012
 Page No : 2

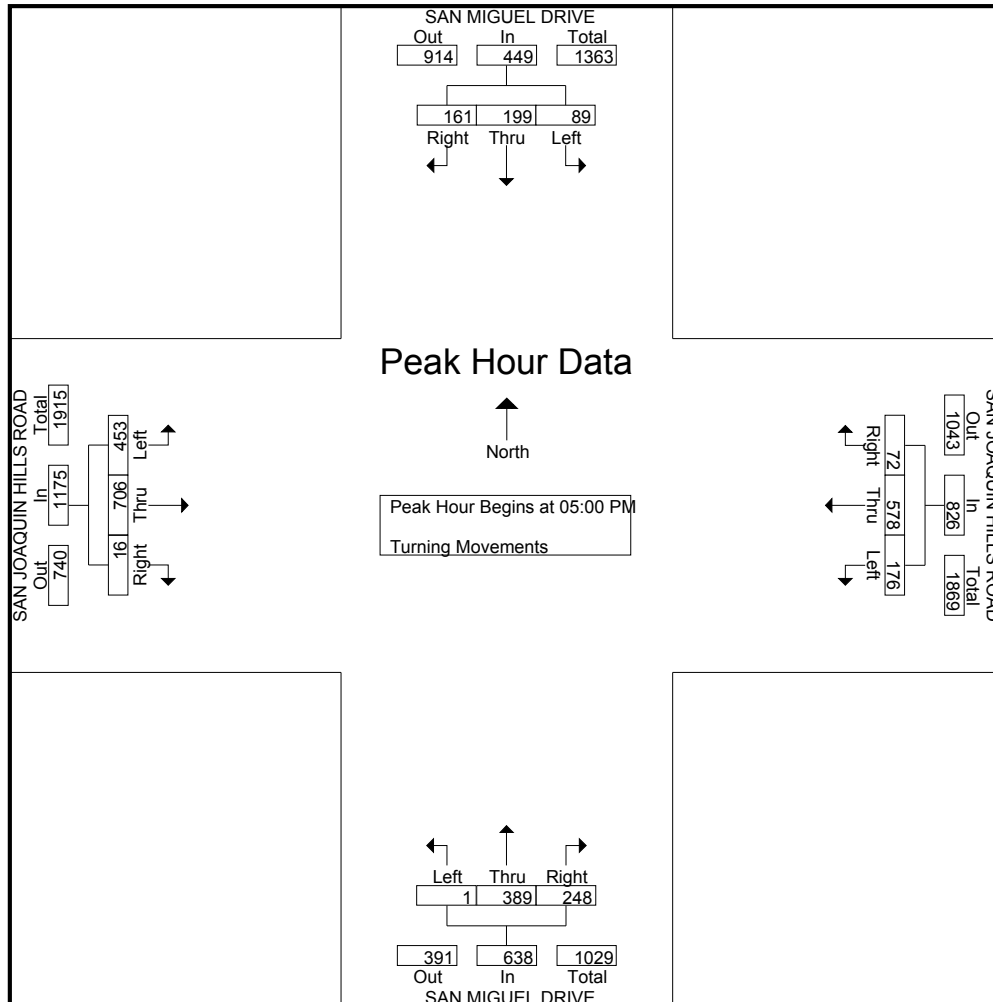
Start Time	SAN MIGUEL DRIVE Southbound				SAN JOAQUIN HILLS ROAD Westbound				SAN MIGUEL DRIVE Northbound				SAN JOAQUIN HILLS ROAD Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	70	79	20	169	26	253	55	334	26	80	0	106	4	150	96	250	859
08:15 AM	92	77	25	194	19	193	66	278	30	53	0	83	5	117	59	181	736
08:30 AM	50	43	16	109	16	228	48	292	19	40	0	59	4	115	31	150	610
08:45 AM	58	81	16	155	25	223	58	306	26	60	0	86	5	107	34	146	693
Total Volume	270	280	77	627	86	897	227	1210	101	233	0	334	18	489	220	727	2898
% App. Total	43.1	44.7	12.3		7.1	74.1	18.8		30.2	69.8	0		2.5	67.3	30.3		
PHF	.734	.864	.770	.808	.827	.886	.860	.906	.842	.728	.000	.788	.900	.815	.573	.727	.843



City: NEWPORT BEACH
 N-S Direction: SAN MIGUEL DRIVE
 E-W Direction: SAN JOAQUIN HILLS ROAD

File Name : H1204034
 Site Code : 00005701
 Start Date : 4/25/2012
 Page No : 3

Start Time	SAN MIGUEL DRIVE Southbound				SAN JOAQUIN HILLS ROAD Westbound				SAN MIGUEL DRIVE Northbound				SAN JOAQUIN HILLS ROAD Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	57	46	19	122	25	167	38	230	53	102	1	156	6	148	114	268	776
05:15 PM	53	48	18	119	20	156	39	215	58	118	0	176	3	200	115	318	828
05:30 PM	26	61	26	113	13	117	46	176	78	79	0	157	4	176	106	286	732
05:45 PM	25	44	26	95	14	138	53	205	59	90	0	149	3	182	118	303	752
Total Volume	161	199	89	449	72	578	176	826	248	389	1	638	16	706	453	1175	3088
% App. Total	35.9	44.3	19.8		8.7	70	21.3		38.9	61	0.2		1.4	60.1	38.6		
PHF	.706	.816	.856	.920	.720	.865	.830	.898	.795	.824	.250	.906	.667	.883	.960	.924	.932



City: NEWPORT BEACH
 N-S Direction: GOLDENROD AVENUE
 E-W Direction: COAST HIGHWAY

File Name : h1204024
 Site Code : 00005053
 Start Date : 4/26/2012
 Page No : 1

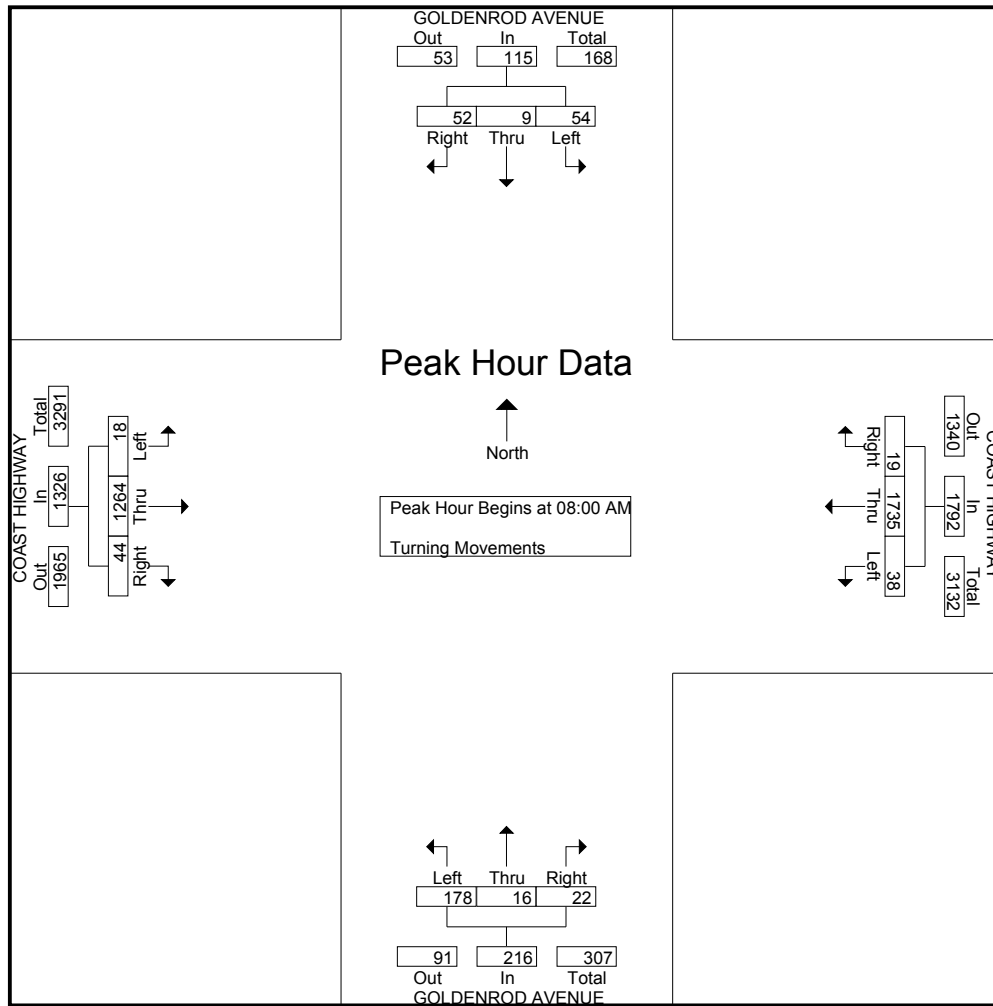
Groups Printed- Turning Movements

Start Time	GOLDENROD AVENUE Southbound			COAST HIGHWAY Westbound			GOLDENROD AVENUE Northbound			COAST HIGHWAY Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	4	1	2	1	248	5	8	1	18	8	283	2	581
07:15 AM	3	0	4	0	316	5	6	1	31	17	268	1	652
07:30 AM	4	1	3	3	362	12	7	2	5	5	303	2	709
07:45 AM	4	0	7	5	408	9	8	2	23	10	289	4	769
Total	15	2	16	9	1334	31	29	6	77	40	1143	9	2711
08:00 AM	10	3	6	9	402	15	7	3	64	11	293	4	827
08:15 AM	11	3	23	5	441	3	3	8	39	13	347	6	902
08:30 AM	19	2	16	5	424	5	7	2	49	8	288	3	828
08:45 AM	12	1	9	0	468	15	5	3	26	12	336	5	892
Total	52	9	54	19	1735	38	22	16	178	44	1264	18	3449
*** BREAK ***													
04:30 PM	5	2	4	2	397	7	5	7	19	7	411	7	873
04:45 PM	12	0	8	2	348	7	4	3	20	8	415	11	838
Total	17	2	12	4	745	14	9	10	39	15	826	18	1711
05:00 PM	12	4	10	1	419	14	11	3	20	8	483	5	990
05:15 PM	13	2	13	4	372	3	6	1	21	4	446	7	892
05:30 PM	16	0	11	5	397	10	8	0	24	14	458	11	954
05:45 PM	9	2	6	2	372	11	4	0	20	6	440	7	879
Total	50	8	40	12	1560	38	29	4	85	32	1827	30	3715
06:00 PM	13	2	7	4	306	3	4	0	26	9	423	11	808
06:15 PM	10	3	10	2	320	9	3	1	16	7	455	7	843
Grand Total	157	26	139	50	6000	133	96	37	421	147	5938	93	13237
Apprch %	48.8	8.1	43.2	0.8	97	2.2	17.3	6.7	76	2.4	96.1	1.5	
Total %	1.2	0.2	1.1	0.4	45.3	1	0.7	0.3	3.2	1.1	44.9	0.7	

City: NEWPORT BEACH
 N-S Direction: GOLDENROD AVENUE
 E-W Direction: COAST HIGHWAY

File Name : h1204024
 Site Code : 00005053
 Start Date : 4/26/2012
 Page No : 2

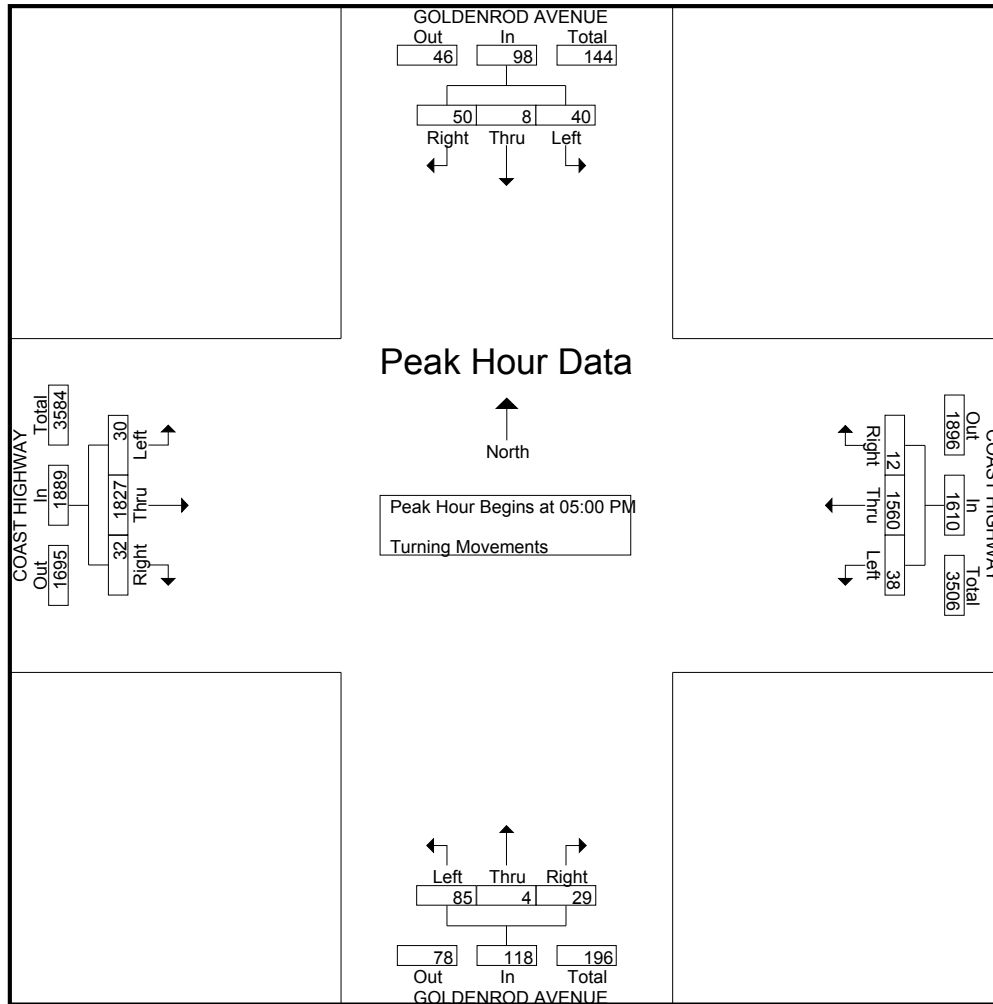
Start Time	GOLDENROD AVENUE Southbound				COAST HIGHWAY Westbound				GOLDENROD AVENUE Northbound				COAST HIGHWAY Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	10	3	6	19	9	402	15	426	7	3	64	74	11	293	4	308	827
08:15 AM	11	3	23	37	5	441	3	449	3	8	39	50	13	347	6	366	902
08:30 AM	19	2	16	37	5	424	5	434	7	2	49	58	8	288	3	299	828
08:45 AM	12	1	9	22	0	468	15	483	5	3	26	34	12	336	5	353	892
Total Volume	52	9	54	115	19	1735	38	1792	22	16	178	216	44	1264	18	1326	3449
% App. Total	45.2	7.8	47		1.1	96.8	2.1		10.2	7.4	82.4		3.3	95.3	1.4		
PHF	.684	.750	.587	.777	.528	.927	.633	.928	.786	.500	.695	.730	.846	.911	.750	.906	.956



City: NEWPORT BEACH
 N-S Direction: GOLDENROD AVENUE
 E-W Direction: COAST HIGHWAY

File Name : h1204024
 Site Code : 00005053
 Start Date : 4/26/2012
 Page No : 3

Start Time	GOLDENROD AVENUE Southbound				COAST HIGHWAY Westbound				GOLDENROD AVENUE Northbound				COAST HIGHWAY Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	12	4	10	26	1	419	14	434	11	3	20	34	8	483	5	496	990
05:15 PM	13	2	13	28	4	372	3	379	6	1	21	28	4	446	7	457	892
05:30 PM	16	0	11	27	5	397	10	412	8	0	24	32	14	458	11	483	954
05:45 PM	9	2	6	17	2	372	11	385	4	0	20	24	6	440	7	453	879
Total Volume	50	8	40	98	12	1560	38	1610	29	4	85	118	32	1827	30	1889	3715
% App. Total	51	8.2	40.8		0.7	96.9	2.4		24.6	3.4	72		1.7	96.7	1.6		
PHF	.781	.500	.769	.875	.600	.931	.679	.927	.659	.333	.885	.868	.571	.946	.682	.952	.938



City: NEWPORT BEACH
 N-S Direction: MARGUERITE AVENUE
 E-W Direction: SAN JOAQUIN HILLS ROAD

File Name : H1204033
 Site Code : 00005701
 Start Date : 4/26/2012
 Page No : 1

Groups Printed- Turning Movements

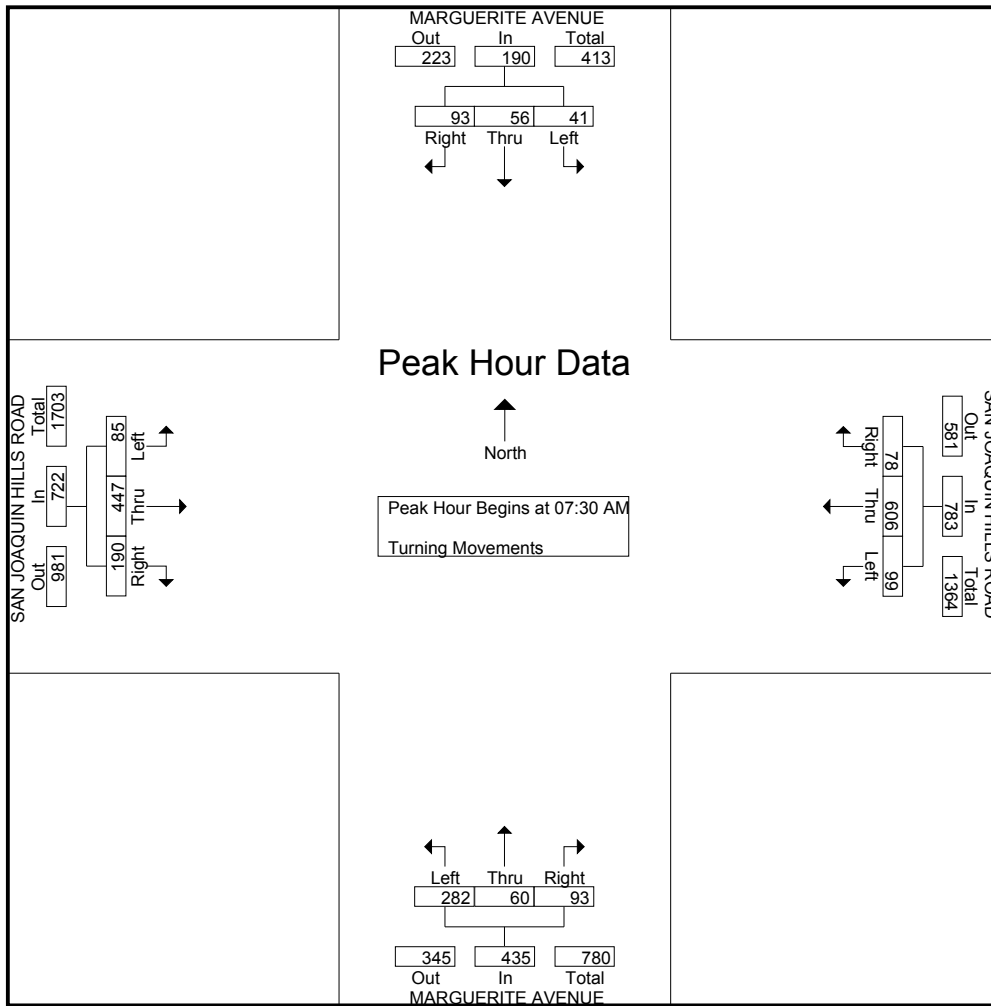
Start Time	MARGUERITE AVENUE Southbound			SAN JOAQUIN HILLS ROAD Westbound			MARGUERITE AVENUE Northbound			SAN JOAQUIN HILLS ROAD Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	4	1	1	1	84	11	10	4	47	27	86	3	279
07:15 AM	2	9	1	4	107	4	13	6	68	23	73	4	314
07:30 AM	3	9	9	4	150	14	17	7	73	34	111	9	440
07:45 AM	14	14	5	29	138	21	27	22	65	36	109	18	498
Total	23	33	16	38	479	50	67	39	253	120	379	34	1531
08:00 AM	38	14	14	26	158	45	24	15	65	58	119	38	614
08:15 AM	38	19	13	19	160	19	25	16	79	62	108	20	578
08:30 AM	2	10	2	7	125	17	21	4	87	46	78	5	404
08:45 AM	3	5	4	11	167	23	22	17	88	42	87	8	477
Total	81	48	33	63	610	104	92	52	319	208	392	71	2073
*** BREAK ***													
04:30 PM	8	15	24	20	135	21	26	16	59	76	150	14	564
04:45 PM	11	28	19	5	106	22	33	14	52	75	155	7	527
Total	19	43	43	25	241	43	59	30	111	151	305	21	1091
05:00 PM	8	19	11	4	123	16	25	7	55	76	158	6	508
05:15 PM	11	15	10	4	136	31	21	12	46	79	160	8	533
05:30 PM	4	29	22	6	101	26	35	9	60	89	173	4	558
05:45 PM	1	16	17	13	122	28	22	9	33	95	194	5	555
Total	24	79	60	27	482	101	103	37	194	339	685	23	2154
06:00 PM	8	25	12	14	118	32	36	18	69	94	148	12	586
06:15 PM	4	12	21	3	74	13	35	9	38	81	155	8	453
Grand Total	159	240	185	170	2004	343	392	185	984	993	2064	169	7888
Apprch %	27.2	41.1	31.7	6.8	79.6	13.6	25.1	11.9	63	30.8	64	5.2	
Total %	2	3	2.3	2.2	25.4	4.3	5	2.3	12.5	12.6	26.2	2.1	

City: NEWPORT BEACH
 N-S Direction: MARGUERITE AVENUE
 E-W Direction: SAN JOAQUIN HILLS ROAD

File Name : H1204033
 Site Code : 00005701
 Start Date : 4/26/2012
 Page No : 2

Start Time	MARGUERITE AVENUE Southbound				SAN JOAQUIN HILLS ROAD Westbound				MARGUERITE AVENUE Northbound				SAN JOAQUIN HILLS ROAD Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
07:30 AM	3	9	9	21	4	150	14	168	17	7	73	97	34	111	9	154	440
07:45 AM	14	14	5	33	29	138	21	188	27	22	65	114	36	109	18	163	498
08:00 AM	38	14	14	66	26	158	45	229	24	15	65	104	58	119	38	215	614
08:15 AM	38	19	13	70	19	160	19	198	25	16	79	120	62	108	20	190	578
Total Volume	93	56	41	190	78	606	99	783	93	60	282	435	190	447	85	722	2130
% App. Total	48.9	29.5	21.6		10	77.4	12.6		21.4	13.8	64.8		26.3	61.9	11.8		
PHF	.612	.737	.732	.679	.672	.947	.550	.855	.861	.682	.892	.906	.766	.939	.559	.840	.867

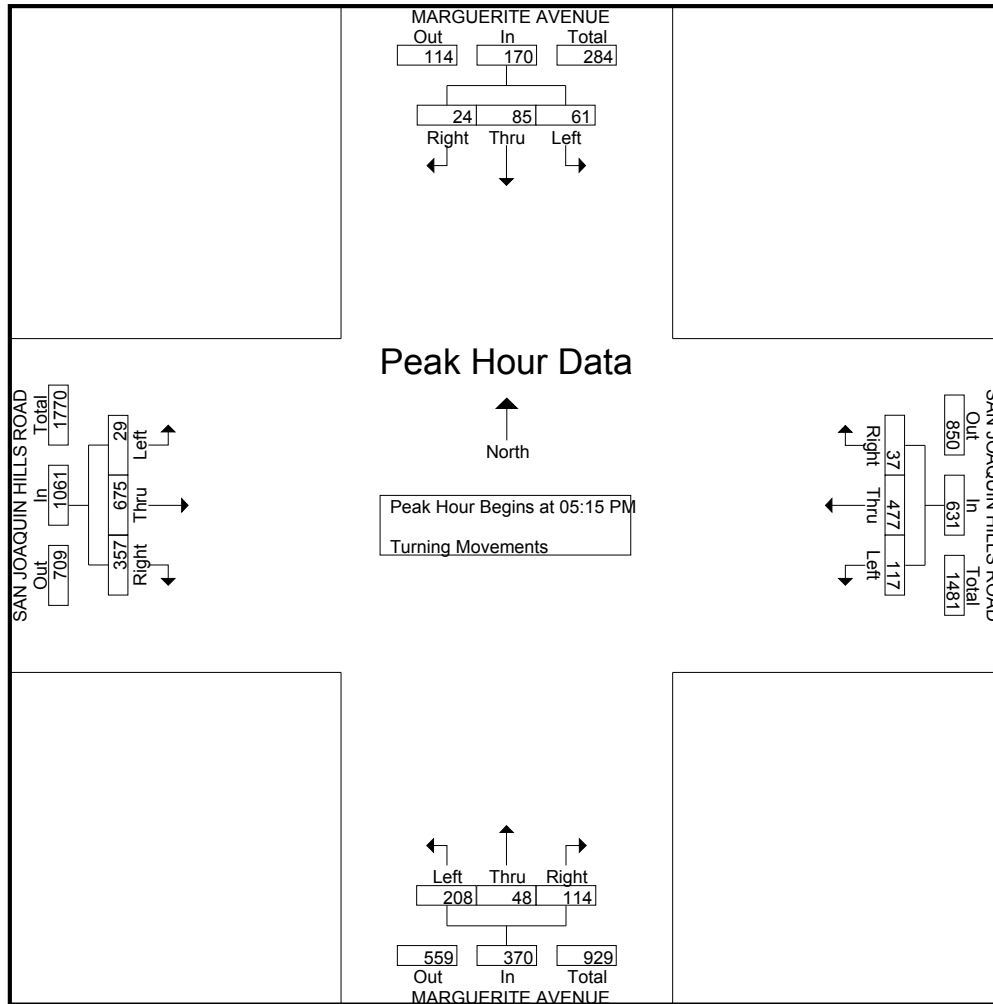
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM



City: NEWPORT BEACH
 N-S Direction: MARGUERITE AVENUE
 E-W Direction: SAN JOAQUIN HILLS ROAD

File Name : H1204033
 Site Code : 00005701
 Start Date : 4/26/2012
 Page No : 3

Start Time	MARGUERITE AVENUE Southbound				SAN JOAQUIN HILLS ROAD Westbound				MARGUERITE AVENUE Northbound				SAN JOAQUIN HILLS ROAD Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	11	15	10	36	4	136	31	171	21	12	46	79	79	160	8	247	533
05:30 PM	4	29	22	55	6	101	26	133	35	9	60	104	89	173	4	266	558
05:45 PM	1	16	17	34	13	122	28	163	22	9	33	64	95	194	5	294	555
06:00 PM	8	25	12	45	14	118	32	164	36	18	69	123	94	148	12	254	586
Total Volume	24	85	61	170	37	477	117	631	114	48	208	370	357	675	29	1061	2232
% App. Total	14.1	50	35.9		5.9	75.6	18.5		30.8	13	56.2		33.6	63.6	2.7		
PHF	.545	.733	.693	.773	.661	.877	.914	.923	.792	.667	.754	.752	.939	.870	.604	.902	.952



City: NEWPORT BEACH
 N-S Direction: MARGUERITE AVENUE
 E-W Direction: COAST HIGHWAY

File Name : h1204025
 Site Code : 00005053
 Start Date : 4/25/2012
 Page No : 1

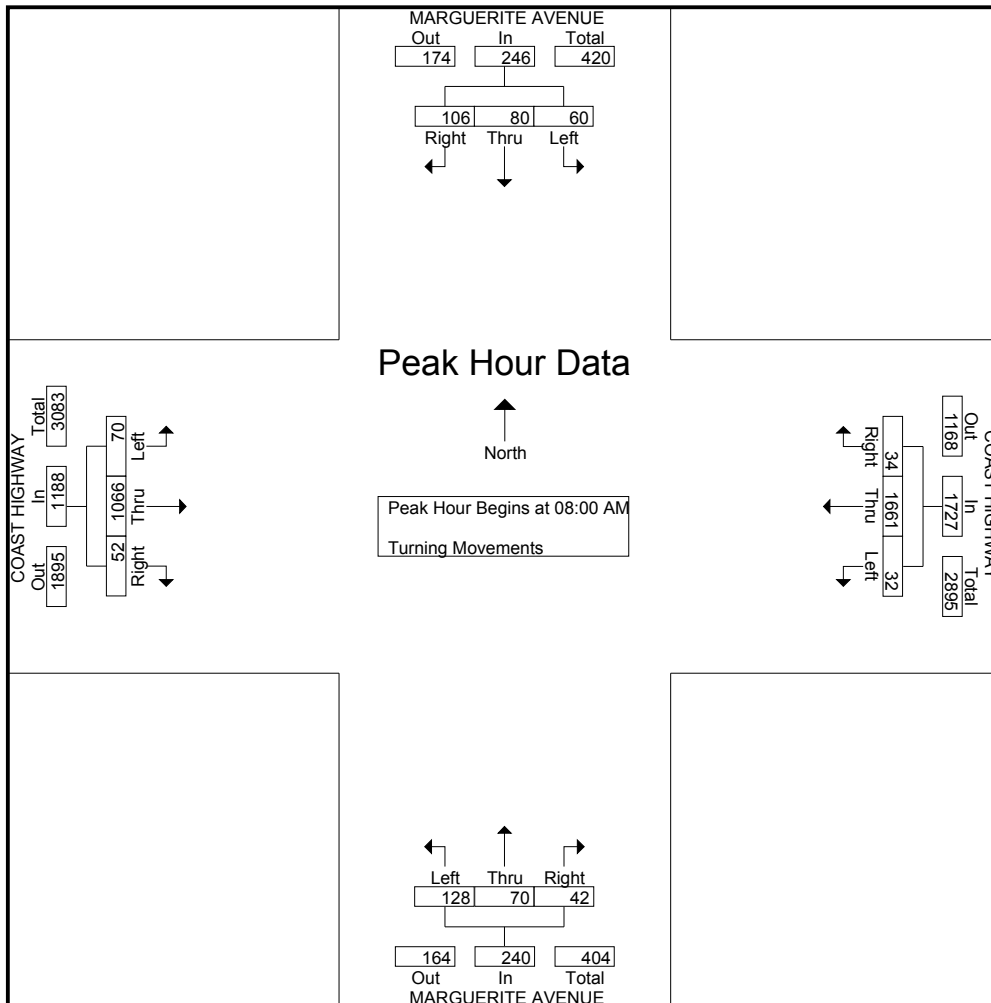
Groups Printed- Turning Movements

Start Time	MARGUERITE AVENUE Southbound			COAST HIGHWAY Westbound			MARGUERITE AVENUE Northbound			COAST HIGHWAY Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	6	7	3	5	214	10	7	6	29	25	225	9	546
07:15 AM	7	7	5	9	337	8	5	8	23	15	273	5	702
07:30 AM	13	11	8	8	342	6	8	12	22	9	252	12	703
07:45 AM	24	12	6	13	369	4	8	20	31	14	272	19	792
Total	50	37	22	35	1262	28	28	46	105	63	1022	45	2743
08:00 AM	23	11	16	9	437	9	16	19	30	14	273	10	867
08:15 AM	30	31	18	10	413	6	12	24	38	15	259	11	867
08:30 AM	31	21	15	8	416	8	5	12	30	15	281	24	866
08:45 AM	22	17	11	7	395	9	9	15	30	8	253	25	801
Total	106	80	60	34	1661	32	42	70	128	52	1066	70	3401
*** BREAK ***													
04:30 PM	22	20	24	17	341	13	18	15	24	17	323	19	853
04:45 PM	19	16	17	8	338	15	19	13	27	10	373	14	869
Total	41	36	41	25	679	28	37	28	51	27	696	33	1722
05:00 PM	21	18	29	8	335	14	19	11	30	15	356	16	872
05:15 PM	30	28	19	4	314	10	16	20	17	32	424	17	931
05:30 PM	23	25	18	18	316	21	23	19	33	18	351	70	935
05:45 PM	22	30	18	6	329	12	22	18	16	15	456	22	966
Total	96	101	84	36	1294	57	80	68	96	80	1587	125	3704
06:00 PM	13	15	17	11	269	18	15	16	25	16	365	17	797
06:15 PM	15	21	14	6	252	11	23	20	18	15	377	15	787
Grand Total	321	290	238	147	5417	174	225	248	423	253	5113	305	13154
Apprch %	37.8	34.2	28	2.6	94.4	3	25.1	27.7	47.2	4.5	90.2	5.4	
Total %	2.4	2.2	1.8	1.1	41.2	1.3	1.7	1.9	3.2	1.9	38.9	2.3	

City: NEWPORT BEACH
 N-S Direction: MARGUERITE AVENUE
 E-W Direction: COAST HIGHWAY

File Name : h1204025
 Site Code : 00005053
 Start Date : 4/25/2012
 Page No : 2

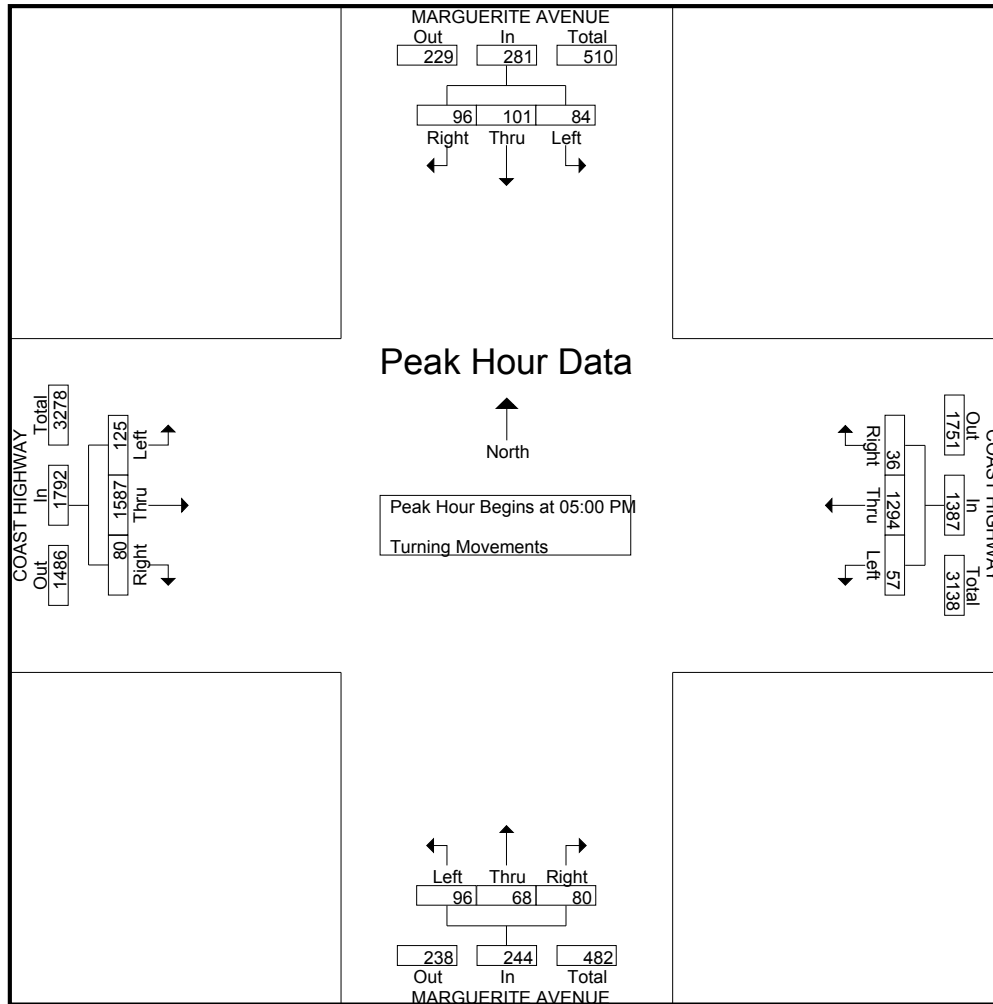
Start Time	MARGUERITE AVENUE Southbound				COAST HIGHWAY Westbound				MARGUERITE AVENUE Northbound				COAST HIGHWAY Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	23	11	16	50	9	437	9	455	16	19	30	65	14	273	10	297	867
08:15 AM	30	31	18	79	10	413	6	429	12	24	38	74	15	259	11	285	867
08:30 AM	31	21	15	67	8	416	8	432	5	12	30	47	15	281	24	320	866
08:45 AM	22	17	11	50	7	395	9	411	9	15	30	54	8	253	25	286	801
Total Volume	106	80	60	246	34	1661	32	1727	42	70	128	240	52	1066	70	1188	3401
% App. Total	43.1	32.5	24.4		2	96.2	1.9		17.5	29.2	53.3		4.4	89.7	5.9		
PHF	.855	.645	.833	.778	.850	.950	.889	.949	.656	.729	.842	.811	.867	.948	.700	.928	.981



City: NEWPORT BEACH
 N-S Direction: MARGUERITE AVENUE
 E-W Direction: COAST HIGHWAY

File Name : h1204025
 Site Code : 00005053
 Start Date : 4/25/2012
 Page No : 3

Start Time	MARGUERITE AVENUE Southbound				COAST HIGHWAY Westbound				MARGUERITE AVENUE Northbound				COAST HIGHWAY Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	21	18	29	68	8	335	14	357	19	11	30	60	15	356	16	387	872
05:15 PM	30	28	19	77	4	314	10	328	16	20	17	53	32	424	17	473	931
05:30 PM	23	25	18	66	18	316	21	355	23	19	33	75	18	351	70	439	935
05:45 PM	22	30	18	70	6	329	12	347	22	18	16	56	15	456	22	493	966
Total Volume	96	101	84	281	36	1294	57	1387	80	68	96	244	80	1587	125	1792	3704
% App. Total	34.2	35.9	29.9		2.6	93.3	4.1		32.8	27.9	39.3		4.5	88.6	7		
PHF	.800	.842	.724	.912	.500	.966	.679	.971	.870	.850	.727	.813	.625	.870	.446	.909	.959



City of Newport Beach
 N/S: Spy Glass Hill Road
 E/W: San Joaquin Hills Road
 Weather: Clear

File Name : NPBSGSJAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

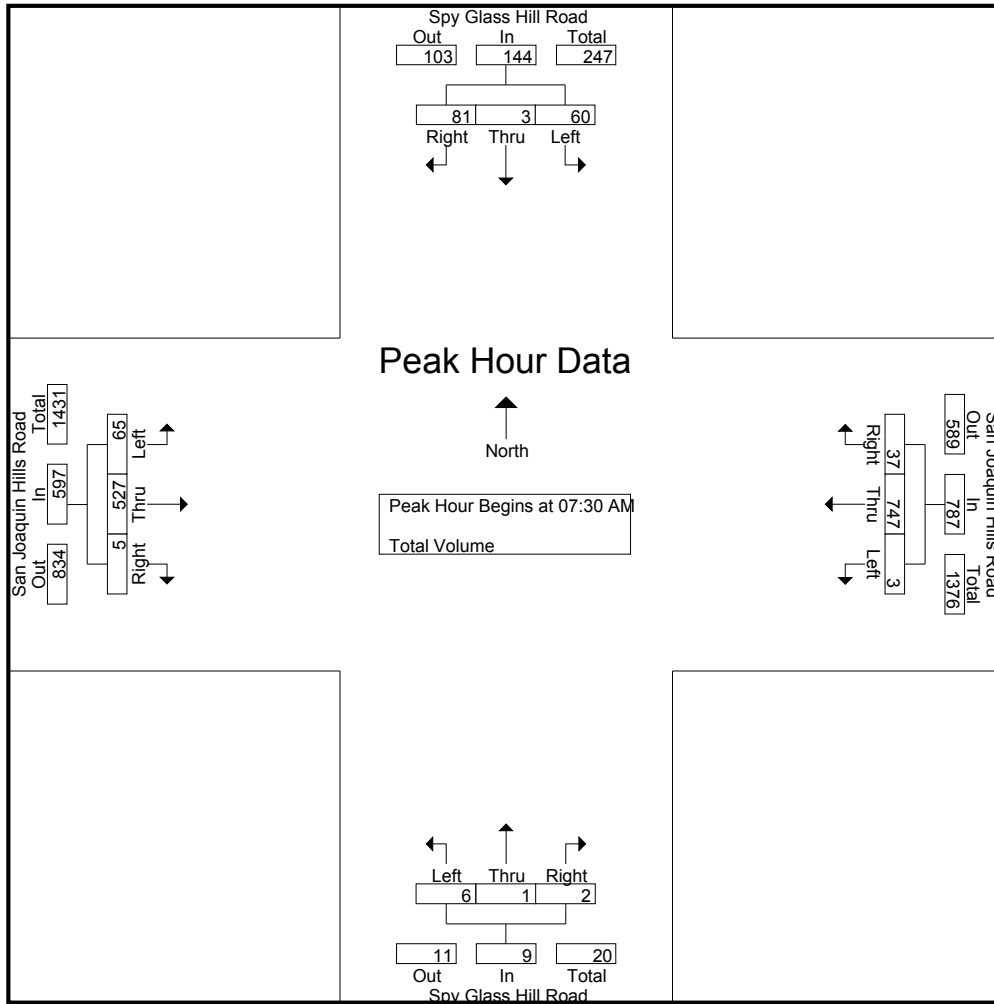
Groups Printed- Total Volume

Start Time	Spy Glass Hill Road Southbound				San Joaquin Hills Road Westbound				Spy Glass Hill Road Northbound				San Joaquin Hills Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	8	0	11	19	0	84	7	91	1	1	0	2	11	82	0	93	205
07:15 AM	13	0	11	24	1	156	7	164	0	0	1	1	7	87	1	95	284
07:30 AM	10	0	12	22	1	190	7	198	3	0	0	3	8	137	1	146	369
07:45 AM	21	1	31	53	2	194	12	208	0	0	2	2	26	151	0	177	440
Total	52	1	65	118	4	624	33	661	4	1	3	8	52	457	2	511	1298
08:00 AM	13	1	27	41	0	175	9	184	1	1	0	2	18	125	1	144	371
08:15 AM	16	1	11	28	0	188	9	197	2	0	0	2	13	114	3	130	357
08:30 AM	7	0	14	21	0	191	18	209	6	1	1	8	10	100	3	113	351
08:45 AM	8	0	31	39	0	196	9	205	4	0	2	6	11	92	0	103	353
Total	44	2	83	129	0	750	45	795	13	2	3	18	52	431	7	490	1432
Grand Total	96	3	148	247	4	1374	78	1456	17	3	6	26	104	888	9	1001	2730
Apprch %	38.9	1.2	59.9		0.3	94.4	5.4		65.4	11.5	23.1		10.4	88.7	0.9		
Total %	3.5	0.1	5.4	9	0.1	50.3	2.9	53.3	0.6	0.1	0.2	1	3.8	32.5	0.3	36.7	

Start Time	Spy Glass Hill Road Southbound				San Joaquin Hills Road Westbound				Spy Glass Hill Road Northbound				San Joaquin Hills Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	10	0	12	22	1	190	7	198	3	0	0	3	8	137	1	146	369
07:45 AM	21	1	31	53	2	194	12	208	0	0	2	2	26	151	0	177	440
08:00 AM	13	1	27	41	0	175	9	184	1	1	0	2	18	125	1	144	371
08:15 AM	16	1	11	28	0	188	9	197	2	0	0	2	13	114	3	130	357
Total Volume	60	3	81	144	3	747	37	787	6	1	2	9	65	527	5	597	1537
% App. Total	41.7	2.1	56.2		0.4	94.9	4.7		66.7	11.1	22.2		10.9	88.3	0.8		
PHF	.714	.750	.653	.679	.375	.963	.771	.946	.500	.250	.250	.750	.625	.873	.417	.843	.873

City of Newport Beach
 N/S: Spy Glass Hill Road
 E/W: San Joaquin Hills Road
 Weather: Clear

File Name : NPBSGSJAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				07:45 AM				08:00 AM				07:30 AM			
+0 mins.	10	0	12	22	2	194	12	208	1	1	0	2	8	137	1	146
+15 mins.	21	1	31	53	0	175	9	184	2	0	0	2	26	151	0	177
+30 mins.	13	1	27	41	0	188	9	197	6	1	1	8	18	125	1	144
+45 mins.	16	1	11	28	0	191	18	209	4	0	2	6	13	114	3	130
Total Volume	60	3	81	144	2	748	48	798	13	2	3	18	65	527	5	597
% App. Total	41.7	2.1	56.2		0.3	93.7	6		72.2	11.1	16.7		10.9	88.3	0.8	
PHF	.714	.750	.653	.679	.250	.964	.667	.955	.542	.500	.375	.563	.625	.873	.417	.843

City of Newport Beach
 N/S: Spy Glass Hill Road
 E/W: San Joaquin Hills Road
 Weather: Clear

File Name : NPBSGSJPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

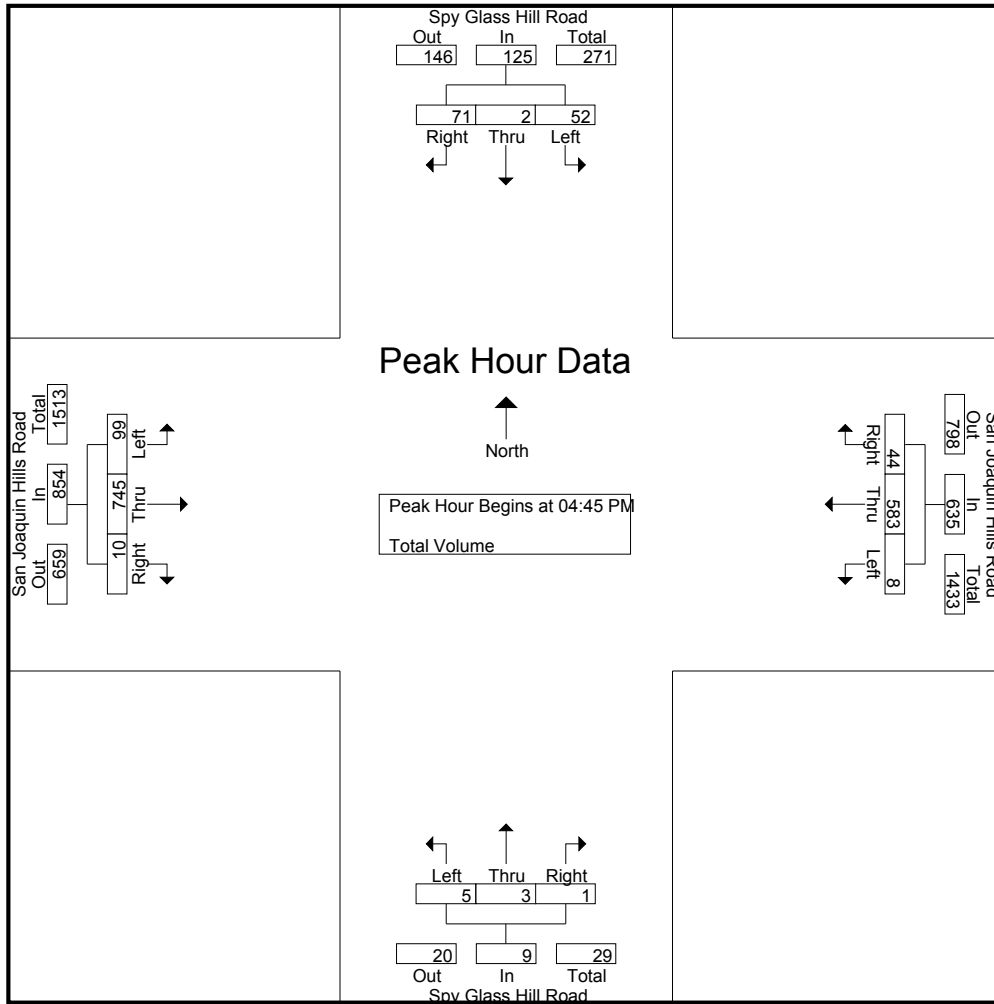
Groups Printed- Total Volume

Start Time	Spy Glass Hill Road Southbound				San Joaquin Hills Road Westbound				Spy Glass Hill Road Northbound				San Joaquin Hills Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	14	0	23	37	5	132	15	152	1	1	0	2	16	160	2	178	369
04:15 PM	7	1	20	28	1	131	11	143	1	0	1	2	22	149	2	173	346
04:30 PM	11	0	10	21	1	119	9	129	3	0	1	4	19	169	3	191	345
04:45 PM	10	1	15	26	4	182	8	194	1	0	0	1	32	156	0	188	409
Total	42	2	68	112	11	564	43	618	6	1	2	9	89	634	7	730	1469
05:00 PM	17	1	14	32	3	134	17	154	0	0	0	0	26	184	4	214	400
05:15 PM	12	0	25	37	1	147	7	155	1	0	0	1	19	216	1	236	429
05:30 PM	13	0	17	30	0	120	12	132	3	3	1	7	22	189	5	216	385
05:45 PM	12	0	13	25	1	120	12	133	1	0	1	2	8	190	1	199	359
Total	54	1	69	124	5	521	48	574	5	3	2	10	75	779	11	865	1573
Grand Total	96	3	137	236	16	1085	91	1192	11	4	4	19	164	1413	18	1595	3042
Apprch %	40.7	1.3	58.1		1.3	91	7.6		57.9	21.1	21.1		10.3	88.6	1.1		
Total %	3.2	0.1	4.5	7.8	0.5	35.7	3	39.2	0.4	0.1	0.1	0.6	5.4	46.4	0.6	52.4	

Start Time	Spy Glass Hill Road Southbound				San Joaquin Hills Road Westbound				Spy Glass Hill Road Northbound				San Joaquin Hills Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	10	1	15	26	4	182	8	194	1	0	0	1	32	156	0	188	409
05:00 PM	17	1	14	32	3	134	17	154	0	0	0	0	26	184	4	214	400
05:15 PM	12	0	25	37	1	147	7	155	1	0	0	1	19	216	1	236	429
05:30 PM	13	0	17	30	0	120	12	132	3	3	1	7	22	189	5	216	385
Total Volume	52	2	71	125	8	583	44	635	5	3	1	9	99	745	10	854	1623
% App. Total	41.6	1.6	56.8		1.3	91.8	6.9		55.6	33.3	11.1		11.6	87.2	1.2		
PHF	.765	.500	.710	.845	.500	.801	.647	.818	.417	.250	.250	.321	.773	.862	.500	.905	.946

City of Newport Beach
 N/S: Spy Glass Hill Road
 E/W: San Joaquin Hills Road
 Weather: Clear

File Name : NPBSGSJPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				05:00 PM				05:00 PM			
+0 mins.	10	1	15	26	4	182	8	194	0	0	0	0	26	184	4	214
+15 mins.	17	1	14	32	3	134	17	154	1	0	0	1	19	216	1	236
+30 mins.	12	0	25	37	1	147	7	155	3	3	1	7	22	189	5	216
+45 mins.	13	0	17	30	0	120	12	132	1	0	1	2	8	190	1	199
Total Volume	52	2	71	125	8	583	44	635	5	3	2	10	75	779	11	865
% App. Total	41.6	1.6	56.8		1.3	91.8	6.9		50	30	20		8.7	90.1	1.3	
PHF	.765	.500	.710	.845	.500	.801	.647	.818	.417	.250	.500	.357	.721	.902	.550	.916

City: NEWPORT BEACH
 N-S Direction: POPPY AVENUE
 E-W Direction: COAST HIGHWAY

File Name : h1204026
 Site Code : 00005053
 Start Date : 4/24/2012
 Page No : 1

Groups Printed- Turning Movements

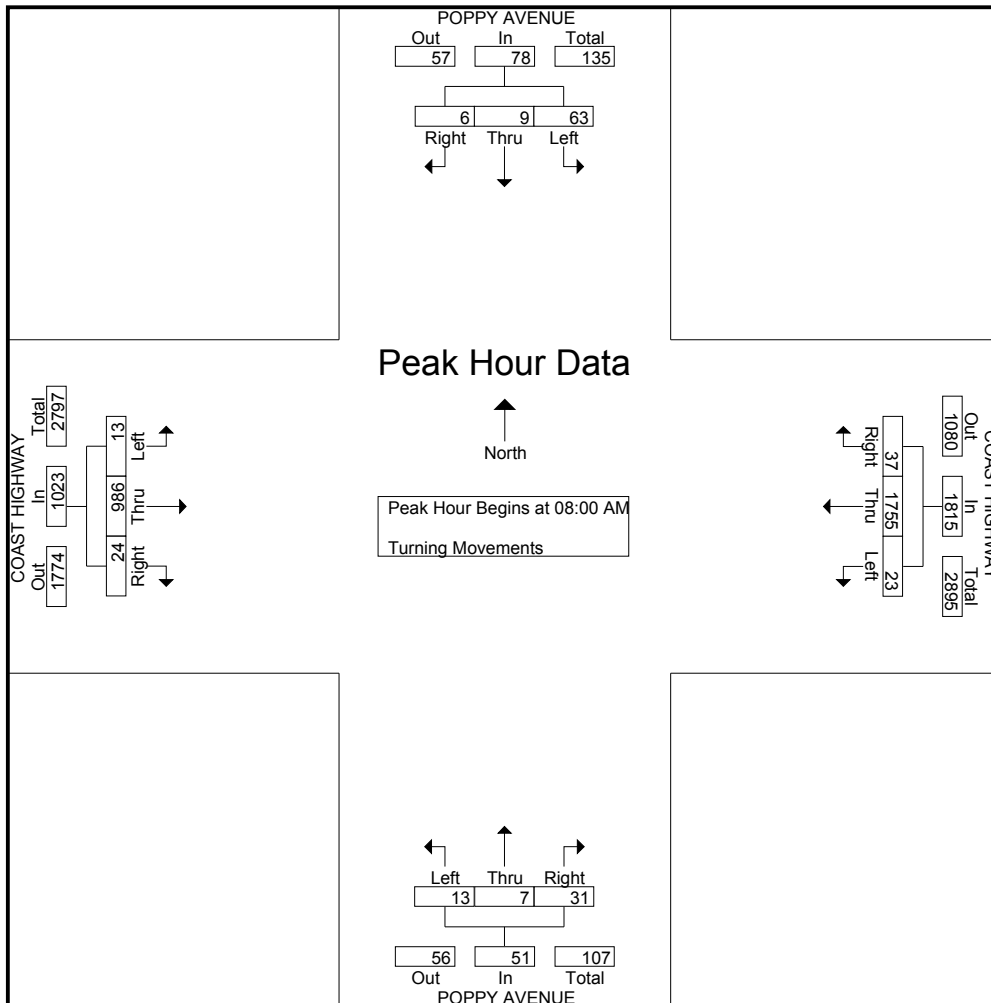
Start Time	POPPY AVENUE Southbound			COAST HIGHWAY Westbound			POPPY AVENUE Northbound			COAST HIGHWAY Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	0	0	3	3	248	5	3	0	1	10	215	3	491
07:15 AM	0	5	6	1	357	3	2	0	3	12	189	2	580
07:30 AM	0	0	8	7	348	0	9	0	2	12	305	2	693
07:45 AM	1	0	12	12	378	5	8	1	1	4	225	1	648
Total	1	5	29	23	1331	13	22	1	7	38	934	8	2412
08:00 AM	2	1	17	10	467	3	12	1	4	4	253	2	776
08:15 AM	2	2	15	7	450	8	2	3	8	7	251	4	759
08:30 AM	1	2	15	7	443	7	10	2	1	9	249	4	750
08:45 AM	1	4	16	13	395	5	7	1	0	4	233	3	682
Total	6	9	63	37	1755	23	31	7	13	24	986	13	2967
*** BREAK ***													
04:30 PM	2	0	28	10	320	5	11	2	1	6	337	4	726
04:45 PM	3	4	23	2	329	10	14	3	6	5	348	7	754
Total	5	4	51	12	649	15	25	5	7	11	685	11	1480
05:00 PM	2	0	30	6	350	4	17	0	2	6	406	2	825
05:15 PM	1	2	26	5	359	9	7	0	4	7	420	8	848
05:30 PM	3	3	37	12	343	5	14	0	10	11	419	9	866
05:45 PM	5	2	17	6	350	5	17	0	9	7	419	8	845
Total	11	7	110	29	1402	23	55	0	25	31	1664	27	3384
06:00 PM	5	4	23	6	286	13	10	1	7	13	399	6	773
06:15 PM	3	3	19	5	261	3	10	2	9	11	350	3	679
Grand Total	31	32	295	112	5684	90	153	16	68	128	5018	68	11695
Apprch %	8.7	8.9	82.4	1.9	96.6	1.5	64.6	6.8	28.7	2.5	96.2	1.3	
Total %	0.3	0.3	2.5	1	48.6	0.8	1.3	0.1	0.6	1.1	42.9	0.6	

City: NEWPORT BEACH
 N-S Direction: POPPY AVENUE
 E-W Direction: COAST HIGHWAY

File Name : h1204026
 Site Code : 00005053
 Start Date : 4/24/2012
 Page No : 2

Start Time	POPPY AVENUE Southbound				COAST HIGHWAY Westbound				POPPY AVENUE Northbound				COAST HIGHWAY Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
08:00 AM	2	1	17	20	10	467	3	480	12	1	4	17	4	253	2	259	776
08:15 AM	2	2	15	19	7	450	8	465	2	3	8	13	7	251	4	262	759
08:30 AM	1	2	15	18	7	443	7	457	10	2	1	13	9	249	4	262	750
08:45 AM	1	4	16	21	13	395	5	413	7	1	0	8	4	233	3	240	682
Total Volume	6	9	63	78	37	1755	23	1815	31	7	13	51	24	986	13	1023	2967
% App. Total	7.7	11.5	80.8		2	96.7	1.3		60.8	13.7	25.5		2.3	96.4	1.3		
PHF	.750	.563	.926	.929	.712	.940	.719	.945	.646	.583	.406	.750	.667	.974	.813	.976	.956

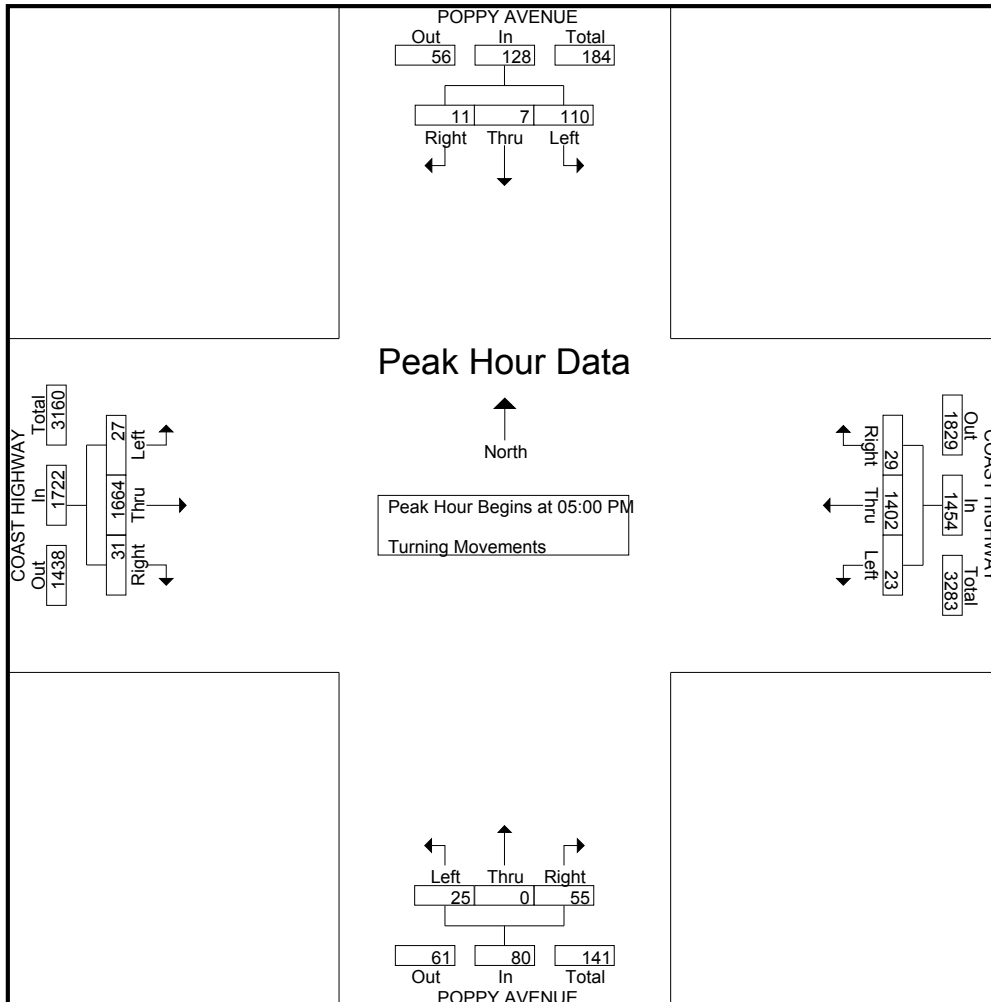
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 08:00 AM



City: NEWPORT BEACH
 N-S Direction: POPPY AVENUE
 E-W Direction: COAST HIGHWAY

File Name : h1204026
 Site Code : 00005053
 Start Date : 4/24/2012
 Page No : 3

Start Time	POPPY AVENUE Southbound				COAST HIGHWAY Westbound				POPPY AVENUE Northbound				COAST HIGHWAY Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	2	0	30	32	6	350	4	360	17	0	2	19	6	406	2	414	825
05:15 PM	1	2	26	29	5	359	9	373	7	0	4	11	7	420	8	435	848
05:30 PM	3	3	37	43	12	343	5	360	14	0	10	24	11	419	9	439	866
05:45 PM	5	2	17	24	6	350	5	361	17	0	9	26	7	419	8	434	845
Total Volume	11	7	110	128	29	1402	23	1454	55	0	25	80	31	1664	27	1722	3384
% App. Total	8.6	5.5	85.9		2	96.4	1.6		68.8	0	31.2		1.8	96.6	1.6		
PHF	.550	.583	.743	.744	.604	.976	.639	.975	.809	.000	.625	.769	.705	.990	.750	.981	.977



City of Irvine
 N/S: Newport Coast Drive
 E/W: SR-73 Nothbound Ramps
 Weather: Clear

File Name : IRVNC73NAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

Groups Printed- Total Volume

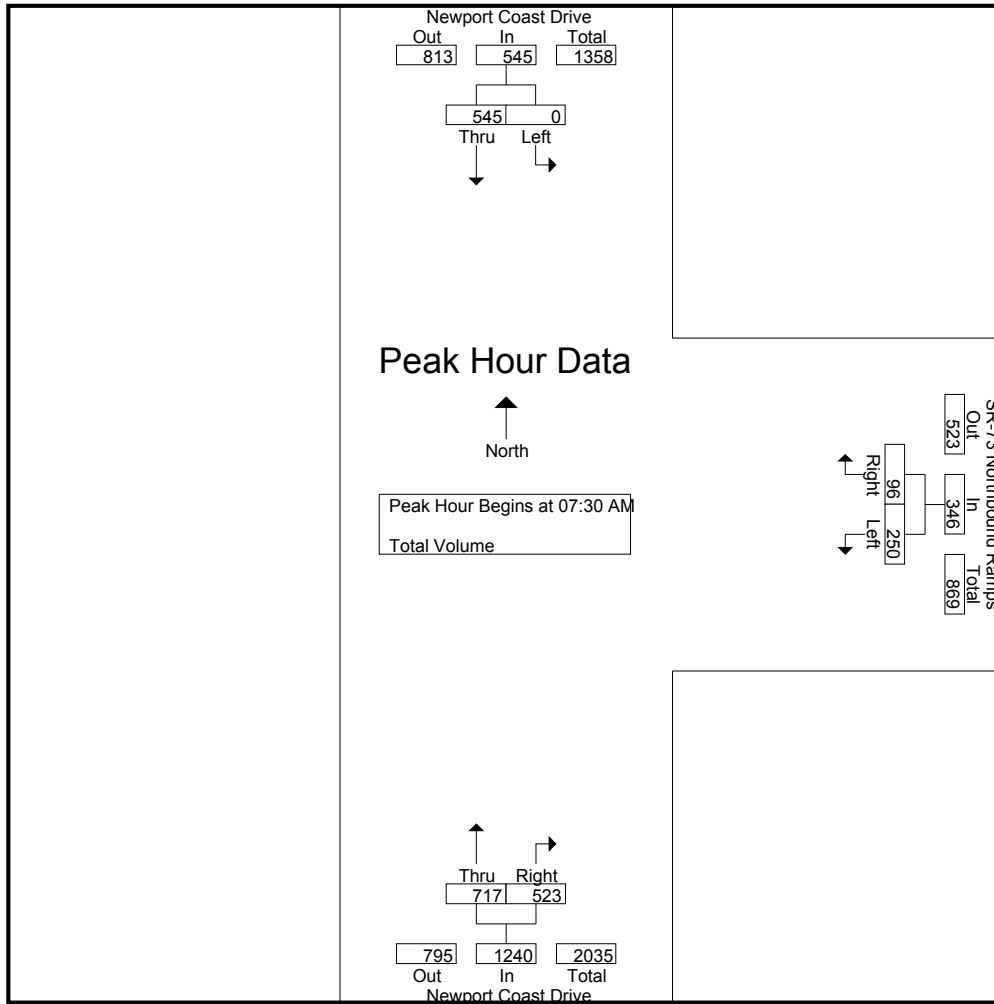
Start Time	Newport Coast Drive Southbound			SR-73 Northbound Ramps Westbound			Newport Coast Drive Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	77	77	20	12	32	85	71	156	265
07:15 AM	0	81	81	38	8	46	113	70	183	310
07:30 AM	0	130	130	67	29	96	184	138	322	548
07:45 AM	0	187	187	75	29	104	168	119	287	578
Total	0	475	475	200	78	278	550	398	948	1701
08:00 AM	0	119	119	55	21	76	191	139	330	525
08:15 AM	0	109	109	53	17	70	174	127	301	480
08:30 AM	0	109	109	61	14	75	171	111	282	466
08:45 AM	0	93	93	62	16	78	142	94	236	407
Total	0	430	430	231	68	299	678	471	1149	1878
Grand Total	0	905	905	431	146	577	1228	869	2097	3579
Apprch %	0	100		74.7	25.3		58.6	41.4		
Total %	0	25.3	25.3	12	4.1	16.1	34.3	24.3	58.6	

Start Time	Newport Coast Drive Southbound			SR-73 Northbound Ramps Westbound			Newport Coast Drive Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:30 AM	0	130	130	67	29	96	184	138	322	548
07:45 AM	0	187	187	75	29	104	168	119	287	578
08:00 AM	0	119	119	55	21	76	191	139	330	525
08:15 AM	0	109	109	53	17	70	174	127	301	480
Total Volume	0	545	545	250	96	346	717	523	1240	2131
% App. Total	0	100		72.3	27.7		57.8	42.2		
PHF	.000	.729	.729	.833	.828	.832	.938	.941	.939	.922

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

City of Irvine
 N/S: Newport Coast Drive
 E/W: SR-73 Nothbound Ramps
 Weather: Clear

File Name : IRVNC73NAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	0	130	130	67	29	96	184	138	322
+15 mins.	0	187	187	75	29	104	168	119	287
+30 mins.	0	119	119	55	21	76	191	139	330
+45 mins.	0	109	109	53	17	70	174	127	301
Total Volume	0	545	545	250	96	346	717	523	1240
% App. Total	0	100		72.3	27.7		57.8	42.2	
PHF	.000	.729	.729	.833	.828	.832	.938	.941	.939

City of Irvine
 N/S: Newport Coast Drive
 E/W: SR-73 Nothbound Ramps
 Weather: Clear

File Name : IRVNC73NPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

Groups Printed- Total Volume

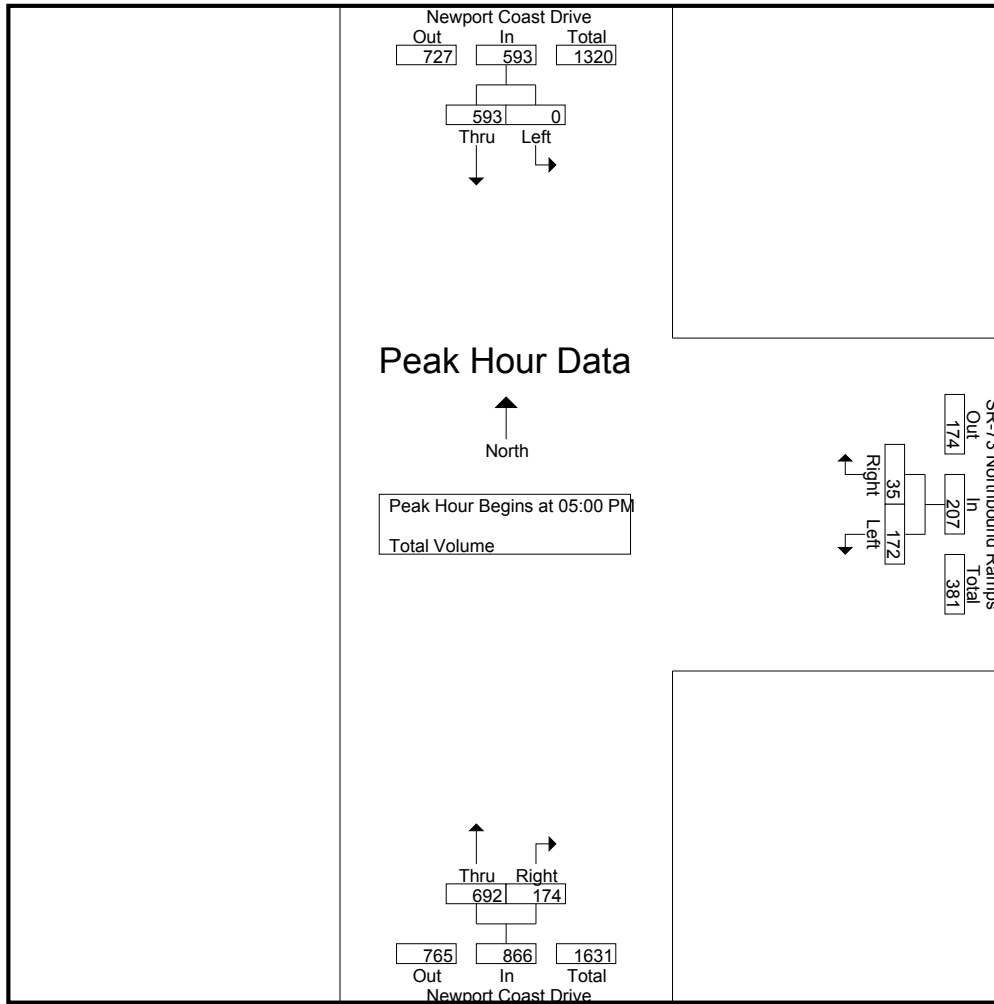
Start Time	Newport Coast Drive Southbound			SR-73 Northbound Ramps Westbound			Newport Coast Drive Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	0	100	100	39	10	49	126	53	179	328
04:15 PM	0	113	113	36	15	51	159	53	212	376
04:30 PM	0	150	150	32	5	37	176	40	216	403
04:45 PM	0	145	145	36	2	38	153	46	199	382
Total	0	508	508	143	32	175	614	192	806	1489
05:00 PM	0	135	135	35	11	46	189	42	231	412
05:15 PM	0	137	137	41	8	49	168	49	217	403
05:30 PM	0	156	156	46	9	55	180	41	221	432
05:45 PM	0	165	165	50	7	57	155	42	197	419
Total	0	593	593	172	35	207	692	174	866	1666
06:00 PM	0	145	145	43	5	48	161	33	194	387
06:15 PM	0	151	151	46	8	54	148	33	181	386
Grand Total	0	1397	1397	404	80	484	1615	432	2047	3928
Apprch %	0	100		83.5	16.5		78.9	21.1		
Total %	0	35.6	35.6	10.3	2	12.3	41.1	11	52.1	

Start Time	Newport Coast Drive Southbound			SR-73 Northbound Ramps Westbound			Newport Coast Drive Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
05:00 PM	0	135	135	35	11	46	189	42	231	412
05:15 PM	0	137	137	41	8	49	168	49	217	403
05:30 PM	0	156	156	46	9	55	180	41	221	432
05:45 PM	0	165	165	50	7	57	155	42	197	419
Total Volume	0	593	593	172	35	207	692	174	866	1666
% App. Total	0	100		83.1	16.9		79.9	20.1		
PHF	.000	.898	.898	.860	.795	.908	.915	.888	.937	.964

Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

City of Irvine
 N/S: Newport Coast Drive
 E/W: SR-73 Nothbound Ramps
 Weather: Clear

File Name : IRVNC73NPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	05:30 PM			05:30 PM			04:45 PM		
+0 mins.	0	156	156	46	9	55	153	46	199
+15 mins.	0	165	165	50	7	57	189	42	231
+30 mins.	0	145	145	43	5	48	168	49	217
+45 mins.	0	151	151	46	8	54	180	41	221
Total Volume	0	617	617	185	29	214	690	178	868
% App. Total	0	100		86.4	13.6		79.5	20.5	
PHF	.000	.935	.935	.925	.806	.939	.913	.908	.939

City of Newport Beach
 N/S: Newport Coast Drive
 E/W: SR-73 Southbound Ramps
 Weather: Clear

File Name : NPBNC73SAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

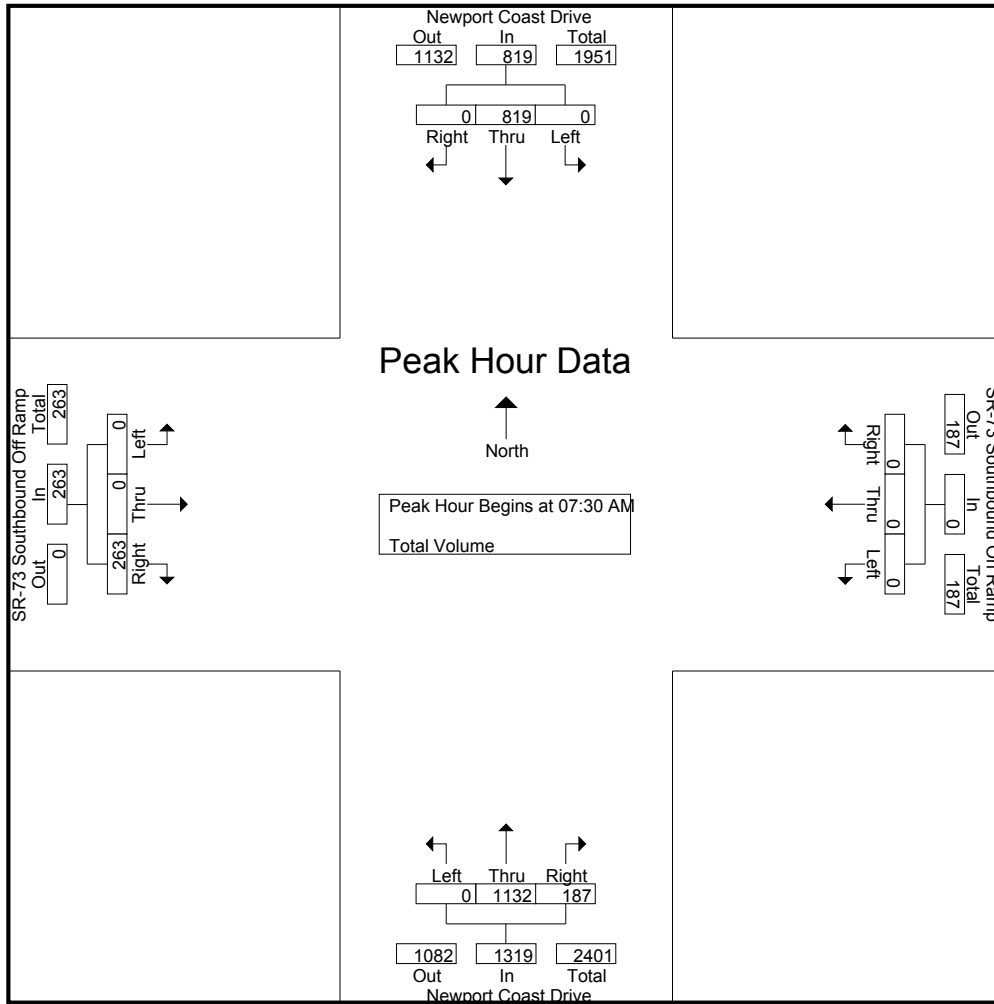
Groups Printed- Total Volume

Start Time	Newport Coast Drive Southbound				SR-73 Southbound On Ramp Westbound				Newport Coast Drive Northbound				SR-73 Southbound Off Ramp Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	95	0	95	0	0	0	0	0	169	31	200	0	0	27	27	322
07:15 AM	0	124	0	124	0	0	0	0	0	224	57	281	0	0	45	45	450
07:30 AM	0	194	0	194	0	0	0	0	0	262	41	303	0	0	61	61	558
07:45 AM	0	291	0	291	0	0	0	0	0	295	52	347	0	0	79	79	717
Total	0	704	0	704	0	0	0	0	0	950	181	1131	0	0	212	212	2047
08:00 AM	0	171	0	171	0	0	0	0	0	283	59	342	0	0	46	46	559
08:15 AM	0	163	0	163	0	0	0	0	0	292	35	327	0	0	77	77	567
08:30 AM	0	133	0	133	0	0	0	0	0	271	47	318	0	0	66	66	517
08:45 AM	0	150	0	150	0	0	0	0	0	254	38	292	0	0	84	84	526
Total	0	617	0	617	0	0	0	0	0	1100	179	1279	0	0	273	273	2169
Grand Total	0	1321	0	1321	0	0	0	0	0	2050	360	2410	0	0	485	485	4216
Apprch %	0	100	0		0	0	0		0	85.1	14.9		0	0	100		
Total %	0	31.3	0	31.3	0	0	0	0	0	48.6	8.5	57.2	0	0	11.5	11.5	

Start Time	Newport Coast Drive Southbound				SR-73 Southbound On Ramp Westbound				Newport Coast Drive Northbound				SR-73 Southbound Off Ramp Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	194	0	194	0	0	0	0	0	262	41	303	0	0	61	61	558
07:45 AM	0	291	0	291	0	0	0	0	0	295	52	347	0	0	79	79	717
08:00 AM	0	171	0	171	0	0	0	0	0	283	59	342	0	0	46	46	559
08:15 AM	0	163	0	163	0	0	0	0	0	292	35	327	0	0	77	77	567
Total Volume	0	819	0	819	0	0	0	0	0	1132	187	1319	0	0	263	263	2401
% App. Total	0	100	0		0	0	0		0	85.8	14.2		0	0	100		
PHF	.000	.704	.000	.704	.000	.000	.000	.000	.000	.959	.792	.950	.000	.000	.832	.832	.837

City of Newport Beach
 N/S: Newport Coast Drive
 E/W: SR-73 Southbound Ramps
 Weather: Clear

File Name : NPBNC73SAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				07:00 AM				07:45 AM				08:00 AM			
+0 mins.	0	194	0	194	0	0	0	0	0	295	52	347	0	0	46	46
+15 mins.	0	291	0	291	0	0	0	0	0	283	59	342	0	0	77	77
+30 mins.	0	171	0	171	0	0	0	0	0	292	35	327	0	0	66	66
+45 mins.	0	163	0	163	0	0	0	0	0	271	47	318	0	0	84	84
Total Volume	0	819	0	819	0	0	0	0	0	1141	193	1334	0	0	273	273
% App. Total	0	100	0	100	0	0	0	0	0	85.5	14.5	100	0	0	100	100
PHF	.000	.704	.000	.704	.000	.000	.000	.000	.000	.967	.818	.961	.000	.000	.813	.813

City of Newport Beach
 N/S: Newport Coast Drive
 E/W: SR-73 Southbound Ramps
 Weather: Clear

File Name : NPBNC73SPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

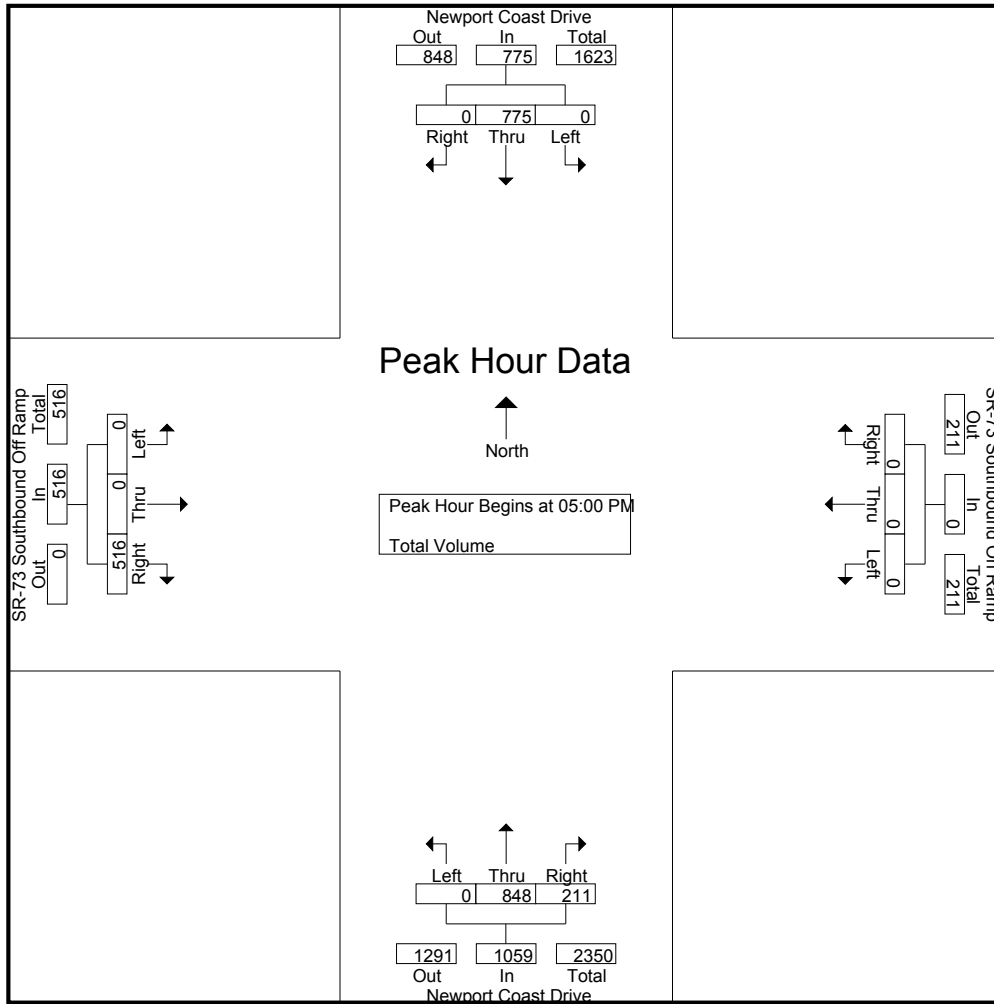
Groups Printed- Total Volume

Start Time	Newport Coast Drive Southbound				SR-73 Southbound On Ramp Westbound				Newport Coast Drive Northbound				SR-73 Southbound Off Ramp Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	0	153	0	153	0	0	0	0	0	192	35	227	0	0	71	71	451
04:15 PM	0	136	0	136	0	0	0	0	0	197	45	242	0	0	70	70	448
04:30 PM	0	199	0	199	0	0	0	0	0	206	44	250	0	0	87	87	536
04:45 PM	0	176	0	176	0	0	0	0	0	199	52	251	0	0	92	92	519
Total	0	664	0	664	0	0	0	0	0	794	176	970	0	0	320	320	1954
05:00 PM	0	179	0	179	0	0	0	0	0	233	52	285	0	0	135	135	599
05:15 PM	0	174	0	174	0	0	0	0	0	202	50	252	0	0	125	125	551
05:30 PM	0	215	0	215	0	0	0	0	0	219	50	269	0	0	120	120	604
05:45 PM	0	207	0	207	0	0	0	0	0	194	59	253	0	0	136	136	596
Total	0	775	0	775	0	0	0	0	0	848	211	1059	0	0	516	516	2350
Grand Total	0	1439	0	1439	0	0	0	0	0	1642	387	2029	0	0	836	836	4304
Apprch %	0	100	0		0	0	0		0	80.9	19.1		0	0	100		
Total %	0	33.4	0	33.4	0	0	0	0	0	38.2	9	47.1	0	0	19.4	19.4	

Start Time	Newport Coast Drive Southbound				SR-73 Southbound On Ramp Westbound				Newport Coast Drive Northbound				SR-73 Southbound Off Ramp Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	179	0	179	0	0	0	0	0	233	52	285	0	0	135	135	599
05:15 PM	0	174	0	174	0	0	0	0	0	202	50	252	0	0	125	125	551
05:30 PM	0	215	0	215	0	0	0	0	0	219	50	269	0	0	120	120	604
05:45 PM	0	207	0	207	0	0	0	0	0	194	59	253	0	0	136	136	596
Total Volume	0	775	0	775	0	0	0	0	0	848	211	1059	0	0	516	516	2350
% App. Total	0	100	0		0	0	0		0	80.1	19.9		0	0	100		
PHF	.000	.901	.000	.901	.000	.000	.000	.000	.000	.000	.910	.929	.000	.000	.949	.949	.973

City of Newport Beach
 N/S: Newport Coast Drive
 E/W: SR-73 Southbound Ramps
 Weather: Clear

File Name : NPBNC73SPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	179	0	179	0	0	0	0	0	233	52	285	0	0	135	135
+15 mins.	0	174	0	174	0	0	0	0	0	202	50	252	0	0	125	125
+30 mins.	0	215	0	215	0	0	0	0	0	219	50	269	0	0	120	120
+45 mins.	0	207	0	207	0	0	0	0	0	194	59	253	0	0	136	136
Total Volume	0	775	0	775	0	0	0	0	0	848	211	1059	0	0	516	516
% App. Total	0	100	0		0	0	0	0	0	80.1	19.9		0	0	100	
PHF	.000	.901	.000	.901	.000	.000	.000	.000	.000	.910	.894	.929	.000	.000	.949	.949

City of Newport Beach
 N/S: Newport Coast Drive
 E/W: San Joaquin Hills Road
 Weather: Clear

File Name : NPBNC SJAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

Groups Printed- Total Volume

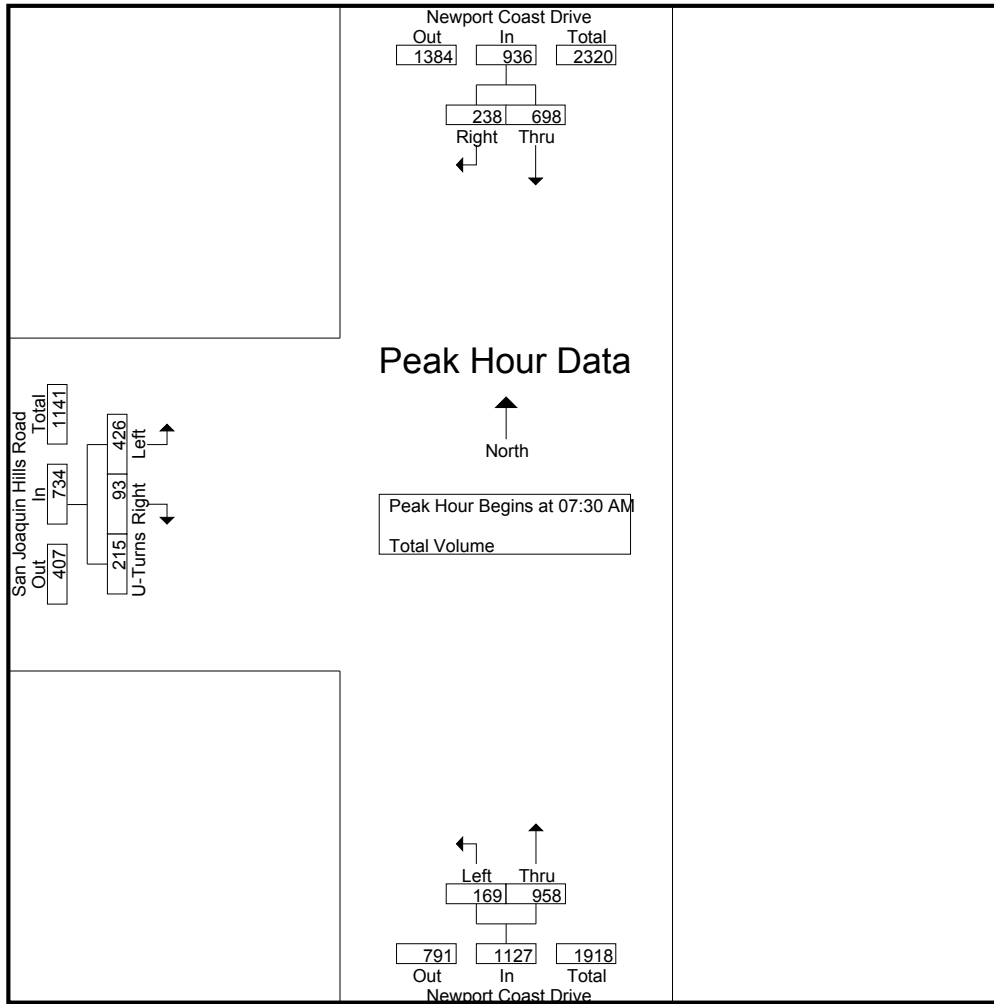
Start Time	Newport Coast Drive Southbound			Newport Coast Drive Northbound			San Joaquin Hills Road Eastbound				Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	U-Turns	App. Total	
07:00 AM	81	24	105	21	153	174	54	16	0	70	349
07:15 AM	119	29	148	22	206	228	78	25	0	103	479
07:30 AM	161	48	209	44	256	300	103	12	12	127	636
07:45 AM	201	79	280	51	231	282	136	24	20	180	742
Total	562	180	742	138	846	984	371	77	32	480	2206
08:00 AM	166	55	221	34	212	246	102	30	108	240	707
08:15 AM	170	56	226	40	259	299	85	27	75	187	712
08:30 AM	148	43	191	41	236	277	74	32	15	121	589
08:45 AM	159	60	219	41	219	260	87	17	6	110	589
Total	643	214	857	156	926	1082	348	106	204	658	2597
Grand Total	1205	394	1599	294	1772	2066	719	183	236	1138	4803
Apprch %	75.4	24.6		14.2	85.8		63.2	16.1	20.7		
Total %	25.1	8.2	33.3	6.1	36.9	43	15	3.8	4.9	23.7	

Start Time	Newport Coast Drive Southbound			Newport Coast Drive Northbound			San Joaquin Hills Road Eastbound				Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	U-Turns	App. Total	
07:30 AM	161	48	209	44	256	300	103	12	12	127	636
07:45 AM	201	79	280	51	231	282	136	24	20	180	742
08:00 AM	166	55	221	34	212	246	102	30	108	240	707
08:15 AM	170	56	226	40	259	299	85	27	75	187	712
Total Volume	698	238	936	169	958	1127	426	93	215	734	2797
% App. Total	74.6	25.4		15	85		58	12.7	29.3		
PHF	.868	.753	.836	.828	.925	.939	.783	.775	.498	.765	.942

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

City of Newport Beach
 N/S: Newport Coast Drive
 E/W: San Joaquin Hills Road
 Weather: Clear

File Name : NPBNC SJAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM			
+0 mins.	161	48	209	44	256	300	103	12	12	127
+15 mins.	201	79	280	51	231	282	136	24	20	180
+30 mins.	166	55	221	34	212	246	102	30	108	240
+45 mins.	170	56	226	40	259	299	85	27	75	187
Total Volume	698	238	936	169	958	1127	426	93	215	734
% App. Total	74.6	25.4		15	85		58	12.7	29.3	
PHF	.868	.753	.836	.828	.925	.939	.783	.775	.498	.765

City of Newport Beach
 N/S: Newport Coast Drive
 E/W: San Joaquin Hills Road
 Weather: Clear

File Name : NPBNC SJPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

Groups Printed- Total Volume

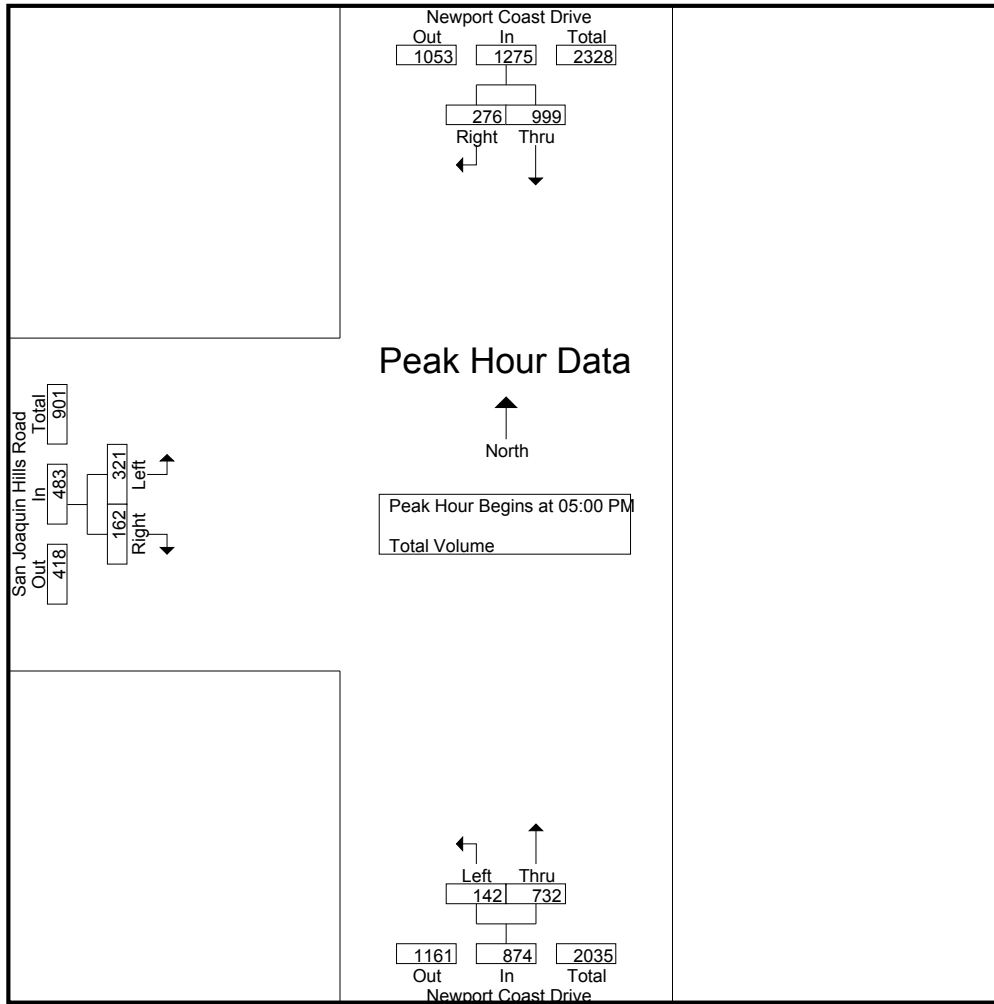
Start Time	Newport Coast Drive Southbound			Newport Coast Drive Northbound			San Joaquin Hills Road Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:00 PM	156	43	199	36	191	227	44	47	91	517
04:15 PM	164	39	203	54	162	216	68	35	103	522
04:30 PM	212	61	273	39	173	212	64	27	91	576
04:45 PM	204	61	265	44	184	228	60	46	106	599
Total	736	204	940	173	710	883	236	155	391	2214
05:00 PM	245	71	316	38	222	260	80	33	113	689
05:15 PM	219	70	289	44	173	217	79	45	124	630
05:30 PM	263	70	333	35	188	223	80	41	121	677
05:45 PM	272	65	337	25	149	174	82	43	125	636
Total	999	276	1275	142	732	874	321	162	483	2632
Grand Total	1735	480	2215	315	1442	1757	557	317	874	4846
Apprch %	78.3	21.7		17.9	82.1		63.7	36.3		
Total %	35.8	9.9	45.7	6.5	29.8	36.3	11.5	6.5	18	

Start Time	Newport Coast Drive Southbound			Newport Coast Drive Northbound			San Joaquin Hills Road Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
05:00 PM	245	71	316	38	222	260	80	33	113	689
05:15 PM	219	70	289	44	173	217	79	45	124	630
05:30 PM	263	70	333	35	188	223	80	41	121	677
05:45 PM	272	65	337	25	149	174	82	43	125	636
Total Volume	999	276	1275	142	732	874	321	162	483	2632
% App. Total	78.4	21.6		16.2	83.8		66.5	33.5		
PHF	.918	.972	.946	.807	.824	.840	.979	.900	.966	.955

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

City of Newport Beach
 N/S: Newport Coast Drive
 E/W: San Joaquin Hills Road
 Weather: Clear

File Name : NPBNC SJPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM			04:45 PM			05:00 PM		
+0 mins.	245	71	316	44	184	228	80	33	113
+15 mins.	219	70	289	38	222	260	79	45	124
+30 mins.	263	70	333	44	173	217	80	41	121
+45 mins.	272	65	337	35	188	223	82	43	125
Total Volume	999	276	1275	161	767	928	321	162	483
% App. Total	78.4	21.6		17.3	82.7		66.5	33.5	
PHF	.918	.972	.946	.915	.864	.892	.979	.900	.966

City of Newport Beach
 N/S: Newport Coast Drive
 E/W: Pacific Coast Highway
 Weather: Clear

File Name : NPBNCPCHAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

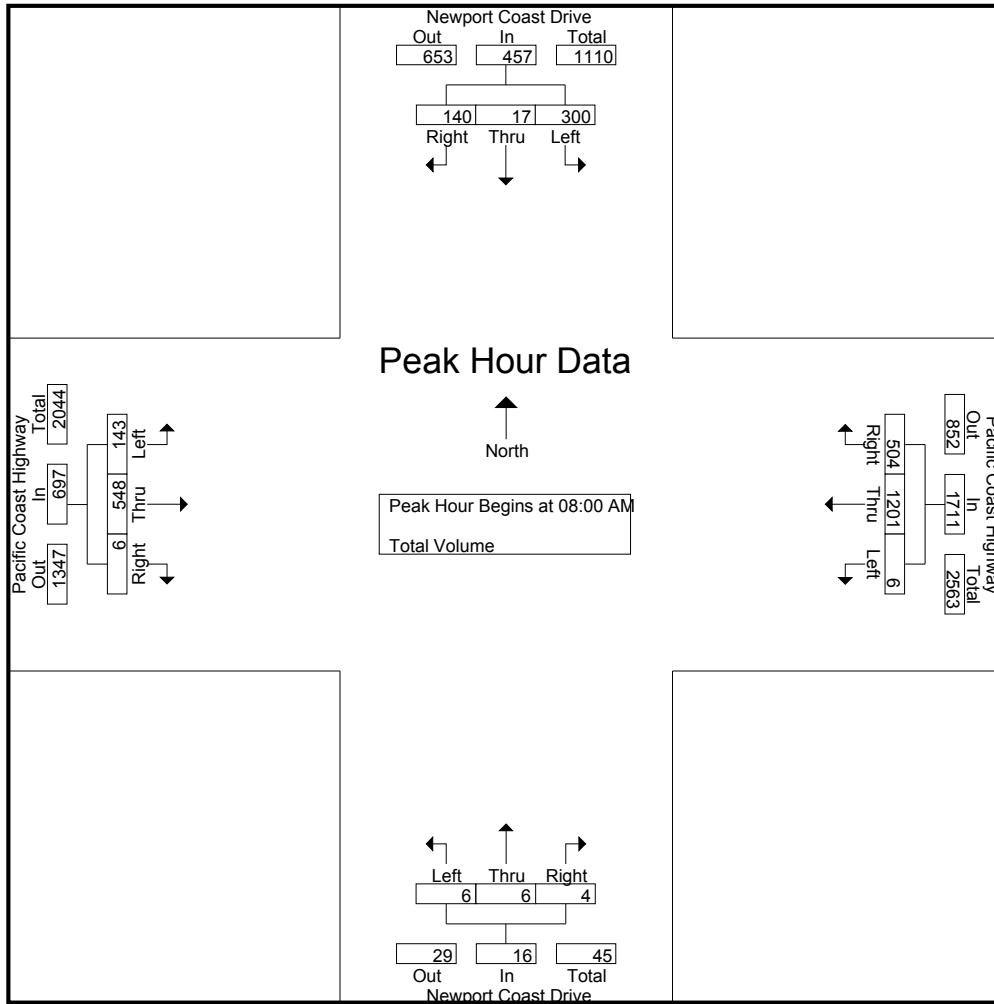
Groups Printed- Total Volume

Start Time	Newport Coast Drive Southbound				Pacific Coast Highway Westbound				Newport Coast Drive Northbound				Pacific Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	40	1	21	62	1	212	98	311	3	1	1	5	29	132	1	162	540
07:15 AM	48	1	16	65	0	268	99	367	0	1	1	2	40	185	0	225	659
07:30 AM	39	3	25	67	0	264	123	387	2	1	0	3	36	147	1	184	641
07:45 AM	65	0	32	97	0	248	112	360	0	0	0	0	41	167	1	209	666
Total	192	5	94	291	1	992	432	1425	5	3	2	10	146	631	3	780	2506
08:00 AM	58	2	37	97	2	305	133	440	1	2	0	3	34	130	0	164	704
08:15 AM	70	4	34	108	3	293	126	422	1	2	1	4	37	142	0	179	713
08:30 AM	75	6	34	115	0	318	130	448	1	2	1	4	39	139	4	182	749
08:45 AM	97	5	35	137	1	285	115	401	3	0	2	5	33	137	2	172	715
Total	300	17	140	457	6	1201	504	1711	6	6	4	16	143	548	6	697	2881
Grand Total	492	22	234	748	7	2193	936	3136	11	9	6	26	289	1179	9	1477	5387
Apprch %	65.8	2.9	31.3		0.2	69.9	29.8		42.3	34.6	23.1		19.6	79.8	0.6		
Total %	9.1	0.4	4.3	13.9	0.1	40.7	17.4	58.2	0.2	0.2	0.1	0.5	5.4	21.9	0.2	27.4	

Start Time	Newport Coast Drive Southbound				Pacific Coast Highway Westbound				Newport Coast Drive Northbound				Pacific Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	58	2	37	97	2	305	133	440	1	2	0	3	34	130	0	164	704
08:15 AM	70	4	34	108	3	293	126	422	1	2	1	4	37	142	0	179	713
08:30 AM	75	6	34	115	0	318	130	448	1	2	1	4	39	139	4	182	749
08:45 AM	97	5	35	137	1	285	115	401	3	0	2	5	33	137	2	172	715
Total Volume	300	17	140	457	6	1201	504	1711	6	6	4	16	143	548	6	697	2881
% App. Total	65.6	3.7	30.6		0.4	70.2	29.5		37.5	37.5	25		20.5	78.6	0.9		
PHF	.773	.708	.946	.834	.500	.944	.947	.955	.500	.750	.500	.800	.917	.965	.375	.957	.962

City of Newport Beach
 N/S: Newport Coast Drive
 E/W: Pacific Coast Highway
 Weather: Clear

File Name : NPBNCPCHAM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				07:15 AM			
+0 mins.	58	2	37	97	2	305	133	440	1	2	0	3	40	185	0	225
+15 mins.	70	4	34	108	3	293	126	422	1	2	1	4	36	147	1	184
+30 mins.	75	6	34	115	0	318	130	448	1	2	1	4	41	167	1	209
+45 mins.	97	5	35	137	1	285	115	401	3	0	2	5	34	130	0	164
Total Volume	300	17	140	457	6	1201	504	1711	6	6	4	16	151	629	2	782
% App. Total	65.6	3.7	30.6		0.4	70.2	29.5		37.5	37.5	25		19.3	80.4	0.3	
PHF	.773	.708	.946	.834	.500	.944	.947	.955	.500	.750	.500	.800	.921	.850	.500	.869

City of Newport Beach
 N/S: Newport Coast Drive
 E/W: Pacific Coast Highway
 Weather: Clear

File Name : NPBNCPCHPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 1

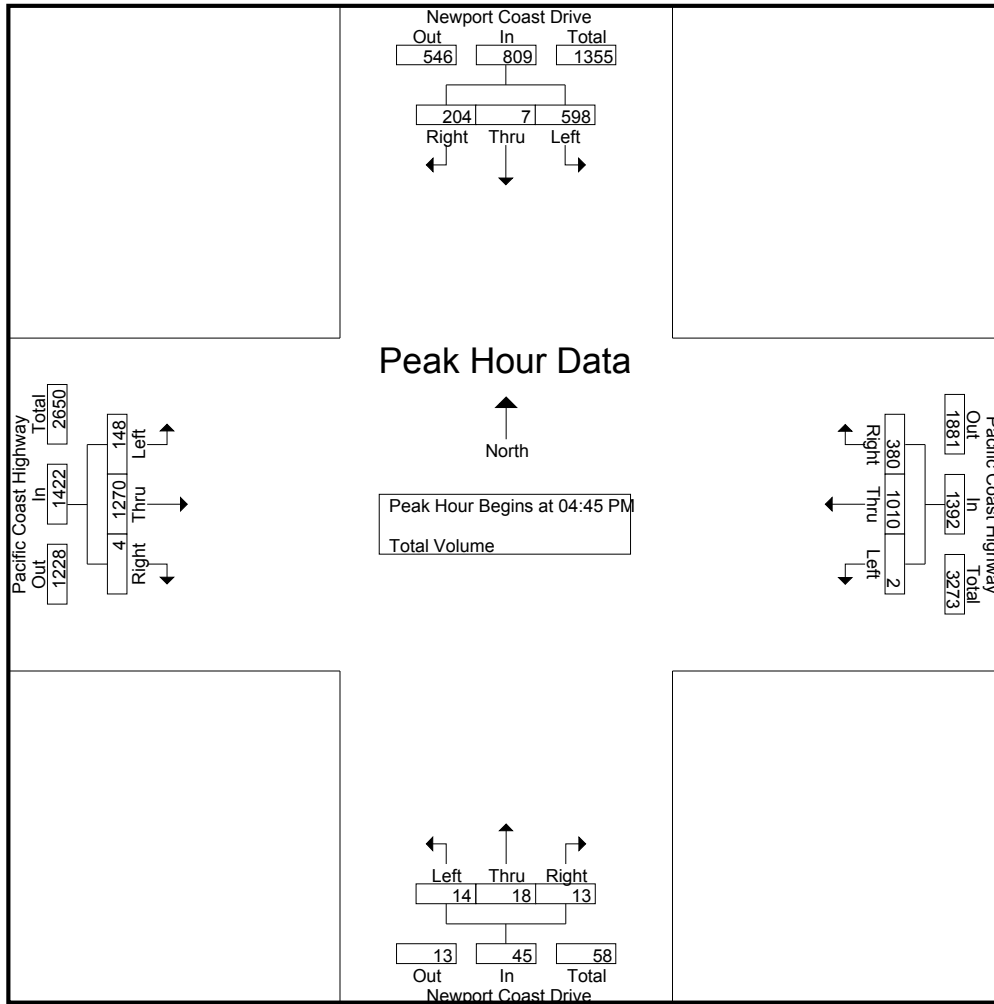
Groups Printed- Total Volume

Start Time	Newport Coast Drive Southbound				Pacific Coast Highway Westbound				Newport Coast Drive Northbound				Pacific Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	96	2	37	135	1	249	86	336	1	3	6	10	44	269	7	320	801
04:15 PM	113	6	32	151	1	288	109	398	3	5	4	12	47	275	7	329	890
04:30 PM	96	4	42	142	2	211	75	288	4	3	1	8	41	298	4	343	781
04:45 PM	141	7	55	203	2	245	89	336	6	5	6	17	49	269	4	322	878
Total	446	19	166	631	6	993	359	1358	14	16	17	47	181	1111	22	1314	3350
05:00 PM	130	0	54	184	0	264	83	347	8	5	4	17	30	339	0	369	917
05:15 PM	167	0	46	213	0	257	100	357	0	6	3	9	34	327	0	361	940
05:30 PM	160	0	49	209	0	244	108	352	0	2	0	2	35	335	0	370	933
05:45 PM	164	0	44	208	1	237	72	310	0	0	0	0	36	324	0	360	878
Total	621	0	193	814	1	1002	363	1366	8	13	7	28	135	1325	0	1460	3668
Grand Total	1067	19	359	1445	7	1995	722	2724	22	29	24	75	316	2436	22	2774	7018
Apprch %	73.8	1.3	24.8		0.3	73.2	26.5		29.3	38.7	32		11.4	87.8	0.8		
Total %	15.2	0.3	5.1	20.6	0.1	28.4	10.3	38.8	0.3	0.4	0.3	1.1	4.5	34.7	0.3	39.5	

Start Time	Newport Coast Drive Southbound				Pacific Coast Highway Westbound				Newport Coast Drive Northbound				Pacific Coast Highway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	141	7	55	203	2	245	89	336	6	5	6	17	49	269	4	322	878
05:00 PM	130	0	54	184	0	264	83	347	8	5	4	17	30	339	0	369	917
05:15 PM	167	0	46	213	0	257	100	357	0	6	3	9	34	327	0	361	940
05:30 PM	160	0	49	209	0	244	108	352	0	2	0	2	35	335	0	370	933
Total Volume	598	7	204	809	2	1010	380	1392	14	18	13	45	148	1270	4	1422	3668
% App. Total	73.9	0.9	25.2		0.1	72.6	27.3		31.1	40	28.9		10.4	89.3	0.3		
PHF	.895	.250	.927	.950	.250	.956	.880	.975	.438	.750	.542	.662	.755	.937	.250	.961	.976

City of Newport Beach
 N/S: Newport Coast Drive
 E/W: Pacific Coast Highway
 Weather: Clear

File Name : NPBNCPCHPM
 Site Code : 05113464
 Start Date : 11/13/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				04:45 PM				04:15 PM				05:00 PM			
+0 mins.	130	0	54	184	2	245	89	336	3	5	4	12	30	339	0	369
+15 mins.	167	0	46	213	0	264	83	347	4	3	1	8	34	327	0	361
+30 mins.	160	0	49	209	0	257	100	357	6	5	6	17	35	335	0	370
+45 mins.	164	0	44	208	0	244	108	352	8	5	4	17	36	324	0	360
Total Volume	621	0	193	814	2	1010	380	1392	21	18	15	54	135	1325	0	1460
% App. Total	76.3	0	23.7		0.1	72.6	27.3		38.9	33.3	27.8		9.2	90.8	0	
PHF	.930	.000	.894	.955	.250	.956	.880	.975	.656	.900	.625	.794	.938	.977	.000	.986

City: NEWPORT BEACH
 N-S Direction: NEWPORT RAMP
 E-W Direction: COAST HIGHWAY

File Name : H1302014
 Site Code : 00003874
 Start Date : 2/26/2013
 Page No : 1

Groups Printed- Turning Movements

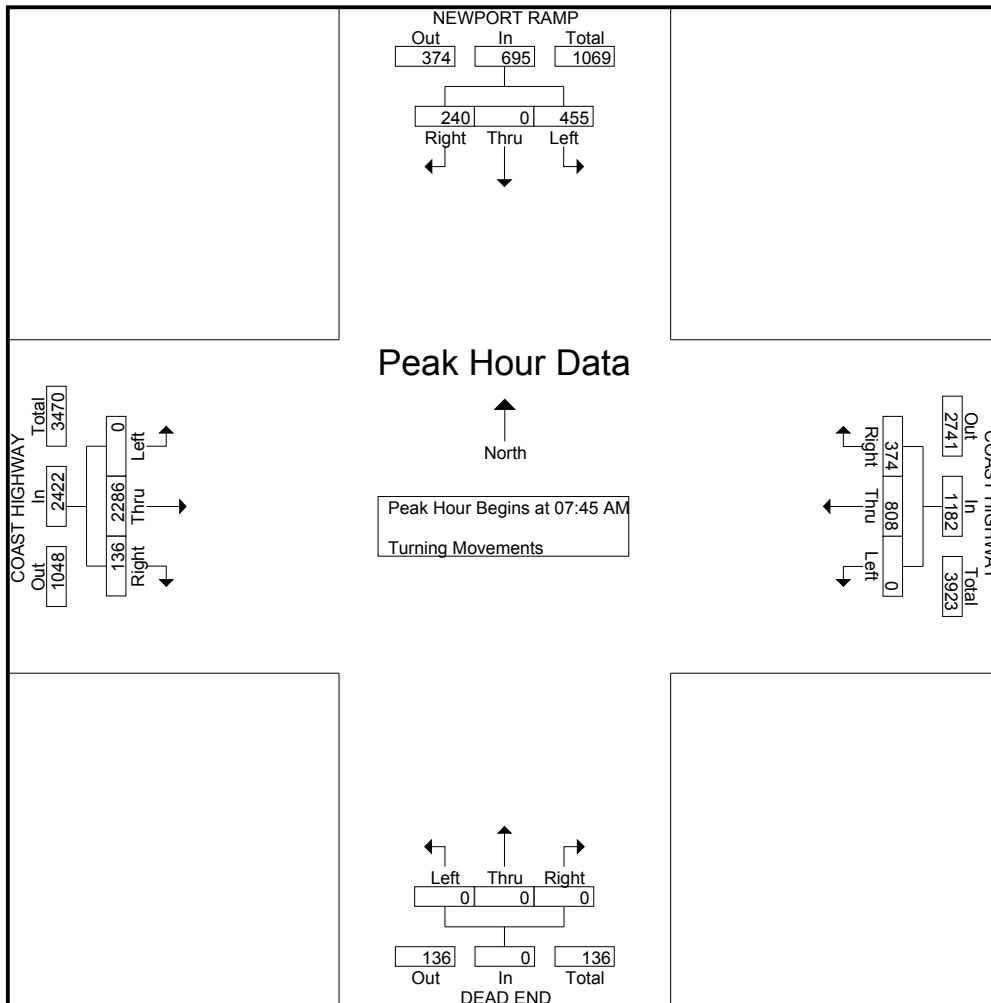
Start Time	NEWPORT RAMP Southbound			COAST HIGHWAY Westbound			DEAD END Northbound			COAST HIGHWAY Eastbound			Int. Total
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
07:00 AM	58	0	60	36	102	0	0	0	0	20	310	0	586
07:15 AM	47	0	77	47	141	0	0	0	0	14	432	0	758
07:30 AM	40	0	80	62	149	0	0	0	0	38	523	0	892
07:45 AM	65	0	122	101	210	0	0	0	0	36	677	0	1211
Total	210	0	339	246	602	0	0	0	0	108	1942	0	3447
08:00 AM	60	0	122	119	216	0	0	0	0	34	540	0	1091
08:15 AM	54	0	112	75	194	0	0	0	0	31	553	0	1019
08:30 AM	61	0	99	79	188	0	0	0	0	35	516	0	978
08:45 AM	62	0	115	90	200	0	0	0	0	34	481	0	982
Total	237	0	448	363	798	0	0	0	0	134	2090	0	4070
*** BREAK ***													
04:30 PM	97	0	138	119	390	0	0	0	0	25	241	0	1010
04:45 PM	66	0	132	142	339	0	0	0	0	21	250	1	951
Total	163	0	270	261	729	0	0	0	0	46	491	1	1961
05:00 PM	93	0	124	141	408	0	0	0	0	20	263	0	1049
05:15 PM	107	0	161	142	533	0	0	0	0	16	340	0	1299
05:30 PM	122	0	160	137	506	0	0	0	0	25	292	0	1242
05:45 PM	82	0	103	178	472	0	0	0	0	28	313	0	1176
Total	404	0	548	598	1919	0	0	0	0	89	1208	0	4766
06:00 PM	84	0	100	154	434	0	0	0	0	27	240	0	1039
06:15 PM	104	0	86	142	405	0	0	0	0	33	255	0	1025
Grand Total	1202	0	1791	1764	4887	0	0	0	0	437	6226	1	16308
Apprch %	40.2	0	59.8	26.5	73.5	0	0	0	0	6.6	93.4	0	
Total %	7.4	0	11	10.8	30	0	0	0	0	2.7	38.2	0	

City: NEWPORT BEACH
 N-S Direction: NEWPORT RAMP
 E-W Direction: COAST HIGHWAY

File Name : H1302014
 Site Code : 00003874
 Start Date : 2/26/2013
 Page No : 2

Start Time	NEWPORT RAMP Southbound				COAST HIGHWAY Westbound				DEAD END Northbound				COAST HIGHWAY Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
07:45 AM	65	0	122	187	101	210	0	311	0	0	0	0	36	677	0	713	1211
08:00 AM	60	0	122	182	119	216	0	335	0	0	0	0	34	540	0	574	1091
08:15 AM	54	0	112	166	75	194	0	269	0	0	0	0	31	553	0	584	1019
08:30 AM	61	0	99	160	79	188	0	267	0	0	0	0	35	516	0	551	978
Total Volume	240	0	455	695	374	808	0	1182	0	0	0	0	136	2286	0	2422	4299
% App. Total	34.5	0	65.5		31.6	68.4	0		0	0	0		5.6	94.4	0		
PHF	.923	.000	.932	.929	.786	.935	.000	.882	.000	.000	.000	.000	.944	.844	.000	.849	.887

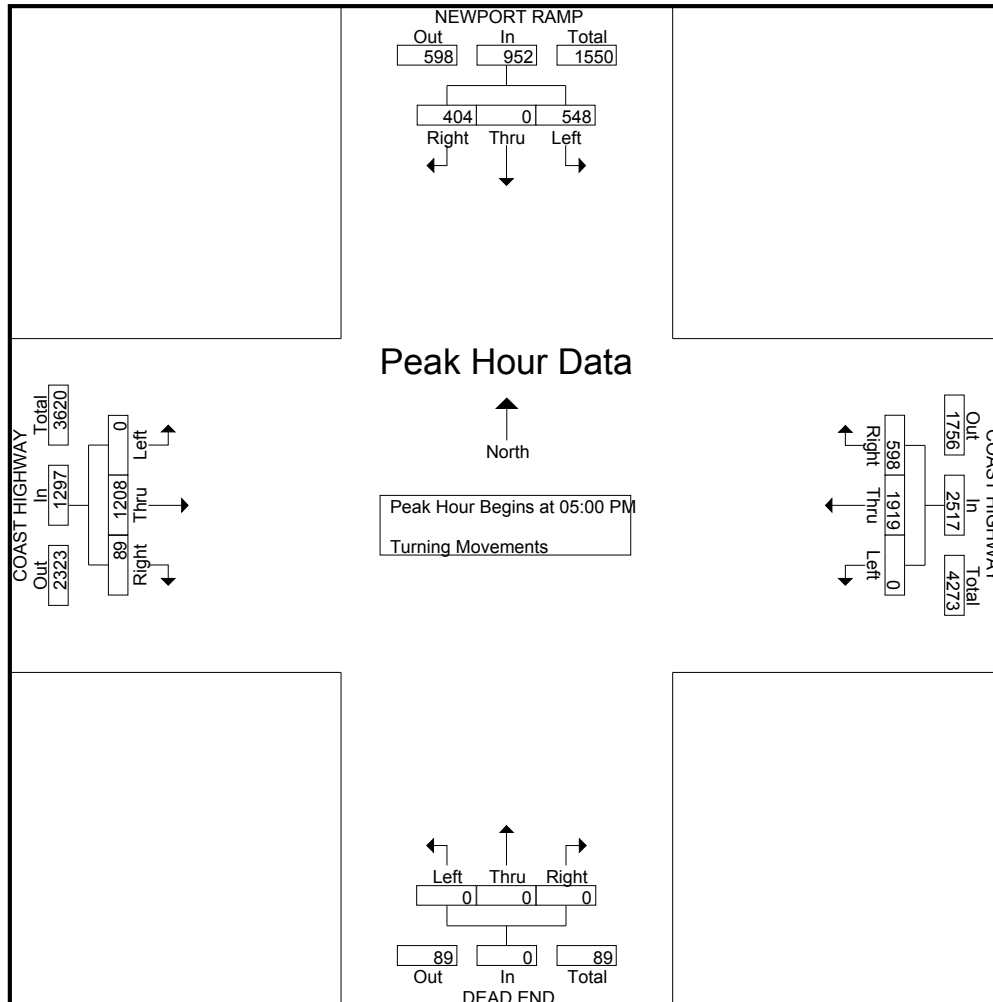
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:45 AM



City: NEWPORT BEACH
 N-S Direction: NEWPORT RAMP
 E-W Direction: COAST HIGHWAY

File Name : H1302014
 Site Code : 00003874
 Start Date : 2/26/2013
 Page No : 3

Start Time	NEWPORT RAMP Southbound				COAST HIGHWAY Westbound				DEAD END Northbound				COAST HIGHWAY Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	93	0	124	217	141	408	0	549	0	0	0	0	20	263	0	283	1049
05:15 PM	107	0	161	268	142	533	0	675	0	0	0	0	16	340	0	356	1299
05:30 PM	122	0	160	282	137	506	0	643	0	0	0	0	25	292	0	317	1242
05:45 PM	82	0	103	185	178	472	0	650	0	0	0	0	28	313	0	341	1176
Total Volume	404	0	548	952	598	1919	0	2517	0	0	0	0	89	1208	0	1297	4766
% App. Total	42.4	0	57.6		23.8	76.2	0		0	0	0		6.9	93.1	0		
PHF	.828	.000	.851	.844	.840	.900	.000	.932	.000	.000	.000	.000	.795	.888	.000	.911	.917



ITM Peak Hour Summary

Prepared by:

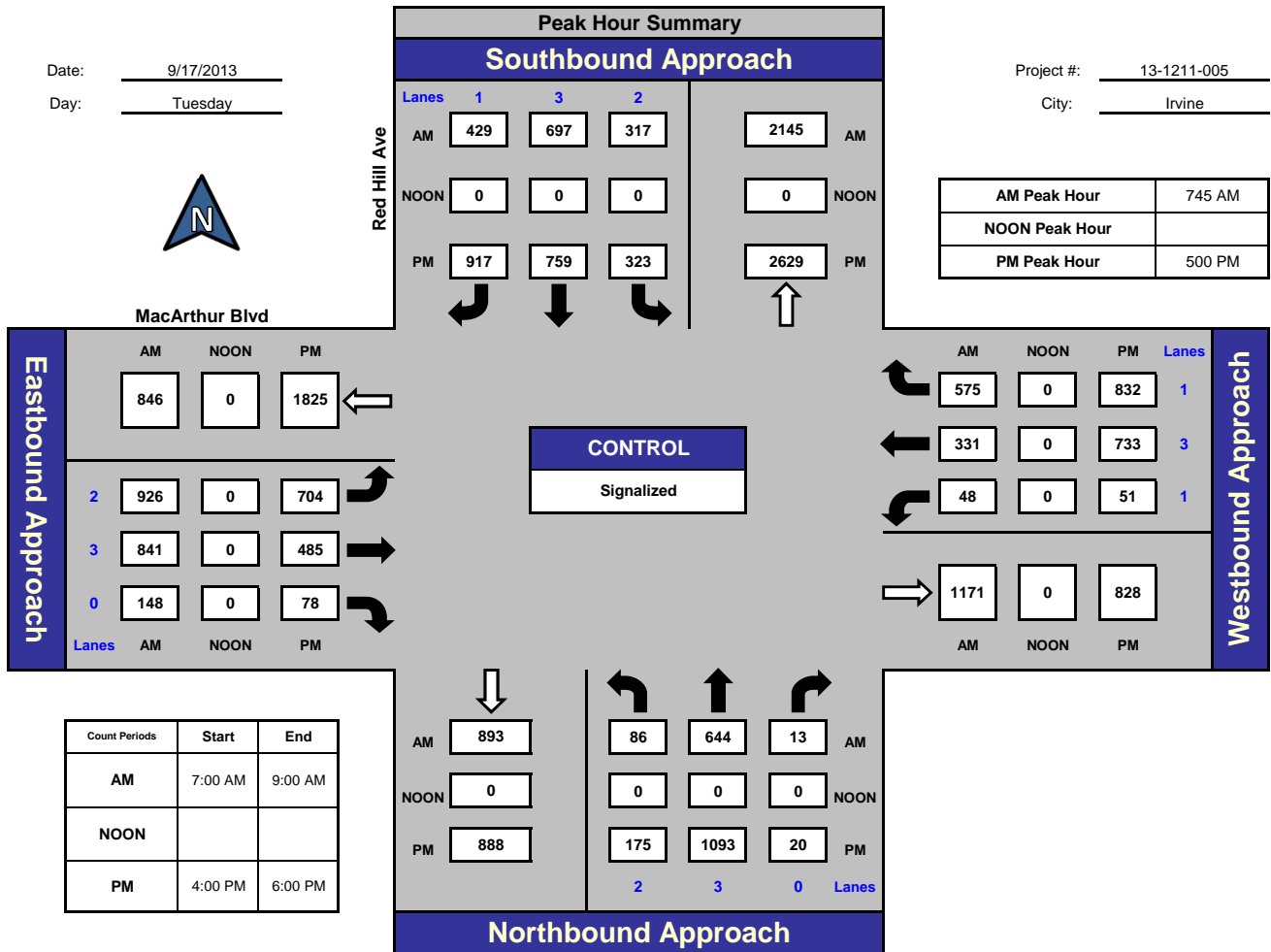


National Data & Surveying Services

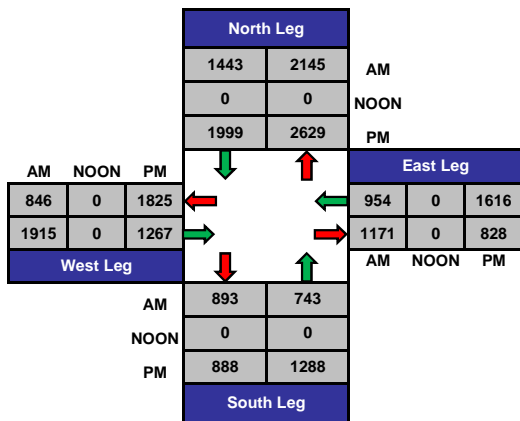
Red Hill Ave and MacArthur Blvd, Irvine

Date: 9/17/2013
Day: Tuesday

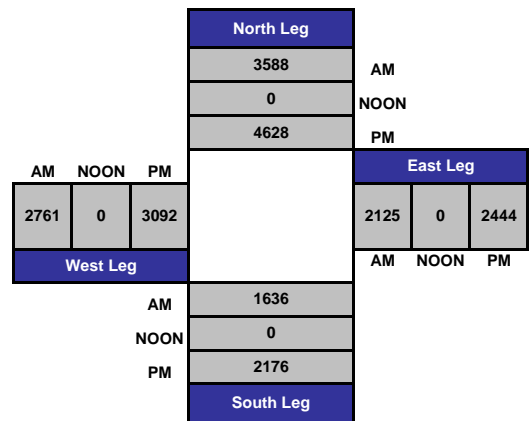
Project #: 13-1211-005
City: Irvine



Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

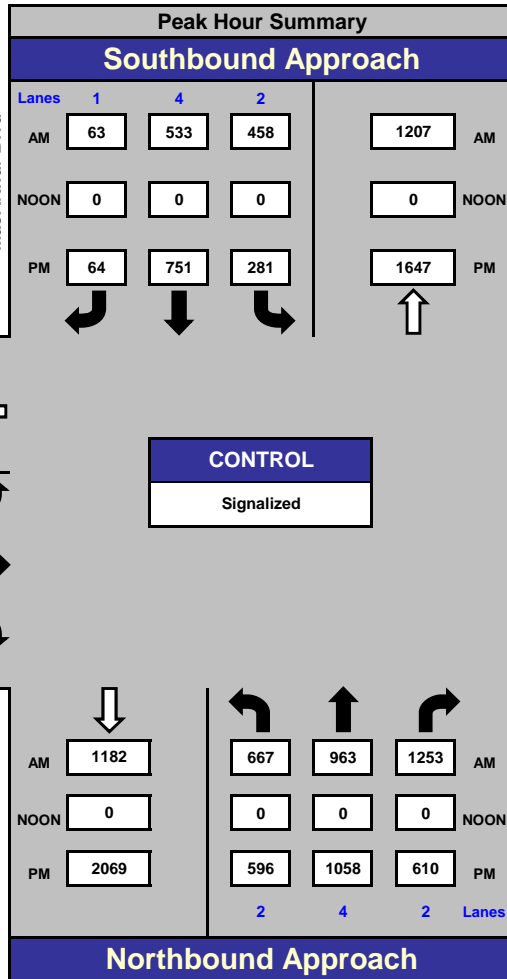
MacArthur Blvd and Main St., Irvine

Date: 9/17/2013

Day: Tuesday

Project #: 13-1211-010

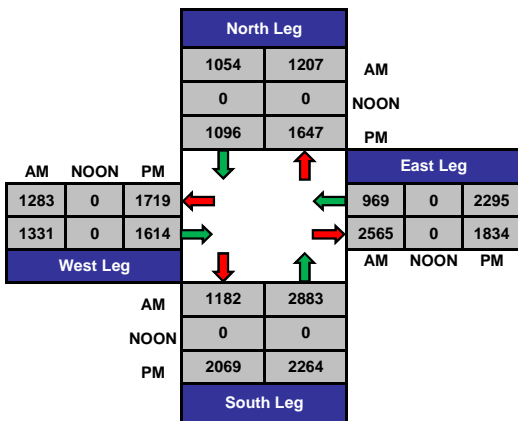
City: Irvine



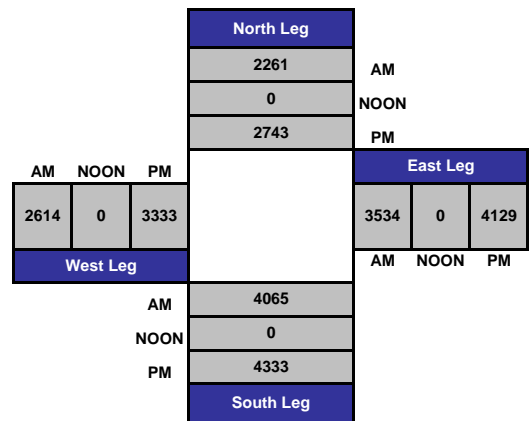
AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

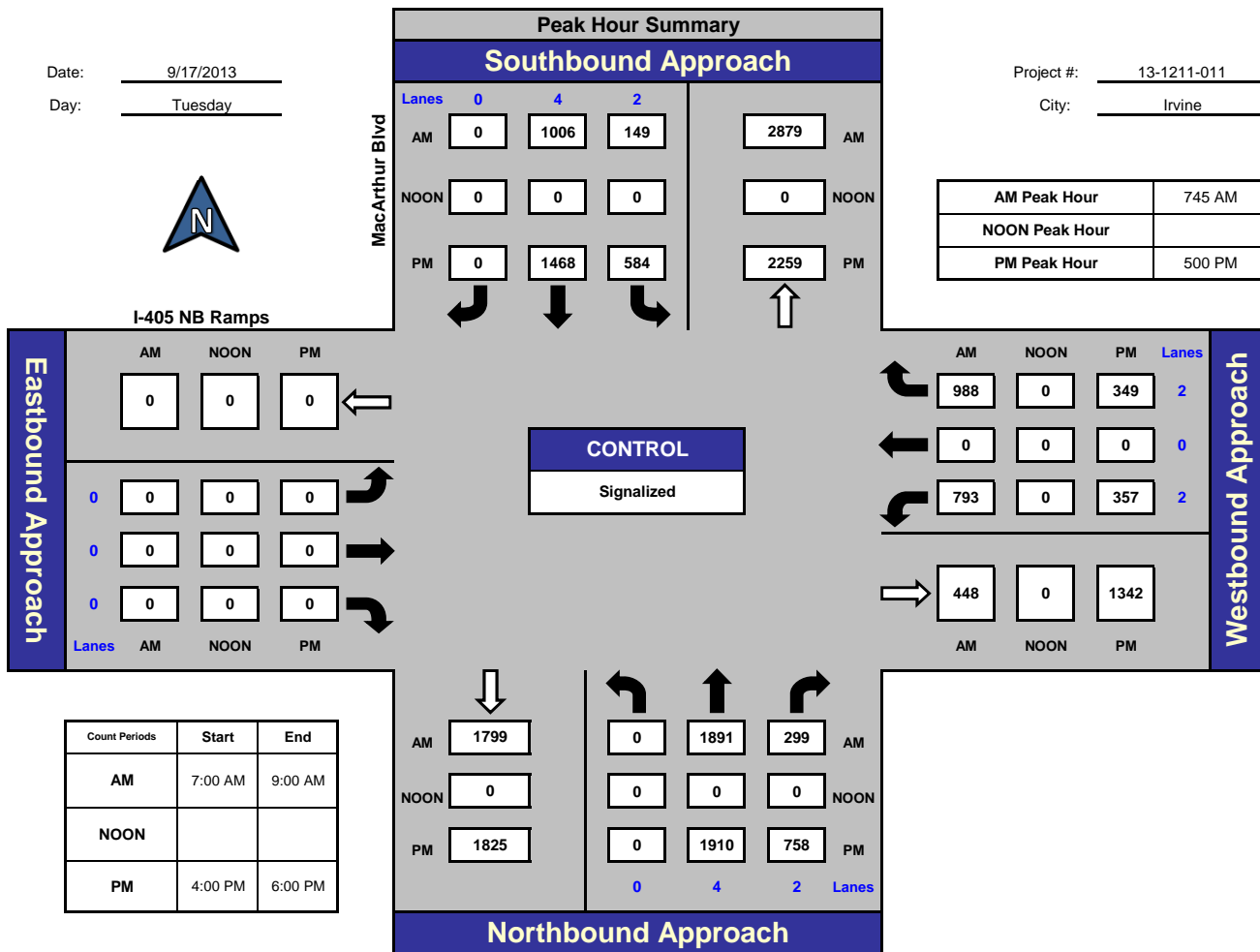


National Data & Surveying Services

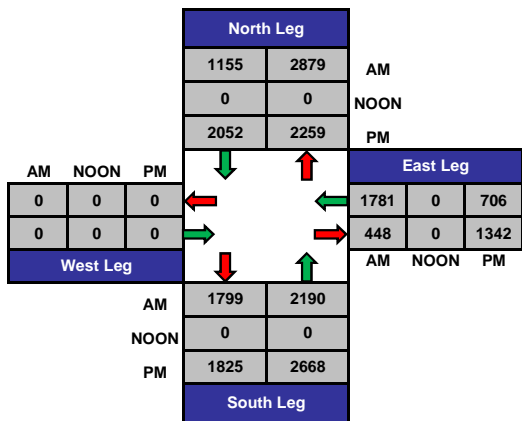
MacArthur Blvd and I-405 NB Ramps , Irvine

Date: 9/17/2013
Day: Tuesday

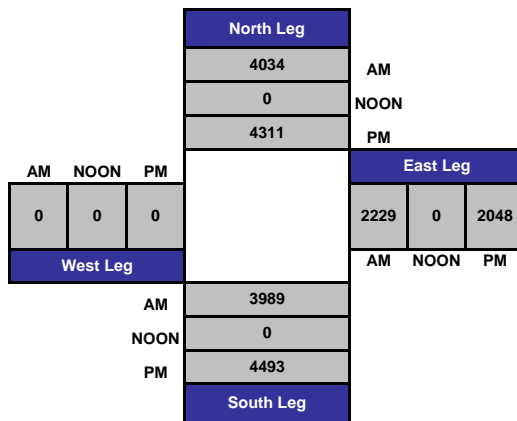
Project #: 13-1211-011
City: Irvine



Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

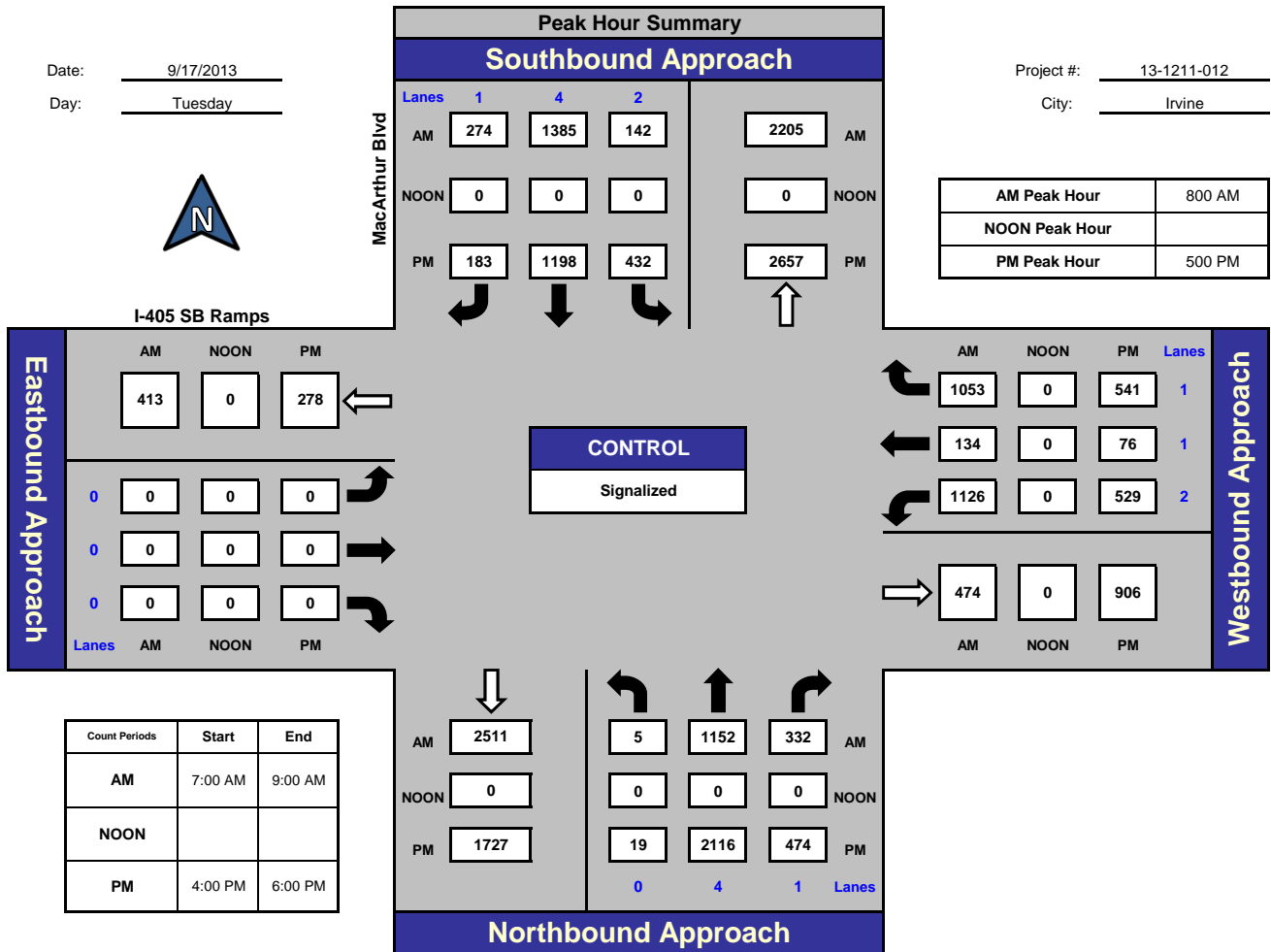


National Data & Surveying Services

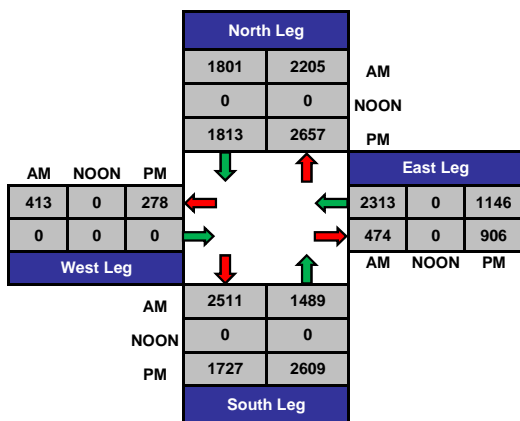
MacArthur Blvd and I-405 SB Ramps , Irvine

Date: 9/17/2013
Day: Tuesday

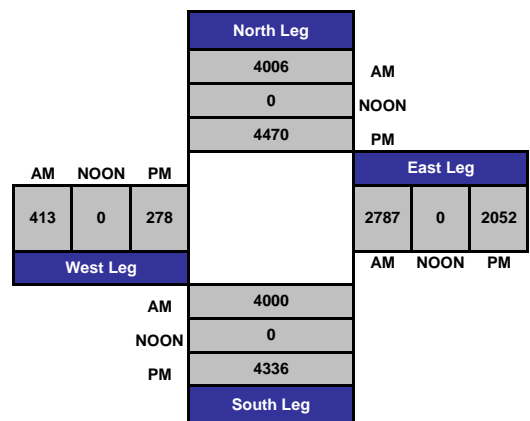
Project #: 13-1211-012
City: Irvine



Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

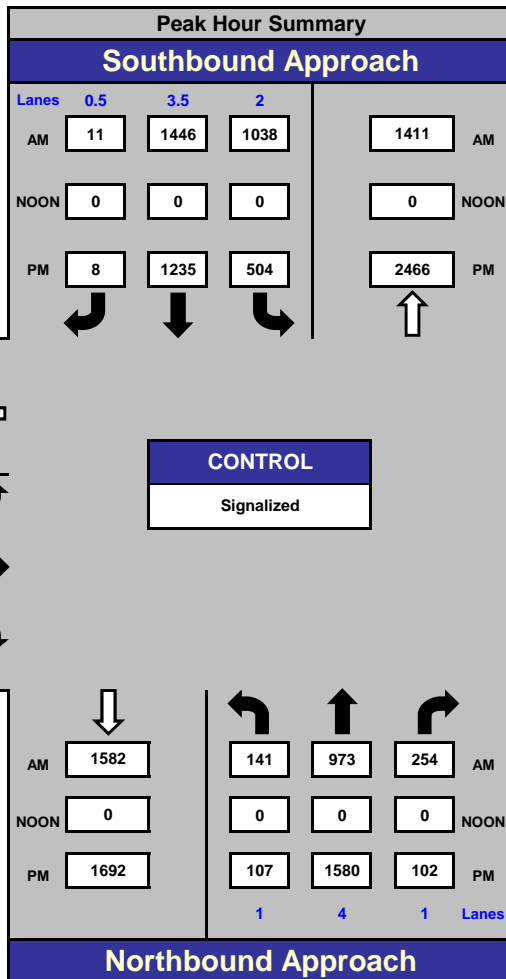


National Data & Surveying Services

MacArthur Blvd and Michelson Dr., Irvine

Date: 9/17/2013
Day: Tuesday

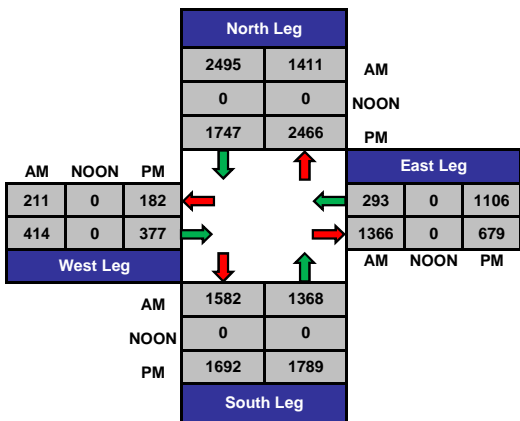
Project #: 13-1211-013
City: Irvine



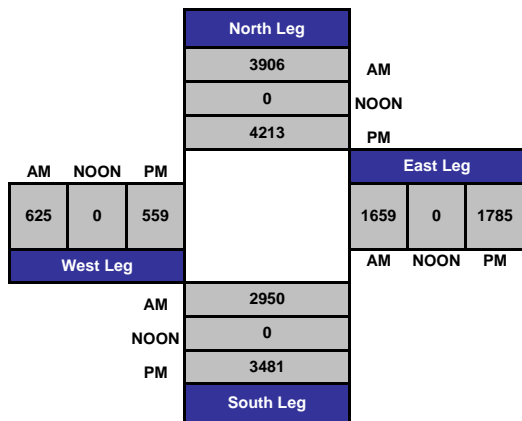
AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

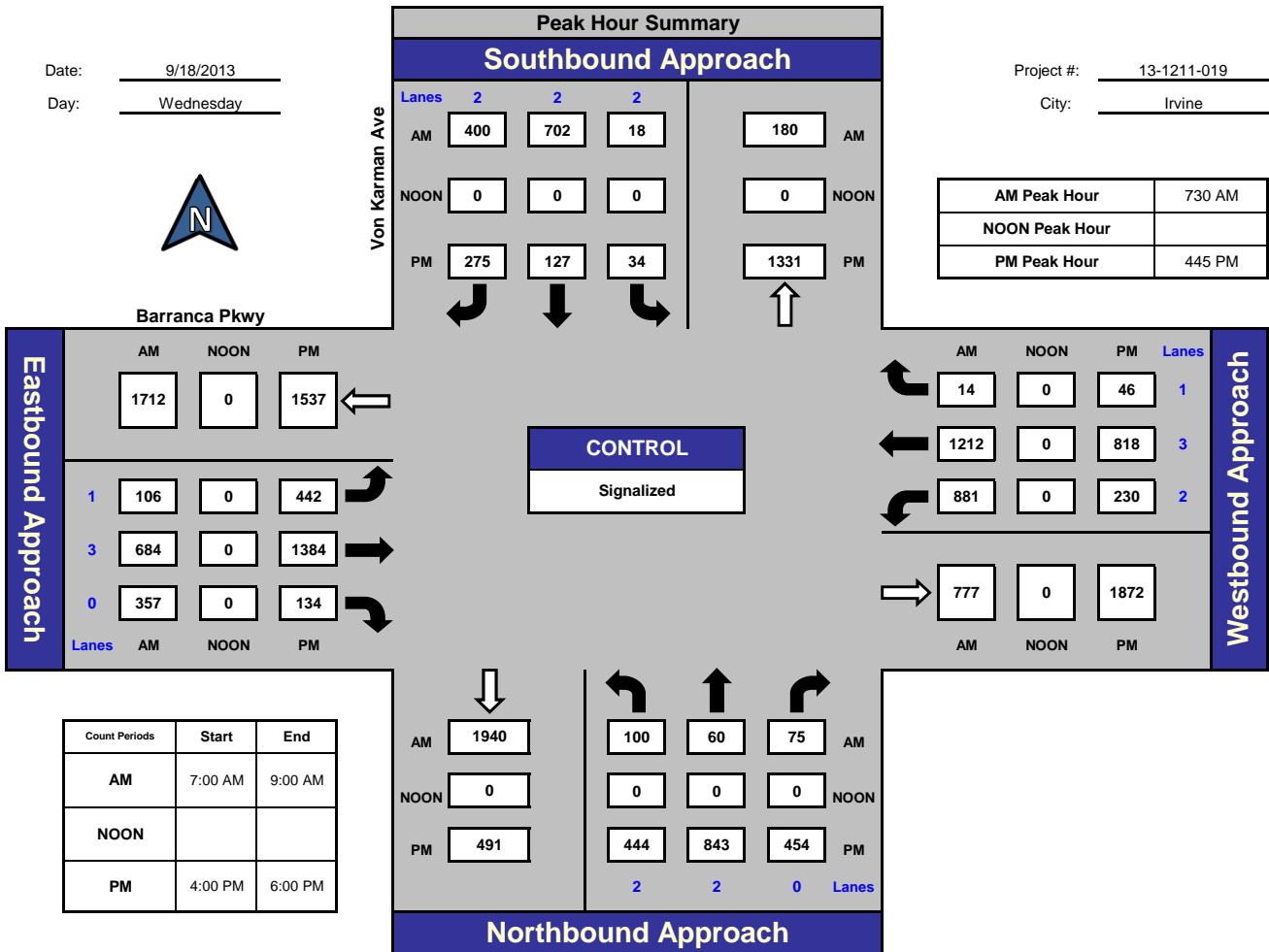


National Data & Surveying Services

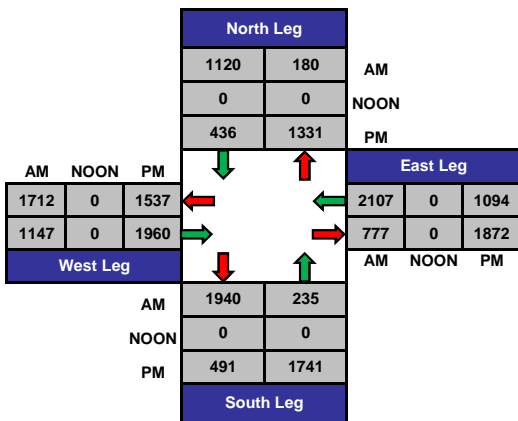
Von Karman Ave and Barranca Pkwy, Irvine

Date: 9/18/2013
Day: Wednesday

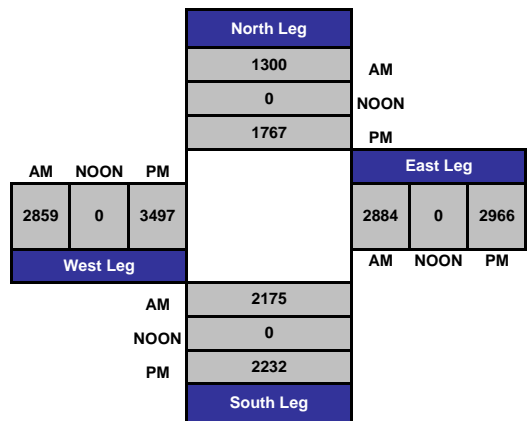
Project #: 13-1211-019
City: Irvine



Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

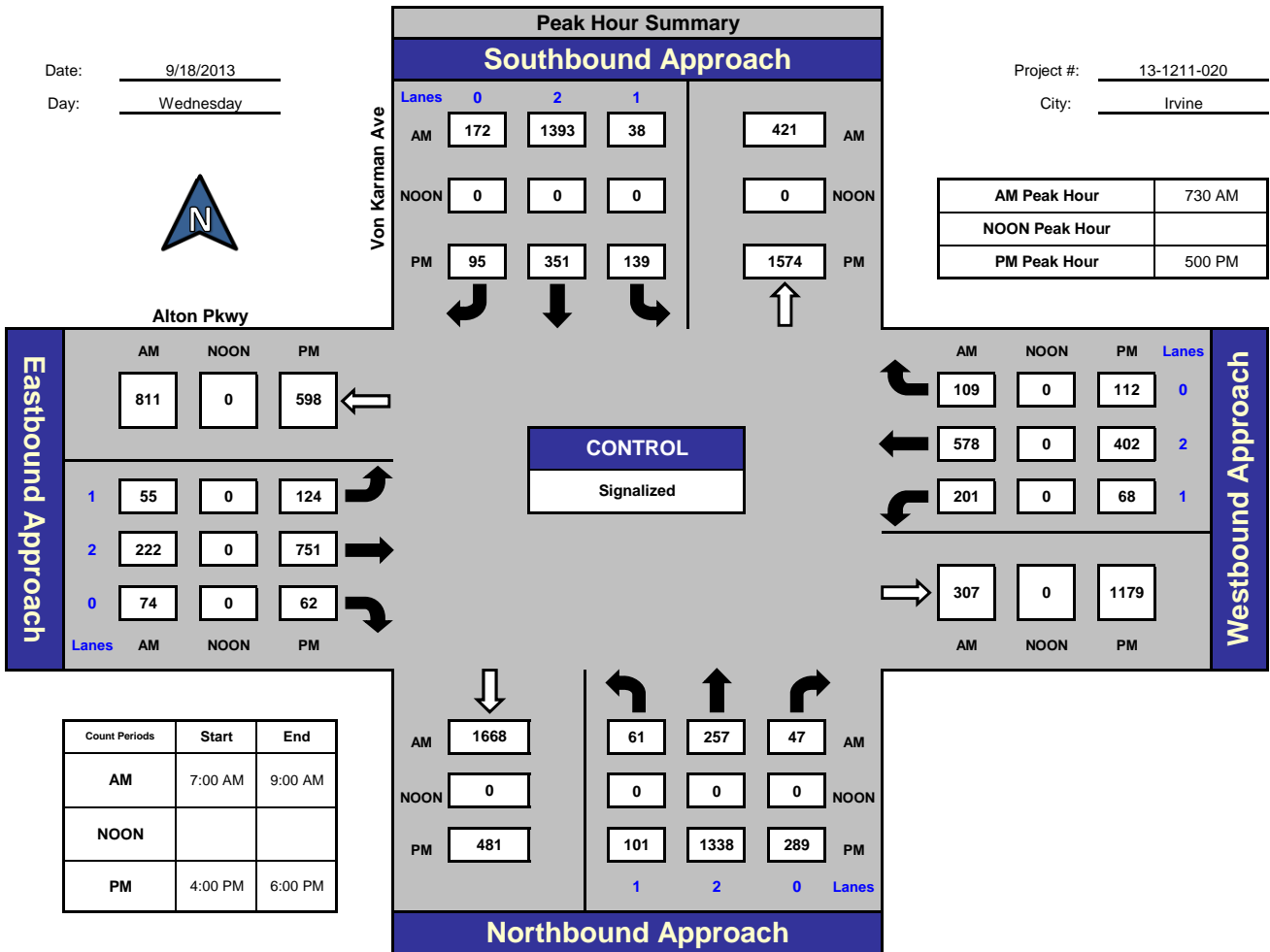


National Data & Surveying Services

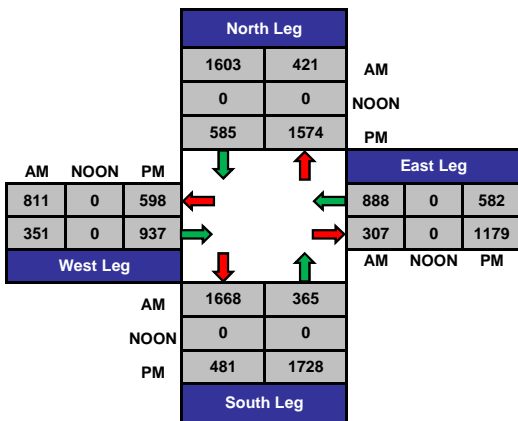
Von Karman Ave and Alton Pkwy, Irvine

Date: 9/18/2013
Day: Wednesday

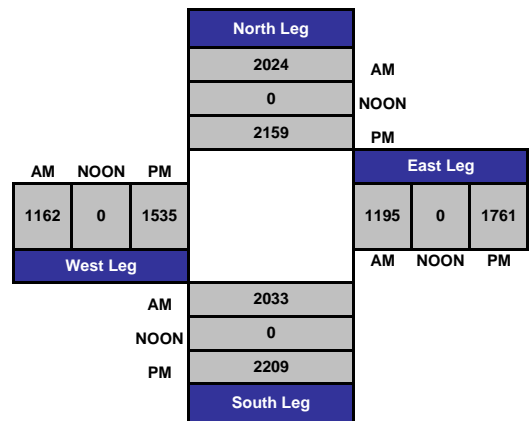
Project #: 13-1211-020
City: Irvine



Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

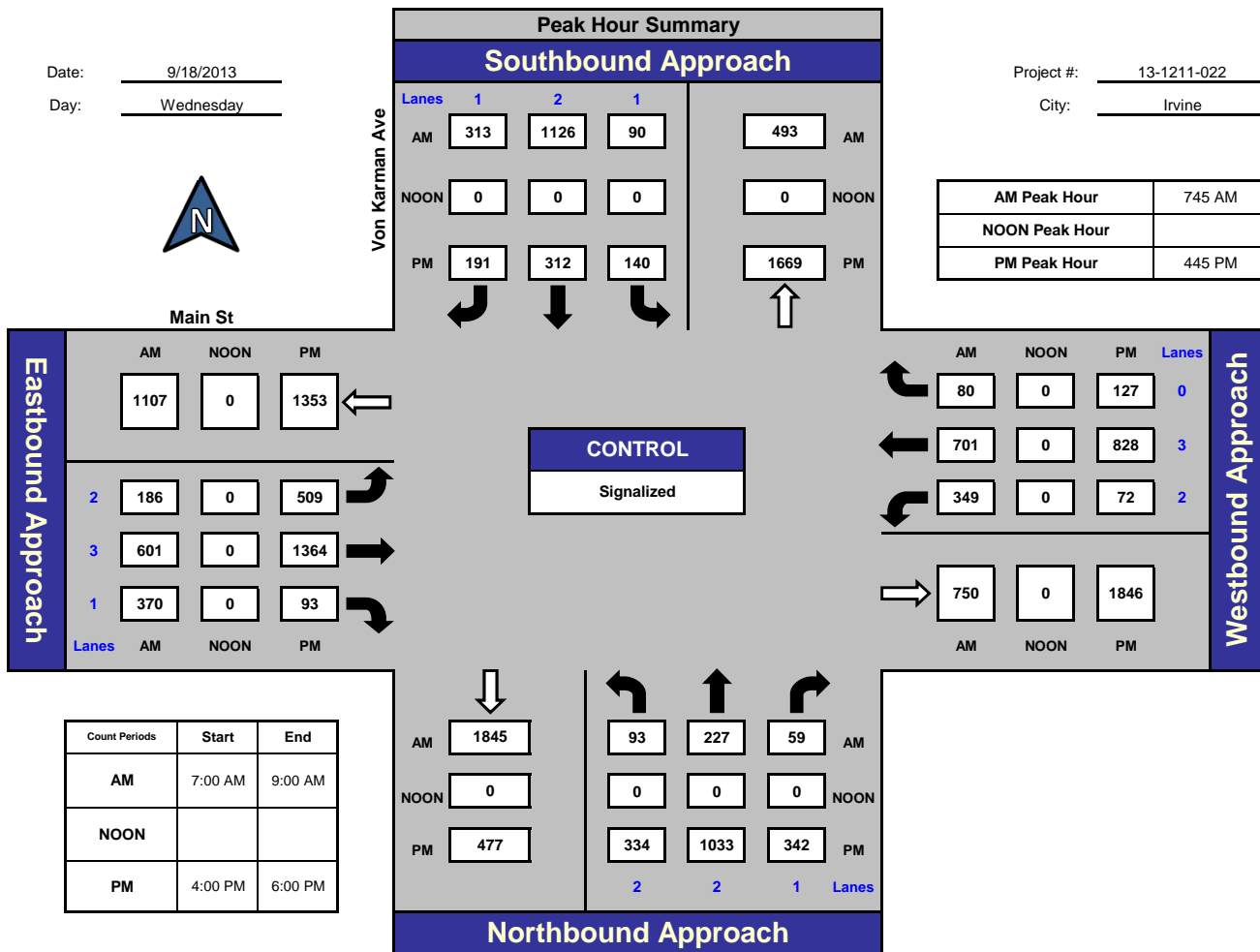


National Data & Surveying Services

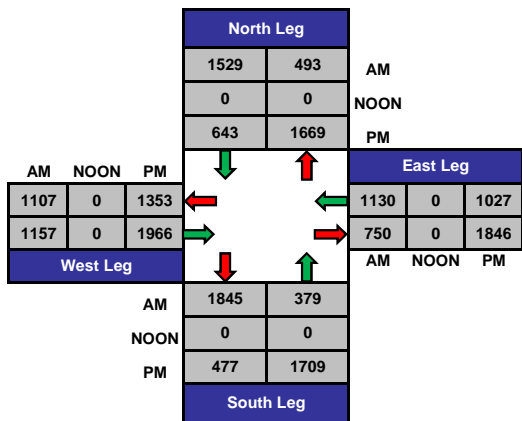
Von Karman Ave and Main St, Irvine

Date: 9/18/2013
Day: Wednesday

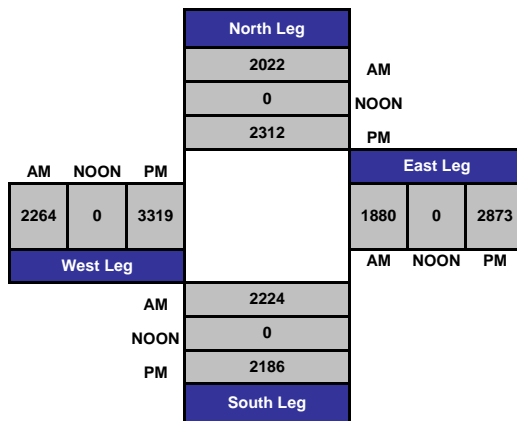
Project #: 13-1211-022
City: Irvine



Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

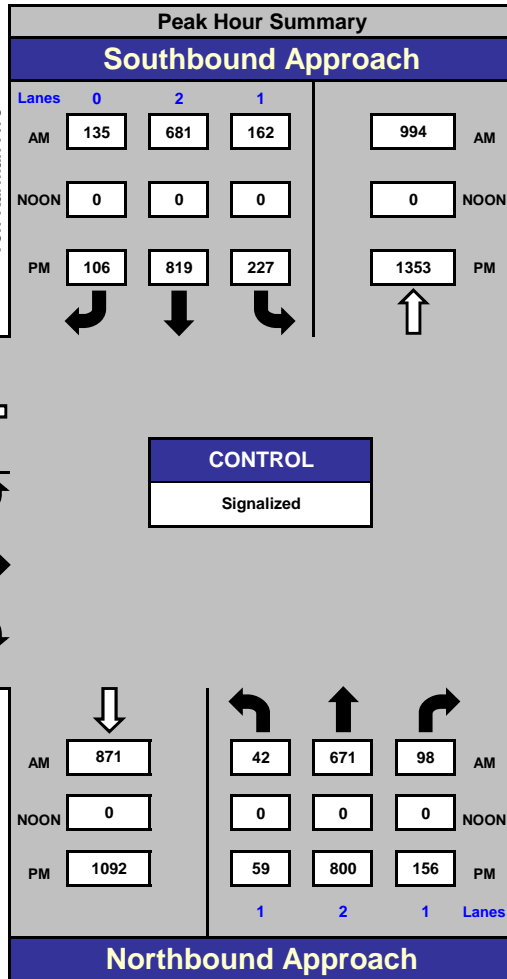


National Data & Surveying Services

Von Karman Ave and Michelson Dr, Irvine

Date: 9/18/2013
Day: Wednesday

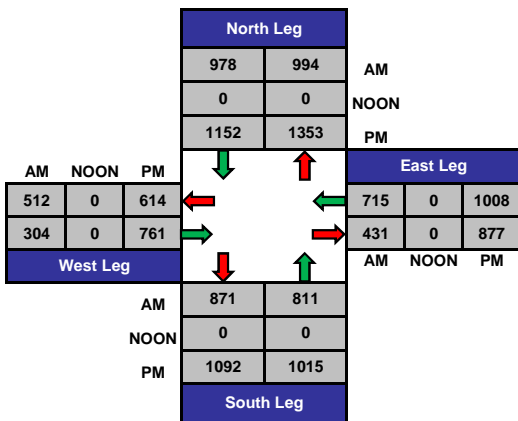
Project #: 13-1211-025
City: Irvine



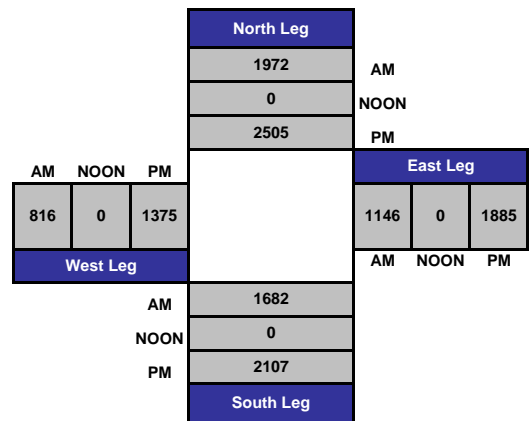
AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

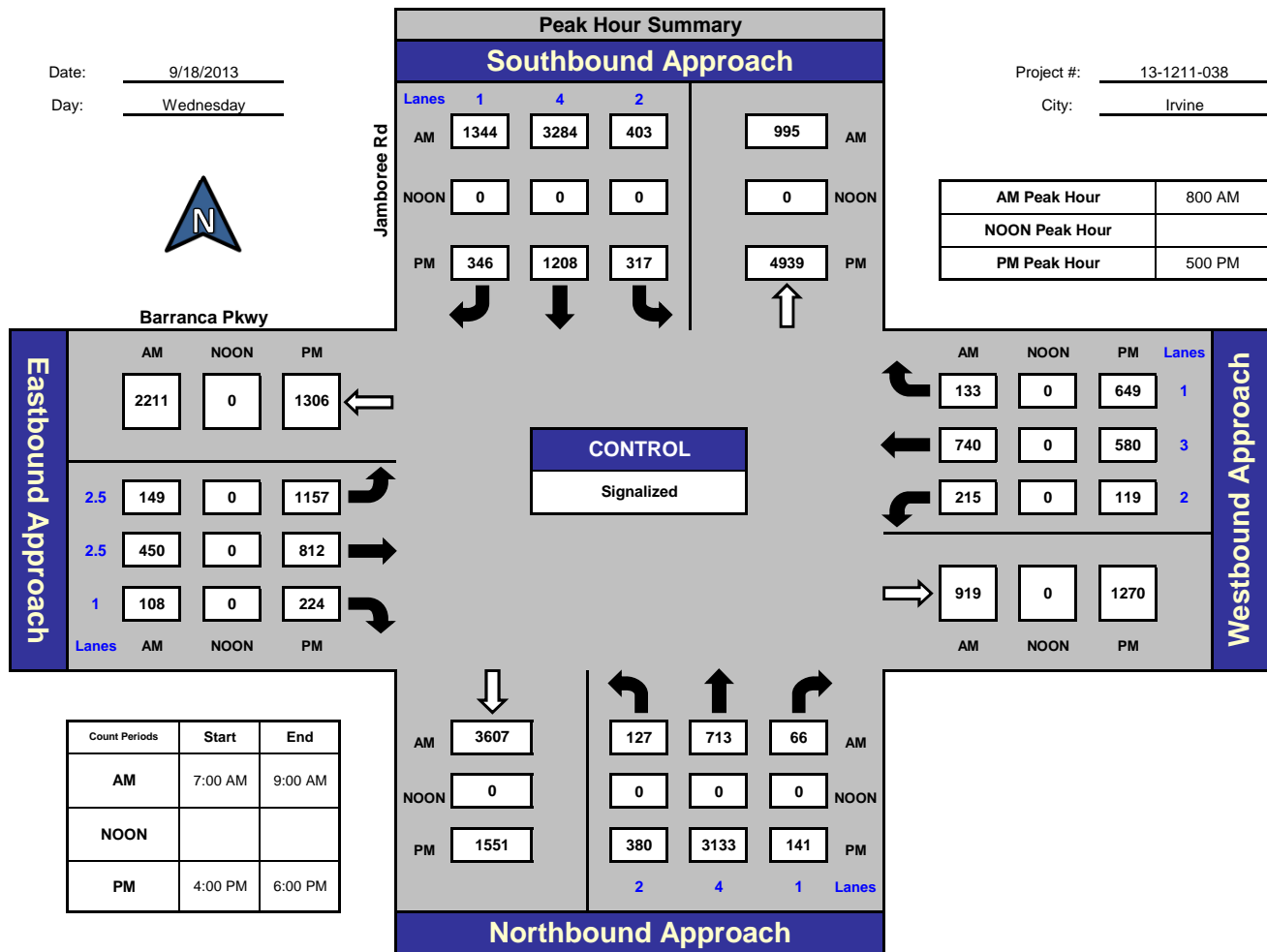


National Data & Surveying Services

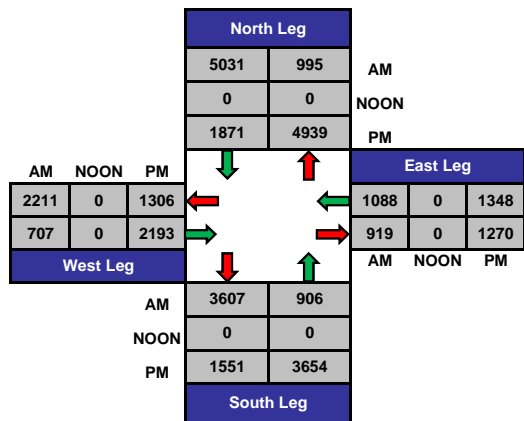
Jamboree Rd and Barranca Pkwy, Irvine

Date: 9/18/2013
Day: Wednesday

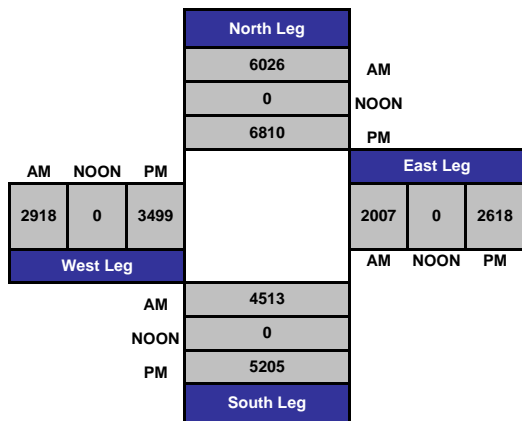
Project #: 13-1211-038
City: Irvine



Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

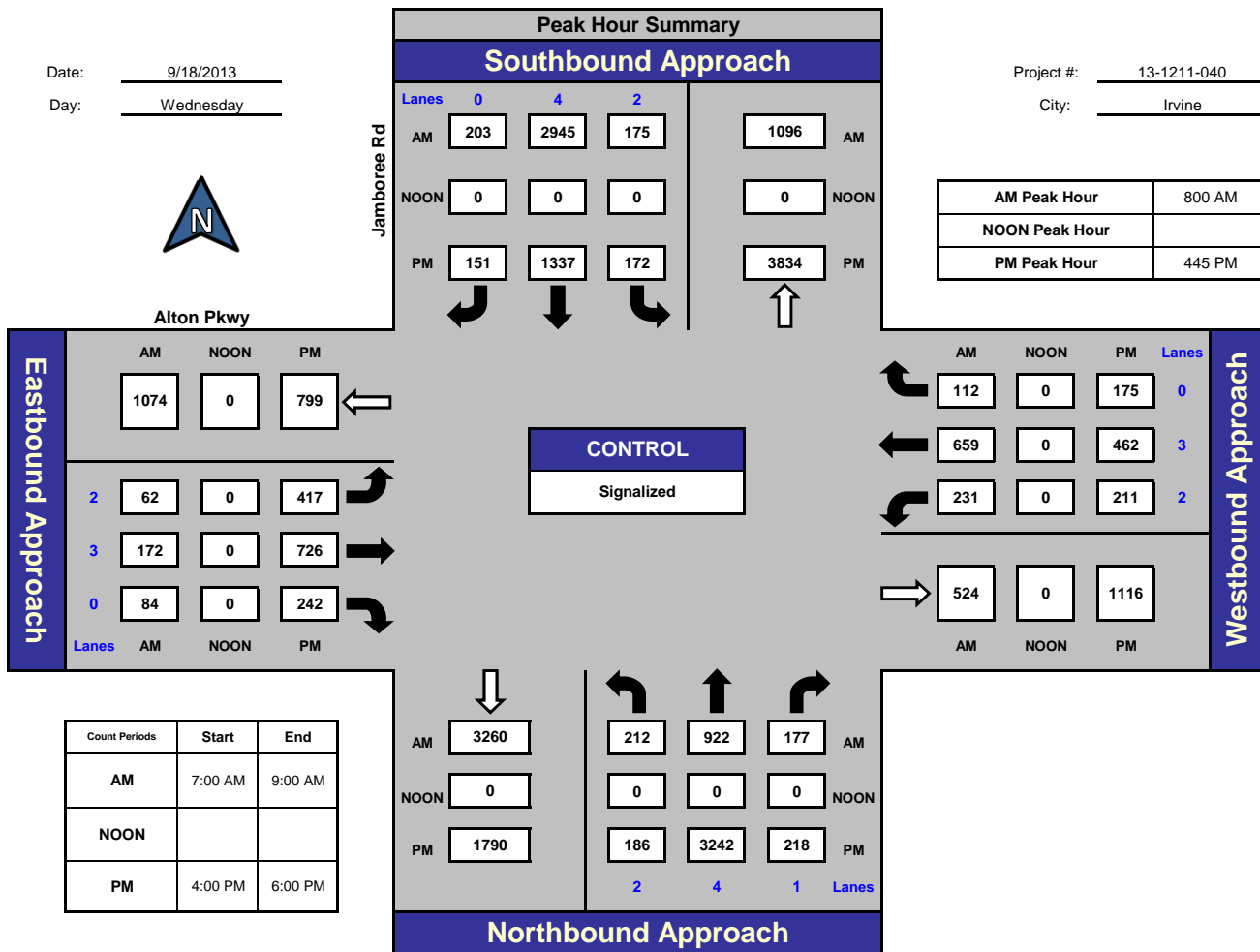


National Data & Surveying Services

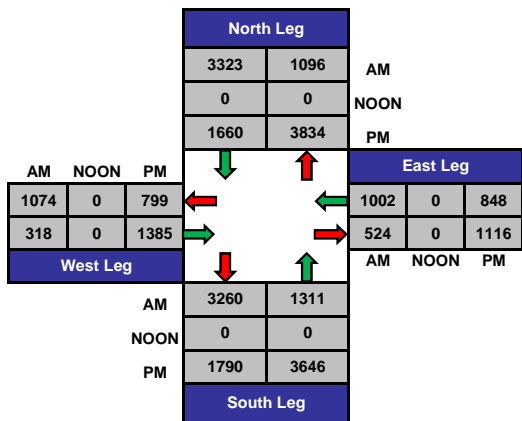
Jamboree Rd and Alton Pkwy, Irvine

Date: 9/18/2013
Day: Wednesday

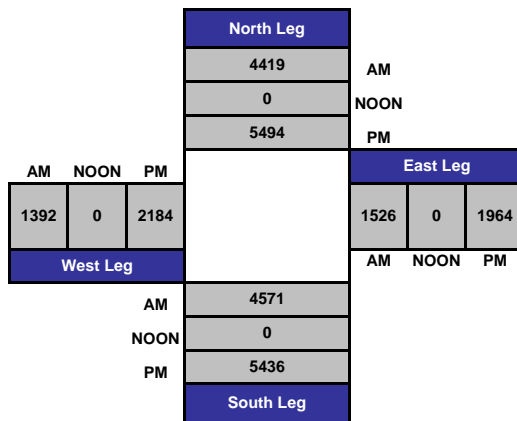
Project #: 13-1211-040
City: Irvine



Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

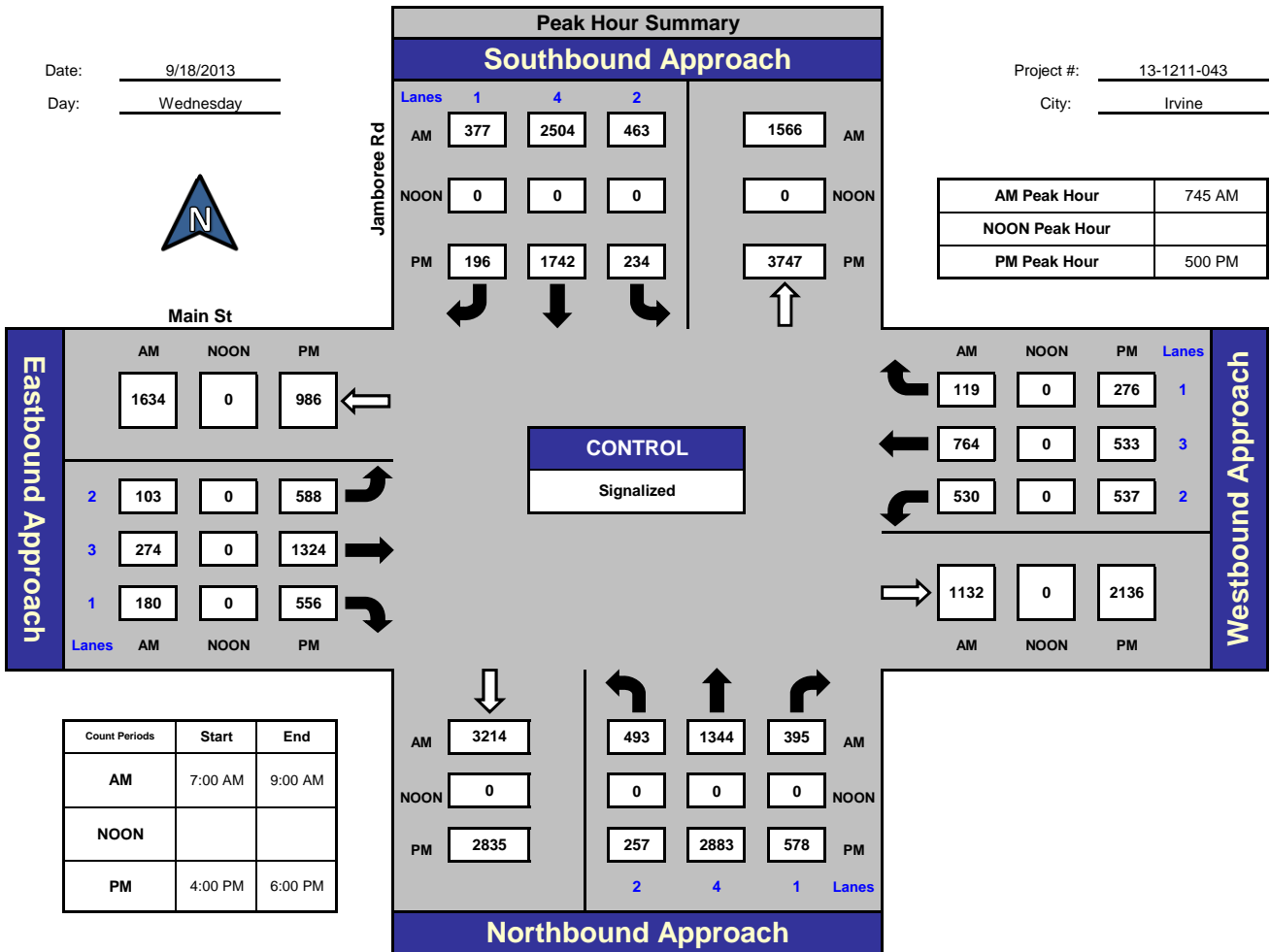


National Data & Surveying Services

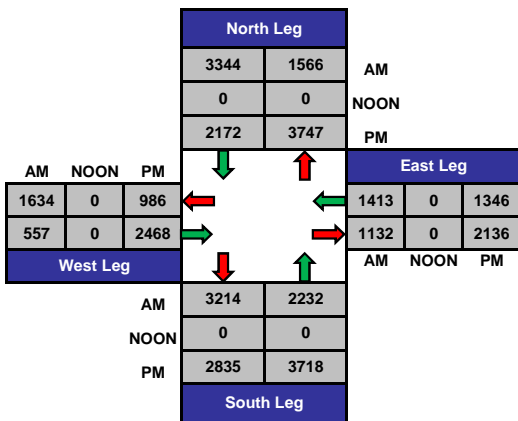
Jamboree Rd and Main St, Irvine

Date: 9/18/2013
Day: Wednesday

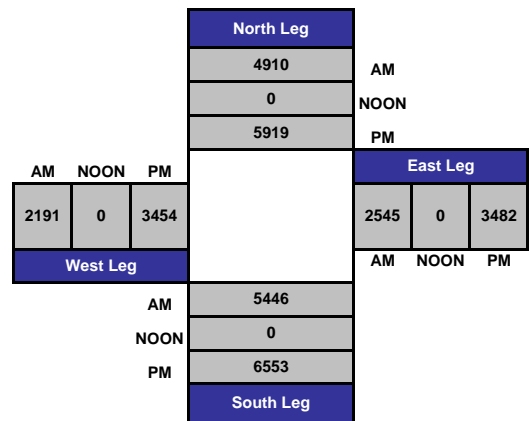
Project #: 13-1211-043
City: Irvine



Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

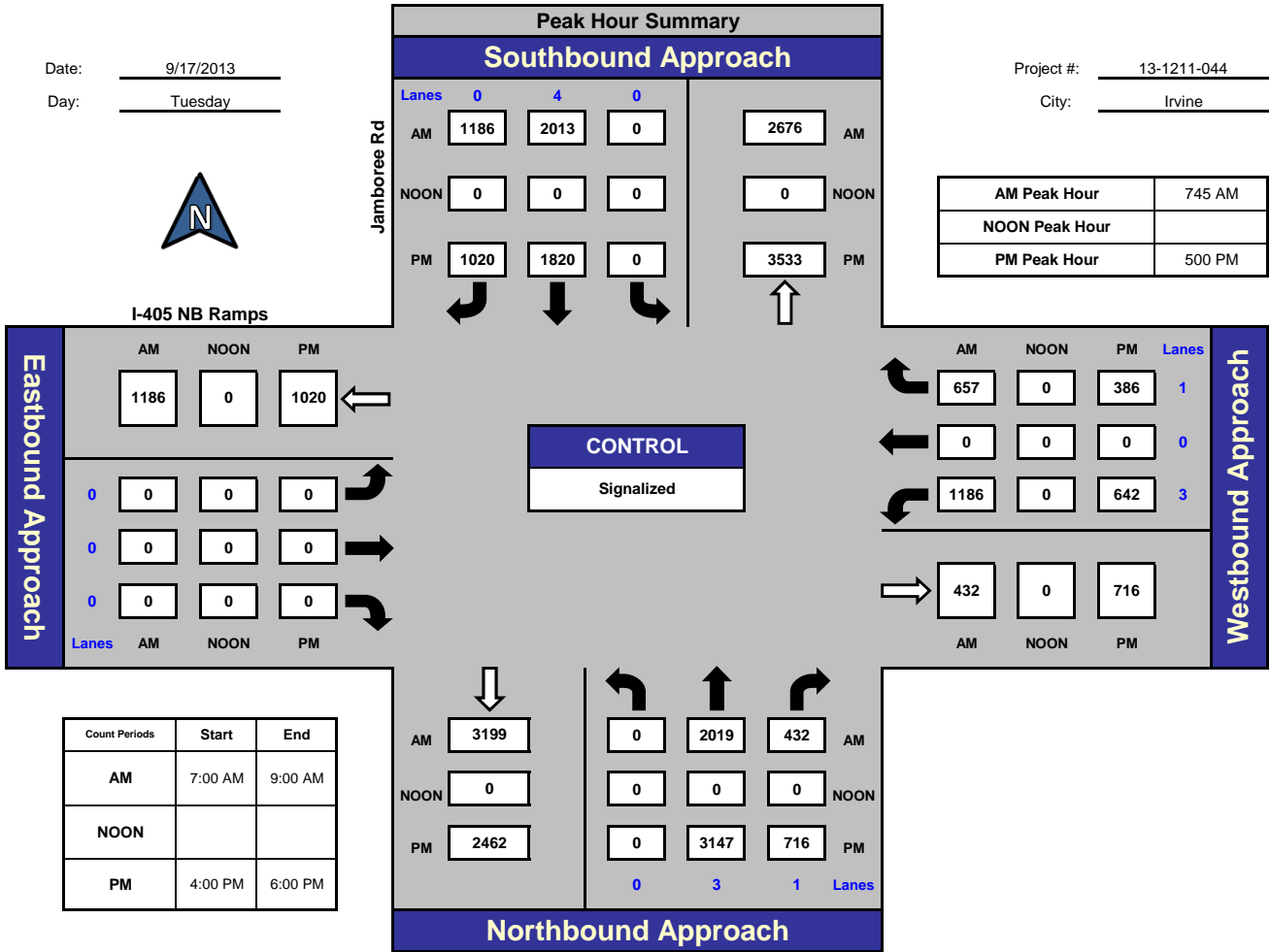
Jamboree Rd and I-405 NB Ramps , Irvine

Date: 9/17/2013

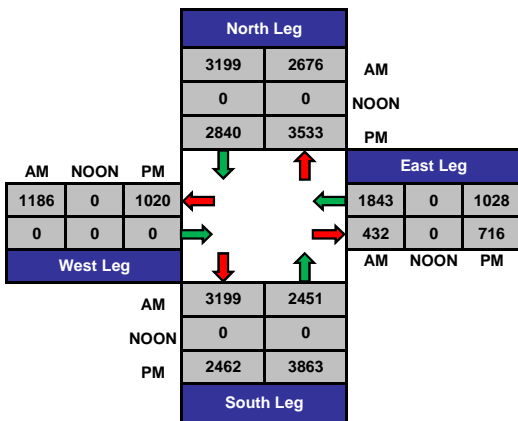
Day: Tuesday

Project #: 13-1211-044

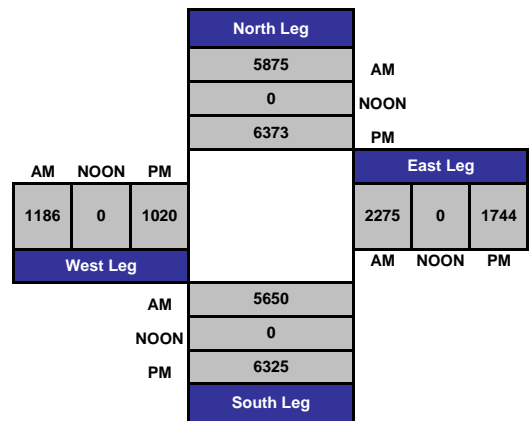
City: Irvine



Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

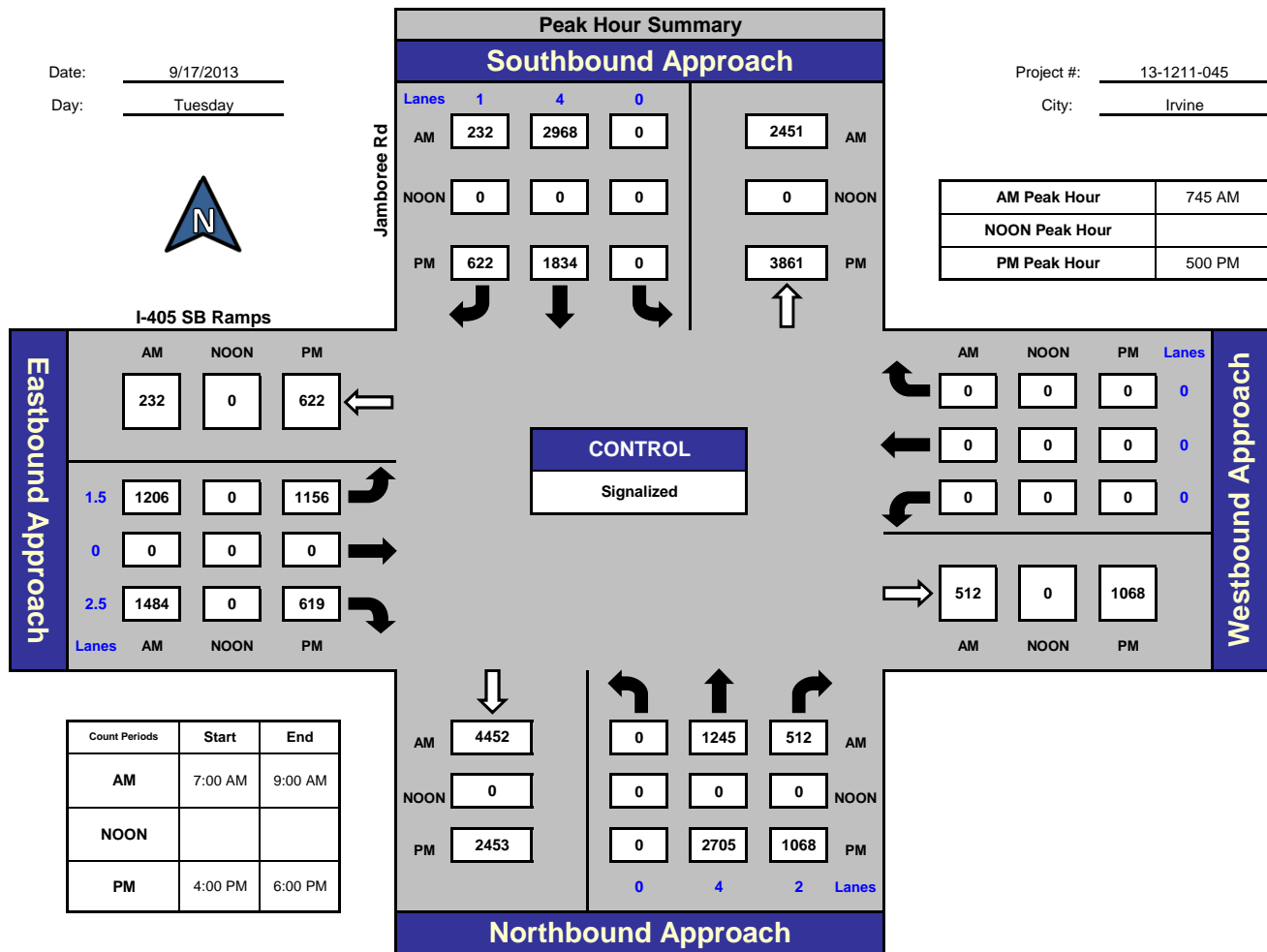


National Data & Surveying Services

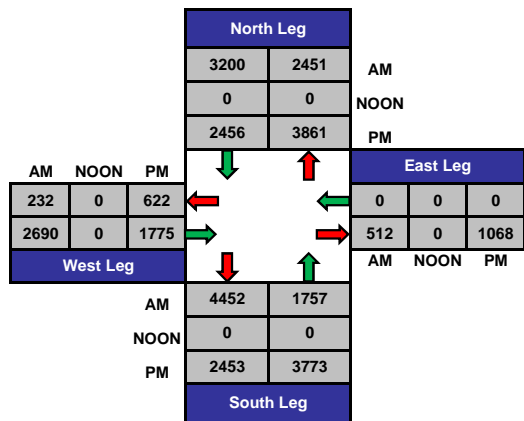
Jamboree Rd and I-405 SB Ramps , Irvine

Date: 9/17/2013
Day: Tuesday

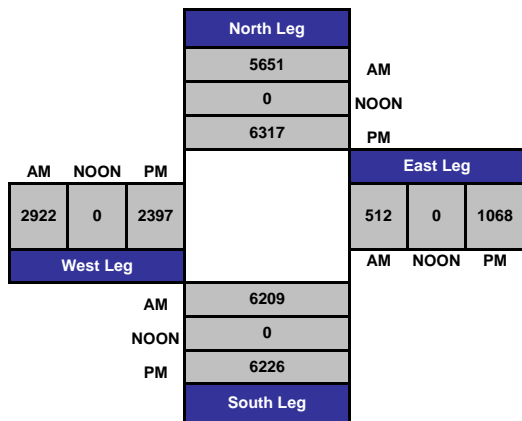
Project #: 13-1211-045
City: Irvine



Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

Jamboree Rd and Michelson Dr, Irvine

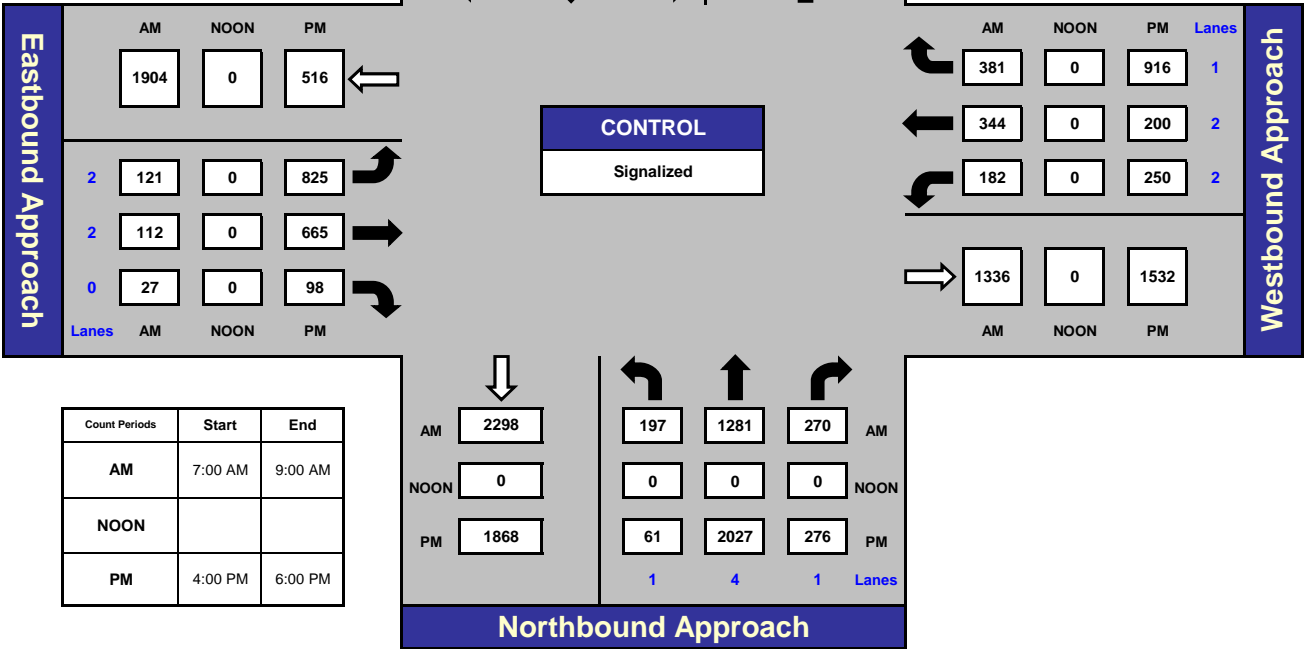
Date: 9/17/2013
Day: Tuesday

Project #: 13-1211-046
City: Irvine



Michelson Dr

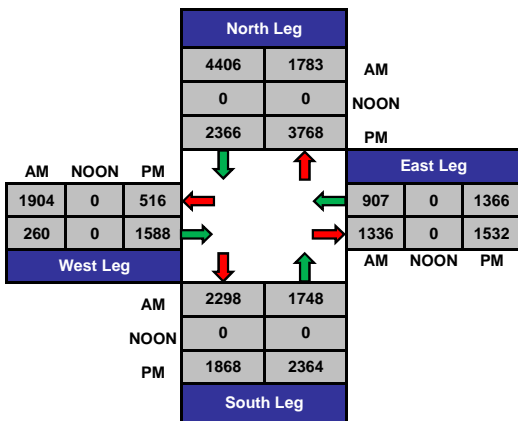
Jamboree Rd



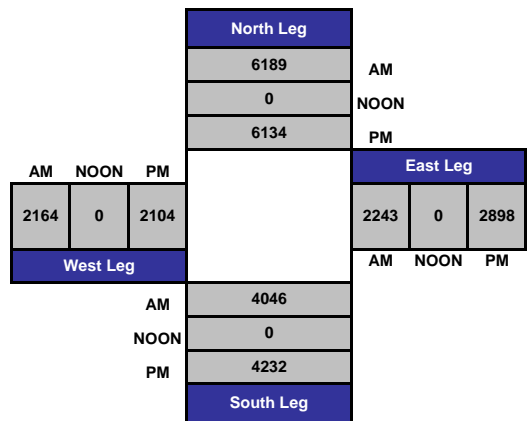
AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



City of Irvine
 N/S: Carlson Avenue
 E/W: Michelson Drive
 Weather: Clear

File Name : IRVCAMIAM
 Site Code : 05113464
 Start Date : 11/14/2013
 Page No : 1

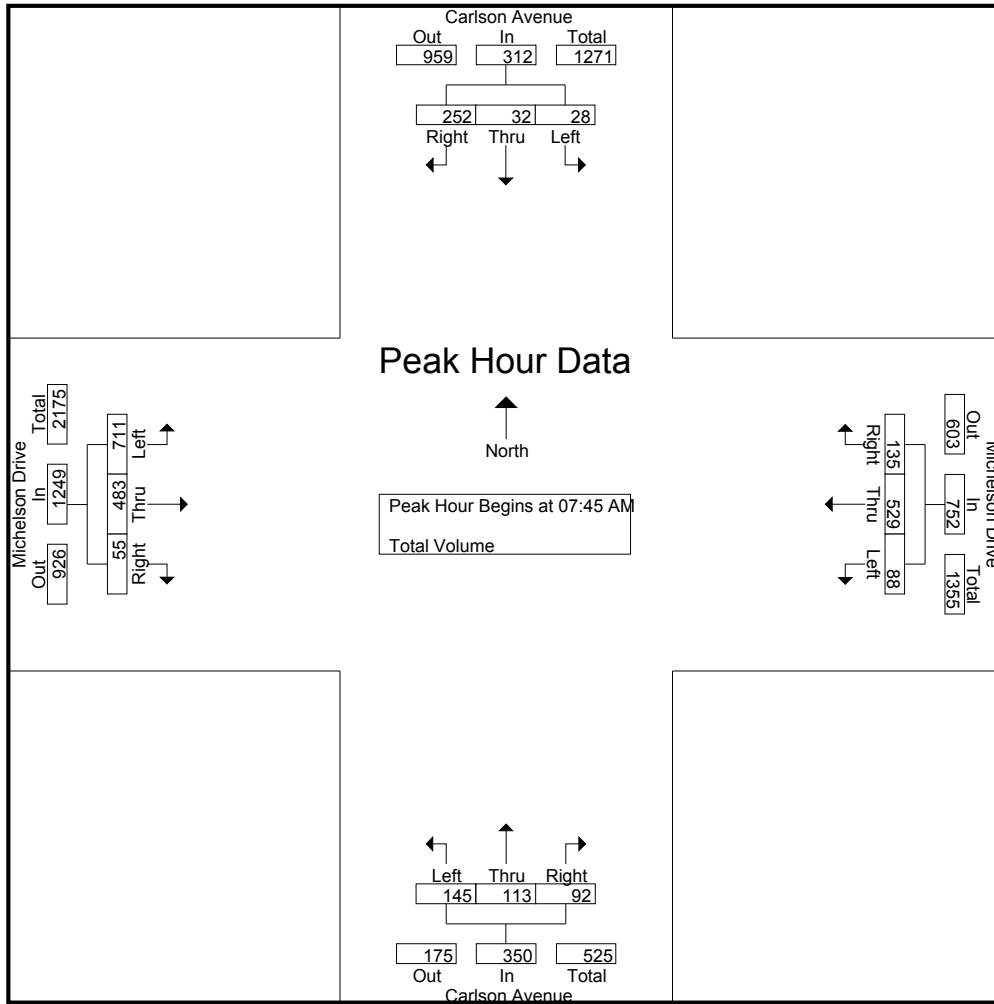
Groups Printed- Total Volume

Start Time	Carlson Avenue Southbound				Michelson Drive Westbound				Carlson Avenue Northbound				Michelson Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	6	1	39	46	12	48	14	74	26	14	14	54	137	112	6	255	429
07:15 AM	6	4	51	61	13	66	14	93	29	14	6	49	161	119	16	296	499
07:30 AM	7	7	43	57	9	99	26	134	36	15	23	74	172	145	18	335	600
07:45 AM	6	10	52	68	16	135	26	177	44	32	28	104	176	123	14	313	662
Total	25	22	185	232	50	348	80	478	135	75	71	281	646	499	54	1199	2190
08:00 AM	7	3	66	76	23	114	45	182	36	23	24	83	183	123	17	323	664
08:15 AM	6	6	76	88	29	145	22	196	37	29	20	86	178	117	12	307	677
08:30 AM	9	13	58	80	20	135	42	197	28	29	20	77	174	120	12	306	660
08:45 AM	10	6	53	69	19	115	29	163	32	24	34	90	183	125	18	326	648
Total	32	28	253	313	91	509	138	738	133	105	98	336	718	485	59	1262	2649
Grand Total	57	50	438	545	141	857	218	1216	268	180	169	617	1364	984	113	2461	4839
Apprch %	10.5	9.2	80.4		11.6	70.5	17.9		43.4	29.2	27.4		55.4	40	4.6		
Total %	1.2	1	9.1	11.3	2.9	17.7	4.5	25.1	5.5	3.7	3.5	12.8	28.2	20.3	2.3	50.9	

Start Time	Carlson Avenue Southbound				Michelson Drive Westbound				Carlson Avenue Northbound				Michelson Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	6	10	52	68	16	135	26	177	44	32	28	104	176	123	14	313	662
08:00 AM	7	3	66	76	23	114	45	182	36	23	24	83	183	123	17	323	664
08:15 AM	6	6	76	88	29	145	22	196	37	29	20	86	178	117	12	307	677
08:30 AM	9	13	58	80	20	135	42	197	28	29	20	77	174	120	12	306	660
Total Volume	28	32	252	312	88	529	135	752	145	113	92	350	711	483	55	1249	2663
% App. Total	9	10.3	80.8		11.7	70.3	18		41.4	32.3	26.3		56.9	38.7	4.4		
PHF	.778	.615	.829	.886	.759	.912	.750	.954	.824	.883	.821	.841	.971	.982	.809	.967	.983

City of Irvine
 N/S: Carlson Avenue
 E/W: Michelson Drive
 Weather: Clear

File Name : IRVCAMIAM
 Site Code : 05113464
 Start Date : 11/14/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				07:45 AM				07:30 AM			
+0 mins.	7	3	66	76	16	135	26	177	44	32	28	104	172	145	18	335
+15 mins.	6	6	76	88	23	114	45	182	36	23	24	83	176	123	14	313
+30 mins.	9	13	58	80	29	145	22	196	37	29	20	86	183	123	17	323
+45 mins.	10	6	53	69	20	135	42	197	28	29	20	77	178	117	12	307
Total Volume	32	28	253	313	88	529	135	752	145	113	92	350	709	508	61	1278
% App. Total	10.2	8.9	80.8		11.7	70.3	18		41.4	32.3	26.3		55.5	39.7	4.8	
PHF	.800	.538	.832	.889	.759	.912	.750	.954	.824	.883	.821	.841	.969	.876	.847	.954

City of Irvine
 N/S: Carlson Avenue
 E/W: Michelson Drive
 Weather: Clear

File Name : IRVCAMIPM
 Site Code : 05113464
 Start Date : 11/14/2013
 Page No : 1

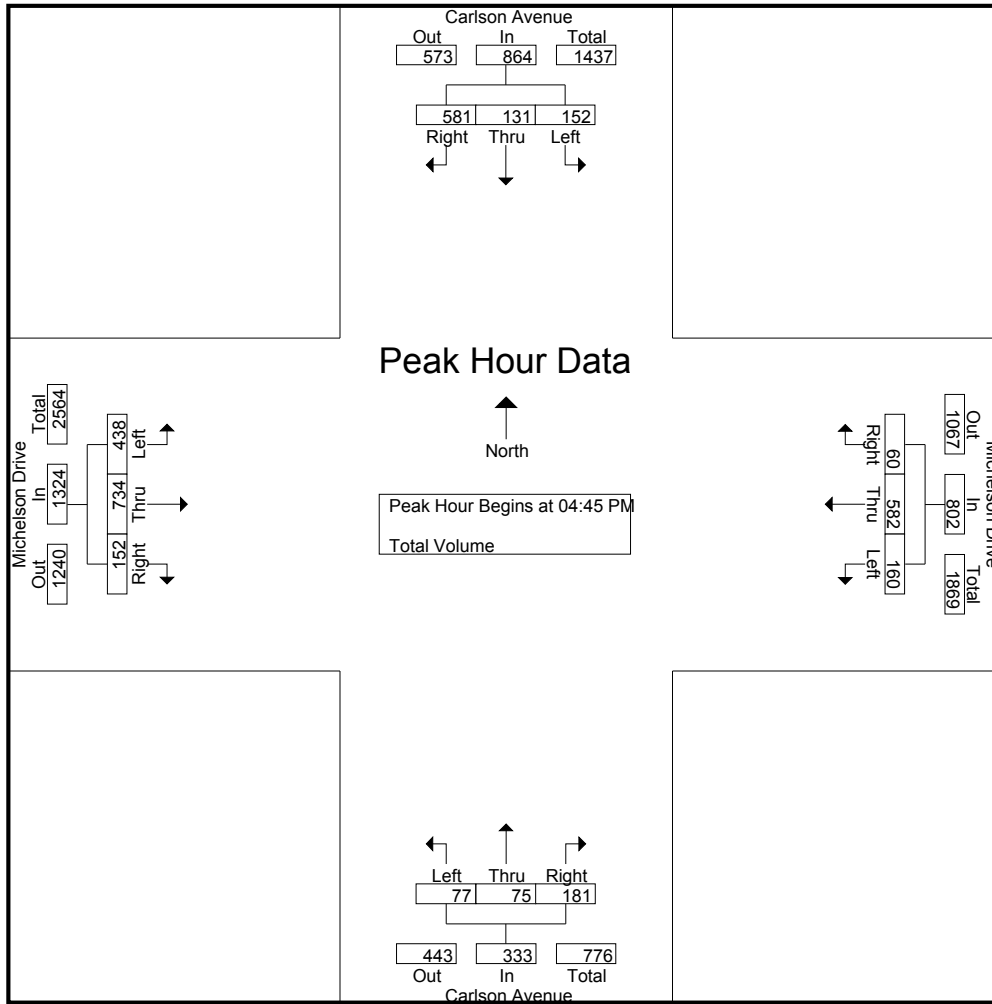
Groups Printed- Total Volume

Start Time	Carlson Avenue Southbound				Michelson Drive Westbound				Carlson Avenue Northbound				Michelson Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	21	21	182	224	25	162	25	212	21	15	24	60	71	109	27	207	703
04:15 PM	29	20	103	152	30	124	19	173	12	11	24	47	83	107	35	225	597
04:30 PM	18	24	143	185	34	185	20	239	14	21	34	69	106	122	32	260	753
04:45 PM	42	31	137	210	36	162	20	218	19	12	18	49	110	144	36	290	767
Total	110	96	565	771	125	633	84	842	66	59	100	225	370	482	130	982	2820
05:00 PM	32	36	189	257	33	167	24	224	22	17	47	86	95	191	46	332	899
05:15 PM	44	27	129	200	45	134	11	190	16	26	55	97	119	188	29	336	823
05:30 PM	34	37	126	197	46	119	5	170	20	20	61	101	114	211	41	366	834
05:45 PM	32	28	113	173	44	132	7	183	16	14	47	77	98	202	32	332	765
Total	142	128	557	827	168	552	47	767	74	77	210	361	426	792	148	1366	3321
06:00 PM	22	22	113	157	38	117	21	176	20	11	32	63	98	169	39	306	702
06:15 PM	42	31	148	221	35	111	13	159	9	21	23	53	82	118	48	248	681
Grand Total	316	277	1383	1976	366	1413	165	1944	169	168	365	702	976	1561	365	2902	7524
Apprch %	16	14	70		18.8	72.7	8.5		24.1	23.9	52		33.6	53.8	12.6		
Total %	4.2	3.7	18.4	26.3	4.9	18.8	2.2	25.8	2.2	2.2	4.9	9.3	13	20.7	4.9	38.6	

Start Time	Carlson Avenue Southbound				Michelson Drive Westbound				Carlson Avenue Northbound				Michelson Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	42	31	137	210	36	162	20	218	19	12	18	49	110	144	36	290	767
05:00 PM	32	36	189	257	33	167	24	224	22	17	47	86	95	191	46	332	899
05:15 PM	44	27	129	200	45	134	11	190	16	26	55	97	119	188	29	336	823
05:30 PM	34	37	126	197	46	119	5	170	20	20	61	101	114	211	41	366	834
Total Volume	152	131	581	864	160	582	60	802	77	75	181	333	438	734	152	1324	3323
% App. Total	17.6	15.2	67.2		20	72.6	7.5		23.1	22.5	54.4		33.1	55.4	11.5		
PHF	.864	.885	.769	.840	.870	.871	.625	.895	.875	.721	.742	.824	.920	.870	.826	.904	.924

City of Irvine
 N/S: Carlson Avenue
 E/W: Michelson Drive
 Weather: Clear

File Name : IRVCAMIPM
 Site Code : 05113464
 Start Date : 11/14/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM				04:30 PM				05:00 PM				05:00 PM			
+0 mins.	42	31	137	210	34	185	20	239	22	17	47	86	95	191	46	332
+15 mins.	32	36	189	257	36	162	20	218	16	26	55	97	119	188	29	336
+30 mins.	44	27	129	200	33	167	24	224	20	20	61	101	114	211	41	366
+45 mins.	34	37	126	197	45	134	11	190	16	14	47	77	98	202	32	332
Total Volume	152	131	581	864	148	648	75	871	74	77	210	361	426	792	148	1366
% App. Total	17.6	15.2	67.2		17	74.4	8.6		20.5	21.3	58.2		31.2	58	10.8	
PHF	.864	.885	.769	.840	.822	.876	.781	.911	.841	.740	.861	.894	.895	.938	.804	.933

City of Irvine
 N/S: Carlson Avenue
 E/W: Campus Drive
 Weather: Clear

File Name : IRVACAAM
 Site Code : 05113464
 Start Date : 11/14/2013
 Page No : 1

Groups Printed- Total Volume

Start Time	Carlson Avenue Southbound			Campus Drive Westbound			Campus Drive Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	4	9	13	59	9	68	6	66	72	153
07:15 AM	20	15	35	67	4	71	10	85	95	201
07:30 AM	36	23	59	103	8	111	16	117	133	303
07:45 AM	66	30	96	149	21	170	14	120	134	400
Total	126	77	203	378	42	420	46	388	434	1057
08:00 AM	42	29	71	157	15	172	20	100	120	363
08:15 AM	36	45	81	167	14	181	16	91	107	369
08:30 AM	43	27	70	189	13	202	21	108	129	401
08:45 AM	45	39	84	192	26	218	14	128	142	444
Total	166	140	306	705	68	773	71	427	498	1577
Grand Total	292	217	509	1083	110	1193	117	815	932	2634
Apprch %	57.4	42.6		90.8	9.2		12.6	87.4		
Total %	11.1	8.2	19.3	41.1	4.2	45.3	4.4	30.9	35.4	

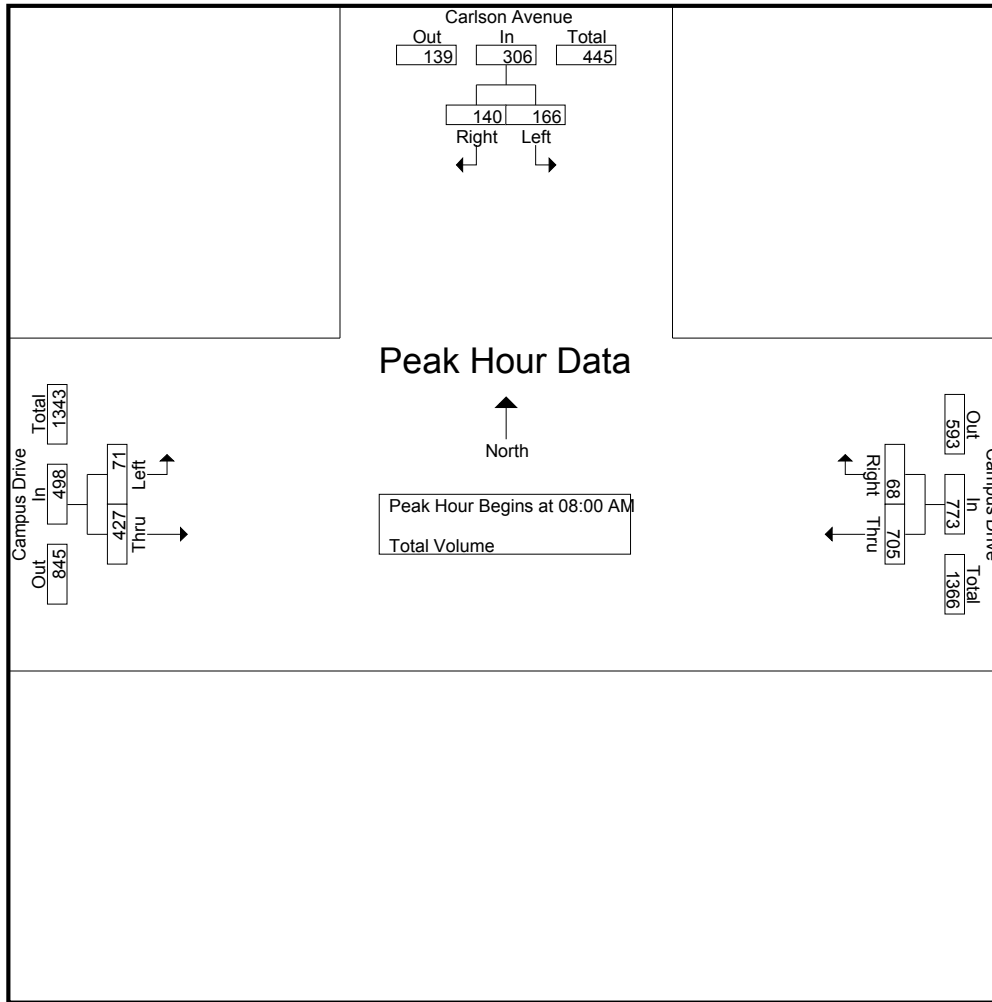
Start Time	Carlson Avenue Southbound			Campus Drive Westbound			Campus Drive Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
08:00 AM	42	29	71	157	15	172	20	100	120	363
08:15 AM	36	45	81	167	14	181	16	91	107	369
08:30 AM	43	27	70	189	13	202	21	108	129	401
08:45 AM	45	39	84	192	26	218	14	128	142	444
Total Volume	166	140	306	705	68	773	71	427	498	1577
% App. Total	54.2	45.8		91.2	8.8		14.3	85.7		
PHF	.922	.778	.911	.918	.654	.886	.845	.834	.877	.888

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 08:00 AM

City of Irvine
 N/S: Carlson Avenue
 E/W: Campus Drive
 Weather: Clear

File Name : IRVACAAM
 Site Code : 05113464
 Start Date : 11/14/2013
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:45 AM			08:00 AM			08:00 AM		
+0 mins.	66	30	96	157	15	172	20	100	120
+15 mins.	42	29	71	167	14	181	16	91	107
+30 mins.	36	45	81	189	13	202	21	108	129
+45 mins.	43	27	70	192	26	218	14	128	142
Total Volume	187	131	318	705	68	773	71	427	498
% App. Total	58.8	41.2		91.2	8.8		14.3	85.7	
PHF	.708	.728	.828	.918	.654	.886	.845	.834	.877

City of Irvine
 N/S: Carlson Avenue
 E/W: Campus Drive
 Weather: Clear

File Name : IRVCACAPM
 Site Code : 05113464
 Start Date : 11/14/2013
 Page No : 1

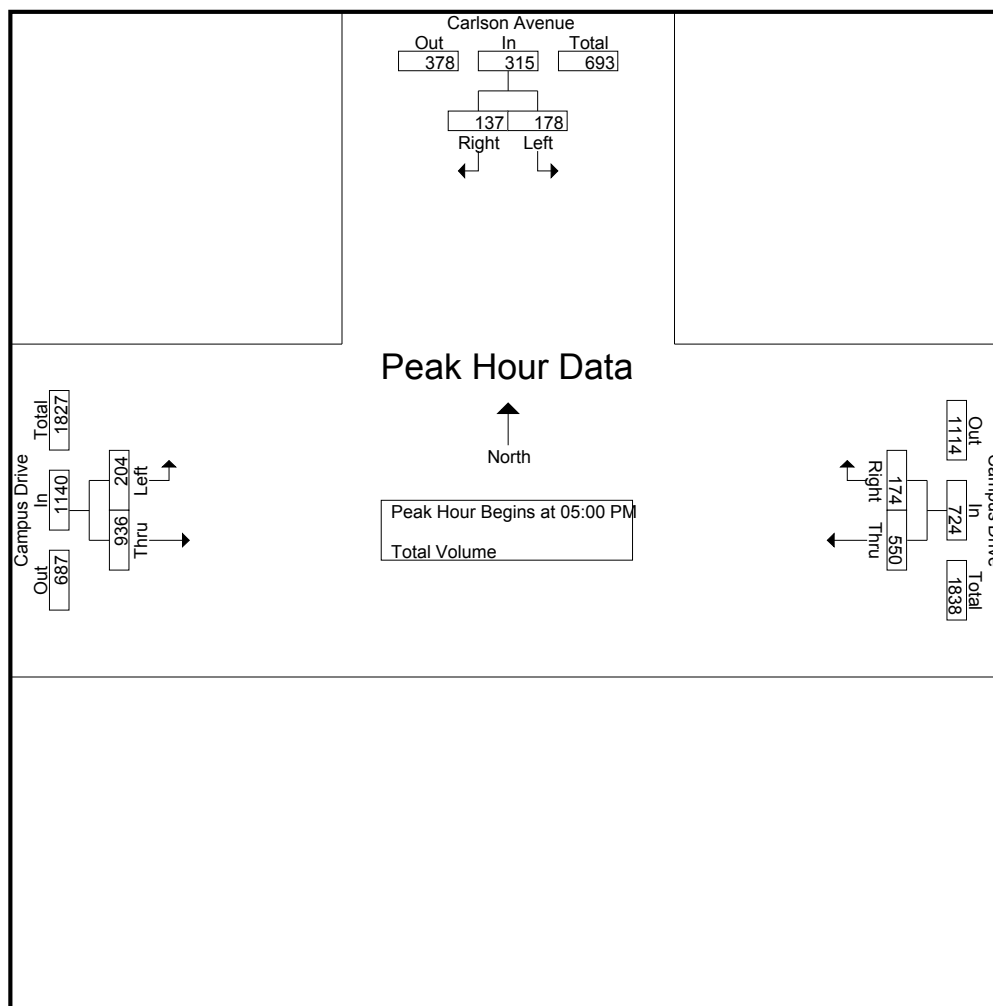
Groups Printed- Total Volume

Start Time	Carlson Avenue Southbound			Campus Drive Westbound			Campus Drive Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	27	19	46	126	35	161	18	123	141	348
04:15 PM	25	25	50	127	24	151	22	138	160	361
04:30 PM	46	16	62	111	30	141	25	153	178	381
04:45 PM	57	22	79	101	29	130	21	177	198	407
Total	155	82	237	465	118	583	86	591	677	1497
05:00 PM	37	25	62	147	50	197	52	260	312	571
05:15 PM	34	38	72	138	56	194	48	227	275	541
05:30 PM	53	39	92	131	35	166	53	221	274	532
05:45 PM	54	35	89	134	33	167	51	228	279	535
Total	178	137	315	550	174	724	204	936	1140	2179
06:00 PM	40	31	71	159	42	201	37	190	227	499
06:15 PM	35	32	67	145	48	193	25	213	238	498
Grand Total	408	282	690	1319	382	1701	352	1930	2282	4673
Apprch %	59.1	40.9		77.5	22.5		15.4	84.6		
Total %	8.7	6	14.8	28.2	8.2	36.4	7.5	41.3	48.8	

Start Time	Carlson Avenue Southbound			Campus Drive Westbound			Campus Drive Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	37	25	62	147	50	197	52	260	312	571
05:15 PM	34	38	72	138	56	194	48	227	275	541
05:30 PM	53	39	92	131	35	166	53	221	274	532
05:45 PM	54	35	89	134	33	167	51	228	279	535
Total Volume	178	137	315	550	174	724	204	936	1140	2179
% App. Total	56.5	43.5		76	24		17.9	82.1		
PHF	.824	.878	.856	.935	.777	.919	.962	.900	.913	.954

City of Irvine
 N/S: Carlson Avenue
 E/W: Campus Drive
 Weather: Clear

File Name : IRVCACAPM
 Site Code : 05113464
 Start Date : 11/14/2013
 Page No : 2



Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:15 PM			05:15 PM			05:00 PM		
+0 mins.	34	38	72	138	56	194	52	260	312
+15 mins.	53	39	92	131	35	166	48	227	275
+30 mins.	54	35	89	134	33	167	53	221	274
+45 mins.	40	31	71	159	42	201	51	228	279
Total Volume	181	143	324	562	166	728	204	936	1140
% App. Total	55.9	44.1		77.2	22.8		17.9	82.1	
PHF	.838	.917	.880	.884	.741	.905	.962	.900	.913

ITM Peak Hour Summary

Prepared by:

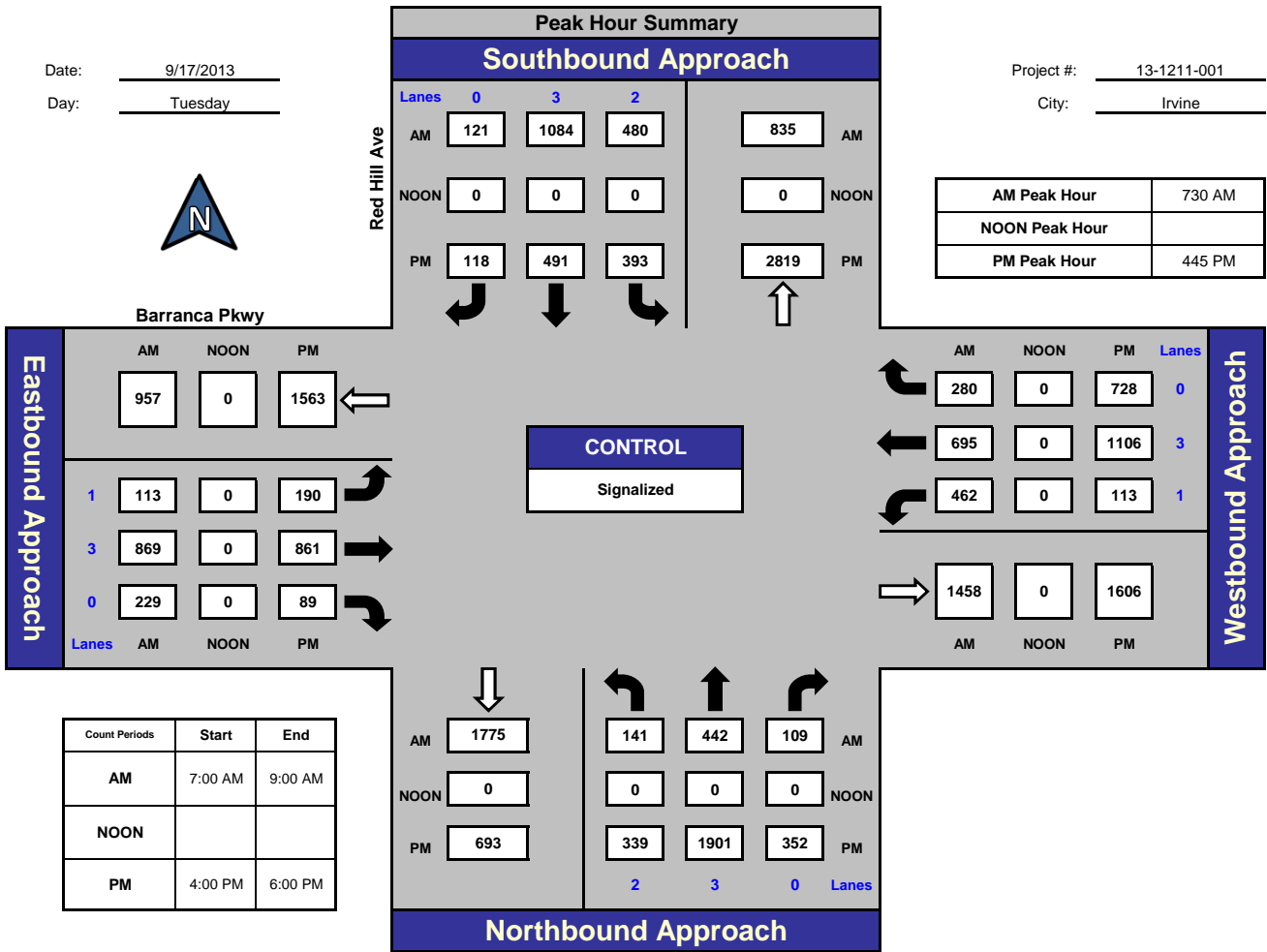


National Data & Surveying Services

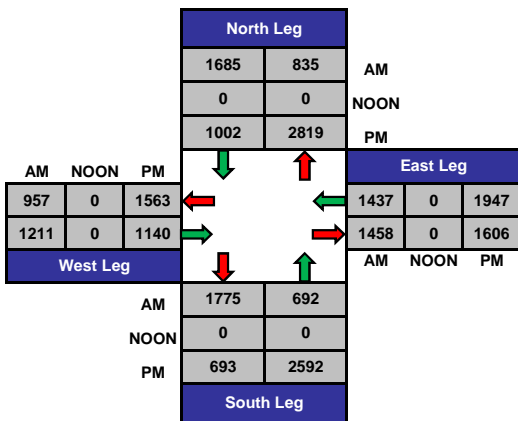
Red Hill Ave and Barranca Pkwy, Irvine

Date: 9/17/2013
Day: Tuesday

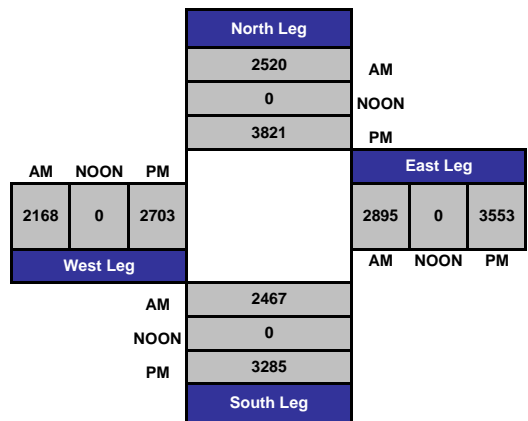
Project #: 13-1211-001
City: Irvine



Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

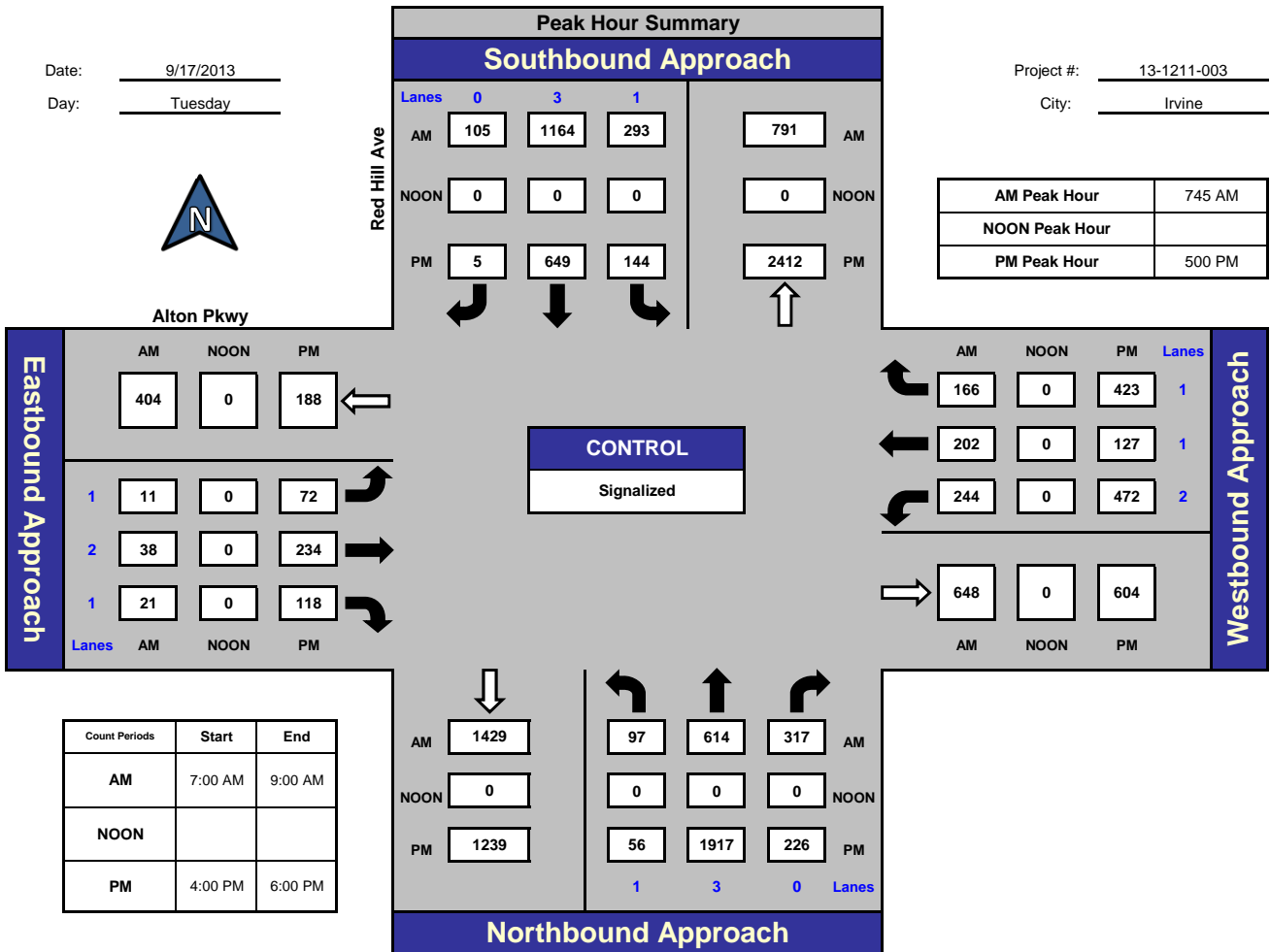


National Data & Surveying Services

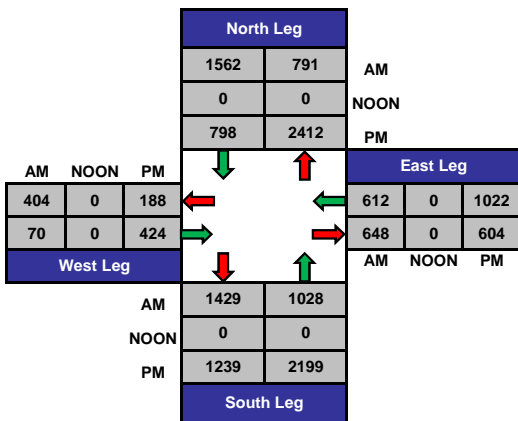
Red Hill Ave and Alton Pkwy, Irvine

Date: 9/17/2013
Day: Tuesday

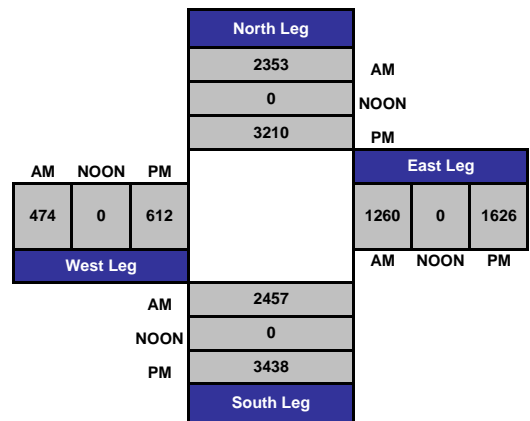
Project #: 13-1211-003
City: Irvine



Total Ins & Outs



Total Volume Per Leg



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Existing Flow Conservation Sheet (Pacific Coast Highway)

Delta AM PM
⇐ 0 0

Flow WB Only

Flow WB Only

Dover Dr. / Coast Hwy.														Bayside Dr / Coast Hwy.													
↓ 1,052 PM														↓ 77 PM													
↓ 983 AM														↓ 71 AM													
Origin PM 132 44 876 PM														Origin PM 38 16 23 PM													
AM 82 43 858 AM														AM 36 5 30 AM													
PM 132 44 876 PM														PM 38 16 23 PM													
AM 82 43 858 AM														AM 36 5 30 AM													
⇐ 123 150 ⇐														⇐ 50 30 ⇐													
⇐ 1,508 2,125 ⇐														⇐ 1,895 2,421 ⇐													
⇐ 34 28 ⇐														⇐ 473 300 ⇐													
⇐ 33 56 60 AM														⇐ 383 13 25 AM													
⇐ 39 44 31 PM														⇐ 410 8 29 PM													
Origin PM 39 44 31														Origin PM 410 8 29													
Flow ↓ 107 AM														Flow ↓ 342 AM													
Adj. ↓ 127 PM														Adj. ↓ 546 PM													
DATE 10/23/13														DATE 5/1/12													
↑ 1,240														↑ 87													
↑ 807														↑ 58													
↑ 1,900 3,343														↑ 1,533 2,975													
↑ 3,043 2,415														↑ 2,476 1,947													
↑ 2,418 2,751														↑ 421													
↑ 114														↑ 447													

27	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
AM	33	56	60	858	43	82	150	2,125	28	36	1,263	601	5,335
PM	39	44	31	876	44	132	123	1,508	34	49	2,221	1,073	6,174

Total: 11,509

28	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
AM	383	13	25	30	5	36	30	2,421	300	37	1,481	15	4,776
PM	410	8	29	23	16	38	50	1,895	473	57	2,895	23	5,917

Total: 10,693

2.2-222

Existing Flow Conservation Sheet (Pacific Coast Highway)

Delta AM PM
 ⇐ 0 0

Flow WB Only

Flow WB Only

Avocado Av. / Coast Hwy.													MacArthur Bl / Coast Hwy.																												
⇩ 676 PM						PM 322 ⇩						DATE 11/13/13						⇩ 1,136 PM						PM 1,022 ⇩						DATE 11/13/13											
⇩ 210 AM						AM 481 ⇩						Flow ⇩						⇩ 934 AM						AM 1,123 ⇩						Flow ⇩											
⇐ Origin						PM 286 97 293						Origin ⇐						⇐ Origin						PM 374 0 762						Origin ⇐											
1,567 1,215						AM 85 57 68						1,324 1,366						1,366 1,324						AM 341 0 593						AM 1,738 1,624											
PM AM PM AM						PM AM PM AM						PM AM PM AM						PM AM PM AM						PM AM PM AM						PM AM PM AM											
126 121						126 121 ⇩						209 111						390 368						390 368 ⇩						755 632						755 632					
1,167 448						1,167 448 ⇩						1,027 1,156						1,201 380						1,201 380 ⇩						949 977						34 15					
50 18						50 18 ⇩						88 99						0 0						0 0 ⇩						0 0						0 0					
PM AM PM AM						PM AM PM AM						PM AM PM AM						PM AM PM AM						PM AM PM AM						PM AM PM AM						PM AM PM AM					
1,343 587						1,343 587 ⇩						683 1,605						1,591 748						973 1,963						973 1,963											
⇐ Origin						PM 125 85 145						Origin ⇐						⇐ Origin						PM 0 0 0						Origin ⇐											
Flow ⇩						AM 163						Flow ⇩						Flow ⇩						AM 0						Flow ⇩											
Adj. ⇩						PM 246						Adj. ⇩						Flow ⇩						PM 0						Adj. ⇩											

45	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
AM	103	151	167	68	57	85	121	448	18	88	1,027	209	2,542
PM	125	85	145	293	97	286	126	1,167	50	99	1,156	111	3,740

Total: 6,282

52	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
AM	0	0	0	593	0	341	368	380	0	0	983	755	3,420
PM	0	0	0	762	0	374	390	1,201	0	0	992	632	4,351

Total: 7,771

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Existing Flow Conservation Sheet (Campus Drive and Birch Street)

Flow NB/SB

Campus Dr. / Bristol St. (N)													
	↓	1,831	PM		34		PM	751	↑	DATE	3/5/13		
	Flow	↓	389	AM	24		AM	1,755	↑	Flow			
←	←	Origin	PM	863	934	0	PM		Origin	←	←		
3,329	1,469	AM	AM	159	206	0	AM		AM	1,200	2,303		
				PM	863	968	0	PM					
				AM	159	230	0	AM					
				↔	↔	↔	↔						
				↓	↓	↓	↓						
				↑	↑	↑	↑	127	57	127	57		
				↔	↔	↔	↔	938	2,014	938	2,014		
				↓	↓	↓	↓	135	232	135	232		
				↔	↔	↔	↔						
				↑	↑	↑	↑						
				AM	372	1,628	0	AM		AM		AM	PM
				PM	452	694	0	PM		PM		PM	PM
				AM	372	1,616	0	AM		AM		AM	PM
				PM	452	694	0	PM		PM		AM	PM
				Origin	PM	452	694	0	PM	Origin	↔	↔	
				Flow	↓	365	AM	12		AM	2,000	↑	Flow
				Adj.	↓	1,200	PM			PM	1,146	↑	

TOTAL
AM 3,589
PM 5,280

Delta
↓ AM 0
↓ PM 0

Delta
↑ AM 0
↑ PM 0

15	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
AM	372	1,628	0	0	230	159	0	0	0	135	938	127	3,589
PM	452	694	0	0	968	863	0	0	0	232	2,014	57	5,280

Total: 8,869

Flow NB/SB

Campus Dr. / Bristol St. (S)													
	↓	1,200	PM				PM	1,146	↑	DATE	3/5/13		
	Flow	↓	365	AM			AM	2,000	↑	Flow			
←	←	Origin	PM	0	1,025	175	PM		Origin	←	←		
0	0	AM	AM	0	301	64	AM		AM	0	0		
				PM	0	1,025	175	PM					
				AM	0	301	64	AM					
				↔	↔	↔	↔						
				↓	↓	↓	↓						
				↑	↑	↑	↑	0	0	0	0		
				↔	↔	↔	↔	0	0	0	0		
				↔	↔	↔	↔						
				AM	0	1,000	204	AM		AM		AM	PM
				PM	0	709	225	PM		PM		PM	PM
				AM	0	1,000	204	AM		AM		AM	PM
				PM	0	709	225	PM		PM		AM	PM
				Origin	PM	0	705	225	PM	Origin	↔	↔	
				Flow	↓	798	AM			AM	1,204	↑	Flow
				Adj.	↓	1,573	PM	4		PM	934	↑	

TOTAL
AM 4,520
PM 3,964

17	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
AM	0	1,000	204	64	301	0	1,000	1,454	497	0	0	0	4,520
PM	0	709	225	175	1,025	0	437	845	548	0	0	0	3,964

Total: 8,484

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City of Irvine
 N/S: Campus Drive
 E/W: University Drive
 Weather: Sunny

File Name : IRVCAUNAM
 Site Code : 05114005
 Start Date : 1/7/2014
 Page No : 1

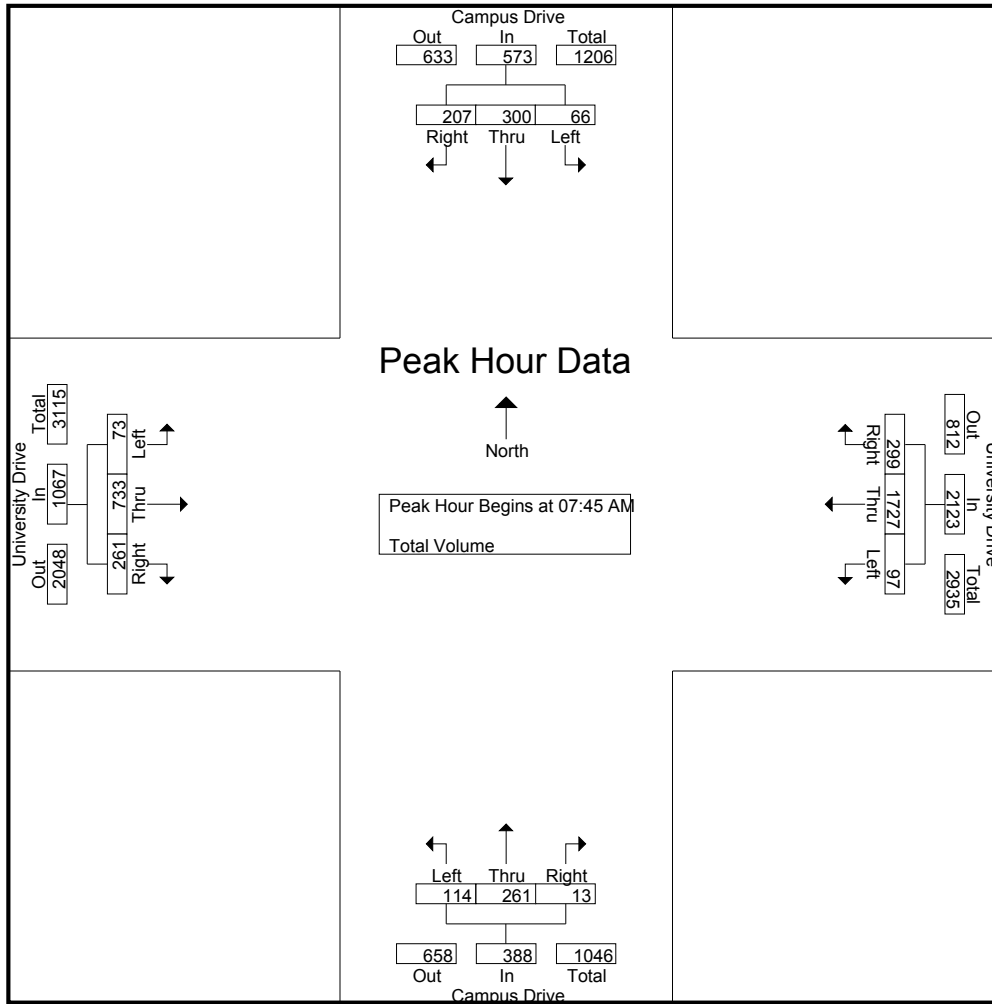
Groups Printed- Total Volume

Start Time	Campus Drive Southbound				University Drive Westbound				Campus Drive Northbound				University Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	4	46	24	74	18	166	16	200	19	27	2	48	8	51	44	103	425
07:15 AM	3	70	34	107	29	278	30	337	34	50	4	88	6	96	51	153	685
07:30 AM	12	123	63	198	24	353	37	414	34	64	2	100	8	135	71	214	926
07:45 AM	20	99	53	172	35	437	68	540	28	76	3	107	16	188	86	290	1109
Total	39	338	174	551	106	1234	151	1491	115	217	11	343	38	470	252	760	3145
08:00 AM	13	58	49	120	27	420	83	530	27	62	5	94	21	177	68	266	1010
08:15 AM	22	62	52	136	17	440	82	539	34	65	3	102	23	200	54	277	1054
08:30 AM	11	81	53	145	18	430	66	514	25	58	2	85	13	168	53	234	978
08:45 AM	18	96	54	168	22	441	73	536	18	60	11	89	27	164	86	277	1070
Total	64	297	208	569	84	1731	304	2119	104	245	21	370	84	709	261	1054	4112
Grand Total	103	635	382	1120	190	2965	455	3610	219	462	32	713	122	1179	513	1814	7257
Apprch %	9.2	56.7	34.1		5.3	82.1	12.6		30.7	64.8	4.5		6.7	65	28.3		
Total %	1.4	8.8	5.3	15.4	2.6	40.9	6.3	49.7	3	6.4	0.4	9.8	1.7	16.2	7.1	25	

Start Time	Campus Drive Southbound				University Drive Westbound				Campus Drive Northbound				University Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	20	99	53	172	35	437	68	540	28	76	3	107	16	188	86	290	1109
08:00 AM	13	58	49	120	27	420	83	530	27	62	5	94	21	177	68	266	1010
08:15 AM	22	62	52	136	17	440	82	539	34	65	3	102	23	200	54	277	1054
08:30 AM	11	81	53	145	18	430	66	514	25	58	2	85	13	168	53	234	978
Total Volume	66	300	207	573	97	1727	299	2123	114	261	13	388	73	733	261	1067	4151
% App. Total	11.5	52.4	36.1		4.6	81.3	14.1		29.4	67.3	3.4		6.8	68.7	24.5		
PHF	.750	.758	.976	.833	.693	.981	.901	.983	.838	.859	.650	.907	.793	.916	.759	.920	.936

City of Irvine
 N/S: Campus Drive
 E/W: University Drive
 Weather: Sunny

File Name : IRVCAUNAM
 Site Code : 05114005
 Start Date : 1/7/2014
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				07:45 AM				07:30 AM				07:45 AM			
+0 mins.	12	123	63	198	35	437	68	540	34	64	2	100	16	188	86	290
+15 mins.	20	99	53	172	27	420	83	530	28	76	3	107	21	177	68	266
+30 mins.	13	58	49	120	17	440	82	539	27	62	5	94	23	200	54	277
+45 mins.	22	62	52	136	18	430	66	514	34	65	3	102	13	168	53	234
Total Volume	67	342	217	626	97	1727	299	2123	123	267	13	403	73	733	261	1067
% App. Total	10.7	54.6	34.7		4.6	81.3	14.1		30.5	66.3	3.2		6.8	68.7	24.5	
PHF	.761	.695	.861	.790	.693	.981	.901	.983	.904	.878	.650	.942	.793	.916	.759	.920

City of Irvine
 N/S: Campus Drive
 E/W: University Drive
 Weather: Sunny

File Name : IRVCAUNPM
 Site Code : 05114005
 Start Date : 1/7/2014
 Page No : 1

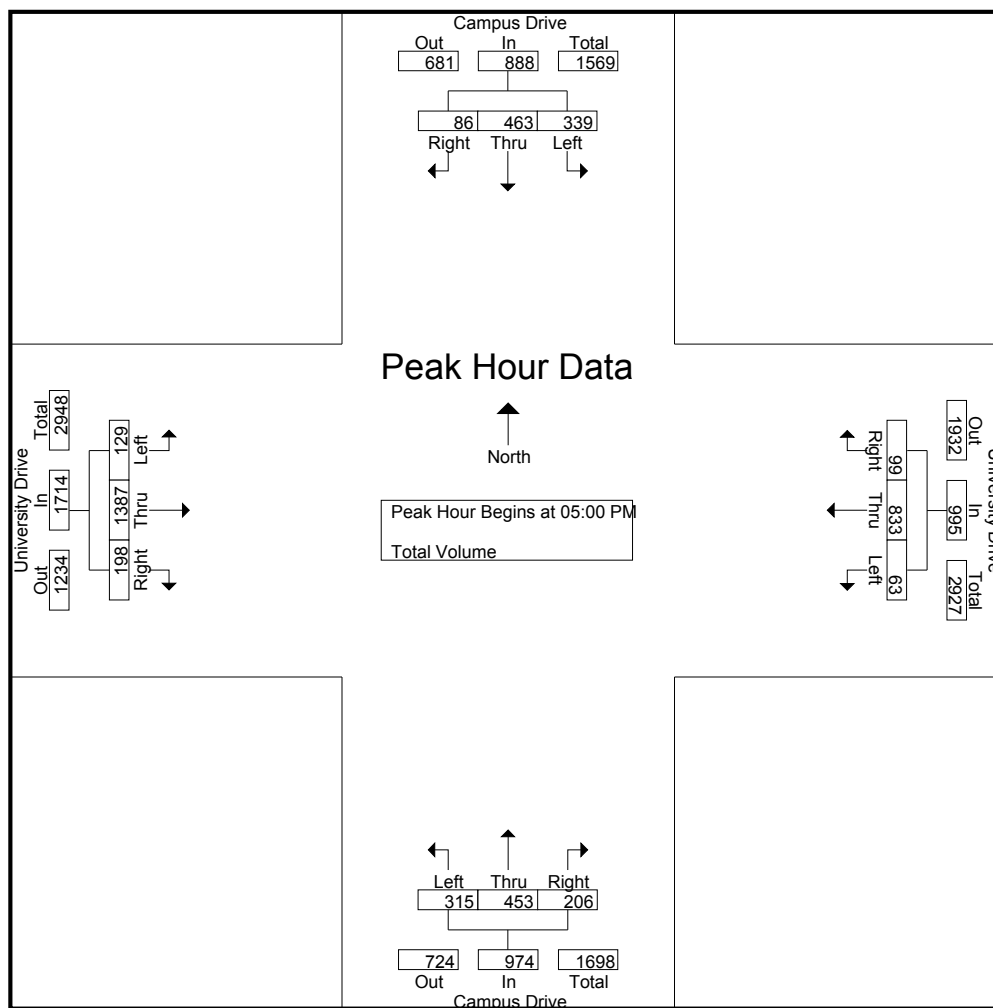
Groups Printed- Total Volume

Start Time	Campus Drive Southbound				University Drive Westbound				Campus Drive Northbound				University Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	32	87	23	142	10	126	17	153	49	81	19	149	32	261	54	347	791
04:15 PM	27	78	29	134	23	116	9	148	67	96	26	189	32	281	78	391	862
04:30 PM	57	135	29	221	17	145	12	174	73	100	22	195	28	284	53	365	955
04:45 PM	60	120	23	203	23	159	28	210	82	120	28	230	33	334	75	442	1085
Total	176	420	104	700	73	546	66	685	271	397	95	763	125	1160	260	1545	3693
05:00 PM	73	102	19	194	22	195	21	238	86	156	53	295	36	337	45	418	1145
05:15 PM	85	96	19	200	13	195	27	235	87	133	66	286	29	353	38	420	1141
05:30 PM	81	130	23	234	15	213	28	256	79	94	50	223	35	341	54	430	1143
05:45 PM	100	135	25	260	13	230	23	266	63	70	37	170	29	356	61	446	1142
Total	339	463	86	888	63	833	99	995	315	453	206	974	129	1387	198	1714	4571
06:00 PM	74	139	21	234	17	176	17	210	67	102	29	198	19	349	46	414	1056
06:15 PM	57	114	11	182	11	146	21	178	72	121	39	232	24	384	64	472	1064
Grand Total	646	1136	222	2004	164	1701	203	2068	725	1073	369	2167	297	3280	568	4145	10384
Apprch %	32.2	56.7	11.1		7.9	82.3	9.8		33.5	49.5	17		7.2	79.1	13.7		
Total %	6.2	10.9	2.1	19.3	1.6	16.4	2	19.9	7	10.3	3.6	20.9	2.9	31.6	5.5	39.9	

Start Time	Campus Drive Southbound				University Drive Westbound				Campus Drive Northbound				University Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	73	102	19	194	22	195	21	238	86	156	53	295	36	337	45	418	1145
05:15 PM	85	96	19	200	13	195	27	235	87	133	66	286	29	353	38	420	1141
05:30 PM	81	130	23	234	15	213	28	256	79	94	50	223	35	341	54	430	1143
05:45 PM	100	135	25	260	13	230	23	266	63	70	37	170	29	356	61	446	1142
Total Volume	339	463	86	888	63	833	99	995	315	453	206	974	129	1387	198	1714	4571
% App. Total	38.2	52.1	9.7		6.3	83.7	9.9		32.3	46.5	21.1		7.5	80.9	11.6		
PHF	.848	.857	.860	.854	.716	.905	.884	.935	.905	.726	.780	.825	.896	.974	.811	.961	.998

City of Irvine
 N/S: Campus Drive
 E/W: University Drive
 Weather: Sunny

File Name : IRVCAUNPM
 Site Code : 05114005
 Start Date : 1/7/2014
 Page No : 2



Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:15 PM				05:00 PM				04:45 PM				05:30 PM			
+0 mins.	85	96	19	200	22	195	21	238	82	120	28	230	35	341	54	430
+15 mins.	81	130	23	234	13	195	27	235	86	156	53	295	29	356	61	446
+30 mins.	100	135	25	260	15	213	28	256	87	133	66	286	19	349	46	414
+45 mins.	74	139	21	234	13	230	23	266	79	94	50	223	24	384	64	472
Total Volume	340	500	88	928	63	833	99	995	334	503	197	1034	107	1430	225	1762
% App. Total	36.6	53.9	9.5		6.3	83.7	9.9		32.3	48.6	19.1		6.1	81.2	12.8	
PHF	.850	.899	.880	.892	.716	.905	.884	.935	.960	.806	.746	.876	.764	.931	.879	.933

City of Irvine
 N/S: Harvard Avenue
 E/W: Michelson Drive
 Weather: Sunny

File Name : IRVHAMIAM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 1

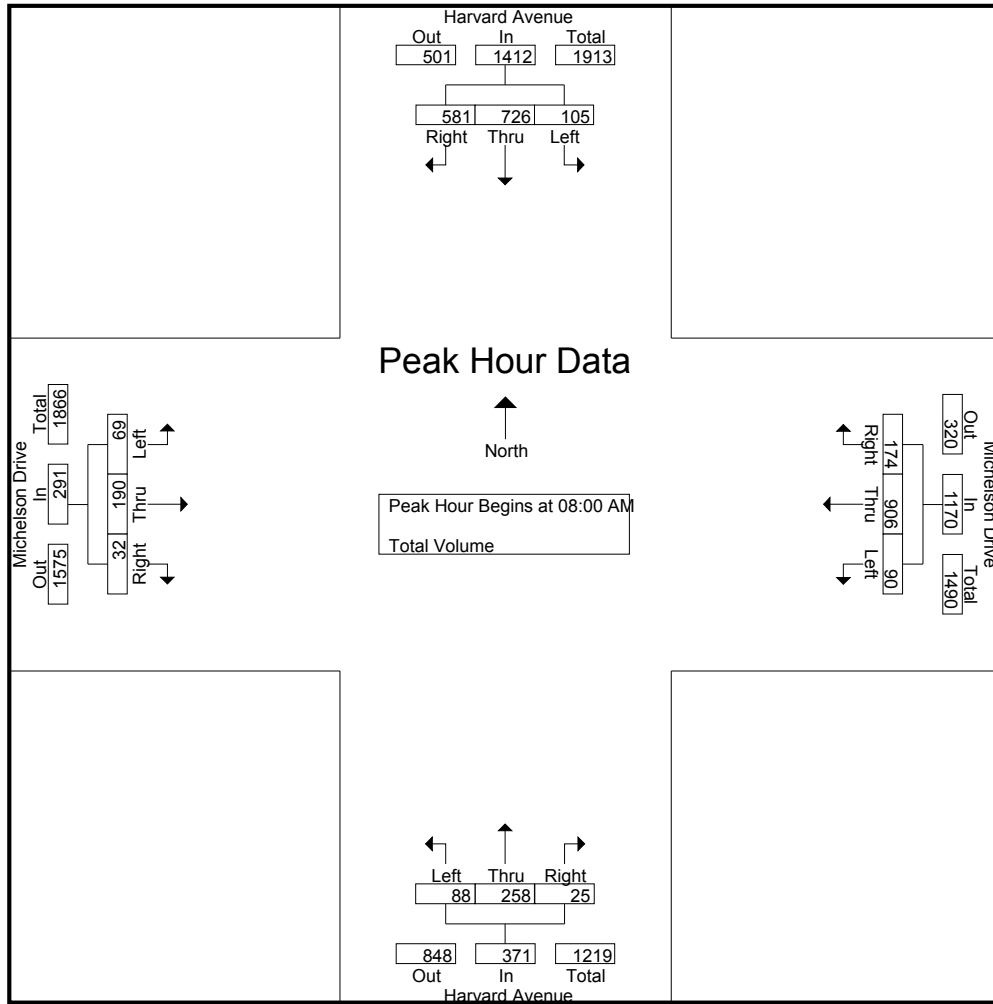
Groups Printed- Total Volume

Start Time	Harvard Avenue Southbound				Michelson Drive Westbound				Harvard Avenue Northbound				Michelson Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	19	142	29	190	14	98	24	136	25	58	40	123	8	16	6	30	479
07:15 AM	20	129	54	203	22	133	30	185	31	90	29	150	10	21	10	41	579
07:30 AM	26	187	82	295	38	152	27	217	31	77	14	122	10	23	3	36	670
07:45 AM	24	177	108	309	35	165	32	232	16	81	8	105	9	34	13	56	702
Total	89	635	273	997	109	548	113	770	103	306	91	500	37	94	32	163	2430
08:00 AM	27	177	116	320	12	184	38	234	24	61	5	90	16	50	9	75	719
08:15 AM	29	171	130	330	26	272	59	357	18	68	10	96	12	50	7	69	852
08:30 AM	20	204	181	405	17	196	41	254	24	70	4	98	17	46	11	74	831
08:45 AM	29	174	154	357	35	254	36	325	22	59	6	87	24	44	5	73	842
Total	105	726	581	1412	90	906	174	1170	88	258	25	371	69	190	32	291	3244
Grand Total	194	1361	854	2409	199	1454	287	1940	191	564	116	871	106	284	64	454	5674
Apprch %	8.1	56.5	35.5		10.3	74.9	14.8		21.9	64.8	13.3		23.3	62.6	14.1		
Total %	3.4	24	15.1	42.5	3.5	25.6	5.1	34.2	3.4	9.9	2	15.4	1.9	5	1.1	8	

Start Time	Harvard Avenue Southbound				Michelson Drive Westbound				Harvard Avenue Northbound				Michelson Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	27	177	116	320	12	184	38	234	24	61	5	90	16	50	9	75	719
08:15 AM	29	171	130	330	26	272	59	357	18	68	10	96	12	50	7	69	852
08:30 AM	20	204	181	405	17	196	41	254	24	70	4	98	17	46	11	74	831
08:45 AM	29	174	154	357	35	254	36	325	22	59	6	87	24	44	5	73	842
Total Volume	105	726	581	1412	90	906	174	1170	88	258	25	371	69	190	32	291	3244
% App. Total	7.4	51.4	41.1		7.7	77.4	14.9		23.7	69.5	6.7		23.7	65.3	11		
PHF	.905	.890	.802	.872	.643	.833	.737	.819	.917	.921	.625	.946	.719	.950	.727	.970	.952

City of Irvine
 N/S: Harvard Avenue
 E/W: Michelson Drive
 Weather: Sunny

File Name : IRVHAMIAM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				07:00 AM				08:00 AM			
+0 mins.	27	177	116	320	12	184	38	234	25	58	40	123	16	50	9	75
+15 mins.	29	171	130	330	26	272	59	357	31	90	29	150	12	50	7	69
+30 mins.	20	204	181	405	17	196	41	254	31	77	14	122	17	46	11	74
+45 mins.	29	174	154	357	35	254	36	325	16	81	8	105	24	44	5	73
Total Volume	105	726	581	1412	90	906	174	1170	103	306	91	500	69	190	32	291
% App. Total	7.4	51.4	41.1		7.7	77.4	14.9		20.6	61.2	18.2		23.7	65.3	11	
PHF	.905	.890	.802	.872	.643	.833	.737	.819	.831	.850	.569	.833	.719	.950	.727	.970

City of Irvine
 N/S: Harvard Avenue
 E/W: Michelson Drive
 Weather: Sunny

File Name : IRVHAMIPM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 1

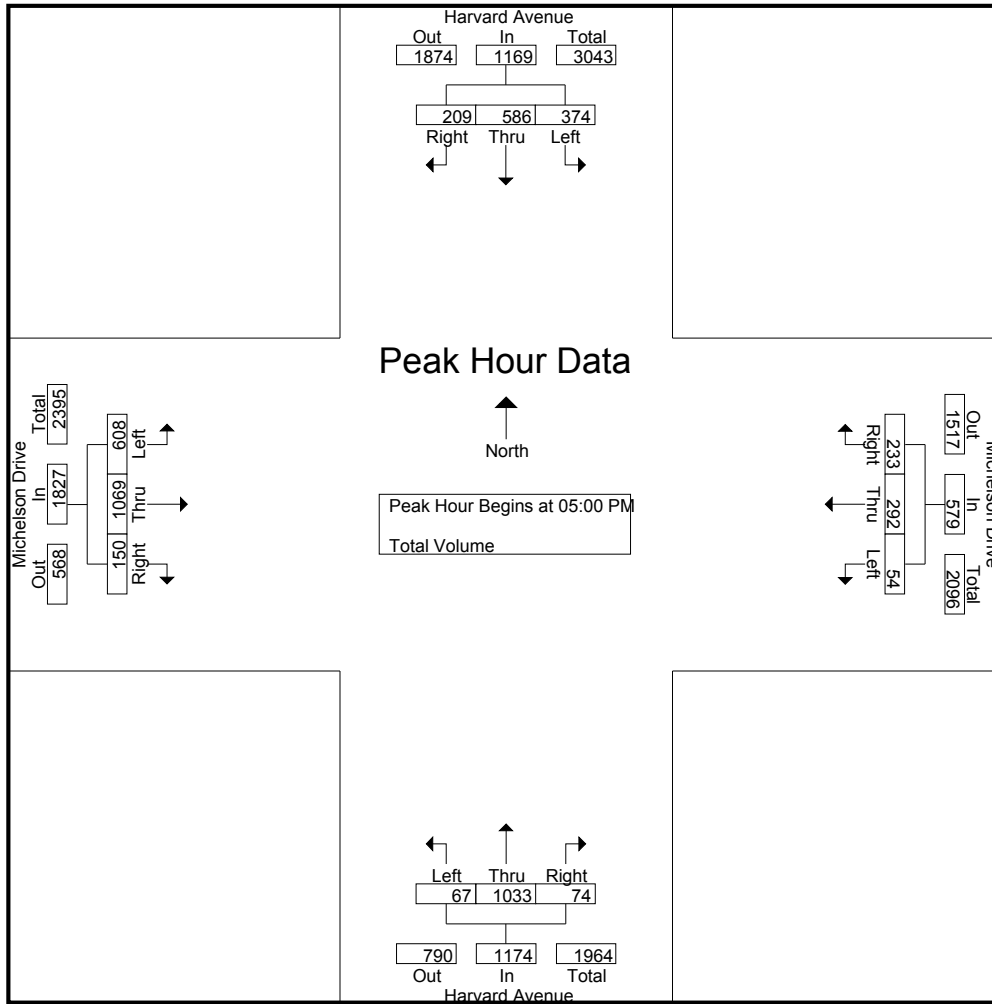
Groups Printed- Total Volume

Start Time	Harvard Avenue Southbound				Michelson Drive Westbound				Harvard Avenue Northbound				Michelson Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	59	87	39	185	14	30	35	79	10	150	13	173	67	138	27	232	669
04:15 PM	37	100	34	171	9	77	61	147	19	161	15	195	59	160	20	239	752
04:30 PM	41	102	42	185	18	47	40	105	9	155	11	175	103	163	21	287	752
04:45 PM	69	131	51	251	13	65	51	129	11	216	8	235	107	213	48	368	983
Total	206	420	166	792	54	219	187	460	49	682	47	778	336	674	116	1126	3156
05:00 PM	91	132	53	276	20	73	44	137	12	252	22	286	140	214	29	383	1082
05:15 PM	92	140	53	285	11	72	81	164	15	258	21	294	155	293	31	479	1222
05:30 PM	93	168	58	319	14	52	53	119	20	300	10	330	168	268	41	477	1245
05:45 PM	98	146	45	289	9	95	55	159	20	223	21	264	145	294	49	488	1200
Total	374	586	209	1169	54	292	233	579	67	1033	74	1174	608	1069	150	1827	4749
06:00 PM	104	124	52	280	30	62	60	152	14	213	13	240	151	229	25	405	1077
06:15 PM	97	121	49	267	13	79	56	148	11	183	21	215	101	247	45	393	1023
Grand Total	781	1251	476	2508	151	652	536	1339	141	2111	155	2407	1196	2219	336	3751	10005
Apprch %	31.1	49.9	19		11.3	48.7	40		5.9	87.7	6.4		31.9	59.2	9		
Total %	7.8	12.5	4.8	25.1	1.5	6.5	5.4	13.4	1.4	21.1	1.5	24.1	12	22.2	3.4	37.5	

Start Time	Harvard Avenue Southbound				Michelson Drive Westbound				Harvard Avenue Northbound				Michelson Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	91	132	53	276	20	73	44	137	12	252	22	286	140	214	29	383	1082
05:15 PM	92	140	53	285	11	72	81	164	15	258	21	294	155	293	31	479	1222
05:30 PM	93	168	58	319	14	52	53	119	20	300	10	330	168	268	41	477	1245
05:45 PM	98	146	45	289	9	95	55	159	20	223	21	264	145	294	49	488	1200
Total Volume	374	586	209	1169	54	292	233	579	67	1033	74	1174	608	1069	150	1827	4749
% App. Total	32	50.1	17.9		9.3	50.4	40.2		5.7	88	6.3		33.3	58.5	8.2		
PHF	.954	.872	.901	.916	.675	.768	.719	.883	.838	.861	.841	.889	.905	.909	.765	.936	.954

City of Irvine
 N/S: Harvard Avenue
 E/W: Michelson Drive
 Weather: Sunny

File Name : IRVHAMIPM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 2



Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:15 PM				05:15 PM				05:00 PM				05:15 PM			
+0 mins.	92	140	53	285	11	72	81	164	12	252	22	286	155	293	31	479
+15 mins.	93	168	58	319	14	52	53	119	15	258	21	294	168	268	41	477
+30 mins.	98	146	45	289	9	95	55	159	20	300	10	330	145	294	49	488
+45 mins.	104	124	52	280	30	62	60	152	20	223	21	264	151	229	25	405
Total Volume	387	578	208	1173	64	281	249	594	67	1033	74	1174	619	1084	146	1849
% App. Total	33	49.3	17.7		10.8	47.3	41.9		5.7	88	6.3		33.5	58.6	7.9	
PHF	.930	.860	.897	.919	.533	.739	.769	.905	.838	.861	.841	.889	.921	.922	.745	.947

City of Irvine
 N/S: Harvard Avenue
 E/W: University Drive
 Weather: Sunny

File Name : IRVHAUNAM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 1

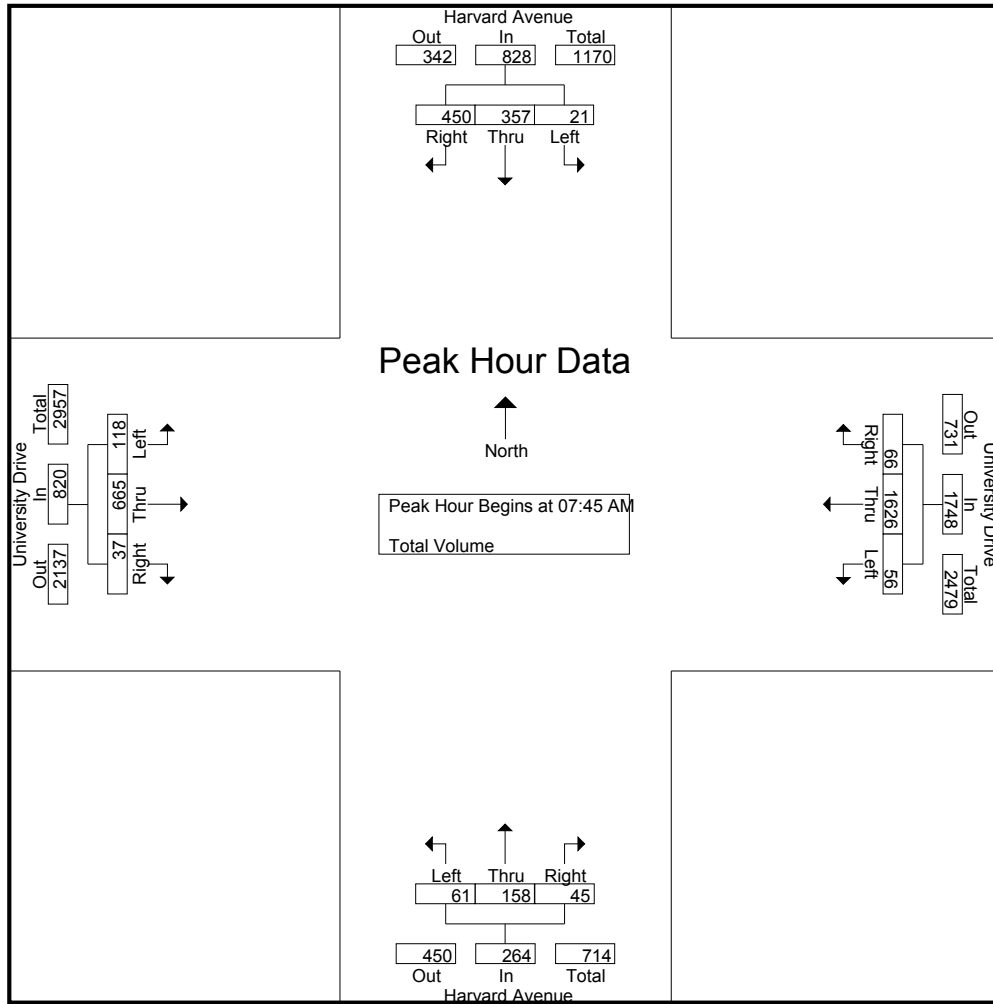
Groups Printed- Total Volume

Start Time	Harvard Avenue Southbound				University Drive Westbound				Harvard Avenue Northbound				University Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	39	100	36	175	5	149	6	160	4	36	15	55	8	44	7	59	449
07:15 AM	12	120	65	197	10	258	15	283	11	76	10	97	13	88	3	104	681
07:30 AM	11	108	95	214	11	302	6	319	15	65	16	96	14	129	7	150	779
07:45 AM	5	104	120	229	21	412	15	448	20	36	13	69	28	175	10	213	959
Total	67	432	316	815	47	1121	42	1210	50	213	54	317	63	436	27	526	2868
08:00 AM	5	69	105	179	7	419	14	440	12	40	11	63	27	162	10	199	881
08:15 AM	4	100	109	213	17	417	21	455	14	42	14	70	32	186	10	228	966
08:30 AM	7	84	116	207	11	378	16	405	15	40	7	62	31	142	7	180	854
08:45 AM	3	98	93	194	16	428	10	454	15	44	18	77	29	150	10	189	914
Total	19	351	423	793	51	1642	61	1754	56	166	50	272	119	640	37	796	3615
Grand Total	86	783	739	1608	98	2763	103	2964	106	379	104	589	182	1076	64	1322	6483
Apprch %	5.3	48.7	46		3.3	93.2	3.5		18	64.3	17.7		13.8	81.4	4.8		
Total %	1.3	12.1	11.4	24.8	1.5	42.6	1.6	45.7	1.6	5.8	1.6	9.1	2.8	16.6	1	20.4	

Start Time	Harvard Avenue Southbound				University Drive Westbound				Harvard Avenue Northbound				University Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	5	104	120	229	21	412	15	448	20	36	13	69	28	175	10	213	959
08:00 AM	5	69	105	179	7	419	14	440	12	40	11	63	27	162	10	199	881
08:15 AM	4	100	109	213	17	417	21	455	14	42	14	70	32	186	10	228	966
08:30 AM	7	84	116	207	11	378	16	405	15	40	7	62	31	142	7	180	854
Total Volume	21	357	450	828	56	1626	66	1748	61	158	45	264	118	665	37	820	3660
% App. Total	2.5	43.1	54.3		3.2	93	3.8		23.1	59.8	17		14.4	81.1	4.5		
PHF	.750	.858	.938	.904	.667	.970	.786	.960	.763	.940	.804	.943	.922	.894	.925	.899	.947

City of Irvine
 N/S: Harvard Avenue
 E/W: University Drive
 Weather: Sunny

File Name : IRVHAUNAM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM				08:00 AM				07:15 AM				07:45 AM			
+0 mins.	11	108	95	214	7	419	14	440	11	76	10	97	28	175	10	213
+15 mins.	5	104	120	229	17	417	21	455	15	65	16	96	27	162	10	199
+30 mins.	5	69	105	179	11	378	16	405	20	36	13	69	32	186	10	228
+45 mins.	4	100	109	213	16	428	10	454	12	40	11	63	31	142	7	180
Total Volume	25	381	429	835	51	1642	61	1754	58	217	50	325	118	665	37	820
% App. Total	3	45.6	51.4		2.9	93.6	3.5		17.8	66.8	15.4		14.4	81.1	4.5	
PHF	.568	.882	.894	.912	.750	.959	.726	.964	.725	.714	.781	.838	.922	.894	.925	.899

City of Irvine
 N/S: Harvard Avenue
 E/W: University Drive
 Weather: Sunny

File Name : IRVHAUNPM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 1

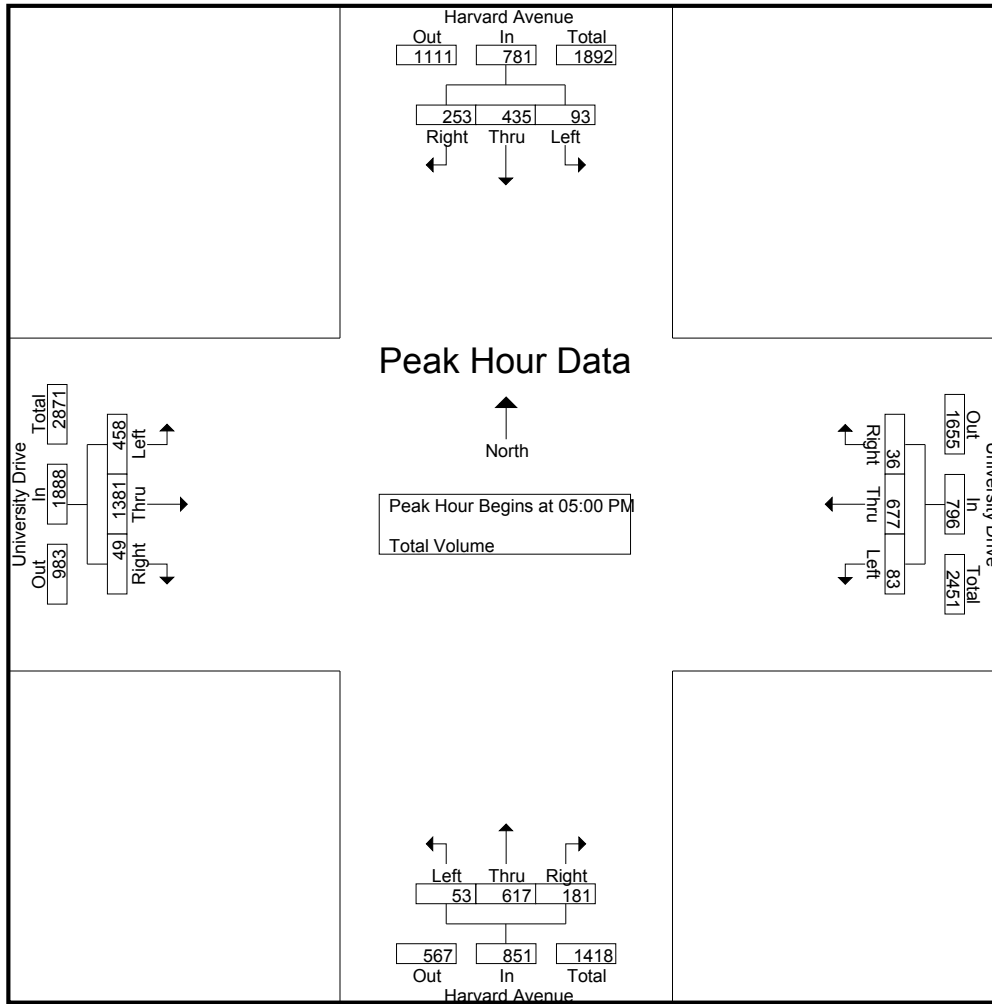
Groups Printed- Total Volume

Start Time	Harvard Avenue Southbound				University Drive Westbound				Harvard Avenue Northbound				University Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	6	80	43	129	17	97	11	125	17	104	30	151	61	235	11	307	712
04:15 PM	18	81	19	118	15	110	16	141	13	88	18	119	60	226	15	301	679
04:30 PM	15	98	34	147	13	127	10	150	14	105	25	144	80	302	18	400	841
04:45 PM	13	102	66	181	19	138	15	172	14	130	21	165	102	309	13	424	942
Total	52	361	162	575	64	472	52	588	58	427	94	579	303	1072	57	1432	3174
05:00 PM	16	91	62	169	21	151	13	185	13	176	41	230	111	324	15	450	1034
05:15 PM	23	114	52	189	20	180	8	208	10	157	49	216	123	357	10	490	1103
05:30 PM	26	120	67	213	21	171	6	198	20	163	48	231	102	351	14	467	1109
05:45 PM	28	110	72	210	21	175	9	205	10	121	43	174	122	349	10	481	1070
Total	93	435	253	781	83	677	36	796	53	617	181	851	458	1381	49	1888	4316
06:00 PM	15	108	56	179	20	147	7	174	12	109	37	158	113	325	13	451	962
06:15 PM	14	124	45	183	37	120	6	163	14	117	20	151	101	349	11	461	958
Grand Total	174	1028	516	1718	204	1416	101	1721	137	1270	332	1739	975	3127	130	4232	9410
Apprch %	10.1	59.8	30		11.9	82.3	5.9		7.9	73	19.1		23	73.9	3.1		
Total %	1.8	10.9	5.5	18.3	2.2	15	1.1	18.3	1.5	13.5	3.5	18.5	10.4	33.2	1.4	45	

Start Time	Harvard Avenue Southbound				University Drive Westbound				Harvard Avenue Northbound				University Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	16	91	62	169	21	151	13	185	13	176	41	230	111	324	15	450	1034
05:15 PM	23	114	52	189	20	180	8	208	10	157	49	216	123	357	10	490	1103
05:30 PM	26	120	67	213	21	171	6	198	20	163	48	231	102	351	14	467	1109
05:45 PM	28	110	72	210	21	175	9	205	10	121	43	174	122	349	10	481	1070
Total Volume	93	435	253	781	83	677	36	796	53	617	181	851	458	1381	49	1888	4316
% App. Total	11.9	55.7	32.4		10.4	85.1	4.5		6.2	72.5	21.3		24.3	73.1	2.6		
PHF	.830	.906	.878	.917	.988	.940	.692	.957	.663	.876	.923	.921	.931	.967	.817	.963	.973

City of Irvine
 N/S: Harvard Avenue
 E/W: University Drive
 Weather: Sunny

File Name : IRVHAUNPM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 2



Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:15 PM				05:00 PM				05:00 PM				05:15 PM			
+0 mins.	23	114	52	189	21	151	13	185	13	176	41	230	123	357	10	490
+15 mins.	26	120	67	213	20	180	8	208	10	157	49	216	102	351	14	467
+30 mins.	28	110	72	210	21	171	6	198	20	163	48	231	122	349	10	481
+45 mins.	15	108	56	179	21	175	9	205	10	121	43	174	113	325	13	451
Total Volume	92	452	247	791	83	677	36	796	53	617	181	851	460	1382	47	1889
% App. Total	11.6	57.1	31.2		10.4	85.1	4.5		6.2	72.5	21.3		24.4	73.2	2.5	
PHF	.821	.942	.858	.928	.988	.940	.692	.957	.663	.876	.923	.921	.935	.968	.839	.964

City of Irvine
 N/S: Jamboree Road
 E/W: Fairchild Road
 Weather: Sunny

File Name : IRVJAFAM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 1

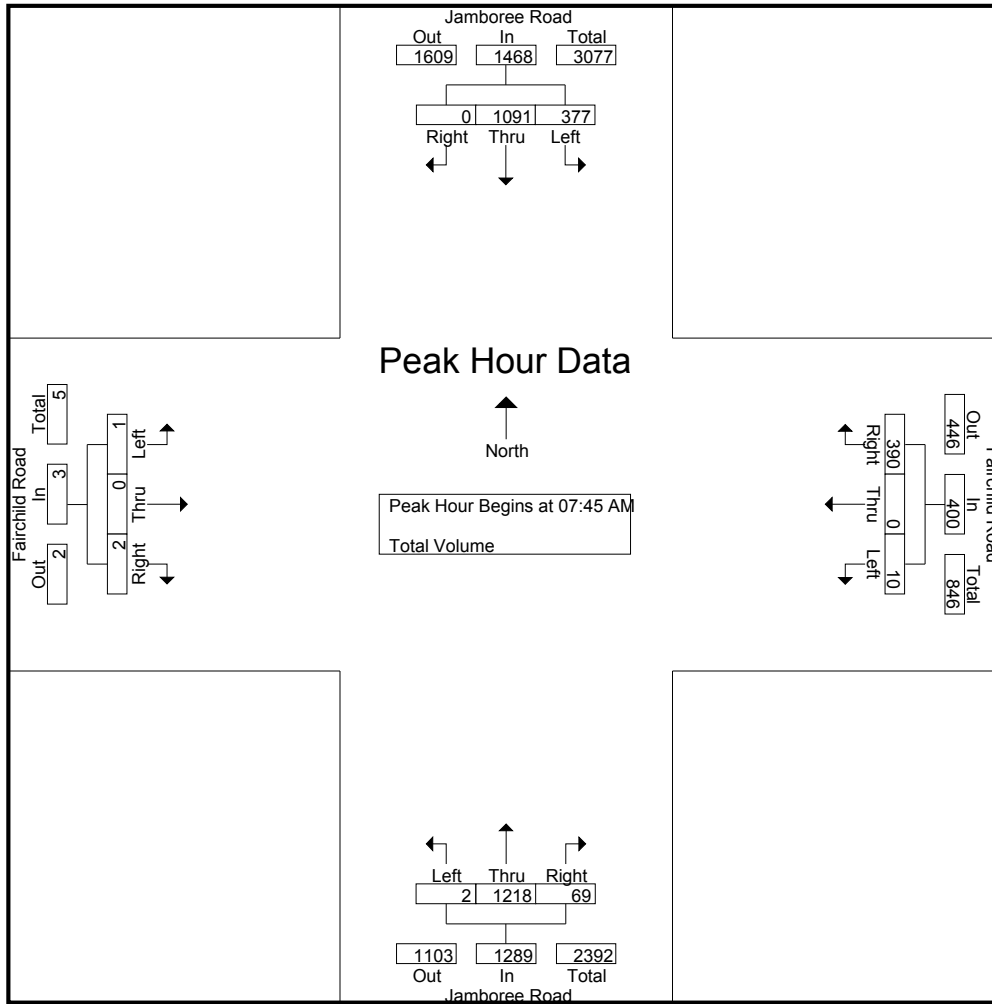
Groups Printed- Total Volume

Start Time	Jamboree Road Southbound				Fairchild Road Westbound				Jamboree Road Northbound				Fairchild Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	37	179	0	216	3	0	29	32	0	118	9	127	0	0	0	0	375
07:15 AM	57	223	0	280	1	0	40	41	0	184	2	186	0	0	0	0	507
07:30 AM	63	194	0	257	2	0	56	58	1	219	12	232	1	0	0	1	548
07:45 AM	97	285	0	382	4	0	94	98	0	317	15	332	0	0	1	1	813
Total	254	881	0	1135	10	0	219	229	1	838	38	877	1	0	1	2	2243
08:00 AM	101	251	0	352	2	0	99	101	0	259	17	276	0	0	0	0	729
08:15 AM	79	266	0	345	1	0	95	96	1	306	11	318	1	0	1	2	761
08:30 AM	100	289	0	389	3	0	102	105	1	336	26	363	0	0	0	0	857
08:45 AM	83	261	1	345	3	0	101	104	2	269	9	280	0	0	1	1	730
Total	363	1067	1	1431	9	0	397	406	4	1170	63	1237	1	0	2	3	3077
Grand Total	617	1948	1	2566	19	0	616	635	5	2008	101	2114	2	0	3	5	5320
Apprch %	24	75.9	0		3	0	97		0.2	95	4.8		40	0	60		
Total %	11.6	36.6	0	48.2	0.4	0	11.6	11.9	0.1	37.7	1.9	39.7	0	0	0.1	0.1	

Start Time	Jamboree Road Southbound				Fairchild Road Westbound				Jamboree Road Northbound				Fairchild Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	97	285	0	382	4	0	94	98	0	317	15	332	0	0	1	1	813
08:00 AM	101	251	0	352	2	0	99	101	0	259	17	276	0	0	0	0	729
08:15 AM	79	266	0	345	1	0	95	96	1	306	11	318	1	0	1	2	761
08:30 AM	100	289	0	389	3	0	102	105	1	336	26	363	0	0	0	0	857
Total Volume	377	1091	0	1468	10	0	390	400	2	1218	69	1289	1	0	2	3	3160
% App. Total	25.7	74.3	0		2.5	0	97.5		0.2	94.5	5.4		33.3	0	66.7		
PHF	.933	.944	.000	.943	.625	.000	.956	.952	.500	.906	.663	.888	.250	.000	.500	.375	.922

City of Irvine
 N/S: Jamboree Road
 E/W: Fairchild Road
 Weather: Sunny

File Name : IRVJAFAM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:45 AM				08:00 AM				07:45 AM				07:30 AM			
+0 mins.	97	285	0	382	2	0	99	101	0	317	15	332	1	0	0	1
+15 mins.	101	251	0	352	1	0	95	96	0	259	17	276	0	0	1	1
+30 mins.	79	266	0	345	3	0	102	105	1	306	11	318	0	0	0	0
+45 mins.	100	289	0	389	3	0	101	104	1	336	26	363	1	0	1	2
Total Volume	377	1091	0	1468	9	0	397	406	2	1218	69	1289	2	0	2	4
% App. Total	25.7	74.3	0		2.2	0	97.8		0.2	94.5	5.4		50	0	50	
PHF	.933	.944	.000	.943	.750	.000	.973	.967	.500	.906	.663	.888	.500	.000	.500	.500

City of Irvine
 N/S: Jamboree Road
 E/W: Fairchild Road
 Weather: Sunny

File Name : IRVJAFAPM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 1

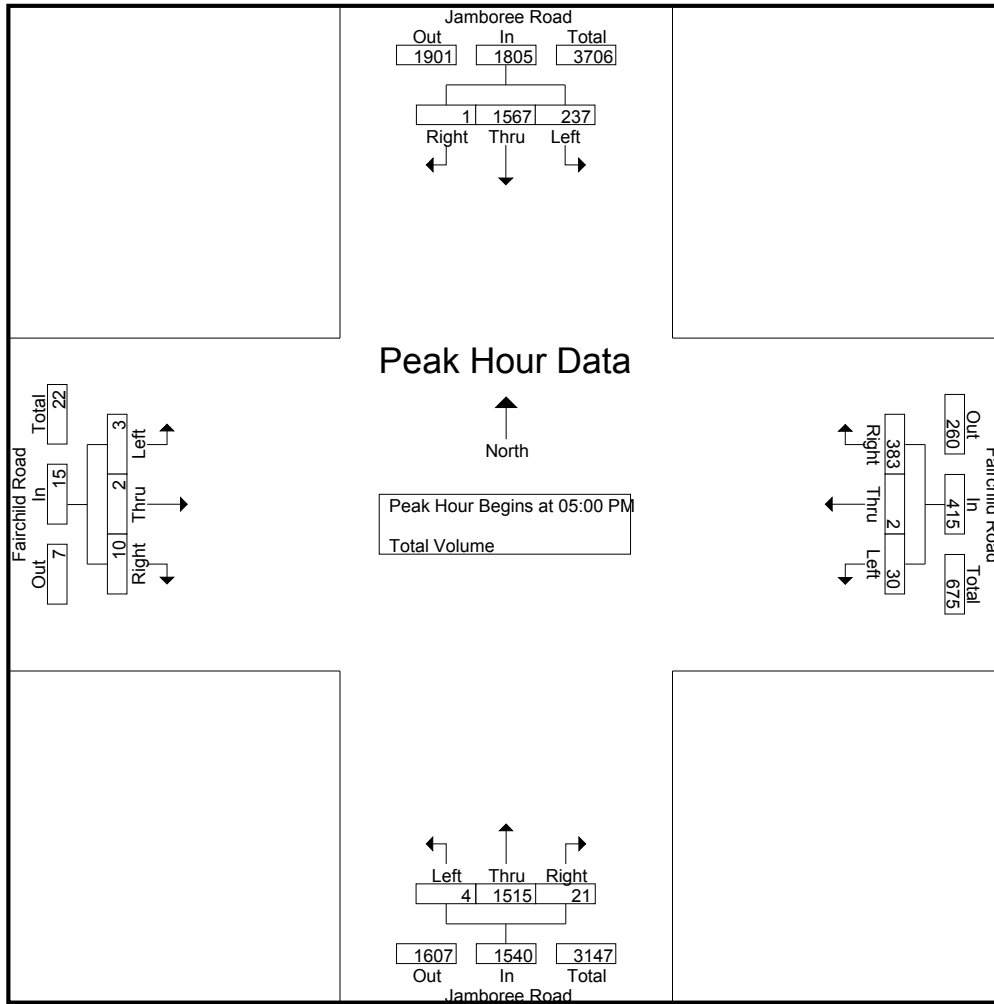
Groups Printed- Total Volume

Start Time	Jamboree Road Southbound				Fairchild Road Westbound				Jamboree Road Northbound				Fairchild Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	30	217	1	248	4	0	60	64	2	301	5	308	0	0	1	1	621
04:15 PM	26	273	0	299	5	0	50	55	1	307	5	313	0	0	0	0	667
04:30 PM	46	286	0	332	6	1	78	85	1	273	2	276	0	0	1	1	694
04:45 PM	50	338	1	389	4	0	74	78	1	356	7	364	1	0	0	1	832
Total	152	1114	2	1268	19	1	262	282	5	1237	19	1261	1	0	2	3	2814
05:00 PM	69	355	0	424	11	1	117	129	0	332	4	336	1	0	4	5	894
05:15 PM	58	407	0	465	7	0	105	112	0	424	5	429	1	1	0	2	1008
05:30 PM	55	417	0	472	7	0	82	89	2	376	7	385	0	1	0	1	947
05:45 PM	55	388	1	444	5	1	79	85	2	383	5	390	1	0	6	7	926
Total	237	1567	1	1805	30	2	383	415	4	1515	21	1540	3	2	10	15	3775
06:00 PM	53	329	0	382	7	0	72	79	2	324	5	331	1	0	1	2	794
06:15 PM	38	313	0	351	10	0	69	79	0	294	2	296	1	0	0	1	727
Grand Total	480	3323	3	3806	66	3	786	855	11	3370	47	3428	6	2	13	21	8110
Apprch %	12.6	87.3	0.1		7.7	0.4	91.9		0.3	98.3	1.4		28.6	9.5	61.9		
Total %	5.9	41	0	46.9	0.8	0	9.7	10.5	0.1	41.6	0.6	42.3	0.1	0	0.2	0.3	

Start Time	Jamboree Road Southbound				Fairchild Road Westbound				Jamboree Road Northbound				Fairchild Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	69	355	0	424	11	1	117	129	0	332	4	336	1	0	4	5	894
05:15 PM	58	407	0	465	7	0	105	112	0	424	5	429	1	1	0	2	1008
05:30 PM	55	417	0	472	7	0	82	89	2	376	7	385	0	1	0	1	947
05:45 PM	55	388	1	444	5	1	79	85	2	383	5	390	1	0	6	7	926
Total Volume	237	1567	1	1805	30	2	383	415	4	1515	21	1540	3	2	10	15	3775
% App. Total	13.1	86.8	0.1		7.2	0.5	92.3		0.3	98.4	1.4		20	13.3	66.7		
PHF	.859	.939	.250	.956	.682	.500	.818	.804	.500	.893	.750	.897	.750	.500	.417	.536	.936

City of Irvine
 N/S: Jamboree Road
 E/W: Fairchild Road
 Weather: Sunny

File Name : IRVJAFAPM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 2



Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	69	355	0	424	11	1	117	129	0	332	4	336	1	0	4	5
+15 mins.	58	407	0	465	7	0	105	112	0	424	5	429	1	1	0	2
+30 mins.	55	417	0	472	7	0	82	89	2	376	7	385	0	1	0	1
+45 mins.	55	388	1	444	5	1	79	85	2	383	5	390	1	0	6	7
Total Volume	237	1567	1	1805	30	2	383	415	4	1515	21	1540	3	2	10	15
% App. Total	13.1	86.8	0.1		7.2	0.5	92.3		0.3	98.4	1.4		20	13.3	66.7	
PHF	.859	.939	.250	.956	.682	.500	.818	.804	.500	.893	.750	.897	.750	.500	.417	.536

City of Irvine
 N/S: MacArthur Boulevard Northbound Ramp
 E/W: University Drive
 Weather: Sunny

File Name : IRVMANUNAM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 1

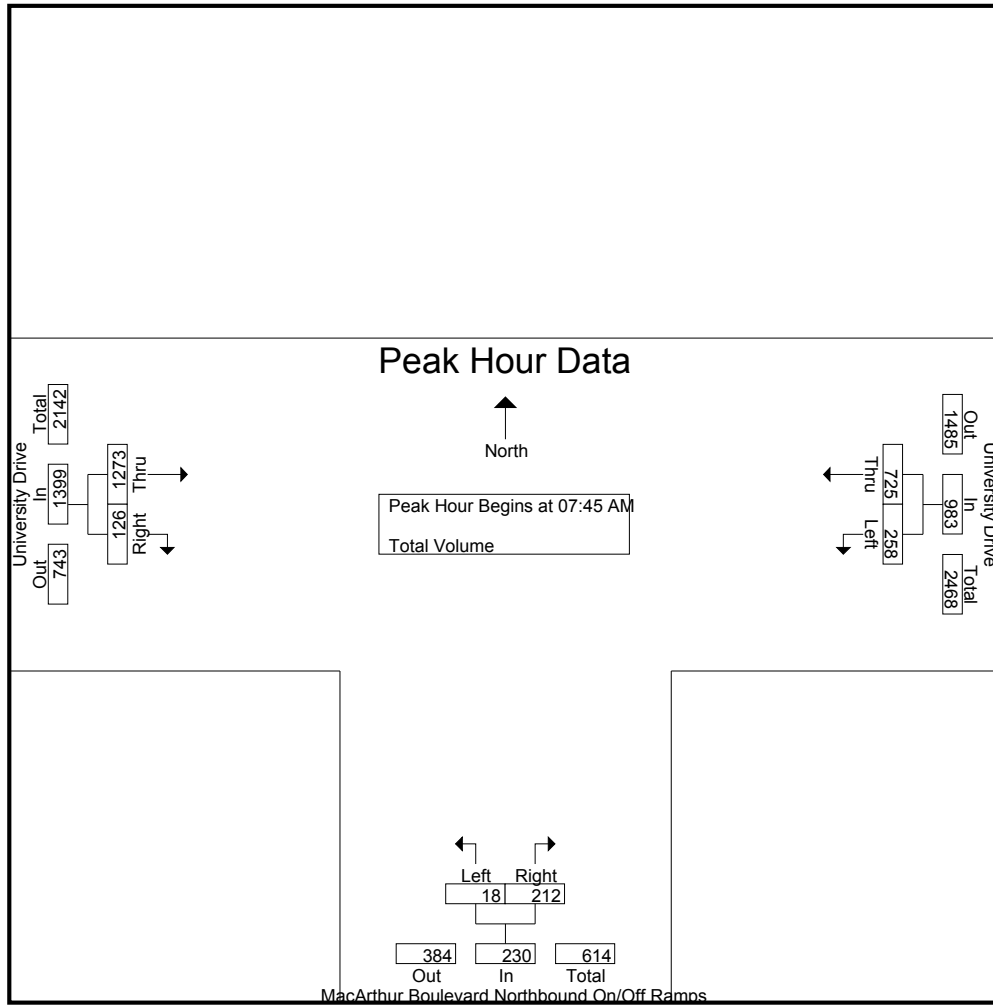
Groups Printed- Total Volume

Start Time	University Drive Westbound			MacArthur Boulevard Northbound On/Off Ramps Northbound			University Drive Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	29	90	119	4	22	26	127	20	147	292
07:15 AM	49	158	207	6	17	23	231	18	249	479
07:30 AM	50	151	201	13	31	44	295	30	325	570
07:45 AM	59	171	230	3	49	52	358	32	390	672
Total	187	570	757	26	119	145	1011	100	1111	2013
08:00 AM	69	171	240	4	42	46	320	33	353	639
08:15 AM	65	205	270	4	69	73	320	30	350	693
08:30 AM	65	178	243	7	52	59	275	31	306	608
08:45 AM	75	147	222	3	46	49	325	37	362	633
Total	274	701	975	18	209	227	1240	131	1371	2573
Grand Total	461	1271	1732	44	328	372	2251	231	2482	4586
Apprch %	26.6	73.4		11.8	88.2		90.7	9.3		
Total %	10.1	27.7	37.8	1	7.2	8.1	49.1	5	54.1	

Start Time	University Drive Westbound			MacArthur Boulevard Northbound On/Off Ramps Northbound			University Drive Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	59	171	230	3	49	52	358	32	390	672
08:00 AM	69	171	240	4	42	46	320	33	353	639
08:15 AM	65	205	270	4	69	73	320	30	350	693
08:30 AM	65	178	243	7	52	59	275	31	306	608
Total Volume	258	725	983	18	212	230	1273	126	1399	2612
% App. Total	26.2	73.8		7.8	92.2		91	9		
PHF	.935	.884	.910	.643	.768	.788	.889	.955	.897	.942

City of Irvine
 N/S: MacArthur Boulevard Northbound Ramp
 E/W: University Drive
 Weather: Sunny

File Name : IRVMANUNAM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			07:30 AM		
+0 mins.	59	171	230	3	49	52	295	30	325
+15 mins.	69	171	240	4	42	46	358	32	390
+30 mins.	65	205	270	4	69	73	320	33	353
+45 mins.	65	178	243	7	52	59	320	30	350
Total Volume	258	725	983	18	212	230	1293	125	1418
% App. Total	26.2	73.8		7.8	92.2		91.2	8.8	
PHF	.935	.884	.910	.643	.768	.788	.903	.947	.909

City of Irvine
 N/S: MacArthur Boulevard Northbound Ramp
 E/W: University Drive
 Weather: Sunny

File Name : IRV/MANUNPM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 1

Groups Printed- Total Volume

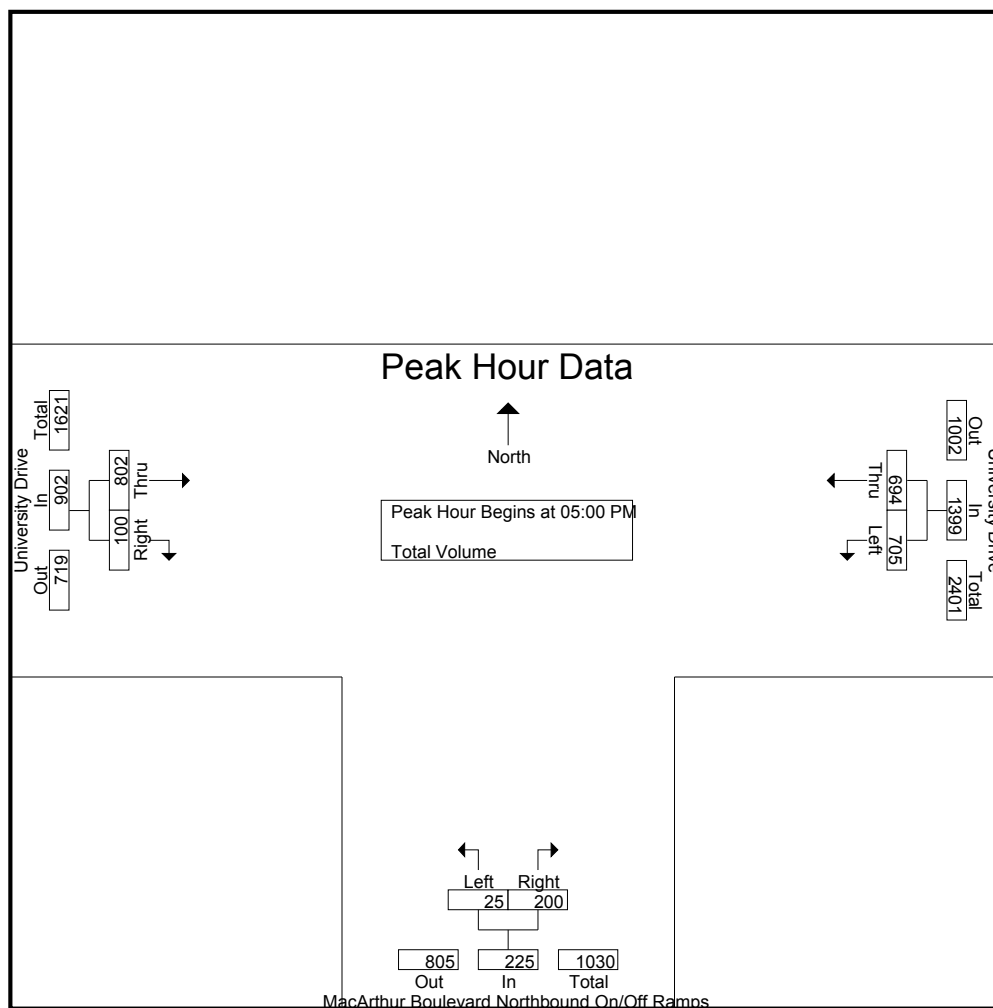
Start Time	University Drive Westbound			MacArthur Boulevard Northbound On/Off Ramps Northbound			University Drive Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	92	113	205	5	36	41	170	15	185	431
04:15 PM	111	115	226	5	57	62	181	14	195	483
04:30 PM	117	126	243	3	54	57	195	23	218	518
04:45 PM	164	123	287	2	58	60	201	24	225	572
Total	484	477	961	15	205	220	747	76	823	2004
05:00 PM	210	158	368	2	43	45	200	23	223	636
05:15 PM	169	173	342	10	61	71	213	34	247	660
05:30 PM	162	184	346	4	43	47	210	25	235	628
05:45 PM	164	179	343	9	53	62	179	18	197	602
Total	705	694	1399	25	200	225	802	100	902	2526
06:00 PM	125	144	269	7	48	55	165	18	183	507
06:15 PM	133	145	278	1	36	37	225	20	245	560
Grand Total	1447	1460	2907	48	489	537	1939	214	2153	5597
Apprch %	49.8	50.2		8.9	91.1		90.1	9.9		
Total %	25.9	26.1	51.9	0.9	8.7	9.6	34.6	3.8	38.5	

Start Time	University Drive Westbound			MacArthur Boulevard Northbound On/Off Ramps Northbound			University Drive Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
05:00 PM	210	158	368	2	43	45	200	23	223	636
05:15 PM	169	173	342	10	61	71	213	34	247	660
05:30 PM	162	184	346	4	43	47	210	25	235	628
05:45 PM	164	179	343	9	53	62	179	18	197	602
Total Volume	705	694	1399	25	200	225	802	100	902	2526
% App. Total	50.4	49.6		11.1	88.9		88.9	11.1		
PHF	.839	.943	.950	.625	.820	.792	.941	.735	.913	.957

Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

City of Irvine
 N/S: MacArthur Boulevard Northbound Ramp
 E/W: University Drive
 Weather: Sunny

File Name : IRV/MANUNPM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 2



Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM			05:15 PM			04:45 PM		
+0 mins.	210	158	368	10	61	71	201	24	225
+15 mins.	169	173	342	4	43	47	200	23	223
+30 mins.	162	184	346	9	53	62	213	34	247
+45 mins.	164	179	343	7	48	55	210	25	235
Total Volume	705	694	1399	30	205	235	824	106	930
% App. Total	50.4	49.6		12.8	87.2		88.6	11.4	
PHF	.839	.943	.950	.750	.840	.827	.967	.779	.941

City of Irvine
 N/S: MacArthur Boulevard Southbound Ramp
 E/W: University Drive
 Weather: Sunny

File Name : IRVMASUNAM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 1

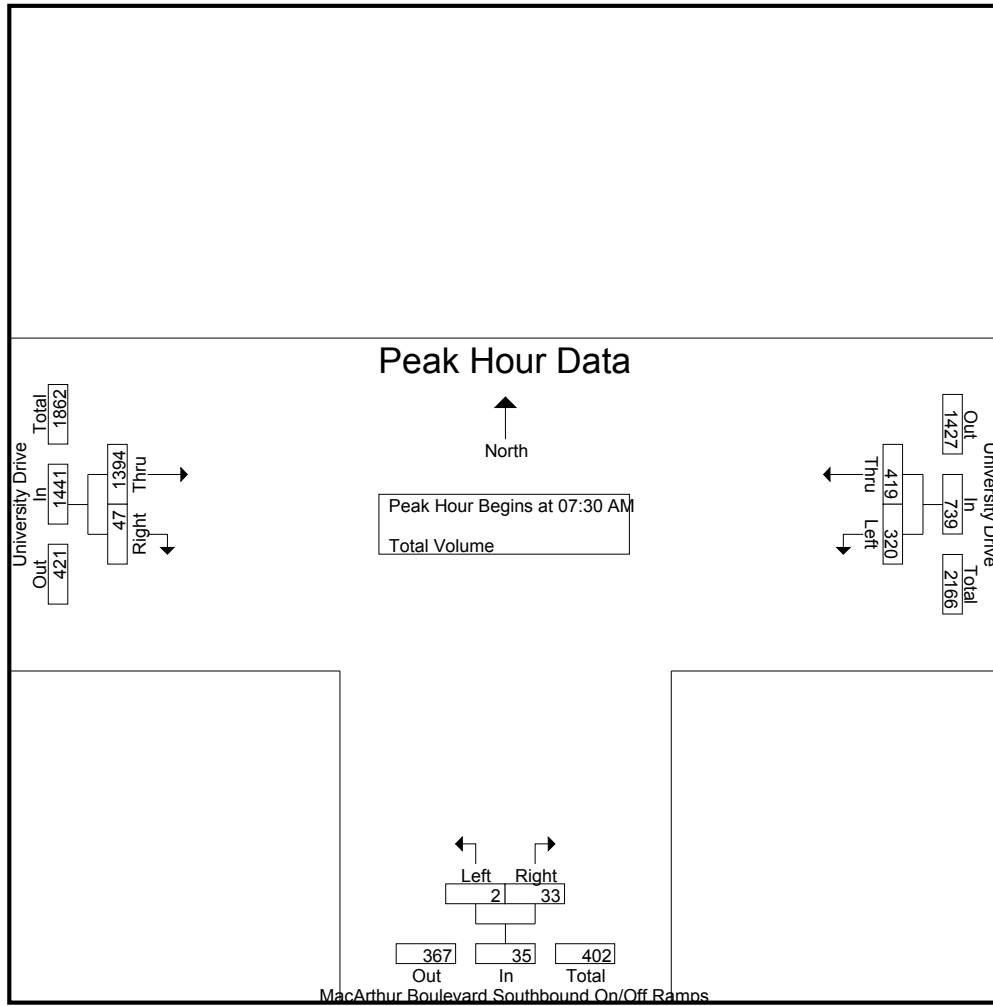
Groups Printed- Total Volume

Start Time	University Drive Westbound			MacArthur Boulevard Southbound On/Off Ramps Northbound			University Drive Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	47	66	113	0	1	1	175	5	180	294
07:15 AM	61	108	169	0	3	3	261	13	274	446
07:30 AM	62	109	171	1	6	7	347	12	359	537
07:45 AM	87	88	175	1	10	11	366	15	381	567
Total	257	371	628	2	20	22	1149	45	1194	1844
08:00 AM	68	102	170	0	8	8	350	16	366	544
08:15 AM	103	120	223	0	9	9	331	4	335	567
08:30 AM	66	87	153	0	7	7	314	2	316	476
08:45 AM	68	86	154	0	19	19	324	12	336	509
Total	305	395	700	0	43	43	1319	34	1353	2096
Grand Total	562	766	1328	2	63	65	2468	79	2547	3940
Apprch %	42.3	57.7		3.1	96.9		96.9	3.1		
Total %	14.3	19.4	33.7	0.1	1.6	1.6	62.6	2	64.6	

Start Time	University Drive Westbound			MacArthur Boulevard Southbound On/Off Ramps Northbound			University Drive Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	62	109	171	1	6	7	347	12	359	537
07:45 AM	87	88	175	1	10	11	366	15	381	567
08:00 AM	68	102	170	0	8	8	350	16	366	544
08:15 AM	103	120	223	0	9	9	331	4	335	567
Total Volume	320	419	739	2	33	35	1394	47	1441	2215
% App. Total	43.3	56.7		5.7	94.3		96.7	3.3		
PHF	.777	.873	.828	.500	.825	.795	.952	.734	.946	.977

City of Irvine
 N/S: MacArthur Boulevard Southbound Ramp
 E/W: University Drive
 Weather: Sunny

File Name : IRVMASUNAM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:30 AM			08:00 AM			07:30 AM		
+0 mins.	62	109	171	0	8	8	347	12	359
+15 mins.	87	88	175	0	9	9	366	15	381
+30 mins.	68	102	170	0	7	7	350	16	366
+45 mins.	103	120	223	0	19	19	331	4	335
Total Volume	320	419	739	0	43	43	1394	47	1441
% App. Total	43.3	56.7		0	100		96.7	3.3	
PHF	.777	.873	.828	.000	.566	.566	.952	.734	.946

City of Irvine
 N/S: MacArthur Boulevard Southbound Ramp
 E/W: University Drive
 Weather: Sunny

File Name : IRVMASUNPM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 1

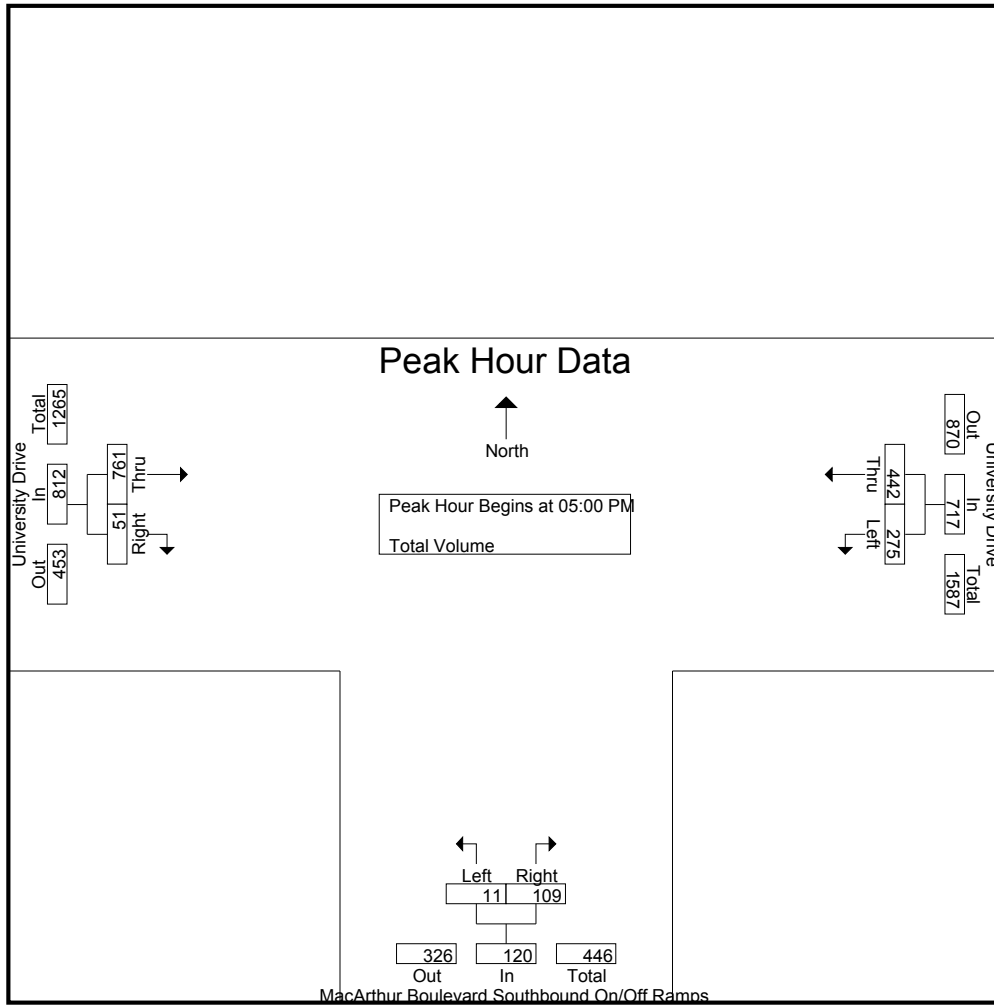
Groups Printed- Total Volume

Start Time	University Drive Westbound			MacArthur Boulevard Southbound On/Off Ramps Northbound			University Drive Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	49	69	118	1	22	23	178	5	183	324
04:15 PM	33	72	105	0	14	14	167	1	168	287
04:30 PM	53	90	143	2	21	23	212	6	218	384
04:45 PM	52	84	136	1	22	23	189	6	195	354
Total	187	315	502	4	79	83	746	18	764	1349
05:00 PM	61	96	157	2	42	44	184	9	193	394
05:15 PM	72	128	200	2	33	35	201	13	214	449
05:30 PM	69	115	184	4	14	18	202	16	218	420
05:45 PM	73	103	176	3	20	23	174	13	187	386
Total	275	442	717	11	109	120	761	51	812	1649
06:00 PM	58	99	157	3	21	24	175	5	180	361
06:15 PM	50	84	134	3	14	17	225	6	231	382
Grand Total	570	940	1510	21	223	244	1907	80	1987	3741
Apprch %	37.7	62.3		8.6	91.4		96	4		
Total %	15.2	25.1	40.4	0.6	6	6.5	51	2.1	53.1	

Start Time	University Drive Westbound			MacArthur Boulevard Southbound On/Off Ramps Northbound			University Drive Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	61	96	157	2	42	44	184	9	193	394
05:15 PM	72	128	200	2	33	35	201	13	214	449
05:30 PM	69	115	184	4	14	18	202	16	218	420
05:45 PM	73	103	176	3	20	23	174	13	187	386
Total Volume	275	442	717	11	109	120	761	51	812	1649
% App. Total	38.4	61.6		9.2	90.8		93.7	6.3		
PHF	.942	.863	.896	.688	.649	.682	.942	.797	.931	.918

City of Irvine
 N/S: MacArthur Boulevard Southbound Ramp
 E/W: University Drive
 Weather: Sunny

File Name : IRVMASUNPM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 2



Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM			04:30 PM			04:30 PM		
+0 mins.	61	96	157	2	21	23	212	6	218
+15 mins.	72	128	200	1	22	23	189	6	195
+30 mins.	69	115	184	2	42	44	184	9	193
+45 mins.	73	103	176	2	33	35	201	13	214
Total Volume	275	442	717	7	118	125	786	34	820
% App. Total	38.4	61.6		5.6	94.4		95.9	4.1	
PHF	.942	.863	.896	.875	.702	.710	.927	.654	.940

City of Irvine
 N/S: MacArthur Boulevard
 E/W: Fairchild Road
 Weather: Sunny

File Name : IRVMAFAAM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 1

Groups Printed- Total Volume

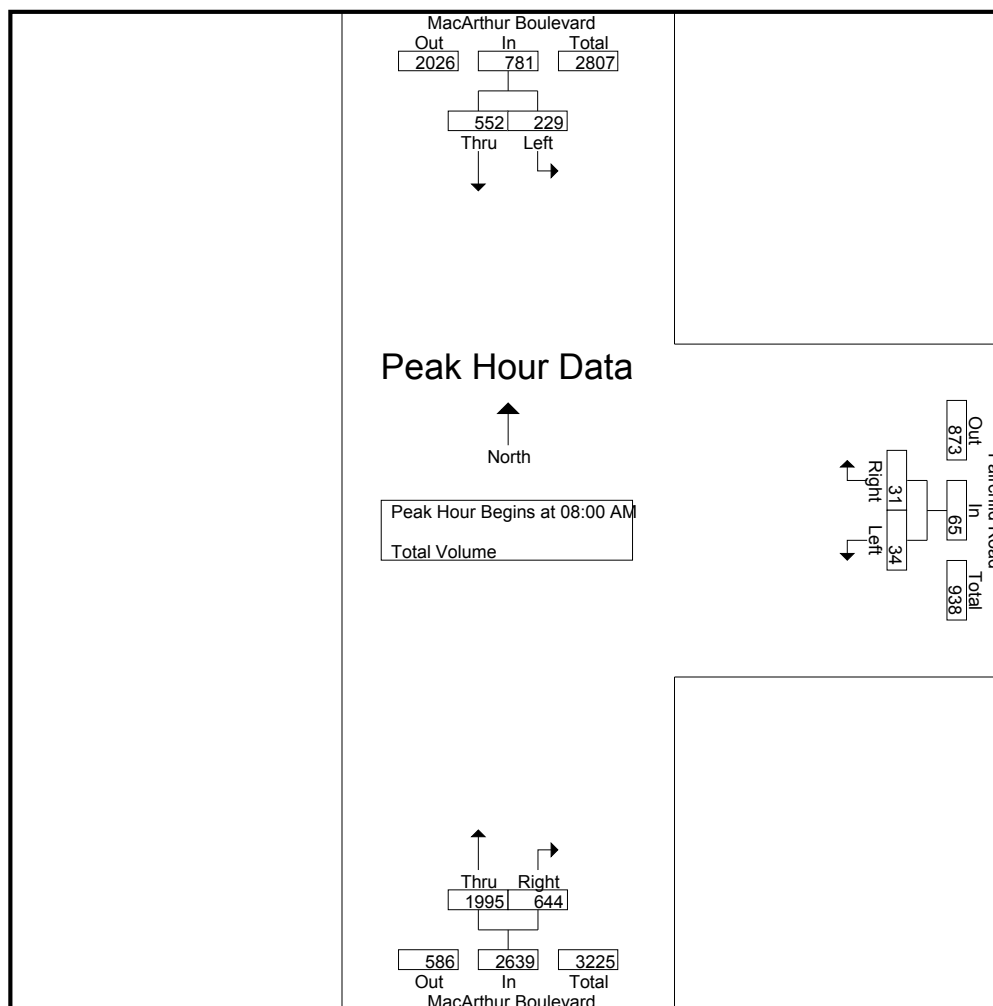
Start Time	MacArthur Boulevard Southbound			Fairchild Road Westbound			MacArthur Boulevard Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	21	90	111	1	3	4	161	49	210	325
07:15 AM	25	115	140	10	4	14	234	60	294	448
07:30 AM	35	107	142	5	4	9	325	94	419	570
07:45 AM	48	137	185	9	6	15	436	137	573	773
Total	129	449	578	25	17	42	1156	340	1496	2116
08:00 AM	61	115	176	4	14	18	428	147	575	769
08:15 AM	48	121	169	9	1	10	566	166	732	911
08:30 AM	61	154	215	9	11	20	503	160	663	898
08:45 AM	59	162	221	12	5	17	498	171	669	907
Total	229	552	781	34	31	65	1995	644	2639	3485
Grand Total	358	1001	1359	59	48	107	3151	984	4135	5601
Apprch %	26.3	73.7		55.1	44.9		76.2	23.8		
Total %	6.4	17.9	24.3	1.1	0.9	1.9	56.3	17.6	73.8	

Start Time	MacArthur Boulevard Southbound			Fairchild Road Westbound			MacArthur Boulevard Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
08:00 AM	61	115	176	4	14	18	428	147	575	769
08:15 AM	48	121	169	9	1	10	566	166	732	911
08:30 AM	61	154	215	9	11	20	503	160	663	898
08:45 AM	59	162	221	12	5	17	498	171	669	907
Total Volume	229	552	781	34	31	65	1995	644	2639	3485
% App. Total	29.3	70.7		52.3	47.7		75.6	24.4		
PHF	.939	.852	.883	.708	.554	.813	.881	.942	.901	.956

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 08:00 AM

City of Irvine
 N/S: MacArthur Boulevard
 E/W: Fairchild Road
 Weather: Sunny

File Name : IRVMAFAAM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			08:00 AM		
+0 mins.	61	115	176	4	14	18	428	147	575
+15 mins.	48	121	169	9	1	10	566	166	732
+30 mins.	61	154	215	9	11	20	503	160	663
+45 mins.	59	162	221	12	5	17	498	171	669
Total Volume	229	552	781	34	31	65	1995	644	2639
% App. Total	29.3	70.7		52.3	47.7		75.6	24.4	
PHF	.939	.852	.883	.708	.554	.813	.881	.942	.901

City of Irvine
 N/S: MacArthur Boulevard
 E/W: Fairchild Road
 Weather: Sunny

File Name : IRVMAFAPM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 1

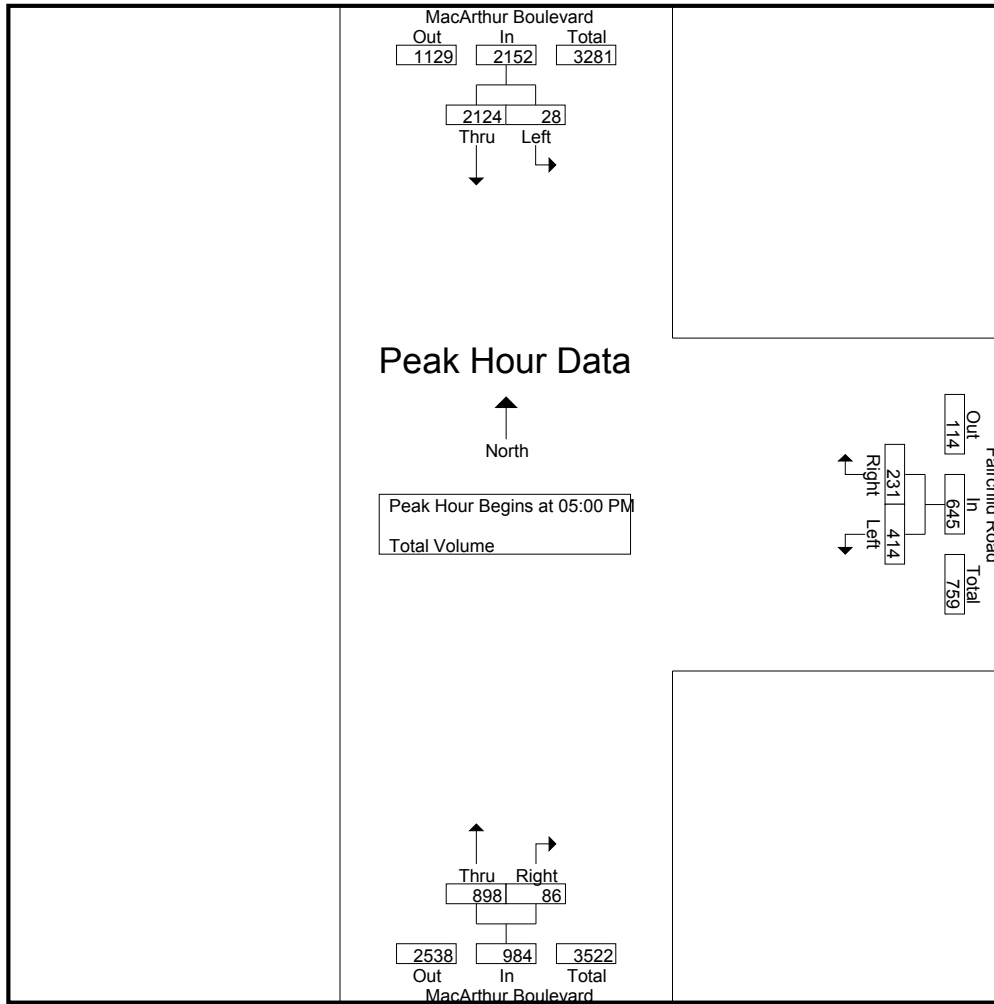
Groups Printed- Total Volume

Start Time	MacArthur Boulevard Southbound			Fairchild Road Westbound			MacArthur Boulevard Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	13	249	262	45	32	77	184	21	205	544
04:15 PM	12	350	362	38	39	77	191	16	207	646
04:30 PM	7	305	312	64	50	114	191	24	215	641
04:45 PM	10	439	449	84	41	125	210	24	234	808
Total	42	1343	1385	231	162	393	776	85	861	2639
05:00 PM	8	460	468	102	76	178	207	22	229	875
05:15 PM	4	600	604	123	57	180	216	19	235	1019
05:30 PM	6	572	578	95	45	140	256	24	280	998
05:45 PM	10	492	502	94	53	147	219	21	240	889
Total	28	2124	2152	414	231	645	898	86	984	3781
06:00 PM	9	435	444	99	47	146	147	17	164	754
06:15 PM	6	425	431	65	36	101	142	13	155	687
Grand Total	85	4327	4412	809	476	1285	1963	201	2164	7861
Apprch %	1.9	98.1		63	37		90.7	9.3		
Total %	1.1	55	56.1	10.3	6.1	16.3	25	2.6	27.5	

Start Time	MacArthur Boulevard Southbound			Fairchild Road Westbound			MacArthur Boulevard Northbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	8	460	468	102	76	178	207	22	229	875
05:15 PM	4	600	604	123	57	180	216	19	235	1019
05:30 PM	6	572	578	95	45	140	256	24	280	998
05:45 PM	10	492	502	94	53	147	219	21	240	889
Total Volume	28	2124	2152	414	231	645	898	86	984	3781
% App. Total	1.3	98.7		64.2	35.8		91.3	8.7		
PHF	.700	.885	.891	.841	.760	.896	.877	.896	.879	.928

City of Irvine
 N/S: MacArthur Boulevard
 E/W: Fairchild Road
 Weather: Sunny

File Name : IRVMAFAPM
 Site Code : 06714005
 Start Date : 1/7/2014
 Page No : 2



Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	8	460	468	102	76	178	207	22	229
+15 mins.	4	600	604	123	57	180	216	19	235
+30 mins.	6	572	578	95	45	140	256	24	280
+45 mins.	10	492	502	94	53	147	219	21	240
Total Volume	28	2124	2152	414	231	645	898	86	984
% App. Total	1.3	98.7		64.2	35.8		91.3	8.7	
PHF	.700	.885	.891	.841	.760	.896	.877	.896	.879

ATTACHMENT 2.3

Existing Conditions ICU Analysis Worksheets

2. Superior Av at Placentia Av

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	392	.245	216	.135*
NBT	2	3200	1128	.353*	406	.127
NBR	1	1600	25	.016	14	.009
SBL	1	1600	74	.046*	70	.044
SBT	2	3200	281	.088	879	.275*
SBR	1	1600	7	.004	10	.006
EBL	1	1600	33	.021	14	.009*
EBT	1	1600	274	.171*	171	.107
EBR	1	1600	267	.167	319	.199
WBL	0.5		7	{.004}*	33	
WBT	1.5	3200	217	.096	339	.144*
WBR	0		83		88	
Right Turn Adjustment					EBR	.067*
TOTAL CAPACITY UTILIZATION				.574	.630	

3. Superior Av at Coast Hw

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1.5		216		242	
NBT	1.5	4800	330	.143*	213	.110*
NBR	0		138		75	
SBL	1.5		182		186	
SBT	1.5	4800	152	.070*	328	.107*
SBR	2	3200	213	.067	920	.288
EBL	2	3200	1010	.316	335	.105*
EBT	3	4800	2687	.560*	900	.188
EBR	1	1600	165	.103	219	.137
WBL	1	1600	81	.051*	203	.127
WBT	4	6400	834	.130	2442	.382*
WBR	d	1600	199	.124	111	.069
Right Turn Adjustment					SBR	.076*
Note: Assumes N/S Split Phasing						
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION				.824	.780	

4. Newport Bl at Hospital

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	125	.078	108	.068*
NBT	3	4800	1729	.360*	1229	.256
NBR	1	1600	85	.053	61	.038
SBL	1	1600	51	.032*	61	.038
SBT	3	4800	1154	.240	1575	.328*
SBR	1	1600	404	.253	185	.116
EBL	2	3200	183	.057*	320	.100*
EBT	1	1600	115	.072	100	.063
EBR	1	1600	197	.123	217	.136
WBL	1	1600	50	.031	127	.079
WBT	2	3200	216	.075*	188	.073*
WBR	0	0	23		47	
Right Turn Adjustment			EBR	.022*	EBR	.042*
TOTAL CAPACITY UTILIZATION				.546		.611

5. Newport Bl at Via Lido

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1236	.258*	969	.202*
NBR	1	1600	37	.023	26	.016
SBL	2	3200	284	.089*	397	.124*
SBT	3	4800	851	.177	1383	.288
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	18	.011*	31	.019*
WBT	0	0	0		0	
WBR	2	3200	368	.115	305	.095
Right Turn Adjustment			WBR	.015*		
Note: Assumes Right-Turn Overlap for WBR						
TOTAL CAPACITY UTILIZATION				.373		.345

6. Newport Bl at 32nd St

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	16	.010	49	.031*
NBT	2	3200	888	.278*	636	.199
NBR	d	1600	30	.019	12	.008
SBL	1	1600	44	.028*	96	.060
SBT	2	3200	577	.208	924	.365*
SBR	0	0	90		245	
EBL	1.5		316		167	
EBT	0.5	3200	34	.109*	40	.065*
EBR	1	1600	18	.011	23	.014
WBL	0.5		19		25	
WBT	1.5	3200	27	.014*	44	.022*
WBR	f		32		75	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION			.429		.483	

7. Riverside Av at Coast Hw

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	3		8	
NBT	1	1600	0	.003*	3	.018*
NBR	0	0	1		17	
SBL	0.5		117	{.073}*	81	{.051}*
SBT	0.5	1600	0	.073	2	.052
SBR	1	1600	376	.235	393	.246
EBL	1	1600	333	.208	250	.156*
EBT	2	3200	2169	.680*	1475	.462
EBR	0	0	6		2	
WBL	1	1600	5	.003*	30	.019
WBT	3	4800	1147	.239	2219	.462*
WBR	1	1600	79	.049	51	.032
Right Turn Adjustment					SBR	.026*
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION			.759		.713	

8. Tustin Av at Coast Hw

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	1	{.001}*	1	{.001}*
NBT	1	1600	0	.001	1	.001
NBR	0	0	1		0	
SBL	0	0	46		70	
SBT	1	1600	1	.039*	0	.067*
SBR	0	0	16		38	
EBL	1	1600	21	.013	39	.024*
EBT	2	3200	2271	.711*	1575	.493
EBR	0	0	4		1	
WBL	0	0	0		0	
WBT	3	4800	1238	.265	2237	.474*
WBR	0	0	36		40	
TOTAL CAPACITY UTILIZATION				.751	.566	

9. MacArthur Bl at Campus Dr

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	42	.026	99	.062
NBT	4	6400	737	.115*	1013	.158*
NBR	1	1600	60	.038	29	.018
SBL	1	1600	273	.171*	137	.086*
SBT	4	6400	884	.138	898	.140
SBR	1	1600	273	.171	561	.351
EBL	2	3200	582	.182	361	.113*
EBT	3	4800	1008	.210*	372	.078
EBR	d	1600	82	.051	83	.052
WBL	2	3200	40	.013*	74	.023
WBT	3	4800	190	.040	1025	.214*
WBR	f		66		180	
Right Turn Adjustment					SBR	.169*
TOTAL CAPACITY UTILIZATION				.509	.740	

10. MacArthur Bl at Birch St

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	32	.020	120	.075*
NBT	3	4800	671	.140*	676	.141
NBR	1	1600	82	.051	29	.018
SBL	1	1600	95	.059*	45	.028
SBT	4	6400	658	.137	999	.186*
SBR	0	0	217		192	
EBL	1.5		72	.045	252	
EBT	1.5	4800	259	.095*	210	.104*
EBR	0		44		37	
WBL	1	1600	16	.010	93	.058
WBT	2	3200	116	.036*	382	.119*
WBR	f		41		127	
TOTAL CAPACITY UTILIZATION			.330		.484	

Note: Assumes E/W Split Phasing

11. Von Karman Av at Campus Dr

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	14	.009	51	.032*
NBT	2	3200	597	.187*	386	.121
NBR	f		45		100	
SBL	1	1600	53	.033*	139	.087
SBT	2	3200	411	.152	657	.312*
SBR	0	0	76		342	
EBL	1	1600	278	.174*	156	.098*
EBT	2	3200	416	.130	523	.163
EBR	1	1600	59	.037	68	.043
WBL	1	1600	75	.047	51	.032
WBT	2	3200	250	.103*	559	.191*
WBR	0	0	80		53	
TOTAL CAPACITY UTILIZATION			.497		.633	

12. MacArthur Bl at Von Karman

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	59	.037	40	.025*
NBT	3	4800	754	.157*	578	.120
NBR	1	1600	699	.437	115	.072
SBL	1	1600	59	.037*	27	.017
SBT	3	4800	436	.091	1080	.225*
SBR	1	1600	160	.100	63	.039
EBL	1	1600	11	.007*	101	.063
EBT	2	3200	82	.026	174	.054*
EBR	f		17		172	
WBL	2	3200	76	.024	591	.185*
WBT	1	1600	129	.081*	97	.061
WBR	f		24		98	
Right Turn Adjustment			NBR	.280*		
TOTAL CAPACITY UTILIZATION				.562		.489

13. Jamboree Rd at Campus Dr

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	107	.033*	37	.012*
NBT	4	6400	1180	.202	1685	.306
NBR	0	0	115		275	
SBL	2	3200	239	.075	215	.067
SBT	3	4800	1524	.350*	1614	.384*
SBR	0	0	158		228	
EBL	2	3200	111	.035*	239	.075
EBT	2	3200	153	.048	558	.174*
EBR	f		23		138	
WBL	2	3200	290	.091	147	.046*
WBT	2	3200	364	.114*	267	.083
WBR	1	1600	93	.058	206	.129
TOTAL CAPACITY UTILIZATION				.532		.616

14. Jamboree Rd at Birch St

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	197	.123*	33	.021*
NBT	3	4800	1286	.269	1529	.319
NBR	0	0	5		0	
SBL	1	1600	2	.001	0	.000
SBT	3	4800	1476	.308*	1896	.395*
SBR	f		451		82	
EBL	1.5		139		251	
EBT	0.5	3200	5	.045*	0	.078*
EBR	f		56		124	
WBL	0	0	4		0	
WBT	1	1600	3	.012*	0	.000*
WBR	0	0	12		0	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.488		.494

15. Campus Dr at Bristol St(N)

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	372	.116	452	.141*
NBT	3	4800	1628	.339*	694	.145
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	230	.036	968	.151*
SBR	2	3200	159	.050	863	.270
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	135	.084	232	.145
WBT	4	6400	938	.166*	2014	.324*
WBR	0	0	127		57	
Right Turn Adjustment					SBR	.119*
TOTAL CAPACITY UTILIZATION				.505		.735

16. Birch St at Bristol St(N)

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	96	.030	129	.040*
NBT	2	3200	977	.305*	302	.094
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1.5	6400	124	.039	491	.192*
SBR	2.5		98	.031	735	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		344		462	
WBT	3.5	8000	1012	.195*	1505	.260*
WBR	0		208		117	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.500	.492	

17. Campus Dr at Bristol St(S)

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	5	8000	1000	.151*	709	.111*
NBR	0	0	204		225	.141
SBL	1	1600	64	.040*	175	.109*
SBT	3	4800	301	.063	1025	.214
SBR	0	0	0		0	
EBL	1.5		1000		437	
EBT	2.5	6400	1454	.383*	845	.200*
EBR	2	3200	497	.155	548	.171
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.030*
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.574	.450	

18. Birch St at Bristol St(S)

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	2.5	6400	382	.097*	291	.067
NBR	1.5		240		136	
SBL	2	3200	120	.038*	159	.050
SBT	2	3200	348	.109	794	.248*
SBR	0	0	0		0	
EBL	1.5		691	.216*	140	.088
EBT	3.5	8000	928	.215	1070	.179*
EBR	0		106		78	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.351	.427	

19. Irvine Av at Mesa Dr

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	76	.048	65	.041*
NBT	3	4800	1108	.231*	591	.123
NBR	1	1600	368	.230	165	.103
SBL	1	1600	4	.003*	2	.001
SBT	3	4800	473	.099	1321	.275*
SBR	1	1600	35	.022	203	.127
EBL	1	1600	103	.064	36	.023
EBT	2	3200	135	.077*	48	.030*
EBR	0	0	111		152	.095
WBL	2	3200	140	.044*	438	.137*
WBT	1	1600	18	.016	145	.098
WBR	0	0	7		11	
Right Turn Adjustment					EBR	.065*
TOTAL CAPACITY UTILIZATION				.355	.548	

20. Irvine Av at University Dr

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	108	.068	74	.046*
NBT	2	3200	1381	.432*	697	.218
NBR	1	1600	54	.034	65	.041
SBL	1	1600	61	.038*	74	.046
SBT	2	3200	532	.166	1626	.508*
SBR	1	1600	85	.053	165	.103
EBL	1	1600	169	.106*	96	.060*
EBT	1	1600	57	.036	59	.037
EBR	1	1600	107	.067	147	.092
WBL	1	1600	27	.017	73	.046
WBT	1	1600	20	.013*	68	.043*
WBR	d	1600	25	.016	62	.039
Right Turn Adjustment			WBR	.003*	EBR	.035*
TOTAL CAPACITY UTILIZATION				.592	.692	

21. Irvine Av at Santiago Dr

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	38	.024	94	.059*
NBT	2	3200	1214	.383*	741	.237
NBR	0	0	11		18	
SBL	1	1600	47	.029*	109	.068
SBT	2	3200	719	.225	1462	.457*
SBR	d	1600	33	.021	82	.051
EBL	0.5		131		48	
EBT	0.5	1600	53	.115*	50	.061*
EBR	1	1600	108	.068	105	.066
WBL	0.5		16	{.010}*	31	{.019}*
WBT	0.5	1600	36	.033	47	.049
WBR	d	1600	140	.088	75	.047
Right Turn Adjustment			WBR	.045*	EBR	.005*
TOTAL CAPACITY UTILIZATION				.582	.601	

22. Irvine Av at Highland Dr

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1600	45	.028	48	.030*
NBT	2	3200	1062	.332*	826	.258
NBR	d	1600	8	.005	13	.008
SBL	1	1600	23	.014*	34	.021
SBT	2	3200	757	.237	1456	.455*
SBR	d	1600	24	.015	61	.038
EBL	0.5		74	{.046}*	24	{.015}*
EBT	0.5	1600	26	.063	18	.026
EBR	d	1600	84	.053	49	.031
WBL	0.5		15		15	
WBT	0.5	1600	38	.033*	22	.023*
WBR	d	1600	93	.058	40	.025
Right Turn Adjustment			WBR	.025*	Multi	.004*
TOTAL CAPACITY UTILIZATION				.450		.527

23. Irvine Av at Dover Dr

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1600	40	.025	97	.061*
NBT	2	3200	780	.244*	658	.206
NBR	1	1600	12	.008	41	.026
SBL	1	1600	132	.083*	159	.099
SBT	2	3200	738	.231	1185	.370*
SBR	d	1600	18	.011	69	.043
EBL	1	1600	64	.040	48	.030*
EBT	1	1600	155	.114*	109	.108
EBR	0	0	28		63	
WBL	1	1600	12	.008*	30	.019
WBT	1	1600	101	.063	182	.114*
WBR	1	1600	240	.150	234	.146
Right Turn Adjustment			WBR	.068*	WBR	.032*
TOTAL CAPACITY UTILIZATION				.517		.607

24. Irvine Av at Westcliff Dr

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3200	274	.086*	312	.098*
NBT	2	3200	506	.158	459	.143
NBR	d	1600	37	.023	46	.029
SBL	2	3200	178	.056	170	.053
SBT	2	3200	438	.137*	584	.183*
SBR	d	1600	132	.083	523	.327
EBL	2	3200	230	.072	248	.078*
EBT	2	3200	478	.206*	472	.216
EBR	0	0	180		218	
WBL	1	1600	39	.024*	81	.051
WBT	2	3200	389	.141	554	.200*
WBR	0	0	62		87	
Right Turn Adjustment					SBR	.144*
TOTAL CAPACITY UTILIZATION				.453	.703	

25. Dover Dr at Westcliff Dr

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3200	362	.113*	550	.172*
NBT	2	3200	411	.128	543	.170
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	472	.295*	369	.231*
SBR	1	1600	111	.069	103	.064
EBL	2	3200	67	.021*	121	.038*
EBT	0	0	0		0	
EBR	f		509		503	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.429	.441	

26. Dover Dr at 16th St

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	87	.054*	136	.085
NBT	2	3200	718	.224	1017	.318*
NBR	d	1600	43	.027	45	.028
SBL	1	1600	40	.025	79	.049*
SBT	2	3200	907	.283*	816	.255
SBR	d	1600	50	.031	23	.014
EBL	0.5		29		34	
EBT	0.5	1600	21	.031*	23	.036*
EBR	d	1600	209	.131	153	.096
WBL	1	1600	44	.028*	52	.033*
WBT	1	1600	10	.006	14	.009
WBR	1	1600	59	.037	50	.031
Right Turn Adjustment			EBR	.100*	EBR	.060*
TOTAL CAPACITY UTILIZATION				.496	.496	

27. Dover Dr at Coast Hw

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	33	.021	39	.024
NBT	2	3200	56	.035*	44	.023*
NBR	0	0	60	.038	31	
SBL	3	4800	858	.179*	876	.183*
SBT	1	1600	43	.027	44	.028
SBR	1	1600	82	.051	132	.083
EBL	2	3200	150	.047	123	.038*
EBT	3	4800	2125	.449*	1508	.321
EBR	0	0	28		34	
WBL	1	1600	36	.023*	49	.031
WBT	3	4800	1263	.263	2221	.463*
WBR	f		601		1073	
Right Turn Adjustment			NBR	.003*		
TOTAL CAPACITY UTILIZATION				.689	.707	

28. Bayside Dr at Coast Hw

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2.5		383		410	
NBT	0.5	4800	13	.088*	8	.093*
NBR	0		25		29	
SBL	1	1600	30	.019*	23	.014*
SBT	1	1600	5	.003	16	.010
SBR	d	1600	36	.023	38	.024
EBL	1	1600	30	.019	50	.031*
EBT	3	4800	2421	.504*	1895	.395
EBR	1	1600	300	.188	473	.296
WBL	1	1600	37	.023*	57	.036
WBT	4	6400	1481	.234	2895	.456*
WBR	0	0	15		23	
Right Turn Adjustment			SBR	.004*	SBR	.010*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.638		.604

29. MacArthur Bl at Jamboree Rd

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3200	172	.054	249	.078*
NBT	4	6400	1041	.163*	398	.062
NBR	1	1600	392	.245	342	.214
SBL	3	4800	74	.015*	248	.052
SBT	3	4800	304	.063	1330	.277*
SBR	f		131		393	
EBL	2	3200	373	.117	233	.073
EBT	3	4800	1051	.219*	768	.160*
EBR	1	1600	163	.102	70	.044
WBL	2	3200	322	.101*	632	.198*
WBT	3	4800	918	.191	1286	.268
WBR	1	1600	136	.085	215	.134
Right Turn Adjustment			NBR	.082*		
TOTAL CAPACITY UTILIZATION				.580		.713

30. Jamboree Rd at Bristol St(N)

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	2	3200	727	.227*	708	.221*
NBT	2.5	6400	1587	.356	1071	.308
NBR	1.5		690		901	
SBL	0	0	0		0	
SBT	3.5	8000	850	.153*	1147	.239*
SBR	1.5		371		781	.244
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					SBR	.005*
TOTAL CAPACITY UTILIZATION				.380		.465

31. Bayview Pl at Bristol St(S)

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	2	3200	68	.021	228	.071
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	4	6400	2403	.375*	2279	.356*
EBR	1	1600	344	.215	150	.094
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.021*	NBR	.071*
TOTAL CAPACITY UTILIZATION				.396		.427

32. Jamboree Rd at Bristol St(S)

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	5	8000	1936	.247*	1792	.233*
NBR	0	0	37		70	
SBL	0	0	0		0	
SBT	4	6400	850	.133	1147	.179
SBR	0	0	0		0	
EBL	1.5		1068	.334*	888	
EBT	1.5	4800	360	.225	633	.317*
EBR	2	3200	1043	.326	986	.308
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .581 .550

33. Jamboree Rd at Bayview Wy

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	95	.059	29	.018
NBT	4	6400	1758	.283*	1902	.306*
NBR	0	0	51		59	
SBL	1	1600	76	.048*	98	.061*
SBT	4	6400	1691	.264	1990	.311
SBR	1	1600	126	.079	45	.028
EBL	2	3200	40	.013	91	.028*
EBT	1	1600	11	.007*	6	.004
EBR	1	1600	93	.058	129	.081
WBL	1	1600	11	.007*	32	.020
WBT	1	1600	0	.000	1	.001*
WBR	1	1600	60	.038	105	.066
Right Turn Adjustment			Multi	.088*	Multi	.137*

TOTAL CAPACITY UTILIZATION .433 .533

34. Jamboree Rd at University D

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	22	.014*	39	.024
NBT	3	4800	1419	.296	1702	.355*
NBR	1	1600	220	.138	328	.205
SBL	2	3200	69	.022	153	.048*
SBT	3	4800	1572	.328*	1640	.342
SBR	1	1600	154	.096	358	.224
EBL	1.5		290		193	
EBT	0.5	3200	81	.116*	81	.086*
EBR	1	1600	8	.005	12	.008
WBL	1.5		319	.100*	248	.078*
WBT	1.5	4800	50	.031	115	.072
WBR	f		195		95	

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .558 .567

35. Jamboree Rd at Bison Av

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1396	.291	1630	.340*
NBR	d	1600	155	.097	185	.116
SBL	2	3200	108	.034	99	.031*
SBT	3	4800	1745	.364*	1722	.359
SBR	1	1600	46	.029	79	.049
EBL	1	1600	77	.048	37	.023
EBT	0	0	0		0	
EBR	1	1600	94	.059	14	.009
WBL	2	3200	175	.055*	210	.066*
WBT	0	0	0		0	
WBR	2	3200	110	.034	126	.039
Right Turn Adjustment			Multi	.086*	EBR	.009*

TOTAL CAPACITY UTILIZATION .505 .446

36. Jamboree Rd at Ford Rd

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	419	.131*	328	.103*
NBT	3	4800	1196	.269	1817	.444
NBR	0	0	93		314	
SBL	1	1600	73	.046	31	.019
SBT	3	4800	1798	.375*	1840	.383*
SBR	1	1600	143	.089	75	.047
EBL	1.5		182		103	.064
EBT	1.5	4800	284	.097*	234	.073*
EBR	f		390		272	
WBL	1.5		160	.100	164	
WBT	1.5	4800	485	.152*	189	.074*
WBR	1	1600	40	.025	27	.017

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .755 .633

37. Jamboree Rd at San Joaquin

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	26	.016	55	.034
NBT	3	4800	1110	.231*	1289	.269*
NBR	f		140		131	
SBL	2	3200	744	.233*	514	.161*
SBT	3	4800	1526	.318	1598	.333
SBR	f		78		164	
EBL	1.5		299	.093*	89	.028*
EBT	1.5	4800	38	.024	36	.023
EBR	1	1600	58	.036	13	.008
WBL	1.5		123	.038*	178	.056*
WBT	1.5	4800	8	.005	46	.029
WBR	1	1600	17	.011	572	.358
Right Turn Adjustment					WBR	.302*

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .595 .816

38. Jamboree Rd at Santa Barbar

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	10	.006	17	.011*
NBT	3	4800	1115	.232*	1176	.245
NBR	1	1600	289	.181	128	.080
SBL	2	3200	543	.170*	157	.049
SBT	3	4800	1135	.236	1558	.325*
SBR	1	1600	29	.018	74	.046
EBL	1	1600	33	.021*	45	.028*
EBT	1	1600	5	.003	17	.011
EBR	1	1600	16	.010	16	.010
WBL	1.5		39		243	
WBT	0.5	3200	6	.014*	5	.078*
WBR	1	1600	99	.062	458	.286
Right Turn Adjustment			WBR	.048*	WBR	.208*
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.485	.650	

39. Jamboree Rd at Coast Hw

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	17	.011	41	.026
NBT	2	3200	340	.134*	290	.115*
NBR	0	0	88		79	
SBL	1	1600	192	.120*	179	.112*
SBT	2	3200	291	.091	417	.130
SBR	f		594		856	
EBL	3	4800	788	.164*	723	.151*
EBT	4	6400	1557	.246	1589	.258
EBR	0	0	19		60	
WBL	2	3200	76	.024	132	.041
WBT	4	6400	921	.144*	1729	.270*
WBR	1	1600	102	.064	205	.128
TOTAL CAPACITY UTILIZATION				.562	.648	

40. Santa Cruz at San Joaquin

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3200	48	.015*	506	.158*
NBT	1	1600	4	.011	14	.093
NBR	0	0	13		135	
SBL	1	1600	10	.006	9	.006
SBT	2	3200	7	.004*	5	.003*
SBR	0	0	64	.040	24	.015
EBL	1	1600	49	.031	72	.045
EBT	3	4800	512	.160*	486	.138*
EBR	0	0	292	.183	178	
WBL	1	1600	115	.072*	45	.028*
WBT	3	4800	265	.057	444	.097
WBR	0	0	7		20	
Right Turn Adjustment			Multi	.059*	SBR	.012*
TOTAL CAPACITY UTILIZATION				.310		.339

41. Santa Rosa at San Joaquin

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	32	.020	221	.138*
NBT	1	1600	16	.010*	25	.016
NBR	1	1600	75	.047	443	.277
SBL	1	1600	81	.051*	73	.046
SBT	1	1600	12	.008	11	.007*
SBR	1	1600	39	.024	59	.037
EBL	1	1600	27	.017	67	.042
EBT	3	4800	265	.083*	550	.142*
EBR	0	0	207	.129	133	
WBL	2	3200	447	.140*	374	.117*
WBT	3	4800	457	.116	280	.075
WBR	0	0	101		79	
Right Turn Adjustment			Multi	.083*	Multi	.208*
TOTAL CAPACITY UTILIZATION				.367		.612

42. Newport Ctr Dr at Coast Hw

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	19	.006*	164	.051*
SBT	0	0	0		0	
SBR	f		69		635	
EBL	2	3200	315	.098	314	.098*
EBT	3	4800	1718	.358*	1268	.264
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1051	.219	1416	.295*
WBR	f		170		128	
TOTAL CAPACITY UTILIZATION			.364		.444	

44. Avocado Av at San Miguel Dr

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	109	.068*	110	.069*
NBT	1	1600	76	.048	36	.023
NBR	1	1600	190	.119	637	.398
SBL	2	3200	31	.010	220	.069
SBT	1	1600	59	.051*	105	.074*
SBR	0	0	23		14	
EBL	1	1600	9	.006	7	.004
EBT	3	4800	142	.041*	627	.152*
EBR	0	0	54		104	
WBL	2	3200	619	.193*	273	.085*
WBT	2	3200	391	.171	429	.144
WBR	0	0	155		32	
Right Turn Adjustment					NBR	.239*
Note: Assumes Right-Turn Overlap for NBR						
TOTAL CAPACITY UTILIZATION			.353		.619	

45. Avocado Av at Coast Hw

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1600	103	.064	125	.078*
NBT	1	1600	151	.094*	85	.053
NBR	1	1600	167	.104	145	.091
SBL	1.5		68		293	
SBT	0.5	3200	57	.039*	97	.122*
SBR	f		85		286	
EBL	1	1600	121	.076*	126	.079*
EBT	3	4800	448	.093	1167	.243
EBR	d	1600	18	.011	50	.031
WBL	1	1600	88	.055	99	.062
WBT	3	4800	1027	.214*	1156	.241*
WBR	1	1600	209	.131	111	.069
Right Turn Adjustment			NBR	.010*	NBR	.013*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION			.433		.533	

46. SR-73 NB at Bison Av

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1.5		200		98	.031*
NBT	0	4800	0	.116*	0	
NBR	1.5		356		19	.012
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1600	41	.026	30	.019*
EBT	2	3200	1477	.462*	459	.143
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	136	.043	648	.203*
WBR	1	1600	234	.146	680	.425
Right Turn Adjustment					WBR	.222*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION			.578		.475	

47. SR-73 SB at Bison Av

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	1073	.335*	286	.089*
SBT	0	0	0		1	
SBR	f		409		265	
EBL	0	0	0		0	
EBT	2	3200	445	.139*	203	.063
EBR	1	1600	53	.033	119	.074
WBL	2	3200	16	.005*	225	.070
WBT	2	3200	320	.100	521	.163*
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.479		.252

48. MacArthur Bl at Bison Av

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	208	.065	140	.044*
NBT	4	6400	2773	.433*	2342	.366
NBR	f		211		162	
SBL	2	3200	40	.013*	133	.042
SBT	4	6400	2147	.335	2451	.383*
SBR	1	1600	271	.169	212	.133
EBL	2	3200	193	.060	221	.069
EBT	2	3200	177	.055*	216	.068*
EBR	f		125		99	
WBL	2	3200	298	.093*	305	.095*
WBT	2	3200	194	.061	218	.068
WBR	1	1600	99	.062	137	.086
TOTAL CAPACITY UTILIZATION				.594		.590

Note: Assumes Right-Turn Overlap for SBR WBR

49. MacArthur Bl at Ford Dr

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	131	.041	88	.028
NBT	4	6400	1999	.312*	2214	.346*
NBR	f		119		529	
SBL	2	3200	574	.179*	1116	.349*
SBT	4	6400	2356	.368	2189	.342
SBR	f		18		46	
EBL	2	3200	45	.014	30	.009
EBT	2	3200	287	.090*	343	.107*
EBR	1	1600	78	.049	46	.029
WBL	2	3200	585	.183*	224	.070*
WBT	2	3200	563	.176	276	.086
WBR	f		918		649	
TOTAL CAPACITY UTILIZATION				.764	.872	

50. MacArthur Bl at San Joaqui

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	67	.021	46	.014
NBT	3	4800	1278	.266*	1687	.351*
NBR	1	1600	9	.006	23	.014
SBL	2	3200	563	.176*	593	.185*
SBT	3	4800	1510	.315	1485	.309
SBR	f		946		381	
EBL	3	4800	121	.025*	675	.141*
EBT	3	4800	212	.056	464	.115
EBR	0	0	58		88	
WBL	1	1600	33	.021	36	.023
WBT	2	3200	342	.107*	260	.081*
WBR	f		850		469	
TOTAL CAPACITY UTILIZATION				.574	.758	

51. MacArthur Bl at San Miguel

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	100	.031	66	.021*
NBT	3	4800	1094	.228*	792	.165
NBR	1	1600	89	.056	210	.131
SBL	2	3200	5	.002*	4	.001
SBT	3	4800	843	.176	1147	.239*
SBR	1	1600	753	.471	458	.286
EBL	3	4800	250	.052*	935	.195*
EBT	2	3200	97	.030	423	.132
EBR	d	1600	16	.010	126	.079
WBL	2	3200	218	.068	229	.072
WBT	2	3200	312	.098*	210	.066*
WBR	d	1600	10	.006	29	.018
Right Turn Adjustment			SBR	.272*	SBR	.047*
TOTAL CAPACITY UTILIZATION				.652	.568	

52. MacArhtur Bl at Coast Hw

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	593	.185*	762	.238*
SBT	0	0	0		0	
SBR	f		341		374	
EBL	2	3200	368	.115*	390	.122*
EBT	3	4800	380	.079	1201	.250
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	983	.205*	992	.207*
WBR	f		755		632	
TOTAL CAPACITY UTILIZATION				.505	.567	

53. SR-73 NB at Bonita Canyon D

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3200	436	.136*	156	.049*
NBT	0	0	0		0	
NBR	1	1600	58	.036	35	.022
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	704	.220	1395	.436*
EBR	1	1600	56	.035	35	.022
WBL	2	3200	216	.068	74	.023*
WBT	2	3200	1052	.329*	986	.308
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.465		.508

54. SR-73 SB at Bonita Canyon D

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3200	33	.010*	82	.026*
NBT	0	0	0		0	
NBR	1	1600	106	.066	186	.116
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1600	0	.000	0	.000
EBT	2	3200	654	.204	1244	.389*
EBR	1	1600	126	.079	477	.298
WBL	2	3200	47	.015	101	.032*
WBT	3	4800	1441	.300*	1041	.217
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.056*	NBR	.090*
TOTAL CAPACITY UTILIZATION				.366		.537

55. Spyglass Hill at San Miguel

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	42	.026	42	.026
NBT	1	1600	18	.106*	11	.076*
NBR	0	0	151		111	
SBL	0.5		29	{.018}*	27	{.017}*
SBT	0.5	1600	27	.035	14	.026
SBR	1	1600	43	.027	44	.028
EBL	1	1600	27	.017	44	.028
EBT	2	3200	264	.083*	406	.127*
EBR	d	1600	25	.016	39	.024
WBL	1	1600	103	.064*	152	.095*
WBT	2	3200	293	.092	271	.085
WBR	d	1600	26	.016	22	.014
TOTAL CAPACITY UTILIZATION				.271		.315

56. San Miguel at San Joaquin

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	0	.000	1	.001
NBT	2	3200	233	.073*	389	.122*
NBR	d	1600	101	.063	248	.155
SBL	1	1600	77	.048*	89	.056*
SBT	2	3200	280	.088	199	.062
SBR	d	1600	270	.169	161	.101
EBL	2	3200	220	.069*	453	.142*
EBT	3	4800	489	.102	706	.147
EBR	d	1600	18	.011	16	.010
WBL	1	1600	227	.142	176	.110
WBT	3	4800	955	.199*	603	.126*
WBR	d	1600	86	.054	72	.045
Right Turn Adjustment			SBR	.048*	NBR	.033*
TOTAL CAPACITY UTILIZATION				.437		.479

57. Goldenrod Av at Coast Hw

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	178	{.111}*	85	{.053}*
NBT	1	1600	16	.135	4	.074
NBR	0	0	22		29	
SBL	0	0	54		40	
SBT	1	1600	9	.072*	8	.061*
SBR	0	0	52		50	
EBL	1	1600	18	.011*	30	.019
EBT	2	3200	1264	.409	1827	.581*
EBR	0	0	44		32	
WBL	1	1600	38	.024	38	.024*
WBT	2	3200	1735	.548*	1560	.491
WBR	0	0	19		12	
TOTAL CAPACITY UTILIZATION				.742	.719	

58. Marguerite Av at San Joanqu

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1.5		282		208	
NBT	0.5	3200	60	.107*	48	.080*
NBR	1	1600	93	.058	114	.071
SBL	1	1600	41	.026	61	.038
SBT	1	1600	56	.093*	85	.068*
SBR	0	0	93		24	
EBL	1	1600	85	.053	29	.018
EBT	2	3200	463	.145*	679	.212*
EBR	1	1600	190	.119	357	.223
WBL	1	1600	99	.062*	117	.073*
WBT	3	4800	657	.137	505	.105
WBR	d	1600	78	.049	37	.023
Right Turn Adjustment					EBR	.011*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.407	.444	

59. Marguerite Av at Coast Hw

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	128	.080*	96	.060*
NBT	1	1600	70	.070	68	.093
NBR	0	0	42		80	
SBL	1	1600	60	.038	84	.053
SBT	1	1600	80	.116*	101	.123*
SBR	0	0	106		96	
EBL	1	1600	70	.044*	125	.078
EBT	2	3200	1066	.333	1587	.496*
EBR	1	1600	52	.033	80	.050
WBL	1	1600	32	.020	57	.036*
WBT	2	3200	1661	.530*	1294	.416
WBR	0	0	34		36	
TOTAL CAPACITY UTILIZATION				.770		.715

60. Spyglass Hill at San Joaquin

Existing						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	6	.004*	5	.003*
NBT	1	1600	1	.002	3	.003
NBR	0	0	2		1	
SBL	1	1600	60	.038	52	.033
SBT	1	1600	3	.053*	2	.046*
SBR	0	0	81		71	
EBL	1	1600	65	.041*	99	.062*
EBT	2	3200	527	.165	745	.233
EBR	1	1600	5	.003	10	.006
WBL	1	1600	3	.002	8	.005
WBT	2	3200	747	.233*	583	.182*
WBR	d	1600	37	.023	44	.028
TOTAL CAPACITY UTILIZATION				.331		.293

61. Poppy Av at Coast Hw

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	13		25	
NBT	1	1600	7	.032*	0	.050*
NBR	0	0	31		55	
SBL	0	0	63	{.039}*	110	{.069}*
SBT	1	1600	9	.049	7	.080
SBR	0	0	6		11	
EBL	1	1600	13	.008*	27	.017
EBT	2	3200	986	.308	1664	.520*
EBR	d	1600	24	.015	31	.019
WBL	1	1600	23	.014	23	.014*
WBT	2	3200	1755	.560*	1402	.447
WBR	0	0	37		29	
TOTAL CAPACITY UTILIZATION			.639		.653	

62. Newport Coast Dr at SR-73 N

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	0		0	
NBT	2	3200	717	.224*	692	.216*
NBR	f		523		174	
SBL	0	0	0		0	
SBT	2	3200	569	.178	603	.188
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		250		172	
WBT	0	3200	0	.108*	0	.065*
WBR	0.5		96		35	
TOTAL CAPACITY UTILIZATION			.332		.281	

63. Newport Coast Dr at SR-73 S

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1240	.258*	866	.180
NBR	f		187		211	
SBL	0	0	0		0	
SBT	2	3200	819	.256	775	.242*
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	f		263		516	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.258		.242

64. Newport Coast at San Joanqu

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3200	169	.053	142	.044*
NBT	3	4800	958	.200*	732	.153
NBR	0	0	0		0	
SBL	1	1600	0	.000	0	.000
SBT	3	4800	698	.145	999	.208*
SBR	1	1600	238	.149	276	.173
EBL	1	1600	426	.266*	321	.201*
EBT	0	0	0		0	
EBR	2	3200	93	.029	162	.051
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			SBR	.002*		
TOTAL CAPACITY UTILIZATION				.468		.453

65. Newport Coast Dr at Coast H

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1600	6	.004	14	.009
NBT	1	1600	6	.004*	18	.011*
NBR	d	1600	4	.003	13	.008
SBL	2	3200	300	.094*	598	.187*
SBT	1	1600	17	.011	7	.004
SBR	f		140		204	
EBL	1	1600	143	.089*	148	.093*
EBT	3	4800	548	.114	1270	.265
EBR	1	1600	6	.004	4	.003
WBL	1	1600	6	.004	2	.001
WBT	3	4800	1201	.250*	1010	.210*
WBR	f		504		380	

TOTAL CAPACITY UTILIZATION .437 .501

66. Newport Bl (W) at Coast Hw

Existing						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	455	.142*	548	.171*
SBT	0	0	0		0	
SBR	1	1600	240	.150	404	.253
EBL	0	0	0		0	
EBT	2	3200	2286	.714*	1208	.378
EBR	f		136		89	
WBL	0	0	0		0	
WBT	3	4800	808	.168	1919	.400*
WBR	f		374		598	
Right Turn Adjustment			SBR	.008*	SBR	.082*

TOTAL CAPACITY UTILIZATION .864 .653

67 . Red Hill Av. at MacArthur Blvd.

68 . MacArthur Bl. at Main St.

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	86	.03	175	.05
NBT	3	5100	644	.13*	1093	.22*
NBR	0	0	13		20	
SBL	2	3400	317	.09*	323	.10*
SBT	3	5100	697	.14	759	.15
SBR	f		429		917	
EBL	2	3400	926	.27*	704	.21*
EBT	3	5100	841	.16	485	.10
EBR	d	1700	148	.09	78	.05
WBL	1	1700	48	.03	51	.03
WBT	3	5100	331	.06*	733	.14*
WBR	f		575		832	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.60		.72

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	667	.20*	596	.18*
NBT	4	6800	963	.14	1058	.16
NBR	f		1253		610	
SBL	2	3400	458	.13	281	.08
SBT	4	6800	533	.08*	751	.11*
SBR	1	1700	63	.04	64	.04
EBL	1	1700	53	.03	69	.04
EBT	3	5100	854	.17*	943	.18*
EBR	1	1700	424	.25	602	.35
WBL	2	3400	225	.07*	716	.21*
WBT	3	5100	553	.11	1059	.21
WBR	f		191		520	
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for EBR						
TOTAL CAPACITY UTILIZATION				.57		.73

69 . MacArthur Bl. at I-405 NB Ramps

70 . MacArthur Bl. at I-405 SB Ramps

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	4	6800	1895	.28*	1915	.28*
NBR	2	3400	310	.09	758	.22
SBL	2	3400	174	.05*	601	.18*
SBT	4	6800	1008	.15	1468	.22
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	793	.23*	357	.11*
WBT	0	0	0		0	
WBR	2	3400	988	.29	349	.10
Right Turn Adjustment			WBR	.02*		
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.63		.62

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	4	6800	1152	.17*	2132	.31*
NBR	1	1700	332	.20	474	.28
SBL	2	3400	142	.04*	432	.13*
SBT	4	6800	1385	.20	1210	.18
SBR	1	1700	274	.16	183	.11
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	1126	.33*	537	.16*
WBT	1	1700	134	.08	76	.04
WBR	f		1053		541	
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for NBR						
TOTAL CAPACITY UTILIZATION				.59		.65

71 . MacArthur Bl. at Michelson Dr.

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1700	141	.08	107	.06
NBT	4	6800	973	.14*	1580	.23*
NBR	1	1700	254	.15	102	.06
SBL	2	3400	1038	.31*	504	.15*
SBT	4	6800	1462	.22	1235	.18
SBR	0	0	11		8	
EBL	2	3400	274	.08*	228	.07
EBT	1	1700	74	.04	73	.04*
EBR	1	1700	66	.04	76	.04
WBL	2	3400	70	.02	381	.11*
WBT	1	1700	59	.03*	67	.04
WBR	1	1700	164	.10	658	.39
Right Turn Adjustment					WBR	.16*
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for WBR

TOTAL CAPACITY UTILIZATION .61 .74

72 . Von Karman Av. at Barranca Pkwy.

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3400	100	.03*	444	.13
NBT	2	3400	60	.02	843	.25*
NBR	d	1700	75	.04	454	.27
SBL	2	3400	18	.01	34	.01*
SBT	2	3400	702	.21*	127	.04
SBR	2	3400	400	.12	275	.08
EBL	1	1700	106	.06	442	.26*
EBT	3	5100	684	.13*	1384	.27
EBR	d	1700	357	.21	134	.08
WBL	2	3400	881	.26*	230	.07
WBT	3	5100	1212	.24	818	.16*
WBR	1	1700	14	.01	46	.03
Right Turn Adjustment					EBR	.06*
Clearance Interval				.05*		.05*

Note: Assumes Right-Turn Overlap for SBR

TOTAL CAPACITY UTILIZATION .74 .73

73 . Von Karman Av. at Alton Pkwy.

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1700	61	.04*	101	.06
NBT	2	3400	257	.08	1338	.39*
NBR	d	1700	47	.03	289	.17
SBL	1	1700	38	.02	139	.08*
SBT	2	3400	1393	.41*	351	.10
SBR	d	1700	172	.10	95	.06
EBL	1	1700	55	.03*	124	.07
EBT	2	3400	222	.07	751	.22*
EBR	d	1700	74	.04	62	.04
WBL	1	1700	201	.12	68	.04*
WBT	2	3400	578	.17*	402	.12
WBR	d	1700	109	.06	112	.07
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .70 .78

74 . Von Karman Av. at Main St.

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3400	93	.03*	334	.10
NBT	2	3400	227	.07	1033	.30*
NBR	1	1700	59	.03	342	.20
SBL	1	1700	90	.05	140	.08*
SBT	2	3400	1126	.33*	312	.09
SBR	1	1700	313	.18	191	.11
EBL	2	3400	186	.05	509	.15*
EBT	3	5100	601	.12*	1364	.27
EBR	f		370		93	
WBL	2	3400	349	.10*	72	.02
WBT	3	5100	701	.15	828	.19*
WBR	0	0	80		127	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .63 .77

76 . Von Karman Av. at Michelson Dr.

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1700	42	.02	59	.03
NBT	2	3400	671	.20*	800	.24*
NBR	1	1700	98	.06	156	.09
SBL	1	1700	162	.10*	227	.13*
SBT	2	3400	681	.24	819	.27
SBR	0	0	135		106	
EBL	1	1700	95	.06*	186	.11
EBT	2	3400	171	.06	494	.17*
EBR	0	0	38		81	
WBL	1	1700	152	.09	192	.11*
WBT	2	3400	335	.10*	449	.13
WBR	f		228		367	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.51		.70

77 . Jamboree Rd. at Barranca Pkwy.

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	2	3400	127	.04*	380	.11
NBT	4	6800	713	.10	3133	.46*
NBR	f		66		141	
SBL	2	3400	403	.12	317	.09*
SBT	4	6800	3284	.48*	1208	.18
SBR	f		1344		346	
EBL	2.5		149	.04	1157	
EBT	2.5	8500	450	.09*	812	.23*
EBR	1	1700	108	.06	224	.13
WBL	2	3400	215	.06	119	.04
WBT	3	5100	740	.15*	580	.11*
WBR	f		133		649	
Clearance Interval				.05*		.05*
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.81		.94

78 . Jamboree Rd. at Alton Pkwy.

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	2	3400	212	.06*	186	.05
NBT	4	6800	922	.14	3242	.48*
NBR	1	1700	177	.10	218	.13
SBL	2	3400	175	.05	172	.05*
SBT	4	6800	2945	.46*	1337	.22
SBR	0	0	203		151	
EBL	2	3400	62	.02*	417	.12
EBT	3	5100	172	.05	726	.19*
EBR	0	0	84		242	
WBL	2	3400	231	.07	211	.06*
WBT	3	5100	659	.13*	462	.09
WBR	d	1700	112	.07	175	.10
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.72		.83

79 . Jamboree Rd. at Main St.

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	2	3400	493	.15*	257	.08
NBT	4	6800	1344	.20	2883	.42*
NBR	f		395		578	
SBL	2	3400	463	.14	234	.07*
SBT	4	6800	2504	.37*	1747	.26
SBR	1	1700	377	.22	196	.12
EBL	2	3400	103	.03	588	.17
EBT	3	5100	274	.05*	1324	.26*
EBR	f		180		556	
WBL	2	3400	530	.16*	537	.16*
WBT	3	5100	764	.15	533	.10
WBR	f		119		276	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.78		.96

80 . Jamboree Rd. at I-405 NB Ramps

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	3	5100	2019	.40*	3147	.62*
NBR	f		432		716	
SBL	0	0	0		0	
SBT	4	6800	2014	.30	1820	.27
SBR	f		1200		1020	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	3	5100	1186	.23*	642	.13*
WBT	0	0	0		0	
WBR	f		657		386	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.68		.80

81 . Jamboree Rd. at I-405 SB Ramps

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	4	6800	1245	.18	2705	.40*
NBR	f		538		1068	
SBL	0	0	0		0	
SBT	4	6800	2968	.44*	1840	.27
SBR	f		232		622	
EBL	1.5		1206	{.40}*	1158	.34*
EBT	0	6800	0	.40	0	
EBR	2.5		1484		619	.18
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.89		.79

82 . Jamboree Rd. at Michelson Dr.

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	197	.12	61	.04
NBT	4	6800	1281	.19*	2032	.30*
NBR	1	1700	270	.16	276	.16
SBL	2	3400	954	.28*	591	.17*
SBT	4	6800	2089	.31	1520	.22
SBR	f		1363		255	
EBL	2	3400	121	.04*	825	.24*
EBT	2	3400	112	.04	665	.22
EBR	0	0	27		98	
WBL	2	3400	182	.05	250	.07
WBT	2	3400	363	.11*	200	.06*
WBR	f		381		916	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.67		.82

83 . Carlson Av. at Michelson Dr.

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	145	.04*	77	.02*
NBT	2	3400	113	.03	75	.02
NBR	1	1700	92	.05	181	.11
SBL	2	3400	28	.01	152	.04
SBT	1	1700	32	.02*	131	.08*
SBR	f		252		581	
EBL	2	3400	711	.21*	438	.13
EBT	2	3400	570	.17	942	.28*
EBR	1	1700	55	.03	152	.09
WBL	1	1700	88	.05	160	.09*
WBT	2	3400	529	.16*	708	.21
WBR	f		135		60	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.48		.52

84 . Carlson Av. at Campus Dr.

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1700	166	.10*	178	.10*
SBT	0	0	0		0	
SBR	1	1700	140	.08	137	.08
EBL	1	1700	71	.04*	204	.12
EBT	1	1700	427	.25	936	.55*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1700	705	.41*	550	.32
WBR	d	1700	68	.04	174	.10
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.60		.70

85 . Red Hill Av. at Barranca Pkwy.

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	141	.04*	339	.10
NBT	3	5100	442	.09	1901	.37*
NBR	d	1700	109	.06	352	.21
SBL	2	3400	480	.14	393	.12*
SBT	3	5100	1084	.21*	491	.10
SBR	d	1700	121	.07	118	.07
EBL	2	3400	113	.03	190	.06*
EBT	3	5100	869	.22*	861	.19
EBR	0	0	229		89	
WBL	1	1700	462	.27*	113	.07
WBT	3	5100	695	.19	1106	.33*
WBR	0	0	280		728	.43
Right Turn Adjustment					WBR	.01*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.79		.94

86 . Red Hill Av. at Alton Pkwy.

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	97	.06	56	.03
NBT	3	5100	614	.18*	1917	.42*
NBR	0	0	317	.19	226	
SBL	1	1700	293	.17*	144	.08*
SBT	3	5100	1164	.23	649	.13
SBR	d	1700	105	.06	5	.00
EBL	1	1700	11	.01*	72	.04
EBT	2	3400	38	.01	234	.07*
EBR	1	1700	21	.01	118	.07
WBL	2	3400	244	.07	472	.14*
WBT	1	1700	202	.12*	127	.07
WBR	1	1700	166	.10	423	.25
Right Turn Adjustment					WBR	.02*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.53		.78

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	88	.05*	67	.04
NBT	2	3400	258	.08	1033	.33*
NBR	0	0	25		74	
SBL	1	1700	105	.06	374	.22*
SBT	2	3400	726	.21*	586	.17
SBR	1	1700	581	.34	209	.12
EBL	2	3400	69	.02*	608	.18
EBT	2	3400	190	.06	1069	.31*
EBR	f		32		150	
WBL	1	1700	90	.05	54	.03*
WBT	2	3400	906	.32*	292	.15
WBR	0	0	174		233	
Right Turn Adjustment			SBR	.11*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .76 .94

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	61	.04*	53	.03
NBT	2	3400	158	.05	617	.18*
NBR	d	1700	45	.03	181	.11
SBL	1	1700	21	.01	93	.05*
SBT	2	3400	357	.11*	435	.13
SBR	d	1700	450	.26	253	.15
EBL	1	1700	118	.07*	458	.27*
EBT	3	5100	665	.14	1381	.28
EBR	0	0	37		49	
WBL	1	1700	56	.03	83	.05
WBT	3	5100	1626	.33*	677	.14*
WBR	0	0	66		36	
Right Turn Adjustment			SBR	.10*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .70 .69

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	73	.04*	129	.08*
NBT	3	5100	733	.14	1387	.27
NBR	1	1700	261	.15	198	.12
SBL	1	1700	97	.06	63	.04
SBT	2	3400	1727	.51*	833	.25*
SBR	1	1700	299	.18	99	.06
EBL	1	1700	66	.04	339	.20*
EBT	2	3400	300	.09*	463	.14
EBR	d	1700	207	.12	86	.05
WBL	1	1700	114	.07*	315	.19
WBT	2	3400	261	.08	453	.13*
WBR	d	1700	13	.01	206	.12
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .76 .71

Existing (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	18	.01*	25	.01*
NBT	0	0	0		0	
NBR	1	1700	212	.12	200	.12
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	1273	.25*	802	.16*
EBR	d	1700	126	.07	100	.06
WBL	2	3400	258	.08*	705	.21*
WBT	2	3400	725	.21	694	.20
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.05*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .44 .43

93 . Jamboree Rd. at Fairchild Rd.

Existing (NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	2	.00	4	.00
NBT	3	4800	1218	.27*	1515	.32*
NBR	0	0	69		21	
SBL	2	3200	377	.12*	237	.07*
SBT	4	6400	1091	.17	1567	.24
SBR	d	1600	0	.00	1	.00
EBL	1	1600	1	.00	3	.00
EBT	1	1600	0	.00*	2	.01*
EBR	0	0	2		10	
WBL	1	1600	10	.01*	30	.02*
WBT	1	1600	0	.00	2	.00
WBR	1	1600	390	.24	383	.24
Right Turn Adjustment			WBR	.23*	WBR	.21*
TOTAL CAPACITY UTILIZATION				.63		.63

92 . Fairchild Av. at MacArthur Bl.

Existing (NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	34	.02*	414	.26*
SBT	0	0	0		0	
SBR	1	1600	31	.02	231	.14
EBL	1	1600	229	.14*	28	.02
EBT	3	4800	552	.12	2124	.44*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1995	.55*	898	.21
WBR	0	0	644		86	
TOTAL CAPACITY UTILIZATION				.71		.70

91 . MacArthur Blvd. SB at University Dr.

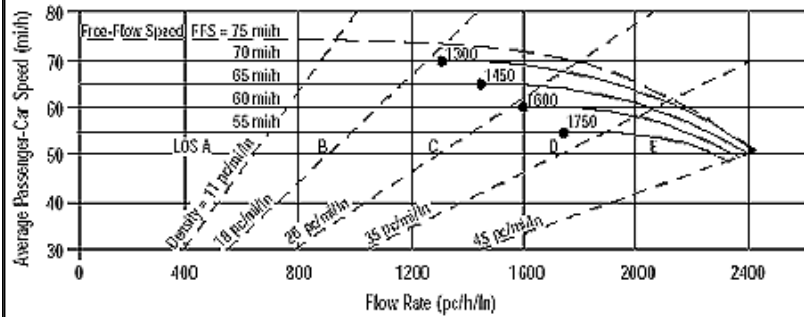
Existing (NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	2	.00	11	.01*
NBT	0	0	0		0	
NBR	1	1600	33	.02	109	.07
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	4800	1394	.30*	761	.17*
EBR	0	0	47		51	
WBL	2	3200	320	.10*	275	.09*
WBT	3	4800	419	.09	442	.09
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.02*	NBR	.06*
TOTAL CAPACITY UTILIZATION				.42		.33

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ATTACHMENT 2.4

Existing Freeway Mainline Analysis Worksheets

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	8631	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1914 pc/h/ln	Design LOS	
S	66.3 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	28.9 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-55 to MacArthur Blvd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	10090	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2237 pc/h/ln	Design LOS	
S	59.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	37.9 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	8251	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00		E_R
E_T	1.5		$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS			

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1525 pc/h/ln	Design LOS	
S	69.7 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	21.9 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs

Volume, V	6331	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length	mi
Driver type adjustment	1.00		Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width	12.0	ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0	ft	f_{LC}	mi/h
Interchange Density	0.50	l/mi	f_{ID}	mi/h
Number of Lanes, N	6		f_N	mi/h
FFS (measured)	70.0	mi/h	FFS	70.0
Base free-flow Speed, BFFS		mi/h		

Calc Speed Adj and FFS

LOS and Performance Measures

Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1170	Design LOS	
S	70.0	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	16.7	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	7055	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1955 pc/h/ln	Design LOS	
S	65.7 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	29.8 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-55 to MacArthur Blvd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	7085	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1309 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	18.7 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	8382	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1859 pc/h/ln	Design LOS	
S	67.1 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	27.7 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	8593	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1905 pc/h/ln	Design LOS	
S	66.5 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	28.7 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4976	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1366 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	19.5 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	7422	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2037 pc/h/ln	Design LOS	
S	64.1 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	31.8 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	5019	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	3	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1837 pc/h/ln	Design LOS	
S	67.4 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	27.2 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Bonita Canyon Dr.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	2862	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Rolling
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

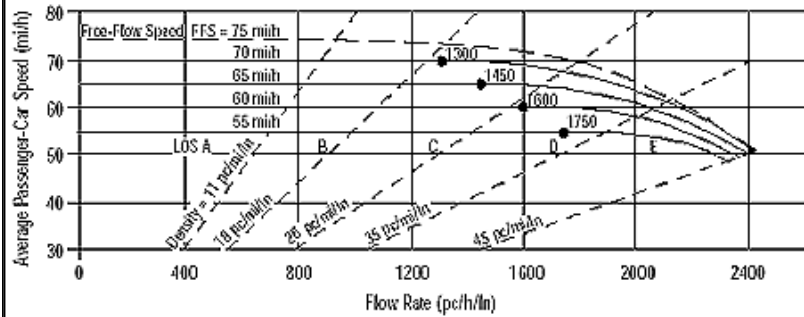
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	785 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	11.2 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	Bonita Canyon to Newport Coast
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	2896	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	795 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	11.4 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	5197	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1426 pc/h/ln	Design LOS	
S	69.9 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	20.4 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	7750	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2127 pc/h/ln	Design LOS	
S	62.1 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	34.3 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	5242	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	3	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1918 pc/h/ln	Design LOS	
S	66.3 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	28.9 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Bonita Canyon Dr.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	2802	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

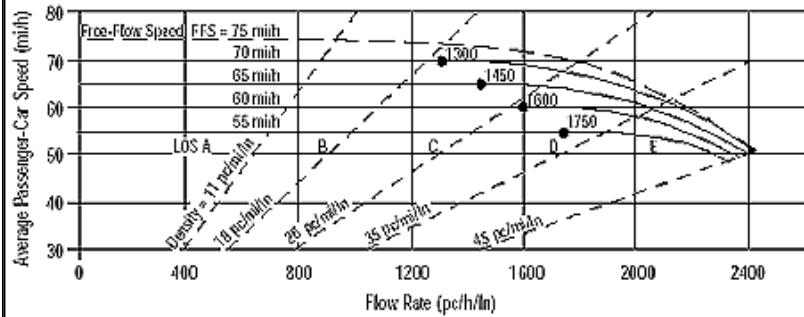
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	769 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	11.0 pc/mi/ln	S	mi/h
LOS	A	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads	From/To	Bonita Canyon to Newport Coast
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	3024	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	830 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	11.9 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	Dyer Rd. to MacArthur Blvd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4918	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1091 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	15.6 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	MacArthur Blvd. to I-405
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4987	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1106 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	15.8 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	I-405 to SR-73
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	3326	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	922 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	13.2 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-73 to Mesa Dr.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS) Des.(N) Planning Data

Flow Inputs			
Volume, V	3305	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	916 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	13.1 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	Mesa Dr. to 22nd/Victoria Av.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	2830	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	3	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1046 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	14.9 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	22nd St./Victoria Av. to End
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	2117	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	3	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	782 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	11.2 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	Dyer Rd. to MacArthur Blvd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	12462	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	3454 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	MacArthur Blvd. to I-405
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	13021	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	3609 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	I-405 to SR-73
Date Performed	01/13/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	8455	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2344 pc/h/ln	Design LOS	
S	55.5 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	42.3 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-73 to Mesa Dr.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	8400	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2328 pc/h/ln	Design LOS	
S	56.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	41.6 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	Mesa Dr. to 22nd/Victoria Av.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	7192	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1993 pc/h/ln	Design LOS	
S	65.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	30.7 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	22nd St./Victoria Av. to End
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	5380	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00		E_R
E_T	1.5		$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	3	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1988 pc/h/ln	Design LOS	
S	65.1 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	30.5 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	9569	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2122 pc/h/ln	Design LOS	
S	62.2 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	34.1 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-55 to MacArthur Blvd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS) Des.(N) Planning Data

Flow Inputs			
Volume, V	11296	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	75.0 mi/h	FFS	75.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2505 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	11048	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2041 pc/h/ln	Design LOS	
S	64.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	31.9 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	10961	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2025 pc/h/ln	Design LOS	
S	64.4 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	31.5 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	5129	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1422 pc/h/ln	Design LOS	
S	69.9 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	20.3 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-55 to MacArthur Blvd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	7478	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1658 pc/h/ln	Design LOS	
S	69.1 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	24.0 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	6825	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1513 pc/h/ln	Design LOS	
S	69.8 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	21.7 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	6117	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1356 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	19.4 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4617	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1267 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	18.1 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS) Des.(N) Planning Data

Flow Inputs			
Volume, V	6885	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1890 pc/h/ln	Design LOS	
S	66.7 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	28.3 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4657	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	3	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1704 pc/h/ln	Design LOS	
S	68.8 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	24.8 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Bonita Canyon Dr.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	2377	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Rolling
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

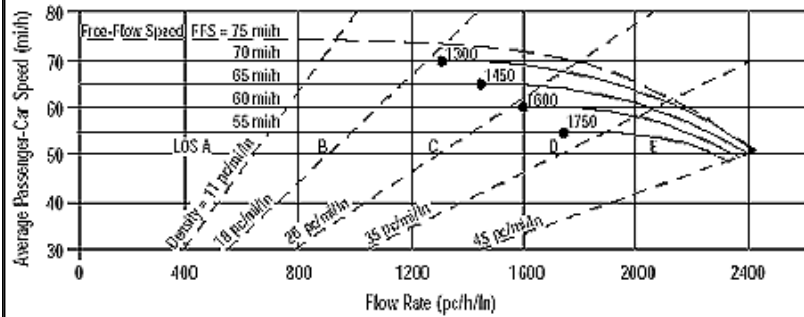
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	652 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	9.3 pc/mi/ln	S	mi/h
LOS	A	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	Bonita Canyon to Newport Coast
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	2687	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	737 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	10.5 pc/mi/ln	S	mi/h
LOS	A	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	01/13/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	6426	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1764 pc/h/ln	Design LOS	
S	68.2 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	25.9 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	9584	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2630 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	6482	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	3	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2372 pc/h/ln	Design LOS	
S	54.4 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	43.6 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Bonita Canyon Dr.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	3658	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

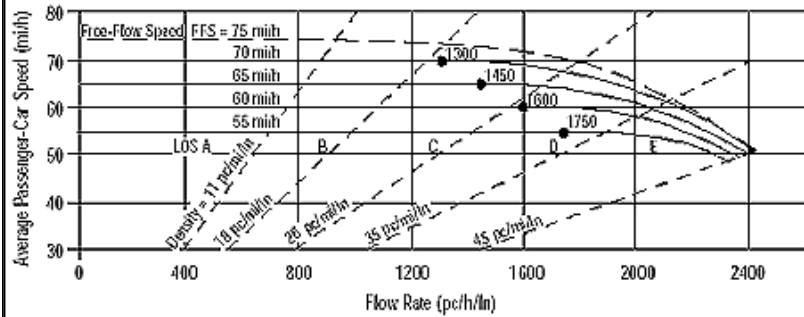
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1004 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	14.3 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads	From/To	Bonita Canyon to Newport Coast
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	3740	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1026 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	14.7 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	Dyer Rd. to MacArthur Blvd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	6976	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1547 pc/h/ln	Design LOS	
S	69.7 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	22.2 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	MacArthur Blvd. to I-405
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	7187	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1594 pc/h/ln	Design LOS	
S	69.5 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	22.9 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	I-405 to SR-73
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4743	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1315 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	18.8 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-73 to Mesa Dr.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4712	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1306 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	18.7 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	Mesa Dr. to 22nd/Victoria Av.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4035	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	3	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1491 pc/h/ln	Design LOS	
S	69.8 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	21.4 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	22nd St./Victoria Av. to End
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	3018	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00		E_R
E_T	1.5		$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	3	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1115 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	15.9 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	Dyer Rd. to MacArthur Blvd.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	10074	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS			

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2792 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	MacArthur Blvd. to I-405
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	10593	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2936 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	I-405 to SR-73
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	7069	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1959 pc/h/ln	Design LOS	
S	65.6 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	29.9 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-73 to Mesa Dr.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	7023	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1947 pc/h/ln	Design LOS	
S	65.8 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	29.6 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	Mesa Dr. to 22nd/Victoria Av.
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	6013	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1667 pc/h/ln	Design LOS	
S	69.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	24.1 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	22nd St./Victoria Av. to End
Date Performed	02/18/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4498	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00		E_R
E_T	1.5		$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	3	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1662 pc/h/ln	Design LOS	
S	69.1 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	24.1 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

ATTACHMENT 2.5

Existing Freeway Ramp Analysis Worksheets

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
--	--	--

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	10090	0.92	Level	4	0	0.980	1.00	11187
Ramp	2313	0.92	Level	4	0	0.980	1.00	2564
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

$$V_{12} = V_F (P_{FM})$$

(Equation 25-2 or 25-3)

L_{EQ} =

P_{FM} = using Equation (Exhibit 25-5)

V₁₂ = pc/h

V₃ or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V₃ or V_{av34} > 2,700 pc/h? Yes No

Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No

If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

(Equation 25-8 or 25-9)

L_{EQ} =

P_{FD} = 0.260 using Equation (Exhibit 25-12)

V₁₂ = 4224 pc/h

V₃ or V_{av34} 2363 pc/h (Equation 25-15 or 25-16)

Is V₃ or V_{av34} > 2,700 pc/h? Yes No

Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V _F	8950	Exhibit 25-14	9600 No
V _{FO} = V _F - V _R	6386	Exhibit 25-14	9600 No
V _R	2564	Exhibit 25-3	4100 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂	4224	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = 9.1 (pc/mi/ln)

LOS = A (Exhibit 25-4)

Speed Determination

M_S = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S₀ = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Speed Determination

D_S = 0.594 (Exhibit 25-19)

S_R = 53.4 mph (Exhibit 25-19)

S₀ = 71.5 mph (Exhibit 25-19)

S = 61.6 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
--	---	--

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	7777	0.92	Level	4	0	0.980	1.00	8622
Ramp	474	0.92	Level	4	0	0.980	1.00	526
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
 (Equation 25-2 or 25-3)
 L_{EQ} =
 P_{FM} = 0.209 using Equation (Exhibit 25-5)
 V₁₂ = 1279 pc/h
 V₃ or V_{av34} = 2421 pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = 2448 pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
 (Equation 25-8 or 25-9)
 L_{EQ} =
 P_{FD} = using Equation (Exhibit 25-12)
 V₁₂ = pc/h
 V₃ or V_{av34} = pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}	6648	Exhibit 25-7	No

Capacity Checks

	Actual	Capacity	LOS F?
V _F		Exhibit 25-14	
V _{FO} = V _F - V _R		Exhibit 25-14	
V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}	2974	Exhibit 25-7	4600:All
			No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂		Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
 D_R = 7.7 (pc/mi/ln)
 LOS = A (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
 D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Speed Determination

M_S = 0.133 (Exhibit 25-19)
 S_R = 66.3 mph (Exhibit 25-19)
 S₀ = 65.2 mph (Exhibit 25-19)
 S = 65.7 mph (Exhibit 25-14)

Speed Determination

D_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 50.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1250 ft V _D = 232 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	6726	0.92	Level	4	0	0.980	1.00	7457
Ramp	2690	0.92	Level	4	0	0.980	1.00	2982
UpStream								
DownStream	232	0.92	Level	4	0	0.980	1.00	257

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.260 using Equation (Exhibit 25-12) V ₁₂ = 3758 pc/h V ₃ or V _{av34} 1104 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)			

Capacity Checks				Capacity Checks				
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V _{FO}		Exhibit 25-7		V _F	5966	Exhibit 25-14	9600	No
				V _{FO} = V _F - V _R	2984	Exhibit 25-14	9600	No
				V _R	2982	Exhibit 25-3	4100	No

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area				
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 25-7		V ₁₂	3758	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
D _R = 5.475 + 0.00734 v _R + 0.0078 V ₁₂ - 0.00627 L _A		D _R = 4.252 + 0.0086 V ₁₂ - 0.0009 L _D	
D _R = (pc/mi/ln)		D _R = 7.6 (pc/mi/ln)	
LOS = (Exhibit 25-4)		LOS = A (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _S = (Exhibit 25-19)		D _S = 0.501 (Exhibit 25-19)	
S _R = mph (Exhibit 25-19)		S _R = 56.0 mph (Exhibit 25-19)	
S ₀ = mph (Exhibit 25-19)		S ₀ = 76.4 mph (Exhibit 25-19)	
S = mph (Exhibit 25-14)		S = 62.1 mph (Exhibit 25-15)	

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{up} = 1250 ft V _u = 2690 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4533	0.92	Level	4	0	0.980	1.00	5026
Ramp	232	0.92	Level	4	0	0.980	1.00	257
UpStream	2690	0.90	Level	0	0	1.000	1.00	2989
DownStream								

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
L _{EQ} =	0.282 using Equation (Exhibit 25-5)			L _{EQ} =	using Equation (Exhibit 25-12)		
P _{FM} =	1107 pc/h			P _{FD} =	pc/h		
V ₁₂ =	1407 pc/h (Equation 25-4 or 25-5)			V ₁₂ =	pc/h (Equation 25-15 or 25-16)		
V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, V _{12a} =	1568 pc/h (Equation 25-8)			If Yes, V _{12a} =	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4178	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1825	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$	
D _R =	18.0 (pc/mi/ln)	D _R =	(pc/mi/ln)
LOS =	B (Exhibit 25-4)	LOS =	(Exhibit 25-4)

Speed Determination		Speed Determination	
M _s =	0.330 (Exhibit 25-19)	D _s =	(Exhibit 25-19)
S _R =	60.8 mph (Exhibit 25-19)	S _R =	mph (Exhibit 25-19)
S ₀ =	67.6 mph (Exhibit 25-19)	S ₀ =	mph (Exhibit 25-19)
S =	64.4 mph (Exhibit 25-14)	S =	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (D)
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1115 ft V _D = 538 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4533	0.92	Level	4	0	0.980	1.00	5026
Ramp	232	0.92	Level	4	0	0.980	1.00	257
UpStream								
DownStream	538	0.90	Level	0	0	1.000	1.00	598

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
L _{EQ} =	0.282 using Equation (Exhibit 25-5)			L _{EQ} =	using Equation (Exhibit 25-12)		
P _{FM} =	1107 pc/h			P _{FD} =	pc/h		
V ₁₂ =	1407 pc/h (Equation 25-4 or 25-5)			V ₁₂ =	pc/h (Equation 25-15 or 25-16)		
V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, V _{12a} =	1568 pc/h (Equation 25-8)			If Yes, V _{12a} =	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4178	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1825	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$	
D _R =	18.0 (pc/mi/ln)	D _R =	(pc/mi/ln)
LOS =	B (Exhibit 25-4)	LOS =	(Exhibit 25-4)

Speed Determination		Speed Determination	
M _s =	0.330 (Exhibit 25-19)	D _s =	(Exhibit 25-19)
S _R =	60.8 mph (Exhibit 25-19)	S _R =	mph (Exhibit 25-19)
S ₀ =	67.6 mph (Exhibit 25-19)	S ₀ =	mph (Exhibit 25-19)
S =	64.4 mph (Exhibit 25-14)	S =	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off		<input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off
$L_{up} = 1115$ ft	$S_{FF} = 70.0$ mph $S_{FR} = 40.0$ mph	$L_{down} =$ ft
$V_u = 232$ veh/h	Sketch (show lanes, L_A, L_D, V_R, V_f)	$V_D =$ veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4723	0.92	Level	4	0	0.980	1.00	5236
Ramp	538	0.92	Level	4	0	0.980	1.00	596
UpStream	232	0.90	Level	0	0	1.000	1.00	258
DownStream								

Merge Areas				Diverge Areas			
Estimation of v_{12}				Estimation of v_{12}			
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)
$P_{FM} =$	0.209 using Equation (Exhibit 25-5)	$P_{FD} =$	using Equation (Exhibit 25-12)	$P_{FD} =$	using Equation (Exhibit 25-12)	$P_{FD} =$	using Equation (Exhibit 25-12)
$V_{12} =$	854 pc/h	$V_{12} =$	pc/h	$V_{12} =$	pc/h	$V_{12} =$	pc/h
V_3 or V_{av34}	1615 pc/h (Equation 25-4 or 25-5)	V_3 or V_{av34}	pc/h (Equation 25-15 or 25-16)	V_3 or V_{av34}	pc/h (Equation 25-15 or 25-16)	V_3 or V_{av34}	pc/h (Equation 25-15 or 25-16)
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No
If Yes, $V_{12a} =$	1634 pc/h (Equation 25-8)	If Yes, $V_{12a} =$	pc/h (Equation 25-18)	If Yes, $V_{12a} =$	pc/h (Equation 25-18)	If Yes, $V_{12a} =$	pc/h (Equation 25-18)

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}	4681	Exhibit 25-7	No	V_F		Exhibit 25-14	
				$V_{FO} = V_F - V_R$		Exhibit 25-14	
				V_R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}	2230	Exhibit 25-7	4600:All	No	V_{12}	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R = 17.1$ (pc/mi/ln)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$	$D_R =$ (pc/mi/ln)
LOS = B (Exhibit 25-4)		LOS = (Exhibit 25-4)	

Speed Determination		Speed Determination	
$M_S = 0.288$ (Exhibit 25-19)	$S_R = 61.9$ mph (Exhibit 25-19)	$D_S =$ (Exhibit 25-19)	$S_R =$ mph (Exhibit 25-19)
$S_0 = 67.4$ mph (Exhibit 25-19)	$S = 64.7$ mph (Exhibit 25-14)	$S_0 =$ mph (Exhibit 25-19)	$S =$ mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Loop On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off L _{up} = 1360 ft V _u = 1781 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	6601	0.92	Level	4	0	0.980	1.00	7318
Ramp	484	0.92	Level	4	0	0.980	1.00	537
UpStream	1781	0.90	Level	0	0	1.000	1.00	1979
DownStream								

Merge Areas				Diverge Areas			
Estimation of v₁₂				Estimation of v₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
L _{EQ} =	0.569 using Equation (Exhibit 25-5)			L _{EQ} =	using Equation (Exhibit 25-12)		
P _{FM} =	3039 pc/h			P _{FD} =	pc/h		
V ₁₂ =	1152 pc/h (Equation 25-4 or 25-5)			V ₁₂ =	pc/h (Equation 25-15 or 25-16)		
V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, V _{12a} =	pc/h (Equation 25-8)			If Yes, V _{12a} =	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	5880	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3576	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 23.7 (pc/mi/ln) LOS = C (Exhibit 25-4)		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _s =	0.340 (Exhibit 25-19)	D _s =	(Exhibit 25-19)
S _R =	60.5 mph (Exhibit 25-19)	S _R =	mph (Exhibit 25-19)
S ₀ =	67.7 mph (Exhibit 25-19)	S ₀ =	mph (Exhibit 25-19)
S =	63.1 mph (Exhibit 25-14)	S =	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1360 ft V _D = 484 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8382	0.92	Level	4	0	0.980	1.00	9293
Ramp	1781	0.92	Level	4	0	0.980	1.00	1975
UpStream								
DownStream	484	0.92	Level	4	0	0.980	1.00	537

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
L _{EQ} =	V ₁₂ = V _F (P _{FM})	(Equation 25-2 or 25-3)		L _{EQ} =	V ₁₂ = V _R + (V _F - V _R)P _{FD}	(Equation 25-8 or 25-9)	
P _{FM} =	using Equation	(Exhibit 25-5)		P _{FD} =	0.436	using Equation	(Exhibit 25-12)
V ₁₂ =	pc/h			V ₁₂ =	4356	pc/h	
V ₃ or V _{av34}	pc/h	(Equation 25-4 or 25-5)		V ₃ or V _{av34}	1539	pc/h	(Equation 25-15 or 25-16)
Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No			Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input type="checkbox"/> Yes <input type="checkbox"/> No			Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If Yes, V _{12a} =	pc/h	(Equation 25-8)		If Yes, V _{12a} =	pc/h	(Equation 25-18)	

Capacity Checks				Capacity Checks				
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V _{FO}		Exhibit 25-7		V _F	7435	Exhibit 25-14	9600	No
				V _{FO} = V _F - V _R	5460	Exhibit 25-14	9600	No
				V _R	1975	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area				
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 25-7		V ₁₂	4356	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
D _R = 5.475 + 0.00734 v _R + 0.0078 V ₁₂ - 0.00627 L _A		D _R = 4.252 + 0.0086 V ₁₂ - 0.0009 L _D	
D _R = (pc/mi/ln)		D _R = 28.2 (pc/mi/ln)	
LOS = (Exhibit 25-4)		LOS = D (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _S = (Exhibit 25-19)		D _S = 0.541 (Exhibit 25-19)	
S _R = mph (Exhibit 25-19)		S _R = 54.9 mph (Exhibit 25-19)	
S ₀ = mph (Exhibit 25-19)		S ₀ = 74.7 mph (Exhibit 25-19)	
S = mph (Exhibit 25-14)		S = 61.6 mph (Exhibit 25-15)	

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off		<input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off
$L_{up} = 1035$ ft	$S_{FF} = 70.0$ mph $S_{FR} = 40.0$ mph	$L_{down} =$ ft
$V_u = 432$ veh/h	Sketch (show lanes, L_A, L_D, V_R, V_f)	$V_D =$ veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7182	0.92	Level	4	0	0.980	1.00	7963
Ramp	1200	0.92	Level	4	0	0.980	1.00	1330
UpStream	432	0.92	Level	4	0	0.980	1.00	479
DownStream								

Merge Areas				Diverge Areas			
Estimation of v_{12}				Estimation of v_{12}			
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)
$P_{FM} = 0.209$ using Equation (Exhibit 25-5)		$P_{FD} =$	using Equation (Exhibit 25-12)	$P_{FD} =$	using Equation (Exhibit 25-12)	$P_{FD} =$	using Equation (Exhibit 25-12)
$V_{12} = 1190$ pc/h		$V_{12} =$	pc/h	$V_{12} =$	pc/h	$V_{12} =$	pc/h
V_3 or $V_{av34} = 2252$ pc/h (Equation 25-4 or 25-5)		V_3 or $V_{av34} =$	pc/h (Equation 25-15 or 25-16)	V_3 or $V_{av34} =$	pc/h (Equation 25-15 or 25-16)	V_3 or $V_{av34} =$	pc/h (Equation 25-15 or 25-16)
Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No	
If Yes, $V_{12a} = 2277$ pc/h (Equation 25-8)		If Yes, $V_{12a} =$	pc/h (Equation 25-18)	If Yes, $V_{12a} =$	pc/h (Equation 25-18)	If Yes, $V_{12a} =$	pc/h (Equation 25-18)

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}	7024	Exhibit 25-7	No	V_F		Exhibit 25-14	
				$V_{FO} = V_F - V_R$		Exhibit 25-14	
				V_R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}	3607	Exhibit 25-7	4600:All	No	V_{12}	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R = 23.6$ (pc/mi/ln)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$	$D_R =$ (pc/mi/ln)
LOS = C (Exhibit 25-4)		LOS = (Exhibit 25-4)	

Speed Determination		Speed Determination	
$M_S = 0.345$ (Exhibit 25-19)	$S_R = 60.3$ mph (Exhibit 25-19)	$D_S =$ (Exhibit 25-19)	$S_R =$ mph (Exhibit 25-19)
$S_0 = 65.7$ mph (Exhibit 25-19)	$S = 62.8$ mph (Exhibit 25-14)	$S_0 =$ mph (Exhibit 25-19)	$S =$ mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
<input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off
$L_{up} =$ ft	$S_{FF} = 70.0$ mph	$L_{down} =$ 1035 ft
$V_u =$ veh/h	$S_{FR} = 30.0$ mph	$V_D =$ 1200 veh/h
Sketch (show lanes, L_A, L_D, V_R, V_f)		

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6750	0.92	Level	4	0	0.980	1.00	7484
Ramp	432	0.92	Level	4	0	0.980	1.00	479
UpStream								
DownStream	1200	0.92	Level	4	0	0.980	1.00	1330

Merge Areas				Diverge Areas			
Estimation of v_{12}				Estimation of v_{12}			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
$L_{EQ} =$	0.260 using Equation (Exhibit 25-5)			$L_{EQ} =$	using Equation (Exhibit 25-12)		
$P_{FM} =$	1421 pc/h			$P_{FD} =$	pc/h		
$V_{12} =$	2021 pc/h (Equation 25-4 or 25-5)			$V_{12} =$	pc/h (Equation 25-15 or 25-16)		
V_3 or V_{av34}	Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			V_3 or V_{av34}	Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, $V_{12a} =$	2185 pc/h (Equation 25-8)			If Yes, $V_{12a} =$	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}	5943	Exhibit 25-7	No	V_F		Exhibit 25-14	
				$V_{FO} = V_F - V_R$		Exhibit 25-14	
				V_R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}	2664	Exhibit 25-7	4600:All	No	V_{12}	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$	
$D_R =$	24.3 (pc/mi/ln)	$D_R =$	(pc/mi/ln)
LOS =	C (Exhibit 25-4)	LOS =	(Exhibit 25-4)

Speed Determination		Speed Determination	
$M_s =$	0.360 (Exhibit 25-19)	$D_s =$	(Exhibit 25-19)
$S_R =$	59.9 mph (Exhibit 25-19)	$S_R =$	mph (Exhibit 25-19)
$S_0 =$	65.9 mph (Exhibit 25-19)	$S_0 =$	mph (Exhibit 25-19)
$S =$	63.1 mph (Exhibit 25-14)	$S =$	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off		<input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off
$L_{up} =$ 1245 ft	$S_{FF} =$ 70.0 mph $S_{FR} =$ 30.0 mph	$L_{down} =$ ft
$V_u =$ 1843 veh/h	Sketch (show lanes, L_A, L_D, V_R, V_f)	$V_D =$ veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6750	0.92	Level	4	0	0.980	1.00	7484
Ramp	432	0.92	Level	4	0	0.980	1.00	479
UpStream	1843	0.92	Level	4	0	0.980	1.00	2043
DownStream								

Merge Areas				Diverge Areas			
Estimation of v_{12}				Estimation of v_{12}			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
$L_{EQ} =$	0.260 using Equation (Exhibit 25-5)			$L_{EQ} =$	using Equation (Exhibit 25-12)		
$P_{FM} =$	1421 pc/h			$P_{FD} =$	pc/h		
$V_{12} =$	2021 pc/h (Equation 25-4 or 25-5)			$V_{12} =$	pc/h (Equation 25-15 or 25-16)		
V_3 or V_{av34}	Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			V_3 or V_{av34}	Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, $V_{12a} =$	2185 pc/h (Equation 25-8)			If Yes, $V_{12a} =$	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}	5943	Exhibit 25-7	No	V_F		Exhibit 25-14	
				$V_{FO} = V_F - V_R$		Exhibit 25-14	
				V_R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}	2664	Exhibit 25-7	4600:All	No	V_{12}	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$	
$D_R =$	24.3 (pc/mi/ln)	$D_R =$	(pc/mi/ln)
LOS =	C (Exhibit 25-4)	LOS =	(Exhibit 25-4)

Speed Determination		Speed Determination	
$M_s =$	0.360 (Exhibit 25-19)	$D_s =$	(Exhibit 25-19)
$S_R =$	59.9 mph (Exhibit 25-19)	$S_R =$	mph (Exhibit 25-19)
$S_0 =$	65.9 mph (Exhibit 25-19)	$S_0 =$	mph (Exhibit 25-19)
$S =$	63.1 mph (Exhibit 25-14)	$S =$	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1245 ft V _D = 432 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8593	0.92	Level	4	0	0.980	1.00	9527
Ramp	1843	0.92	Level	4	0	0.980	1.00	2043
UpStream								
DownStream	432	0.90	Level	0	0	1.000	1.00	480

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.260 using Equation (Exhibit 25-12) V ₁₂ = 3494 pc/h V ₃ or V _{av34} 2064 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)			

Capacity Checks				Capacity Checks				
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V _{FO}		Exhibit 25-7		V _F	7622	Exhibit 25-14	9600	No
				V _{FO} = V _F - V _R	5579	Exhibit 25-14	9600	No
				V _R	2043	Exhibit 25-3	4100	No

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area				
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 25-7		V ₁₂	3494	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
D _R = 5.475 + 0.00734 v _R + 0.0078 V ₁₂ - 0.00627 L _A		D _R = 4.252 + 0.0086 V ₁₂ - 0.0009 L _D	
D _R = (pc/mi/ln)		D _R = 22.8 (pc/mi/ln)	
LOS = (Exhibit 25-4)		LOS = C (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _S = (Exhibit 25-19)		D _S = 0.547 (Exhibit 25-19)	
S _R = mph (Exhibit 25-19)		S _R = 54.7 mph (Exhibit 25-19)	
S ₀ = mph (Exhibit 25-19)		S ₀ = 72.6 mph (Exhibit 25-19)	
S = mph (Exhibit 25-14)		S = 63.1 mph (Exhibit 25-15)	

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information	Site Information
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Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bison Av. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	2793	0.92	Level	2	0	0.990	1.00	3066
Ramp	69	0.92	Level	2	0	0.990	1.00	76
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
 (Equation 25-2 or 25-3)
 L_{EQ} =
 P_{FM} = 0.586 using Equation (Exhibit 25-5)
 V₁₂ = 1796 pc/h
 V₃ or V_{av34} = 1270 pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
 (Equation 25-8 or 25-9)
 L_{EQ} =
 P_{FD} = using Equation (Exhibit 25-12)
 V₁₂ = pc/h
 V₃ or V_{av34} = pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}	3142	Exhibit 25-7	No
		V _F	
		V _{FO} = V _F - V _R	
		V _R	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}	1872	Exhibit 25-7	4600:All
			No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
 D_R = 18.2 (pc/mi/ln)
 LOS = B (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
 D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Speed Determination

M _S = 0.323 (Exhibit 25-19) S _R = 61.0 mph (Exhibit 25-19) S ₀ = 67.2 mph (Exhibit 25-19) S = 63.3 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Loop Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing (2013)

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{up} =$ ft $V_u =$ veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{down} =$ ft $V_D =$ veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2862	0.92	Level	2	0	0.990	1.00	3142
Ramp	139	0.92	Level	2	0	0.990	1.00	153
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v_{12}

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$ $L_{EQ} =$ (Equation 25-2 or 25-3) $P_{FM} =$ using Equation (Exhibit 25-5) $V_{12} =$ pc/h V_3 or V_{av34} pc/h (Equation 25-4 or 25-5) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ $L_{EQ} =$ (Equation 25-8 or 25-9) $P_{FD} =$ 0.436 using Equation (Exhibit 25-12) $V_{12} =$ 1456 pc/h V_3 or V_{av34} 843 pc/h (Equation 25-15 or 25-16) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V_{FO}		Exhibit 25-7		V_F	3142	Exhibit 25-14	9600	No
				$V_{FO} = V_F - V_R$	2989	Exhibit 25-14	9600	No
				V_R	153	Exhibit 25-3	2000	No

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 25-7		V_{12}	1456	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ $D_R =$ (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ $D_R =$ 15.2 (pc/mi/ln) LOS = B (Exhibit 25-4)
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Speed Determination

Speed Determination

$M_S =$ (Exhibit 25-19) $S_R =$ mph (Exhibit 25-19) $S_0 =$ mph (Exhibit 25-19) $S =$ mph (Exhibit 25-14)	$D_s =$ 0.507 (Exhibit 25-19) $S_R =$ 55.8 mph (Exhibit 25-19) $S_0 =$ 76.8 mph (Exhibit 25-19) $S =$ 65.4 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	2723	0.92	Level	2	0	0.990	1.00	2989
Ramp	173	0.92	Level	2	0	0.990	1.00	190
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.271 using Equation (Exhibit 25-5) V ₁₂ = 809 pc/h V ₃ or V _{av34} = 1090 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1195 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	3179	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1385	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 14.5 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

M _S = 0.315 (Exhibit 25-19) S _R = 61.2 mph (Exhibit 25-19) S ₀ = 68.6 mph (Exhibit 25-19) S = 65.1 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
--	---

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="text-align: center;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph Sketch (show lanes, L_A, L_D, V_R, V_f) </div>	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
--	---	--

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	2896	0.92	Level	2	0	0.990	1.00	3179
Ramp	263	0.92	Level	2	0	0.990	1.00	289
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
 P_{FM} = using Equation (Exhibit 25-5)
 V₁₂ = pc/h
 V₃ or V_{av34} pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
 P_{FD} = 0.436 using Equation (Exhibit 25-12)
 V₁₂ = 1549 pc/h
 V₃ or V_{av34} 815 pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V _F	3179	Exhibit 25-14	9600 No
V _{FO} = V _F - V _R	2890	Exhibit 25-14	9600 No
V _R	289	Exhibit 25-3	2000 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂	1549	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 17.6 (pc/mi/ln)
 LOS = B (Exhibit 25-4)

Speed Determination

M_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-14)

Speed Determination

D_S = 0.519 (Exhibit 25-19)
 S_R = 55.5 mph (Exhibit 25-19)
 S₀ = 76.8 mph (Exhibit 25-19)
 S = 64.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
--	--	--

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	2633	0.92	Level	2	0	0.990	1.00	2891
Ramp	187	0.92	Level	2	0	0.990	1.00	205
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
(Equation 25-2 or 25-3)

L_{EQ} =

P_{FM} = 0.254 using Equation (Exhibit 25-5)

V₁₂ = 733 pc/h

V₃ or V_{av34} = 1079 pc/h (Equation 25-4 or 25-5)

Is V₃ or V_{av34} > 2,700 pc/h? Yes No

Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No

If Yes, V_{12a} = 1156 pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
(Equation 25-8 or 25-9)

L_{EQ} =

P_{FD} = using Equation (Exhibit 25-12)

V₁₂ = pc/h

V₃ or V_{av34} = pc/h (Equation 25-15 or 25-16)

Is V₃ or V_{av34} > 2,700 pc/h? Yes No

Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}	3096	Exhibit 25-7	No

Capacity Checks

	Actual	Capacity	LOS F?
V _F		Exhibit 25-14	
V _{FO} = V _F - V _R		Exhibit 25-14	
V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}	1361	Exhibit 25-7	4600:All No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂		Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 15.0 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = 0.326 (Exhibit 25-19)

S_R = 60.9 mph (Exhibit 25-19)

S₀ = 68.7 mph (Exhibit 25-19)

S = 65.0 mph (Exhibit 25-14)

Speed Determination

D_S = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S₀ = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bison Av. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="text-align: center;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph Sketch (show lanes, L_A, L_D, V_R, V_f) </div>	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	2802	0.92	Level	2	0	0.990	1.00	3076
Ramp	556	0.92	Level	2	0	0.990	1.00	610
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
 P_{FM} = using Equation (Exhibit 25-5)
 V₁₂ = pc/h
 V₃ or V_{av34} pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
 P_{FD} = 0.436 using Equation (Exhibit 25-12)
 V₁₂ = 1685 pc/h
 V₃ or V_{av34} 695 pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V _F	3076	Exhibit 25-14	9600 No
V _{FO} = V _F - V _R	2466	Exhibit 25-14	9600 No
V _R	610	Exhibit 25-3	2000 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂	1685	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 17.5 (pc/mi/ln)
 LOS = B (Exhibit 25-4)

Speed Determination

M_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-14)

Speed Determination

D_S = 0.548 (Exhibit 25-19)
 S_R = 54.7 mph (Exhibit 25-19)
 S₀ = 76.8 mph (Exhibit 25-19)
 S = 62.8 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Loop On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
--	--	--

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	2530	0.92	Level	2	0	0.990	1.00	2777
Ramp	272	0.92	Level	2	0	0.990	1.00	299
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
(Equation 25-2 or 25-3)

L_{EQ} =

P_{FM} = 0.249 using Equation (Exhibit 25-5)

V₁₂ = 691 pc/h

V₃ or V_{av34} = 1043 pc/h (Equation 25-4 or 25-5)

Is V₃ or V_{av34} > 2,700 pc/h? Yes No

Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No

If Yes, V_{12a} = 1110 pc/h (Equation 25-8)

$V_{12} = V_R + (V_F - V_R)P_{FD}$
(Equation 25-8 or 25-9)

L_{EQ} =

P_{FD} = using Equation (Exhibit 25-12)

V₁₂ = pc/h

V₃ or V_{av34} = pc/h (Equation 25-15 or 25-16)

Is V₃ or V_{av34} > 2,700 pc/h? Yes No

Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	3076	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1409	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 14.8 (pc/mi/ln)

LOS = B (Exhibit 25-4)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

Speed Determination

M_S = 0.317 (Exhibit 25-19)

S_R = 61.1 mph (Exhibit 25-19)

S₀ = 68.8 mph (Exhibit 25-19)

S = 65.1 mph (Exhibit 25-14)

D_S = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S₀ = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information	Site Information
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Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{up} =$ ft $V_u =$ veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{down} =$ ft $V_D =$ veh/h
--	--	--

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3024	0.92	Level	2	0	0.990	1.00	3320
Ramp	494	0.92	Level	2	0	0.990	1.00	542
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v_{12}

$V_{12} = V_F (P_{FM})$ $L_{EQ} =$ (Equation 25-2 or 25-3) $P_{FM} =$ using Equation (Exhibit 25-5) $V_{12} =$ pc/h V_3 or V_{av34} pc/h (Equation 25-4 or 25-5) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ $L_{EQ} =$ (Equation 25-8 or 25-9) $P_{FD} =$ 0.436 using Equation (Exhibit 25-12) $V_{12} =$ 1753 pc/h V_3 or V_{av34} 783 pc/h (Equation 25-15 or 25-16) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-18)
---	---

Capacity Checks

	Actual	Capacity	LOS F?
V_{FO}		Exhibit 25-7	
	V_F	3320	Exhibit 25-14 9600 No
	$V_{FO} = V_F - V_R$	2778	Exhibit 25-14 9600 No
	V_R	542	Exhibit 25-3 2000 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V_{R12}		Exhibit 25-7	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ $D_R =$ (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ $D_R =$ 8.1 (pc/mi/ln) LOS = A (Exhibit 25-4)
--	---

Speed Determination

$M_S =$ (Exhibit 25-19) $S_R =$ mph (Exhibit 25-19) $S_0 =$ mph (Exhibit 25-19) $S =$ mph (Exhibit 25-14)	$D_s =$ 0.542 (Exhibit 25-19) $S_R =$ 54.8 mph (Exhibit 25-19) $S_0 =$ 76.8 mph (Exhibit 25-19) $S =$ 63.4 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
--	---	--

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	2501	0.92	Level	2	0	0.990	1.00	2746
Ramp	523	0.92	Level	2	0	0.990	1.00	574
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.611 using Equation (Exhibit 25-5) V ₁₂ = 1677 pc/h V ₃ or V _{av34} = 534 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)
---	---

Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	3320	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2251	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 14.9 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

Speed Determination

M _S = 0.283 (Exhibit 25-19) S _R = 62.1 mph (Exhibit 25-19) S ₀ = 69.9 mph (Exhibit 25-19) S = 64.4 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{up} =$ ft $V_u =$ veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{down} =$ ft $V_D =$ veh/h
--	--	--

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2847	0.92	Level	2	0	0.990	1.00	3126
Ramp	346	0.92	Level	2	0	0.990	1.00	380
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v_{12}

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$ $L_{EQ} =$ (Equation 25-2 or 25-3) $P_{FM} =$ using Equation (Exhibit 25-5) $V_{12} =$ pc/h V_3 or V_{av34} pc/h (Equation 25-4 or 25-5) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ $L_{EQ} =$ (Equation 25-8 or 25-9) $P_{FD} =$ 0.436 using Equation (Exhibit 25-12) $V_{12} =$ 1577 pc/h V_3 or V_{av34} 774 pc/h (Equation 25-15 or 25-16) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}		Exhibit 25-7		V_F	3126	Exhibit 25-14	9600
				$V_{FO} = V_F - V_R$	2746	Exhibit 25-14	9600
				V_R	380	Exhibit 25-3	2000

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}		Exhibit 25-7		V_{12}	1577	Exhibit 25-14	4400:All

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ $D_R =$ (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ $D_R =$ 17.8 (pc/mi/ln) LOS = B (Exhibit 25-4)
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Speed Determination

Speed Determination

$M_S =$ (Exhibit 25-19) $S_R =$ mph (Exhibit 25-19) $S_0 =$ mph (Exhibit 25-19) $S =$ mph (Exhibit 25-14)	$D_s =$ 0.527 (Exhibit 25-19) $S_R =$ 55.2 mph (Exhibit 25-19) $S_0 =$ 76.8 mph (Exhibit 25-19) $S =$ 64.2 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	11296	0.92	Level	4	0	0.980	1.00	12524
Ramp	1154	0.92	Level	4	0	0.980	1.00	1279
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.260 using Equation (Exhibit 25-12) V ₁₂ = 3552 pc/h V ₃ or V _{av34} 3234 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 4620 pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	
	V _F	10020	Exhibit 25-14 9600 Yes
	V _{FO} = V _F - V _R	8741	Exhibit 25-14 9600 No
	V _R	1279	Exhibit 25-3 4100 No

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	
V ₁₂	3552	Exhibit 25-14 4400:All	No

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 12.5 (pc/mi/ln) LOS = F (Exhibit 25-4)
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Speed Determination

Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _s = 0.478 (Exhibit 25-19) S _R = 56.6 mph (Exhibit 25-19) S ₀ = 70.2 mph (Exhibit 25-19) S = 63.2 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information	Site Information
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Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	pM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	10142	0.92	Level	4	0	0.980	1.00	11244
Ramp	906	0.92	Level	4	0	0.980	1.00	1004
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
 (Equation 25-2 or 25-3)
 L_{EQ} =
 P_{FM} = 0.209 using Equation (Exhibit 25-5)
 V₁₂ = 1827 pc/h
 V₃ or V_{av34} = 3458 pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = 3344 pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
 (Equation 25-8 or 25-9)
 L_{EQ} =
 P_{FD} = using Equation (Exhibit 25-12)
 V₁₂ = pc/h
 V₃ or V_{av34} = pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	9748	Exhibit 25-7	Yes	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	4348	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 18.2 (pc/mi/ln) LOS = F (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _S = 0.359 (Exhibit 25-19) S _R = 60.0 mph (Exhibit 25-19) S ₀ = 61.1 mph (Exhibit 25-19) S = 60.6 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 50.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1250 ft V _D = 622 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	9007	0.92	Level	4	0	0.980	1.00	9986
Ramp	1777	0.92	Level	4	0	0.980	1.00	1970
UpStream								
DownStream	622	0.92	Level	4	0	0.980	1.00	690

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.260 using Equation (Exhibit 25-12) V ₁₂ = 3535 pc/h V ₃ or V _{av34} 2227 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)			

Capacity Checks				Capacity Checks				
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V _{FO}		Exhibit 25-7		V _F	7989	Exhibit 25-14	9600	No
				V _{FO} = V _F - V _R	6019	Exhibit 25-14	9600	No
				V _R	1970	Exhibit 25-3	4100	No

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area				
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 25-7		V ₁₂	3535	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
D _R = 5.475 + 0.00734 v _R + 0.0078 V ₁₂ - 0.00627 L _A		D _R = 4.252 + 0.0086 V ₁₂ - 0.0009 L _D	
D _R = (pc/mi/ln)		D _R = 5.7 (pc/mi/ln)	
LOS = (Exhibit 25-4)		LOS = A (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _S = (Exhibit 25-19)		D _S = 0.410 (Exhibit 25-19)	
S _R = mph (Exhibit 25-19)		S _R = 58.5 mph (Exhibit 25-19)	
S ₀ = mph (Exhibit 25-19)		S ₀ = 72.0 mph (Exhibit 25-19)	
S = mph (Exhibit 25-14)		S = 65.3 mph (Exhibit 25-15)	

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs			
Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp	
<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On		<input type="checkbox"/> Yes <input type="checkbox"/> On	
<input type="checkbox"/> No <input type="checkbox"/> Off		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	
$L_{up} = 1250$ ft		$L_{down} =$ ft	
$V_u = 1777$ veh/h	$S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph	$V_D =$ veh/h	
Sketch (show lanes, L_A, L_D, V_R, V_f)			

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7520	0.92	Level	4	0	0.980	1.00	8337
Ramp	622	0.92	Level	4	0	0.980	1.00	690
UpStream	1777	0.90	Level	0	0	1.000	1.00	1974
DownStream								

Merge Areas				Diverge Areas			
Estimation of v_{12}				Estimation of v_{12}			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
$L_{EQ} =$	0.228 using Equation (Exhibit 25-5)			$L_{EQ} =$	using Equation (Exhibit 25-12)		
$P_{FM} =$	1360 pc/h			$P_{FD} =$	pc/h		
$V_{12} =$	2300 pc/h (Equation 25-4 or 25-5)			$V_{12} =$	pc/h (Equation 25-15 or 25-16)		
V_3 or V_{av34}	Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			V_3 or V_{av34}	Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, $V_{12a} =$	2384 pc/h (Equation 25-8)			If Yes, $V_{12a} =$	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}	6651	Exhibit 25-7	No	V_F		Exhibit 25-14	
				$V_{FO} = V_F - V_R$		Exhibit 25-14	
				V_R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}	3074	Exhibit 25-7	4600:All	No	V_{12}	Exhibit 25-14	

Level of Service Determination (if not F)				Level of Service Determination (if not F)			
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$				$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$			
$D_R =$	27.5 (pc/mi/ln)			$D_R =$	(pc/mi/ln)		
LOS =	C (Exhibit 25-4)			LOS =	(Exhibit 25-4)		

Speed Determination		Speed Determination	
$M_s =$	0.390 (Exhibit 25-19)	$D_s =$	(Exhibit 25-19)
$S_R =$	59.1 mph (Exhibit 25-19)	$S_R =$	mph (Exhibit 25-19)
$S_0 =$	65.4 mph (Exhibit 25-19)	$S_0 =$	mph (Exhibit 25-19)
$S =$	62.3 mph (Exhibit 25-14)	$S =$	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (D)
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1115 ft V _D = 1068 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	7520	0.92	Level	4	0	0.980	1.00	8337
Ramp	622	0.92	Level	4	0	0.980	1.00	690
UpStream								
DownStream	1068	0.90	Level	0	0	1.000	1.00	1187

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
L _{EQ} =	$V_{12} = V_F (P_{FM})$	(Equation 25-2 or 25-3)		L _{EQ} =	$V_{12} = V_R + (V_F - V_R)P_{FD}$	(Equation 25-8 or 25-9)	
P _{FM} =	0.228	using Equation (Exhibit 25-5)		P _{FD} =		using Equation (Exhibit 25-12)	
V ₁₂ =	1360	pc/h		V ₁₂ =		pc/h	
V ₃ or V _{av34}	2300	pc/h (Equation 25-4 or 25-5)		V ₃ or V _{av34}		pc/h (Equation 25-15 or 25-16)	
Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
If Yes, V _{12a} =	2384	pc/h (Equation 25-8)		If Yes, V _{12a} =		pc/h (Equation 25-18)	

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	6651	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3074	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$		
D _R = 27.5 (pc/mi/ln)	D _R = (pc/mi/ln)		
LOS = C (Exhibit 25-4)	LOS = (Exhibit 25-4)		

Speed Determination		Speed Determination	
M _S = 0.390 (Exhibit 25-19)	D _S = (Exhibit 25-19)	S _R = 59.1 mph (Exhibit 25-19)	S _R = mph (Exhibit 25-19)
S _R = 59.1 mph (Exhibit 25-19)	S ₀ = 65.4 mph (Exhibit 25-19)	S ₀ = 62.3 mph (Exhibit 25-14)	S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{up} = 1115 ft V _u = 622 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8024	0.92	Level	4	0	0.980	1.00	8896
Ramp	1068	0.92	Level	4	0	0.980	1.00	1184
UpStream	622	0.90	Level	0	0	1.000	1.00	691
DownStream								

Merge Areas				Diverge Areas			
Estimation of v₁₂				Estimation of v₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
L _{EQ} =	0.209 using Equation (Exhibit 25-5)			L _{EQ} =	using Equation (Exhibit 25-12)		
P _{FM} =	1337 pc/h			P _{FD} =	pc/h		
V ₁₂ =	2529 pc/h (Equation 25-4 or 25-5)			V ₁₂ =	pc/h (Equation 25-15 or 25-16)		
V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, V _{12a} =	2558 pc/h (Equation 25-8)			If Yes, V _{12a} =	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	7580	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3742	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$	
D _R =	28.7 (pc/mi/ln)	D _R =	(pc/mi/ln)
LOS =	D (Exhibit 25-4)	LOS =	(Exhibit 25-4)

Speed Determination		Speed Determination	
M _s =	0.416 (Exhibit 25-19)	D _s =	(Exhibit 25-19)
S _R =	58.4 mph (Exhibit 25-19)	S _R =	mph (Exhibit 25-19)
S ₀ =	64.9 mph (Exhibit 25-19)	S ₀ =	mph (Exhibit 25-19)
S =	61.5 mph (Exhibit 25-14)	S =	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Loop On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off L _{up} = 1360 ft V _u = 706 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	6119	0.92	Level	4	0	0.980	1.00	6784
Ramp	1359	0.92	Level	4	0	0.980	1.00	1507
UpStream	706	0.90	Level	0	0	1.000	1.00	784
DownStream								

Merge Areas				Diverge Areas			
Estimation of v₁₂				Estimation of v₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.448 using Equation (Exhibit 25-5) V ₁₂ = 2217 pc/h V ₃ or V _{av34} = 1368 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)			

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	6460	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3724	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 24.4 (pc/mi/ln) LOS = C (Exhibit 25-4)		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _s = 0.363 (Exhibit 25-19)	S _R = 59.8 mph (Exhibit 25-19)	S ₀ = 66.9 mph (Exhibit 25-19)	S = 62.6 mph (Exhibit 25-14)
S _R = 59.8 mph (Exhibit 25-19)	S ₀ = 66.9 mph (Exhibit 25-19)	S = 62.6 mph (Exhibit 25-14)	

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information								
Analyst	IA	Freeway/Dir of Travel	I-405 NB							
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Off-Ramp							
Date Performed	02/19/2014	Jurisdiction	Caltrans							
Analysis Time Period	PM Peak Hour	Analysis Year	Existing							
Project Description City of Newport Beach LUE Amendment TIA (JN08911)										
Inputs										
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)		Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1360 ft V _D = 1359 veh/h							
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p		
Freeway	6825	0.92	Level	4	0	0.980	1.00	7567		
Ramp	706	0.92	Level	4	0	0.980	1.00	783		
UpStream										
DownStream	1359	0.92	Level	4	0	0.980	1.00	1507		
Merge Areas				Diverge Areas						
Estimation of v₁₂				Estimation of v₁₂						
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 3081 pc/h V ₃ or V _{av34} 1486 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)						
Capacity Checks				Capacity Checks						
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V _{FO}		Exhibit 25-7			V _F	6054	Exhibit 25-14	9600	No	
					V _{FO} = V _F - V _R	5271	Exhibit 25-14	9600	No	
					V _R	783	Exhibit 25-3	2100	No	
Flow Entering Merge Influence Area				Flow Entering Merge Influence Area						
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?	
V _{R12}		Exhibit 25-7			V ₁₂	3081	Exhibit 25-14		4400:All	No
Level of Service Determination (if not F)				Level of Service Determination (if not F)						
D _R = 5.475 + 0.00734 v _R + 0.0078 V ₁₂ - 0.00627 L _A				D _R = 4.252 + 0.0086 V ₁₂ - 0.0009 L _D						
D _R = (pc/mi/ln)				D _R = 17.2 (pc/mi/ln)						
LOS = (Exhibit 25-4)				LOS = B (Exhibit 25-4)						
Speed Determination				Speed Determination						
M _S = (Exhibit 25-19)				D _S = 0.433 (Exhibit 25-19)						
S _R = mph (Exhibit 25-19)				S _R = 57.9 mph (Exhibit 25-19)						
S ₀ = mph (Exhibit 25-19)				S ₀ = 74.9 mph (Exhibit 25-19)						
S = mph (Exhibit 25-14)				S = 65.1 mph (Exhibit 25-15)						

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off		<input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off
$L_{up} = 1035$ ft	$S_{FF} = 70.0$ mph $S_{FR} = 40.0$ mph	$L_{down} =$ ft
$V_u = 716$ veh/h	Sketch (show lanes, L_A, L_D, V_R, V_f)	$V_D =$ veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5805	0.92	Level	4	0	0.980	1.00	6436
Ramp	1020	0.92	Level	4	0	0.980	1.00	1131
UpStream	716	0.92	Level	4	0	0.980	1.00	794
DownStream								

Merge Areas				Diverge Areas			
Estimation of v_{12}				Estimation of v_{12}			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
$L_{EQ} =$	0.209 using Equation (Exhibit 25-5)			$L_{EQ} =$	using Equation (Exhibit 25-12)		
$P_{FM} =$	1022 pc/h			$P_{FD} =$	pc/h		
$V_{12} =$	1935 pc/h (Equation 25-4 or 25-5)			$V_{12} =$	pc/h (Equation 25-15 or 25-16)		
V_3 or V_{av34}	Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			V_3 or V_{av34}	Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, $V_{12a} =$	1956 pc/h (Equation 25-8)			If Yes, $V_{12a} =$	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}	6023	Exhibit 25-7	No	V_F		Exhibit 25-14	
				$V_{FO} = V_F - V_R$		Exhibit 25-14	
				V_R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}	3087	Exhibit 25-7	4600:All	No	V_{12}	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$	
$D_R = 19.6$ (pc/mi/ln)		$D_R =$ (pc/mi/ln)	
LOS = B (Exhibit 25-4)		LOS = (Exhibit 25-4)	

Speed Determination		Speed Determination	
$M_s = 0.286$ (Exhibit 25-19)		$D_s =$ (Exhibit 25-19)	
$S_R = 62.0$ mph (Exhibit 25-19)		$S_R =$ mph (Exhibit 25-19)	
$S_0 = 66.5$ mph (Exhibit 25-19)		$S_0 =$ mph (Exhibit 25-19)	
$S = 64.1$ mph (Exhibit 25-14)		$S =$ mph (Exhibit 25-15)	

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1035 ft V _D = 1020 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	5089	0.92	Level	4	0	0.980	1.00	5642
Ramp	716	0.92	Level	4	0	0.980	1.00	794
UpStream								
DownStream	1020	0.92	Level	4	0	0.980	1.00	1131

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
L _{EQ} =	V ₁₂ = V _F (P _{FM})	(Equation 25-2 or 25-3)		L _{EQ} =	V ₁₂ = V _R + (V _F - V _R)P _{FD}	(Equation 25-8 or 25-9)	
P _{FM} =	0.221	using Equation (Exhibit 25-5)		P _{FD} =	using Equation (Exhibit 25-12)		
V ₁₂ =	947	pc/h		V ₁₂ =	pc/h		
V ₃ or V _{av34}	1670	pc/h (Equation 25-4 or 25-5)		V ₃ or V _{av34}	pc/h (Equation 25-15 or 25-16)		
Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
If Yes, V _{12a} =	1715	pc/h (Equation 25-8)		If Yes, V _{12a} =	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	5082	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2509	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
D _R = 5.475 + 0.00734 v _R + 0.0078 V ₁₂ - 0.00627 L _A D _R = 23.0 (pc/mi/ln) LOS = C (Exhibit 25-4)	D _R = 4.252 + 0.0086 V ₁₂ - 0.0009 L _D D _R = (pc/mi/ln) LOS = (Exhibit 25-4)		

Speed Determination		Speed Determination	
M _s = 0.352 (Exhibit 25-19) S _R = 60.1 mph (Exhibit 25-19) S ₀ = 67.2 mph (Exhibit 25-19) S = 63.5 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)		

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off		<input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off
$L_{up} =$ 1245 ft	$S_{FF} =$ 70.0 mph $S_{FR} =$ 30.0 mph	$L_{down} =$ ft
$V_u =$ 1028 veh/h	Sketch (show lanes, L_A, L_D, V_R, V_f)	$V_D =$ veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5089	0.92	Level	4	0	0.980	1.00	5642
Ramp	716	0.92	Level	4	0	0.980	1.00	794
UpStream	1028	0.92	Level	4	0	0.980	1.00	1140
DownStream								

Merge Areas				Diverge Areas			
Estimation of v_{12}				Estimation of v_{12}			
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)
$P_{FM} =$	0.221 using Equation (Exhibit 25-5)	$P_{FD} =$	using Equation (Exhibit 25-12)	$P_{FD} =$	using Equation (Exhibit 25-12)	$P_{FD} =$	using Equation (Exhibit 25-12)
$V_{12} =$	947 pc/h	$V_{12} =$	pc/h	$V_{12} =$	pc/h	$V_{12} =$	pc/h
V_3 or V_{av34}	1670 pc/h (Equation 25-4 or 25-5)	V_3 or V_{av34}	pc/h (Equation 25-15 or 25-16)	V_3 or V_{av34}	pc/h (Equation 25-15 or 25-16)	V_3 or V_{av34}	pc/h (Equation 25-15 or 25-16)
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No
If Yes, $V_{12a} =$	1715 pc/h (Equation 25-8)	If Yes, $V_{12a} =$	pc/h (Equation 25-18)	If Yes, $V_{12a} =$	pc/h (Equation 25-18)	If Yes, $V_{12a} =$	pc/h (Equation 25-18)

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}	5082	Exhibit 25-7	No	V_F		Exhibit 25-14	
				$V_{FO} = V_F - V_R$		Exhibit 25-14	
				V_R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}	2509	Exhibit 25-7	4600:All	No	V_{12}	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R =$ 23.0 (pc/mi/ln)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$	$D_R =$ (pc/mi/ln)
LOS = C (Exhibit 25-4)		LOS = (Exhibit 25-4)	

Speed Determination		Speed Determination	
$M_s =$ 0.352 (Exhibit 25-19)	$S_R =$ 60.1 mph (Exhibit 25-19)	$D_s =$ (Exhibit 25-19)	$S_R =$ mph (Exhibit 25-19)
$S_0 =$ 67.2 mph (Exhibit 25-19)	$S =$ 63.5 mph (Exhibit 25-14)	$S_0 =$ mph (Exhibit 25-19)	$S =$ mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1245 ft V _D = 716 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	6117	0.92	Level	4	0	0.980	1.00	6782
Ramp	1028	0.92	Level	4	0	0.980	1.00	1140
UpStream								
DownStream	716	0.90	Level	0	0	1.000	1.00	796

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = using Equation (Exhibit 25-5) P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = using Equation (Exhibit 25-12) P _{FD} = 0.260 using Equation (Exhibit 25-12) V ₁₂ = 2342 pc/h V ₃ or V _{av34} 1711 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)			

Capacity Checks				Capacity Checks				
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V _{FO}		Exhibit 25-7		V _F	5765	Exhibit 25-14	9600	No
				V _{FO} = V _F - V _R	4625	Exhibit 25-14	9600	No
				V _R	1140	Exhibit 25-3	4100	No

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area				
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 25-7		V ₁₂	2342	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 12.9 (pc/mi/ln) LOS = B (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _S = (Exhibit 25-19)	S _R = mph (Exhibit 25-19)	S ₀ = mph (Exhibit 25-19)	S = mph (Exhibit 25-14)
		D _S = 0.466 (Exhibit 25-19)	S _R = 57.0 mph (Exhibit 25-19)
			S ₀ = 74.0 mph (Exhibit 25-19)
			S = 66.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information	Site Information
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Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bison Av. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	2033	0.92	Level	2	0	0.990	1.00	2232
Ramp	344	0.92	Level	2	0	0.990	1.00	378
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.586 using Equation (Exhibit 25-5) V ₁₂ = 1307 pc/h V ₃ or V _{av34} = 925 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)
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Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	2610	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1685	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 16.6 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _S = 0.319 (Exhibit 25-19) S _R = 61.1 mph (Exhibit 25-19) S ₀ = 68.5 mph (Exhibit 25-19) S = 63.5 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET										
General Information					Site Information					
Analyst		IA			Freeway/Dir of Travel		SR-73 SB			
Agency or Company		Urban Crossroads, Inc.			Junction		Bonita Cyn. Dr. Loop Off-Ramp			
Date Performed		02/19/2014			Jurisdiction		Caltrans			
Analysis Time Period		PM Peak Hour			Analysis Year		Existing			
Project Description City of Newport Beach LUE Amendment TIA (JN08911)										
Inputs										
Upstream Adj Ramp			Terrain: Level				Downstream Adj Ramp			
<input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off							<input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off			
L _{up} = ft			S _{FF} = 70.0 mph S _{FR} = 30.0 mph				L _{down} = ft			
V _u = veh/h			Sketch (show lanes, L _A , L _D , V _R , V _f)				V _D = veh/h			
Conversion to pc/h Under Base Conditions										
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p		
Freeway	2377	0.92	Level	2	0	0.990	1.00	2610		
Ramp	268	0.92	Level	2	0	0.990	1.00	294		
UpStream										
DownStream										
Merge Areas					Diverge Areas					
Estimation of v₁₂					Estimation of v₁₂					
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)					
L _{EQ} = using Equation (Exhibit 25-5)					L _{EQ} = 0.436 using Equation (Exhibit 25-12)					
P _{FM} = pc/h					P _{FD} = 1304 pc/h					
V ₁₂ = pc/h (Equation 25-4 or 25-5)					V ₁₂ = 653 pc/h (Equation 25-15 or 25-16)					
V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5)					V ₃ or V _{av34} 653 pc/h (Equation 25-15 or 25-16)					
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No					Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No					Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
If Yes, V _{12a} = pc/h (Equation 25-8)					If Yes, V _{12a} = pc/h (Equation 25-18)					
Capacity Checks					Capacity Checks					
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?	
V _{FO}		Exhibit 25-7			V _F	2610	Exhibit 25-14		9600	No
					V _{FO} = V _F - V _R	2316	Exhibit 25-14		9600	No
					V _R	294	Exhibit 25-3		2000	No
Flow Entering Merge Influence Area					Flow Entering Merge Influence Area					
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?	
V _{R12}		Exhibit 25-7			V ₁₂	1304	Exhibit 25-14		4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)					
D _R = 5.475 + 0.00734 v _R + 0.0078 V ₁₂ - 0.00627 L _A					D _R = 4.252 + 0.0086 V ₁₂ - 0.0009 L _D					
D _R = (pc/mi/ln)					D _R = 13.9 (pc/mi/ln)					
LOS = (Exhibit 25-4)					LOS = B (Exhibit 25-4)					
Speed Determination					Speed Determination					
M _S = (Exhibit 25-19)					D _S = 0.519 (Exhibit 25-19)					
S _R = mph (Exhibit 25-19)					S _R = 55.5 mph (Exhibit 25-19)					
S ₀ = mph (Exhibit 25-19)					S ₀ = 76.8 mph (Exhibit 25-19)					
S = mph (Exhibit 25-14)					S = 64.4 mph (Exhibit 25-15)					

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	2109	0.92	Level	2	0	0.990	1.00	2315
Ramp	578	0.92	Level	2	0	0.990	1.00	635
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.215 using Equation (Exhibit 25-5) V ₁₂ = 498 pc/h V ₃ or V _{av34} = 908 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 926 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	2950	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1561	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 15.6 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

Speed Determination

M _S = 0.318 (Exhibit 25-19) S _R = 61.1 mph (Exhibit 25-19) S ₀ = 69.3 mph (Exhibit 25-19) S = 64.7 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	2687	0.92	Level	2	0	0.990	1.00	2950
Ramp	516	0.92	Level	2	0	0.990	1.00	566
UpStream								
DownStream								

Merge Areas				Diverge Areas			
Estimation of v₁₂				Estimation of v₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
L _{EQ} = using Equation (Exhibit 25-5)				L _{EQ} = 0.436 using Equation (Exhibit 25-12)			
P _{FM} = pc/h				P _{FD} = 1605 pc/h			
V ₁₂ = pc/h (Equation 25-4 or 25-5)				V ₁₂ = 672 pc/h (Equation 25-15 or 25-16)			
V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5)				V ₃ or V _{av34} 672 pc/h (Equation 25-15 or 25-16)			
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
If Yes, V _{12a} = pc/h (Equation 25-8)				If Yes, V _{12a} = pc/h (Equation 25-18)			

Capacity Checks				Capacity Checks				
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V _{FO}		Exhibit 25-7		V _F	2950	Exhibit 25-14	9600	No
				V _{FO} = V _F - V _R	2384	Exhibit 25-14	9600	No
				V _R	566	Exhibit 25-3	2000	No

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area				
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 25-7		V ₁₂	1605	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 18.1 (pc/mi/ln) LOS = B (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _S = (Exhibit 25-19)		D _S = 0.544 (Exhibit 25-19)	
S _R = mph (Exhibit 25-19)		S _R = 54.8 mph (Exhibit 25-19)	
S ₀ = mph (Exhibit 25-19)		S ₀ = 76.8 mph (Exhibit 25-19)	
S = mph (Exhibit 25-14)		S = 63.0 mph (Exhibit 25-15)	

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	2171	0.92	Level	2	0	0.990	1.00	2383
Ramp	211	0.92	Level	2	0	0.990	1.00	232
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
(Equation 25-2 or 25-3)

L_{EQ} =

P_{FM} = 0.250 using Equation (Exhibit 25-5)

V₁₂ = 596 pc/h

V₃ or V_{av34} = 893 pc/h (Equation 25-4 or 25-5)

Is V₃ or V_{av34} > 2,700 pc/h? Yes No

Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No

If Yes, V_{12a} = 953 pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
(Equation 25-8 or 25-9)

L_{EQ} =

P_{FD} = using Equation (Exhibit 25-12)

V₁₂ = pc/h

V₃ or V_{av34} = pc/h (Equation 25-15 or 25-16)

Is V₃ or V_{av34} > 2,700 pc/h? Yes No

Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}	2615	Exhibit 25-7	No

Capacity Checks

	Actual	Capacity	LOS F?
V _F		Exhibit 25-14	
V _{FO} = V _F - V _R		Exhibit 25-14	
V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}	1185	Exhibit 25-7 4600:All	No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂		Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 V_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 13.6 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = 0.324 (Exhibit 25-19)

S_R = 60.9 mph (Exhibit 25-19)

S₀ = 69.2 mph (Exhibit 25-19)

S = 65.2 mph (Exhibit 25-14)

Speed Determination

D_S = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S₀ = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bison Av. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3658	0.92	Level	2	0	0.990	1.00	4016
Ramp	117	0.92	Level	2	0	0.990	1.00	128
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 1823 pc/h V ₃ or V _{av34} 1096 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V _{FO}		Exhibit 25-7		V _F	4016	Exhibit 25-14	9600	No
				V _{FO} = V _F - V _R	3888	Exhibit 25-14	9600	No
				V _R	128	Exhibit 25-3	2000	No

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 25-7		V ₁₂	1823	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 18.7 (pc/mi/ln) LOS = B (Exhibit 25-4)
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Speed Determination

Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _s = 0.505 (Exhibit 25-19) S _R = 55.9 mph (Exhibit 25-19) S ₀ = 76.4 mph (Exhibit 25-19) S = 65.5 mph (Exhibit 25-15)
---	--

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Loop On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3549	0.92	Level	2	0	0.990	1.00	3896
Ramp	109	0.92	Level	2	0	0.990	1.00	120
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.271 using Equation (Exhibit 25-5) V ₁₂ = 1056 pc/h V ₃ or V _{av34} = 1420 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1558 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4016	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1678	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 17.0 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

M _S = 0.322 (Exhibit 25-19) S _R = 61.0 mph (Exhibit 25-19) S ₀ = 67.6 mph (Exhibit 25-19) S = 64.7 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3740	0.92	Level	2	0	0.990	1.00	4106
Ramp	191	0.92	Level	2	0	0.990	1.00	210
UpStream								
DownStream								

Merge Areas	Diverge Areas
Estimation of v₁₂ $V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 25-2 or 25-3) P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	Estimation of v₁₂ $V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 25-8 or 25-9) P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 1909 pc/h V ₃ or V _{av34} 1098 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks				
	Actual	Capacity	LOS F?	
V _{FO}		Exhibit 25-7		
	V _F	4106	Exhibit 25-14	9600 No
	V _{FO} = V _F - V _R	3896	Exhibit 25-14	9600 No
	V _R	210	Exhibit 25-3	2000 No

Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?
V ₁₂	1909	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)	Level of Service Determination (if not F)
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 9.4 (pc/mi/ln) LOS = A (Exhibit 25-4)

Speed Determination	Speed Determination
M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _S = 0.512 (Exhibit 25-19) S _R = 55.7 mph (Exhibit 25-19) S ₀ = 76.4 mph (Exhibit 25-19) S = 65.1 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3566	0.92	Level	2	0	0.990	1.00	3915
Ramp	174	0.92	Level	2	0	0.990	1.00	191
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.659 using Equation (Exhibit 25-5) V ₁₂ = 2578 pc/h V ₃ or V _{av34} = 668 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4106	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2769	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 19.1 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

Speed Determination

M _S = 0.308 (Exhibit 25-19) S _R = 61.4 mph (Exhibit 25-19) S ₀ = 69.4 mph (Exhibit 25-19) S = 63.8 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
--	---

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{up} =$ ft $V_u =$ veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{down} =$ ft $V_D =$ veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3773	0.92	Level	2	0	0.990	1.00	4142
Ramp	207	0.92	Level	2	0	0.990	1.00	227
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v_{12}

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$ $L_{EQ} =$ (Equation 25-2 or 25-3) $P_{FM} =$ using Equation (Exhibit 25-5) $V_{12} =$ pc/h V_3 or V_{av34} pc/h (Equation 25-4 or 25-5) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ $L_{EQ} =$ (Equation 25-8 or 25-9) $P_{FD} =$ 0.436 using Equation (Exhibit 25-12) $V_{12} =$ 1934 pc/h V_3 or V_{av34} 1104 pc/h (Equation 25-15 or 25-16) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-18)
---	--

Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V_{FO}		Exhibit 25-7		V_F	4142	Exhibit 25-14	9600	No
				$V_{FO} = V_F - V_R$	3915	Exhibit 25-14	9600	No
				V_R	227	Exhibit 25-3	2000	No

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 25-7		V_{12}	1934	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ $D_R =$ (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ $D_R =$ 20.9 (pc/mi/ln) LOS = C (Exhibit 25-4)
--	--

Speed Determination

Speed Determination

$M_S =$ (Exhibit 25-19) $S_R =$ mph (Exhibit 25-19) $S_0 =$ mph (Exhibit 25-19) $S =$ mph (Exhibit 25-14)	$D_s =$ 0.513 (Exhibit 25-19) $S_R =$ 55.6 mph (Exhibit 25-19) $S_0 =$ 76.4 mph (Exhibit 25-19) $S =$ 65.0 mph (Exhibit 25-15)
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APPENDIX 3.1

2006 General Plan Conditions ICU Analysis Worksheets
(Existing Lane Configuration)

1. Bluff Rd at Coast Hw

NOT
EXISTING

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	309	.097*	170	.053*
SBT	0	0	0		0	
SBR	2	3200	179	.056	220	.069
EBL	2	3200	404	.126	167	.052*
EBT	3	4800	3486	.726*	1310	.273
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1125	.234	3380	.704*
WBR	1	1600	107	.067	333	.208

Note: Assumes Right-Turn Overlap for SBR

TOTAL CAPACITY UTILIZATION .823 .809

2. Superior Av at Placentia Av

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1600	330	.206	197	.123*
NBT	2	3200	1149	.359*	403	.126
NBR	1	1600	46	.029	24	.015
SBL	1	1600	92	.058*	79	.049
SBT	2	3200	275	.086	894	.279*
SBR	1	1600	4	.003	6	.004
EBL	1	1600	27	.017	8	.005*
EBT	1	1600	398	.249*	187	.117
EBR	1	1600	307	.192	314	.196
WBL	0.5		18	{.011}*	70	
WBT	1.5	3200	330	.157	419	.190*
WBR	0		153		118	
Right Turn Adjustment					EBR	.045*

TOTAL CAPACITY UTILIZATION .677 .642

3 . Superior Av at Coast Hw

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1.5		243		242	
NBT	1.5	4800	512	.227*	279	.144*
NBR	0		336		171	
SBL	1.5		246		309	
SBT	1.5	4800	188	.090*	454	.159*
SBR	2	3200	133	.042	667	.208
EBL	2	3200	737	.230	225	.070*
EBT	3	4800	3078	.641*	1051	.219
EBR	1	1600	173	.108	214	.134
WBL	1	1600	170	.106*	431	.269
WBT	4	6400	884	.138	2718	.425*
WBR	d	1600	291	.182	162	.101
Note: Assumes N/S Split Phasing						
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION			1.064		.798	

4 . Newport Bl at Hospital

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	145	.091	121	.076*
NBT	3	4800	2102	.438*	1336	.278
NBR	1	1600	204	.128	96	.060
SBL	1	1600	109	.068*	111	.069
SBT	3	4800	1251	.261	1796	.374*
SBR	1	1600	416	.260	240	.150
EBL	2	3200	199	.062	358	.112*
EBT	1	1600	247	.154*	162	.101
EBR	1	1600	216	.135	220	.138
WBL	1	1600	63	.039*	184	.115
WBT	2	3200	259	.090	310	.120*
WBR	0	0	29		75	
Right Turn Adjustment					EBR	.021*
TOTAL CAPACITY UTILIZATION			.699		.703	

5 . Newport Bl at Via Lido

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1557	.324*	994	.207*
NBR	1	1600	42	.026	26	.016
SBL	2	3200	278	.087*	444	.139*
SBT	3	4800	830	.173	1537	.320
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	20	.013*	33	.021*
WBT	0	0	0		0	
WBR	2	3200	443	.138	326	.102
Right Turn Adjustment			WBR	.038*		
Note: Assumes Right-Turn Overlap for WBR						
TOTAL CAPACITY UTILIZATION				.462		.367

6 . Newport Bl at 32nd St

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	21	.013	79	.049*
NBT	2	3200	1119	.350*	708	.221
NBR	d	1600	75	.047	31	.019
SBL	1	1600	65	.041*	121	.076
SBT	2	3200	611	.213	1181	.430*
SBR	0	0	69		195	
EBL	1.5		375		124	
EBT	0.5	3200	80	.142*	68	.060*
EBR	1	1600	30	.019	40	.025
WBL	0.5		39		60	
WBT	1.5	3200	40	.025*	66	.039*
WBR	f		46		77	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.558		.578

7 . Riverside Av at Coast Hw

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	3		8	
NBT	1	1600	0	.003*	3	.018*
NBR	0	0	1		17	
SBL	0.5		118	{.074}*	93	{.058}*
SBT	0.5	1600	0	.074	2	.059
SBR	1	1600	404	.253	427	.267
EBL	1	1600	384	.240	327	.204*
EBT	2	3200	2977	.932*	2131	.667
EBR	0	0	6		2	
WBL	1	1600	5	.003*	30	.019
WBT	3	4800	1780	.371	2919	.608*
WBR	1	1600	97	.061	64	.040

Note: Assumes Right-Turn Overlap for SBR

TOTAL CAPACITY UTILIZATION 1.012 .888

8 . Tustin Av at Coast Hw

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	1	{.001}*	1	{.001}*
NBT	1	1600	0	.001	1	.001
NBR	0	0	1		0	
SBL	0	0	70		103	
SBT	1	1600	1	.069*	0	.118*
SBR	0	0	40		86	
EBL	1	1600	64	.040	109	.068*
EBT	2	3200	2860	.895*	1957	.612
EBR	0	0	4		1	
WBL	0	0	0		0	
WBT	3	4800	1740	.378	2734	.584*
WBR	0	0	76		71	

TOTAL CAPACITY UTILIZATION .965 .771

9 . MacArthur Bl at Campus Dr

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	220	.138*	185	.116*
NBT	4	6400	987	.154	1221	.191
NBR	1	1600	90	.056	46	.029
SBL	1	1600	193	.121	143	.089
SBT	4	6400	925	.145*	1106	.173*
SBR	1	1600	673	.421	697	.436
EBL	2	3200	546	.171*	461	.144*
EBT	3	4800	1057	.220	622	.130
EBR	d	1600	128	.080	163	.102
WBL	2	3200	57	.018	83	.026
WBT	3	4800	638	.133*	1160	.242*
WBR	f		57		131	
Right Turn Adjustment			SBR	.276*	SBR	.263*
TOTAL CAPACITY UTILIZATION				.863		.938

10 . MacArthur Bl at Birch St

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	35	.022	142	.089*
NBT	3	4800	878	.183*	854	.178
NBR	1	1600	81	.051	60	.038
SBL	1	1600	106	.066*	114	.071
SBT	4	6400	726	.151	1138	.222*
SBR	0	0	265	.166	280	
EBL	1.5		190		314	
EBT	1.5	4800	514	.165*	426	.161*
EBR	0		87		34	
WBL	1	1600	47	.029	108	.068
WBT	2	3200	380	.119*	569	.178*
WBR	f		162		202	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.533		.650

11 . Von Karman Av at Campus

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	39	.024	50	.031*
NBT	2	3200	853	.267*	564	.176
NBR	f		82		148	
SBL	1	1600	93	.058*	224	.140
SBT	2	3200	641	.263	815	.370*
SBR	0	0	201		368	
EBL	1	1600	274	.171*	234	.146*
EBT	2	3200	526	.164	791	.247
EBR	1	1600	66	.041	79	.049
WBL	1	1600	124	.078	78	.049
WBT	2	3200	703	.256*	745	.265*
WBR	0	0	116		104	
TOTAL CAPACITY UTILIZATION				.752		.812

12 . MacArthur Bl at Von Karman

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	44	.028	40	.025*
NBT	3	4800	915	.191*	806	.168
NBR	1	1600	768	.480	191	.119
SBL	1	1600	74	.046*	48	.030
SBT	3	4800	573	.119	1248	.260*
SBR	1	1600	135	.084	68	.043
EBL	1	1600	13	.008*	103	.064
EBT	2	3200	89	.028	213	.067*
EBR	f		19		135	
WBL	2	3200	157	.049	663	.207*
WBT	1	1600	171	.107*	102	.064
WBR	f		52		143	
Right Turn Adjustment			NBR	.289*		
TOTAL CAPACITY UTILIZATION				.641		.559

13 . Jamboree Rd at Campus Dr

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	87	.027	30	.009*
NBT	4	6400	1668	.292*	2040	.356
NBR	0	0	200		236	
SBL	2	3200	563	.176*	362	.113
SBT	3	4800	1660	.382	2026	.498*
SBR	0	0	174		362	
EBL	2	3200	282	.088	491	.153
EBT	2	3200	477	.149*	813	.254*
EBR	f		33		149	
WBL	2	3200	427	.133*	208	.065*
WBT	2	3200	540	.169	479	.150
WBR	1	1600	241	.151	554	.346
Right Turn Adjustment					WBR	.180*
TOTAL CAPACITY UTILIZATION				.750	1.006	

14 . Jamboree Rd at Birch St

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	183	.114*	85	.053*
NBT	3	4800	1567	.328	1756	.366
NBR	0	0	5		0	
SBL	1	1600	2	.001	0	.000
SBT	3	4800	1638	.341*	2109	.439*
SBR	f		557		315	
EBL	1.5		403		314	
EBT	0.5	3200	5	.128*	0	.098*
EBR	f		112		101	
WBL	0	0	0		0	
WBT	1	1600	0	.000*	0	.000*
WBR	0	0	0		0	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.583	.590	

15 . Campus Dr at Bristol St(N)

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	518	.162	488	.153*
NBT	3	4800	2110	.440*	1036	.216
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	547	.085	1317	.206*
SBR	2	3200	229	.072	1191	.372
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	283	.177	303	.189
WBT	4	6400	1193	.210*	2671	.434*
WBR	0	0	150		104	
Right Turn Adjustment					SBR	.166*
TOTAL CAPACITY UTILIZATION				.650	.959	

16 . Birch St at Bristol St(N)

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	85	.027	164	.051*
NBT	2	3200	1214	.379*	466	.146
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1.5	6400	264	.083	562	.231*
SBR	2.5		245	.077	918	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		376		578	
WBT	3.5	8000	1300	.257*	2058	.354*
WBR	0		376		194	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.636	.636	

17 . Campus Dr at Bristol St(S)

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	5	8000	1362	.206*	1002	.157*
NBR	0	0	287		309	.193
SBL	1	1600	171	.107*	258	.161*
SBT	3	4800	658	.137	1361	.284
SBR	0	0	0		0	
EBL	1.5		1272		518	
EBT	2.5	6400	1914	.498*	973	.233*
EBR	2	3200	534	.167	569	.178
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.036*
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.811	.587	

18 . Birch St at Bristol St(S)

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	2.5	6400	538	.156*	438	.097
NBR	1.5		462		182	
SBL	2	3200	170	.053*	170	.053
SBT	2	3200	470	.147	973	.304*
SBR	0	0	0		0	
EBL	1.5		752		194	.121
EBT	3.5	8000	1378	.285*	1315	.223*
EBR	0		150		110	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.494	.527	

19 . Irvine Av at Mesa Dr

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	132	.083	49	.031*
NBT	3	4800	1346	.280*	791	.165
NBR	1	1600	474	.296	174	.109
SBL	1	1600	17	.011*	6	.004
SBT	3	4800	663	.138	1417	.295*
SBR	1	1600	199	.124	431	.269
EBL	1	1600	280	.175*	190	.119*
EBT	2	3200	389	.155	200	.125
EBR	0	0	106		230	.144
WBL	2	3200	171	.053	443	.138
WBT	1	1600	89	.071*	290	.206*
WBR	0	0	24		39	
Right Turn Adjustment			NBR	.016*		
TOTAL CAPACITY UTILIZATION				.553		.651

20 . Irvine Av at University Dr

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	155	.097	190	.119*
NBT	2	3200	1773	.554*	906	.283
NBR	1	1600	71	.044	109	.068
SBL	1	1600	44	.028*	47	.029
SBT	2	3200	796	.249	1854	.579*
SBR	1	1600	68	.043	162	.101
EBL	1	1600	158	.099*	68	.043
EBT	1	1600	55	.034	54	.034*
EBR	1	1600	210	.131	239	.149
WBL	1	1600	44	.028	97	.061*
WBT	1	1600	17	.011*	78	.049
WBR	d	1600	19	.012	36	.023
Right Turn Adjustment			Multi	.050*	EBR	.115*
TOTAL CAPACITY UTILIZATION				.742		.908

21 . Irvine Av at Santiago Dr

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	51	.032	139	.087*
NBT	2	3200	1515	.477*	1029	.329
NBR	0	0	12		24	
SBL	1	1600	45	.028*	101	.063
SBT	2	3200	1068	.334	1701	.532*
SBR	d	1600	39	.024	85	.053
EBL	0.5		150		65	
EBT	0.5	1600	53	.127*	65	.081*
EBR	1	1600	167	.104	170	.106
WBL	0.5		28	{.017}*	34	{.021}*
WBT	0.5	1600	50	.049	46	.050
WBR	d	1600	181	.113	69	.043
Right Turn Adjustment			WBR	.063*	EBR	.025*
TOTAL CAPACITY UTILIZATION				.712		.746

22 . Irvine Av at Highland Dr

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	47	.029	60	.038*
NBT	2	3200	1412	.441*	1252	.391
NBR	d	1600	9	.006	18	.011
SBL	1	1600	30	.019*	36	.023
SBT	2	3200	1181	.369	1754	.548*
SBR	d	1600	30	.019	60	.038
EBL	0.5		76	{.047}*	24	{.015}*
EBT	0.5	1600	21	.061	16	.025
EBR	d	1600	83	.052	50	.031
WBL	0.5		16		16	
WBT	0.5	1600	33	.031*	20	.023*
WBR	d	1600	102	.064	44	.028
Right Turn Adjustment			WBR	.033*	Multi	.008*
TOTAL CAPACITY UTILIZATION				.571		.632

23 . Irvine Av at Dover Dr

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	46	.029	121	.076*
NBT	2	3200	1083	.338*	1065	.333
NBR	1	1600	14	.009	56	.035
SBL	1	1600	161	.101*	181	.113
SBT	2	3200	1143	.357	1455	.455*
SBR	d	1600	22	.014	71	.044
EBL	1	1600	73	.046	53	.033*
EBT	1	1600	145	.111*	103	.104
EBR	0	0	33		64	
WBL	1	1600	14	.009*	31	.019
WBT	1	1600	92	.058	158	.099*
WBR	1	1600	265	.166	262	.164
Right Turn Adjustment			WBR	.092*	WBR	.065*
TOTAL CAPACITY UTILIZATION				.651		.728

24 . Irvine Av at Westcliff Dr

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	255	.080*	331	.103*
NBT	2	3200	675	.211	834	.261
NBR	d	1600	31	.019	65	.041
SBL	2	3200	253	.079	235	.073
SBT	2	3200	696	.218*	785	.245*
SBR	d	1600	210	.131	541	.338
EBL	2	3200	317	.099*	299	.093*
EBT	2	3200	410	.182	442	.200
EBR	0	0	173		199	
WBL	1	1600	37	.023	99	.062
WBT	2	3200	369	.142*	521	.207*
WBR	0	0	84		140	
Right Turn Adjustment					SBR	.093*
TOTAL CAPACITY UTILIZATION				.539		.741

25 . Dover Dr at Westcliff Dr

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	361	.113*	581	.182*
NBT	2	3200	504	.158	547	.171
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	503	.314*	419	.262*
SBR	1	1600	109	.068	111	.069
EBL	2	3200	76	.024*	126	.039*
EBT	0	0	0		0	
EBR	f		507		575	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION			.451		.483	

26 . Dover Dr at 16th St

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	72	.045*	183	.114*
NBT	2	3200	831	.260	1075	.336
NBR	d	1600	43	.027	46	.029
SBL	1	1600	40	.025	80	.050
SBT	2	3200	955	.298*	905	.283*
SBR	d	1600	78	.049	90	.056
EBL	0.5		59		79	
EBT	0.5	1600	21	.050*	23	.064*
EBR	d	1600	205	.128	128	.080
WBL	1	1600	0	.000	0	.000
WBT	1	1600	0	.000	0	.000
WBR	1	1600	0	.000	0	.000
Right Turn Adjustment			EBR	.078*	EBR	.016*
TOTAL CAPACITY UTILIZATION			.471		.477	

27 . Dover Dr at Coast Hw

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	44	.028	41	.026
NBT	2	3200	50	.031*	36	.022*
NBR	0	0	59	.037	33	
SBL	3	4800	844	.176*	882	.184*
SBT	1	1600	40	.025	37	.023
SBR	1	1600	110	.069	133	.083
EBL	2	3200	186	.058	128	.040*
EBT	3	4800	2877	.607*	2039	.433
EBR	0	0	35		39	
WBL	1	1600	35	.022*	54	.034
WBT	3	4800	1795	.374	2931	.611*
WBR	f		573		1087	
Right Turn Adjustment			NBR	.006*		
TOTAL CAPACITY UTILIZATION				.842		.857

28 . Bayside Dr at Coast Hw

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2.5		392		535	
NBT	0.5	4800	47	.096*	31	.127*
NBR	0		23		42	
SBL	1	1600	77	.048*	91	.057*
SBT	1	1600	19	.012	65	.041
SBR	d	1600	104	.065	135	.084
EBL	1	1600	138	.086	158	.099*
EBT	3	4800	2820	.588*	2227	.464
EBR	1	1600	511	.319	569	.356
WBL	1	1600	60	.038*	77	.048
WBT	4	6400	1843	.298	3410	.545*
WBR	0	0	65		81	
Right Turn Adjustment			SBR	.017*	SBR	.027*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.787		.855

29 . MacArthur Bl at Jamboree Rd

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	345	.108*	380	.119*
NBT	4	6400	1136	.178	492	.077
NBR	1	1600	385	.241	336	.210
SBL	3	4800	54	.011	210	.044
SBT	3	4800	523	.109*	1445	.301*
SBR	f		196		517	
EBL	2	3200	536	.168	415	.130*
EBT	3	4800	1361	.284*	1085	.226
EBR	1	1600	497	.311	127	.079
WBL	2	3200	440	.138*	638	.199
WBT	3	4800	1089	.227	1572	.328*
WBR	1	1600	88	.055	213	.133
Right Turn Adjustment			Multi	.062*		
TOTAL CAPACITY UTILIZATION				.701	.878	

30 . Jamboree Rd at Bristol St(N)

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	743	.232	803	.251*
NBT	2.5	6400	2320	.483*	1510	.377
NBR	1.5		690	.431	900	
SBL	0	0	0		0	
SBT	3.5	8000	1040	.203	1270	.265*
SBR	1.5		587		1327	.415
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					SBR	.150*
TOTAL CAPACITY UTILIZATION				.483	.666	

31 . Bayview Pl at Bristol St(S)

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	2	3200	80	.025	251	.078
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	4	6400	2890	.452*	2419	.378*
EBR	1	1600	360	.225	150	.094
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.025*	NBR	.078*
TOTAL CAPACITY UTILIZATION				.477		.456

32 . Jamboree Rd at Bristol St(S)

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	5	8000	1966	.249*	1959	.252*
NBR	0	0	25		59	
SBL	0	0	0		0	
SBT	4	6400	1043	.163	1295	.202
SBR	0	0	0		0	
EBL	1.5		1754	.548*	1231	
EBT	1.5	4800	395	.247	671	.396*
EBR	2	3200	847	.265	835	.261
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.797		.648

33 . Jamboree Rd at Bayview Wy

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	98	.061	37	.023
NBT	4	6400	1823	.293*	2073	.333*
NBR	0	0	51		59	
SBL	1	1600	77	.048*	98	.061*
SBT	4	6400	1716	.268	2027	.317
SBR	1	1600	154	.096	73	.046
EBL	2	3200	51	.016	117	.037*
EBT	1	1600	11	.007*	6	.004
EBR	1	1600	98	.061	123	.077
WBL	1	1600	60	.038*	32	.020
WBT	1	1600	0	.000	1	.001*
WBR	1	1600	11	.007	105	.066
Right Turn Adjustment			EBR	.054*	Multi	.124*
TOTAL CAPACITY UTILIZATION				.440		.556

34 . Jamboree Rd at University D

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	29	.018*	34	.021
NBT	3	4800	1397	.291	1704	.355*
NBR	1	1600	232	.145	345	.216
SBL	2	3200	70	.022	197	.062*
SBT	3	4800	1531	.319*	1566	.326
SBR	1	1600	201	.126	375	.234
EBL	1.5		324		230	
EBT	0.5	3200	97	.132*	101	.103*
EBR	1	1600	9	.006	11	.007
WBL	1.5		458	.143*	364	
WBT	1.5	4800	96	.060	185	.114*
WBR	f		276		180	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.612		.634

35 . Jamboree Rd at Bison Av

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1396	.291*	1539	.321
NBR	d	1600	507	.317	309	.193
SBL	2	3200	223	.070*	112	.035
SBT	3	4800	1703	.355	1715	.357*
SBR	1	1600	50	.031	90	.056
EBL	1	1600	65	.041	37	.023
EBT	0	0	0		0	
EBR	1	1600	122	.076	22	.014
WBL	2	3200	295	.092*	572	.179*
WBT	0	0	0		0	
WBR	2	3200	120	.038	221	.069
Right Turn Adjustment			Multi	.102*	EBR	.014*
TOTAL CAPACITY UTILIZATION				.555		.550

36 . Jamboree Rd at Ford Rd

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	480	.150*	355	.111*
NBT	3	4800	1511	.349	1879	.484
NBR	0	0	166		446	
SBL	1	1600	79	.049	42	.026
SBT	3	4800	1954	.407*	2192	.457*
SBR	1	1600	99	.062	77	.048
EBL	1.5		147	.092	94	.059
EBT	1.5	4800	325	.102*	293	.092*
EBR	f		449		302	
WBL	1.5		296		221	
WBT	1.5	4800	571	.181*	219	.092*
WBR	1	1600	52	.033	30	.019
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.840		.752

37 . Jamboree Rd at San Joaquin

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	26	.016	75	.047
NBT	3	4800	1538	.320*	1621	.338*
NBR	f		146		181	
SBL	2	3200	744	.233*	495	.155*
SBT	3	4800	1929	.402	2076	.433
SBR	f		74		156	
EBL	1.5		320	.100*	84	.026*
EBT	1.5	4800	31	.019	38	.024
EBR	1	1600	59	.037	18	.011
WBL	1.5		222	.069*	238	.074*
WBT	1.5	4800	11	.007	45	.028
WBR	1	1600	32	.020	515	.322
Right Turn Adjustment					WBR	.248*
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.722	.841	

38 . Jamboree Rd at Santa Barbar

GP Baseline Ex Lanes							
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C	
NBL	1	1600	10	.006	17	.011*	
NBT	3	4800	1483	.309*	1560	.325	
NBR	1	1600	289	.181	232	.145	
SBL	2	3200	581	.182*	280	.088	
SBT	3	4800	1627	.339	2007	.418*	
SBR	1	1600	29	.018	74	.046	
EBL	1	1600	33	.021*	45	.028*	
EBT	1	1600	5	.003	17	.011	
EBR	1	1600	16	.010	16	.010	
WBL	1.5		63		282		
WBT	0.5	3200	6	.022*	5	.090*	
WBR	1	1600	157	.098	538	.336	
Right Turn Adjustment				WBR	.076*	WBR	.246*
Note: Assumes E/W Split Phasing							
TOTAL CAPACITY UTILIZATION				.610	.793		

39 . Jamboree Rd at Coast Hw

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	41	.026	69	.043
NBT	2	3200	571	.223*	421	.162*
NBR	0	0	143		98	
SBL	1	1600	191	.119*	175	.109*
SBT	2	3200	381	.119	593	.185
SBR	f		875		1133	
EBL	3	4800	955	.199*	959	.200*
EBT	4	6400	1826	.290	1798	.296
EBR	0	0	29		99	
WBL	2	3200	79	.025	168	.053
WBT	4	6400	1084	.169*	2048	.320*
WBR	1	1600	84	.053	210	.131
TOTAL CAPACITY UTILIZATION				.710		.791

40 . Santa Cruz at San Joaquin

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	172	.054*	488	.153*
NBT	1	1600	12	.036	15	.111
NBR	0	0	46		163	
SBL	1	1600	9	.006	11	.007
SBT	2	3200	7	.004*	6	.004*
SBR	0	0	63	.039	24	.015
EBL	1	1600	44	.028	71	.044
EBT	3	4800	506	.158*	526	.145*
EBR	0	0	301	.188	172	
WBL	1	1600	119	.074*	52	.033*
WBT	3	4800	265	.056	459	.101
WBR	0	0	6		24	
Right Turn Adjustment			Multi	.065*	SBR	.011*
TOTAL CAPACITY UTILIZATION				.355		.346

41 . Santa Rosa at San Joaquin

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	30	.019	227	.142*
NBT	1	1600	16	.010*	26	.016
NBR	1	1600	173	.108	627	.392
SBL	1	1600	104	.065*	81	.051
SBT	1	1600	11	.007	11	.007*
SBR	1	1600	20	.013	48	.030
EBL	1	1600	14	.009	56	.035
EBT	3	4800	323	.101*	622	.159*
EBR	0	0	182	.114	142	
WBL	2	3200	827	.258*	527	.165*
WBT	3	4800	479	.123	305	.082
WBR	0	0	110		88	
Right Turn Adjustment			Multi	.111*	Multi	.317*
TOTAL CAPACITY UTILIZATION				.545		.790

42 . Newport Ctr Dr at Coast

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	34	.011*	175	.055*
SBT	0	0	0		0	
SBR	f		168		716	
EBL	2	3200	480	.150	382	.119*
EBT	3	4800	1981	.413*	1505	.314
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1235	.257	1694	.353*
WBR	f		191		148	
TOTAL CAPACITY UTILIZATION				.424		.527

44 . Avocado Av at San Miguel

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	93	.058*	95	.059*
NBT	1	1600	77	.048	44	.028
NBR	1	1600	211	.132	641	.401
SBL	2	3200	38	.012	237	.074
SBT	1	1600	60	.051*	100	.071*
SBR	0	0	22		13	
EBL	1	1600	9	.006	9	.006
EBT	3	4800	155	.042*	690	.165*
EBR	0	0	47		101	
WBL	2	3200	701	.219*	293	.092*
WBT	2	3200	421	.193	448	.155
WBR	0	0	197		48	
Right Turn Adjustment					NBR	.253*
Note: Assumes Right-Turn Overlap for NBR						
TOTAL CAPACITY UTILIZATION				.370	.640	

45 . Avocado Av at Coast Hw

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	143	.089	153	.096*
NBT	1	1600	165	.103*	88	.055
NBR	1	1600	269	.168	201	.126
SBL	1.5		98		294	
SBT	0.5	3200	80	.056*	137	.135*
SBR	f		106		253	
EBL	1	1600	131	.082*	113	.071
EBT	3	4800	713	.149	1405	.293*
EBR	d	1600	28	.018	85	.053
WBL	1	1600	112	.070	198	.124*
WBT	3	4800	1151	.240*	1453	.303
WBR	1	1600	184	.115	118	.074
Right Turn Adjustment			NBR	.065*	NBR	.030*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.546	.678	

46 . SR-73 NB at Bison Av

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1.5		207	.129*	143	.045*
NBT	0	4800	0		0	
NBR	1.5		472	.148	47	.029
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1600	42	.026	26	.016*
EBT	2	3200	1878	.587*	716	.224
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	243	.076	821	.257*
WBR	1	1600	428	.268	807	.504
Right Turn Adjustment			NBR	.019*	WBR	.247*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.735	.565	

47 . SR-73 SB at Bison Av

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	1323	.413*	376	.118*
SBT	0	0	0		1	
SBR	f		403		264	
EBL	0	0	0		0	
EBT	2	3200	607	.190*	344	.108
EBR	1	1600	96	.060	156	.098
WBL	2	3200	34	.011*	293	.092
WBT	2	3200	417	.130	666	.208*
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.614	.326	

48 . MacArthur Bl at Bison Av

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	185	.058	191	.060
NBT	4	6400	3197	.500*	2758	.431*
NBR	f		190		181	
SBL	2	3200	72	.023*	259	.081*
SBT	4	6400	2500	.391	2771	.433
SBR	1	1600	483	.302	507	.317
EBL	2	3200	483	.151*	292	.091*
EBT	2	3200	347	.108	270	.084
EBR	f		158		72	
WBL	2	3200	303	.095	260	.081
WBT	2	3200	302	.094*	393	.123*
WBR	1	1600	200	.125	213	.133
Right Turn Adjustment			WBR	.008*		
Note: Assumes Right-Turn Overlap for SBR WBR						
TOTAL CAPACITY UTILIZATION				.776		.726

49 . MacArhtur Bl at Ford Dr

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	211	.066	118	.037
NBT	4	6400	2326	.363*	2615	.409*
NBR	f		110		471	
SBL	2	3200	547	.171*	1022	.319*
SBT	4	6400	2735	.427	2441	.381
SBR	f		29		64	
EBL	2	3200	67	.021	58	.018
EBT	2	3200	340	.106*	497	.155*
EBR	1	1600	113	.071	81	.051
WBL	2	3200	518	.162*	208	.065*
WBT	2	3200	715	.223	318	.099
WBR	f		840		658	
TOTAL CAPACITY UTILIZATION				.802		.948

50 . MacArthur Bl at San Joaqui

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	73	.023	52	.016
NBT	3	4800	1453	.303*	1689	.352*
NBR	1	1600	7	.004	20	.013
SBL	2	3200	522	.163*	609	.190*
SBT	3	4800	1492	.311	1609	.335
SBR	f		1286		510	
EBL	3	4800	247	.051*	925	.193*
EBT	3	4800	282	.076	555	.139
EBR	0	0	82		111	
WBL	1	1600	25	.016	36	.023
WBT	2	3200	362	.113*	319	.100*
WBR	f		940		505	
TOTAL CAPACITY UTILIZATION				.630		.835

51 . MacArthur Bl at San Miguel

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	136	.043	70	.022*
NBT	3	4800	1248	.260*	817	.170
NBR	1	1600	108	.068	264	.165
SBL	2	3200	4	.001*	5	.002
SBT	3	4800	841	.175	1294	.270*
SBR	1	1600	764	.478	457	.286
EBL	3	4800	267	.056*	908	.189*
EBT	2	3200	110	.034	501	.157
EBR	d	1600	20	.013	142	.089
WBL	2	3200	294	.092	324	.101
WBT	2	3200	428	.134*	263	.082*
WBR	d	1600	12	.008	35	.022
Right Turn Adjustment			SBR	.260*	SBR	.016*
TOTAL CAPACITY UTILIZATION				.711		.579

52 . MacArhtur BI at Coast Hw

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	581	.182*	712	.223*
SBT	0	0	0		0	
SBR	f		369		588	
EBL	2	3200	561	.175*	541	.169*
EBT	3	4800	579	.121	1348	.281
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1061	.221*	1172	.244*
WBR	f		739		549	
TOTAL CAPACITY UTILIZATION				.578	.636	

53 . SR-73 NB at Bonita Canyon

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	703	.220*	240	.075*
NBT	0	0	0		0	
NBR	1	1600	107	.067	70	.044
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	953	.298*	1390	.434*
EBR	1	1600	217	.136	122	.076
WBL	2	3200	623	.195*	368	.115*
WBT	2	3200	927	.290	1070	.334
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.713	.624	

54 . SR-73 SB at Bonita Canyon

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	114	.036*	227	.071*
NBT	0	0	0		0	
NBR	1	1600	203	.127	314	.196
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1600	0	.000	0	.000
EBT	2	3200	967	.302	1190	.372*
EBR	1	1600	199	.124	676	.423
WBL	2	3200	31	.010	106	.033*
WBT	3	4800	1636	.341*	1217	.254
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.091*	Multi	.176*
TOTAL CAPACITY UTILIZATION				.468		.652

55 . Spyglass Hill at San Miguel

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	49	.031	60	.038
NBT	1	1600	18	.138*	15	.138*
NBR	0	0	203		206	
SBL	0.5		31	{.019}*	34	{.021}*
SBT	0.5	1600	28	.037	13	.029
SBR	1	1600	40	.025	43	.027
EBL	1	1600	23	.014	38	.024
EBT	2	3200	300	.094*	490	.153*
EBR	d	1600	27	.017	34	.021
WBL	1	1600	146	.091*	183	.114*
WBT	2	3200	374	.117	347	.108
WBR	d	1600	29	.018	27	.017
TOTAL CAPACITY UTILIZATION				.342		.426

56 . San Miguel at San Joaquin

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	0	.000	2	.001
NBT	2	3200	253	.079*	459	.143*
NBR	d	1600	105	.066	301	.188
SBL	1	1600	76	.048*	79	.049*
SBT	2	3200	376	.118	281	.088
SBR	d	1600	274	.171	197	.123
EBL	2	3200	231	.072	477	.149
EBT	3	4800	490	.102*	763	.159*
EBR	d	1600	25	.016	27	.017
WBL	1	1600	330	.206*	224	.140*
WBT	3	4800	1046	.218	664	.138
WBR	d	1600	96	.060	56	.035
Right Turn Adjustment			SBR	.044*	NBR	.045*
TOTAL CAPACITY UTILIZATION				.479	.536	

57 . Goldenrod Av at Coast Hw

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	215	{.134}*	170	{.106}*
NBT	1	1600	27	.164	10	.139
NBR	0	0	20		42	
SBL	0	0	55		44	
SBT	1	1600	15	.088*	21	.088*
SBR	0	0	70		75	
EBL	1	1600	36	.023*	54	.034
EBT	2	3200	1376	.454	1833	.596*
EBR	0	0	78		75	
WBL	1	1600	48	.030	64	.040*
WBT	2	3200	1753	.556*	1554	.491
WBR	0	0	27		16	
TOTAL CAPACITY UTILIZATION				.801	.830	

58 . Marguerite Av at San Joanqu

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1.5		380		268	
NBT	0.5	3200	73	.142*	56	.101*
NBR	1	1600	138	.086	146	.091
SBL	1	1600	43	.027	59	.037
SBT	1	1600	57	.091*	88	.069*
SBR	0	0	89		23	
EBL	1	1600	76	.048	30	.019
EBT	2	3200	502	.157*	775	.242*
EBR	1	1600	202	.126	435	.272
WBL	1	1600	122	.076*	127	.079*
WBT	3	4800	756	.158	518	.108
WBR	d	1600	81	.051	34	.021
Right Turn Adjustment					EBR	.030*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.466	.521	

59 . Marguerite Av at Coast Hw

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	110	.069*	72	.045
NBT	1	1600	90	.082	84	.106*
NBR	0	0	41		86	
SBL	1	1600	71	.044	112	.070*
SBT	1	1600	81	.119*	108	.124
SBR	0	0	110		90	
EBL	1	1600	99	.062*	147	.092
EBT	2	3200	1148	.359	1617	.505*
EBR	1	1600	48	.030	66	.041
WBL	1	1600	32	.020	69	.043*
WBT	2	3200	1690	.544*	1341	.438
WBR	0	0	51		61	
TOTAL CAPACITY UTILIZATION				.794	.724	

60 . Spyglass Hill at San Joaquin

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK	HOUR	PM PK	HOUR
			VOL	V/C	VOL	V/C
NBL	1	1600	7	.004*	4	.003*
NBT	1	1600	1	.002	5	.004
NBR	0	0	2		1	
SBL	1	1600	76	.048	85	.053
SBT	1	1600	3	.078*	3	.059*
SBR	0	0	121		91	
EBL	1	1600	100	.063*	168	.105*
EBT	2	3200	572	.179	808	.253
EBR	1	1600	5	.003	9	.006
WBL	1	1600	2	.001	8	.005
WBT	2	3200	832	.260*	588	.184*
WBR	d	1600	49	.031	88	.055
TOTAL CAPACITY UTILIZATION			.405		.351	

61 . Poppy Av at Coast Hwy

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK	HOUR	PM PK	HOUR
			VOL	V/C	VOL	V/C
NBL	0	0	35		70	
NBT	1	1600	17	.067*	0	.106*
NBR	0	0	56		100	
SBL	0	0	60	{.037}*	111	{.069}*
SBT	1	1600	19	.054	20	.093
SBR	0	0	8		17	
EBL	1	1600	18	.011*	40	.025
EBT	2	3200	1021	.319	1619	.506*
EBR	d	1600	56	.035	86	.054
WBL	1	1600	35	.022	44	.028*
WBT	2	3200	1778	.566*	1453	.463
WBR	0	0	34		30	
TOTAL CAPACITY UTILIZATION			.681		.709	

62 . Newport Coast Dr at SR-73

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	2	3200	1137	.355*	1026	.321*
NBR	f		520		170	
SBL	0	0	0		0	
SBT	2	3200	693	.217	869	.272
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		357		221	
WBT	0	3200	0	.156*	0	.080*
WBR	0.5		143		34	
TOTAL CAPACITY UTILIZATION			.511		.401	

63 . Newport Coast Dr at SR-73

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1520	.317	1200	.250
NBR	f		230		340	
SBL	0	0	0		0	
SBT	2	3200	1050	.328*	1090	.341*
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	f		450		570	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION			.328		.341	

64 . Newport Coast at San Joanqu

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	172	.054*	150	.047*
NBT	3	4800	1225	.255	1100	.229
NBR	0	0	0		0	
SBL	1	1600	0	.000	0	.000
SBT	3	4800	1043	.217*	1278	.266*
SBR	1	1600	308	.193	360	.225
EBL	1	1600	485	.303*	410	.256*
EBT	0	0	0		0	
EBR	2	3200	97	.030	142	.044
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION			.574		.569	

65 . Newport Coast Dr at Coast

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	7	.004	13	.008
NBT	1	1600	11	.007*	27	.017*
NBR	d	1600	4	.003	10	.006
SBL	2	3200	363	.113*	803	.251*
SBT	1	1600	20	.013	7	.004
SBR	f		206		349	
EBL	1	1600	245	.153*	274	.171*
EBT	3	4800	483	.101	1141	.238
EBR	1	1600	5	.003	2	.001
WBL	1	1600	5	.003	1	.001
WBT	3	4800	1138	.237*	898	.187*
WBR	f		764		545	
TOTAL CAPACITY UTILIZATION			.510		.626	

66 . Newport Bl (W) at Coast

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	439	.137*	557	.174*
SBT	0	0	0		0	
SBR	1	1600	543	.339	501	.313
EBL	0	0	0		0	
EBT	2	3200	2791	.872*	1753	.548*
EBR	f		140		90	
WBL	0	0	0		0	
WBT	3	4800	1247	.260	2329	.485
WBR	f		450		680	
Right Turn Adjustment			SBR	.202*	SBR	.139*
TOTAL CAPACITY UTILIZATION				1.211		.861

90 . 15th St at Coast Hw

GP Baseline Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	295	.092*	187	.058*
SBT	0	0	0		0	
SBR	2	3200	351	.110	484	.151
EBL	2	3200	659	.206	307	.096*
EBT	3	4800	3565	.743*	1327	.276
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1159	.241	3347	.697*
WBR	1	1600	181	.113	299	.187
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION				.835		.851

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85 . Red Hill Av. at Barranca Pkwy.

GP Baseline Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	209	.06*	633	.19
NBT	4	6800	380	.06	1665	.24*
NBR	d	1700	82	.05	293	.17
SBL	2	3400	385	.11	297	.09*
SBT	4	6800	973	.14*	486	.07
SBR	d	1700	161	.09	161	.09
EBL	2	3400	182	.05	259	.08*
EBT	4	6800	1229	.22*	940	.15
EBR	0	0	296		89	
WBL	2	3400	407	.12*	186	.05
WBT	4	6800	1005	.15	1536	.23*
WBR	1	1700	281	.17	636	.37
Right Turn Adjustment					WBR	.07*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .59 .76

86 . Red Hill Av. at Alton Pkwy.

GP Baseline Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	393	.23*	381	.22
NBT	3	5100	474	.14	1866	.41*
NBR	0	0	334	.20	215	
SBL	1	1700	251	.15	135	.08*
SBT	3	5100	889	.17*	768	.15
SBR	d	1700	309	.18	115	.07
EBL	1	1700	281	.17*	251	.15*
EBT	2	3400	1036	.30	829	.24
EBR	1	1700	352	.21	417	.25
WBL	2	3400	274	.08	315	.09
WBT	1	1700	761	.45*	974	.57*
WBR	1	1700	165	.10	263	.15
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION 1.07 1.26

67 . Red Hill Av. at MacArthur Blvd.

GP Baseline Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	104	.03	206	.06
NBT	3	5100	1064	.21*	1140	.23*
NBR	0	0	24		34	
SBL	2	3400	411	.12*	544	.16*
SBT	3	5100	693	.14	864	.17
SBR	f		399		971	
EBL	2	3400	856	.25*	595	.18*
EBT	3	5100	795	.16	604	.12
EBR	d	1700	102	.06	62	.04
WBL	1	1700	55	.03	55	.03
WBT	3	5100	507	.10*	985	.19*
WBR	f		971		809	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .73 .81

68 . MacArthur Bl. at Main St.

GP Baseline Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	689	.20*	698	.21*
NBT	4	6800	1208	.18	1359	.20
NBR	f		1187		533	
SBL	2	3400	396	.12	401	.12
SBT	4	6800	699	.10*	1031	.15*
SBR	1	1700	77	.05	79	.05
EBL	1	1700	62	.04	83	.05
EBT	3	5100	877	.17*	906	.18*
EBR	1	1700	583	.34	681	.40
WBL	2	3400	318	.09*	768	.23*
WBT	3	5100	583	.11	1044	.20
WBR	f		120		538	
Right Turn Adjustment					EBR	.01*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .61 .83

Note: Assumes Right-Turn Overlap for EBR

73 . Von Karman Av. at Alton Pkwy.

GP Baseline Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	114	.07*	87	.05
NBT	2	3400	598	.18	1669	.49*
NBR	d	1700	129	.08	297	.17
SBL	1	1700	59	.03	159	.09*
SBT	2	3400	1438	.42*	723	.21
SBR	d	1700	208	.12	147	.09
EBL	1	1700	134	.08	172	.10*
EBT	2	3400	694	.20*	954	.28
EBR	d	1700	69	.04	133	.08
WBL	1	1700	177	.10*	123	.07
WBT	2	3400	739	.22	857	.25*
WBR	d	1700	169	.10	130	.08
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .84 .98

74 . Von Karman Av. at Main St.

GP Baseline Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	214	.06*	302	.09
NBT	2	3400	573	.17	1224	.36*
NBR	1	1700	154	.09	384	.23
SBL	1	1700	110	.06	178	.10*
SBT	2	3400	1100	.32*	625	.18
SBR	1	1700	328	.19	237	.14
EBL	2	3400	227	.07*	501	.15*
EBT	3	5100	706	.14	1681	.33
EBR	f		317		298	
WBL	2	3400	332	.10	188	.06
WBT	3	5100	938	.20*	1253	.28*
WBR	0	0	100		158	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .70 .94

76 . Von Karman Av. at Michelson Dr.

GP Baseline Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	49	.03	53	.03
NBT	2	3400	837	.25*	1132	.33*
NBR	1	1700	145	.09	137	.08
SBL	1	1700	386	.23*	272	.16*
SBT	2	3400	1141	.42	933	.31
SBR	0	0	292		133	
EBL	1	1700	156	.09*	332	.20*
EBT	2	3400	271	.09	541	.18
EBR	0	0	43		87	
WBL	1	1700	199	.12	200	.12
WBT	2	3400	471	.14*	685	.20*
WBR	f		470		626	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .76 .94

77 . Jamboree Rd. at Barranca Pkwy.

GP Baseline Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	2	3400	196	.06*	476	.14
NBT	4	6800	1130	.17	2851	.42*
NBR	f		233		236	
SBL	2	3400	483	.14	444	.13*
SBT	4	6800	3217	.47*	1539	.23
SBR	f		1602		449	
EBL	2.5		191	.06	932	
EBT	2.5	8500	564	.11*	920	.22*
EBR	1	1700	146	.09	276	.16
WBL	2	3400	257	.08	225	.07
WBT	3	5100	792	.16*	975	.19*
WBR	f		248		657	
Clearance Interval				.05*		.05*
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .85 1.01

78 . Jamboree Rd. at Alton Pkwy.

GP Baseline Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	2	3400	217	.06*	244	.07
NBT	4	6800	1257	.18	2806	.41*
NBR	1	1700	224	.13	258	.15
SBL	2	3400	263	.08	321	.09*
SBT	4	6800	3043	.48*	1447	.25
SBR	0	0	231		282	
EBL	2	3400	164	.05	454	.13
EBT	3	5100	532	.14*	862	.22*
EBR	0	0	170		264	
WBL	2	3400	267	.08*	271	.08*
WBT	3	5100	761	.15	675	.13
WBR	d	1700	159	.09	254	.15
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .81 .85

79 . Jamboree Rd. at Main St.

GP Baseline Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	2	3400	469	.14*	240	.07
NBT	4	6800	1555	.23	2617	.38*
NBR	f		397		525	
SBL	2	3400	366	.11	265	.08*
SBT	4	6800	2658	.39*	1849	.27
SBR	1	1700	426	.25	275	.16
EBL	2	3400	167	.05	635	.19
EBT	3	5100	359	.07*	1211	.24*
EBR	f		256		724	
WBL	2	3400	502	.15*	487	.14*
WBT	3	5100	671	.13	565	.11
WBR	f		147		388	
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for SBR						

TOTAL CAPACITY UTILIZATION .80 .89

80 . Jamboree Rd. at I-405 NB Ramps

GP Baseline Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	0	0	0		0	
NBT	3	5100	2007	.39*	3151	.62*
NBR	f		510		740	
SBL	0	0	0		0	
SBT	4	6800	2265	.33	2203	.32
SBR	f		1140		1000	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	3	5100	1515	.30*	987	.19*
WBT	0	0	0		0	
WBR	f		933		409	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .74 .86

81 . Jamboree Rd. at I-405 SB Ramps

GP Baseline Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	4	6800	1680	.25	2817	.41*
NBR	f		753		1330	
SBL	0	0	0		0	
SBT	4	6800	3467	.51*	2487	.37
SBR	f		299		800	
EBL	1.5		890	{.37}*	933	.27*
EBT	0	6800	0	.37	0	
EBR	2.5		1620		983	{.27}
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .93 .73

82 . Jamboree Rd. at Michelson Dr.

GP Baseline Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	215	.13	84	.05
NBT	4	6800	1536	.23*	2338	.34*
NBR	1	1700	345	.20	410	.24
SBL	2	3400	1276	.38*	969	.29*
SBT	4	6800	2439	.36	1819	.27
SBR	f		1161		587	
EBL	2	3400	307	.09*	736	.22
EBT	2	3400	400	.14	841	.28*
EBR	0	0	86		105	
WBL	2	3400	365	.11	396	.12*
WBT	2	3400	673	.20*	539	.16
WBR	f		666		1186	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .95 1.08

83 . Carlson Av. at Michelson Dr.

GP Baseline Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	425	.13*	159	.05*
NBT	2	3400	218	.06	87	.03
NBR	1	1700	256	.15	384	.23
SBL	2	3400	67	.02	182	.05
SBT	1	1700	37	.02*	246	.14*
SBR	f		296		1212	
EBL	2	3400	1002	.29*	658	.19
EBT	2	3400	840	.25	1227	.36*
EBR	1	1700	99	.06	354	.21
WBL	1	1700	204	.12	452	.27*
WBT	2	3400	922	.27*	973	.29
WBR	f		253		207	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .76 .87

84 . Carlson Av. at Campus Dr.

GP Baseline Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1700	235	.14*	294	.17*
SBT	0	0	0		0	
SBR	1	1700	255	.15	236	.14
EBL	1	1700	199	.12*	316	.19*
EBT	1	1700	945	.56	1286	.76
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1700	1145	.67*	1194	.70*
WBR	d	1700	191	.11	274	.16
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .98 1.11

87 . Harvard Av. at Michelson Dr.

GP Baseline Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	99	.06*	92	.05
NBT	2	3400	290	.09	1019	.33*
NBR	0	0	32		87	
SBL	1	1700	178	.10	271	.16*
SBT	2	3400	838	.25*	651	.19
SBR	1	1700	518	.30	259	.15
EBL	2	3400	136	.04*	521	.15*
EBT	2	3400	349	.10	1002	.29
EBR	f		66		166	
WBL	1	1700	105	.06	103	.06
WBT	2	3400	733	.25*	518	.20*
WBR	0	0	114		159	
Right Turn Adjustment			SBR	.02*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .67 .89

88 . Harvard Av. at University Dr.

GP Baseline Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	64	.04*	66	.04
NBT	2	3400	263	.08	837	.25*
NBR	d	1700	115	.07	207	.12
SBL	1	1700	39	.02	80	.05*
SBT	2	3400	609	.18*	591	.17
SBR	d	1700	301	.18	223	.13
EBL	1	1700	91	.05*	371	.22
EBT	3	5100	797	.16	1873	.38*
EBR	0	0	40		45	
WBL	1	1700	171	.10	173	.10*
WBT	3	5100	2115	.43*	991	.21
WBR	0	0	85		63	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .75 .83

89 . University Dr. at Campus Dr.

GP Baseline Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	122	.07*	299	.18*
NBT	3	5100	775	.15	1505	.30
NBR	1	1700	366	.22	346	.20
SBL	1	1700	172	.10	100	.06
SBT	2	3400	1733	.51*	946	.28*
SBR	1	1700	552	.32	208	.12
EBL	1	1700	101	.06	604	.36*
EBT	2	3400	832	.24*	974	.29
EBR	d	1700	359	.21	121	.07
WBL	1	1700	209	.12*	423	.25
WBT	2	3400	666	.20	1042	.31*
WBR	d	1700	35	.02	181	.11
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .99 1.18

90 . MacArthur Blvd. NB at University Dr.

GP Baseline Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	18	.01*	10	.01*
NBT	0	0	0		0	
NBR	1	1700	328	.19	257	.15
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	1778	.35*	1463	.29*
EBR	d	1700	152	.09	105	.06
WBL	2	3400	549	.16*	1265	.37*
WBT	2	3400	874	.26	920	.27
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.06*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .63 .72

75 . Von Karman Av. at I-405 HOV Ramps

GP Baseline Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1700	282	.17*	793	.47*
NBT	3	5100	369	.07	100	.02
NBR	d	1700	9	.01	97	.06
SBL	1	1700	1	.00	35	.02
SBT	3	5100	8	.00*	234	.05*
SBR	d	1700	2	.00	291	.17
EBL	1	1700	312	.18*	28	.02*
EBT	0	0	62		238	
EBR	1	1700	956	.56	174	.10
WBL	1	1700	124	.07	12	.01
WBT	0	0	276		136	
WBR	1	1700	41	.02	2	.00
Right Turn Adjustment			EBR	.32*	SBR	.10*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .72 .69

93 . Jamboree Rd. at Fairchild Rd.

GP Baseline Ex Lanes(NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1600	12	.01	0	.00
NBT	3	4800	1433	.31*	1596	.34*
NBR	0	0	78		19	
SBL	2	3200	382	.12*	317	.10*
SBT	4	6400	1417	.22	1872	.29
SBR	d	1600	8	.01	30	.02
EBL	1	1600	27	.02	45	.03
EBT	1	1600	0	.03*	15	.07*
EBR	0	0	43		100	
WBL	1	1600	10	.01*	42	.03*
WBT	1	1600	1	.00	10	.01
WBR	1	1600	310	.19	344	.22
Right Turn Adjustment			WBR	.17*	WBR	.15*
TOTAL CAPACITY UTILIZATION				.64		.69

92 . Fairchild Av. at MacArthur Bl.

GP Baseline Ex Lanes(NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	37	.02*	446	.28*
SBT	0	0	0		0	
SBR	1	1600	24	.02	234	.15
EBL	1	1600	271	.17*	47	.03
EBT	3	4800	953	.20	2114	.44*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1896	.50*	1086	.26
WBR	0	0	519		153	
TOTAL CAPACITY UTILIZATION				.69		.72

91 . MacArthur Blvd. SB at University Dr.

GP Baseline Ex Lanes(NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1600	91	.06*	120	.08*
NBT	0	0	0		0	
NBR	1	1600	644	.40	448	.28
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	4800	1286	.28*	1182	.25*
EBR	0	0	71		20	
WBL	2	3200	99	.03*	280	.09*
WBT	3	4800	979	.20	850	.18
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.34*	NBR	.20*
TOTAL CAPACITY UTILIZATION				.71		.62

APPENDIX 3.2

2006 General Plan Conditions ICU Analysis Worksheets
(Planned Lane Configuration)

1 . Bluff Rd at Coast Hw

GP Baseline						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	309	.097*	170	.053*
SBT	0	0	0		0	
SBR	2	3200	179	.056	220	.069
EBL	2	3200	404	.126	167	.052*
EBT	3	4800	3486	.726*	1310	.273
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1125	.234	3380	.704*
WBR	1	1600	107	.067	333	.208

Note: Assumes Right-Turn Overlap for SBR

TOTAL CAPACITY UTILIZATION .823 .809

2 . Superior Av at Placentia Av

GP Baseline						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	330	.206	197	.123*
NBT	2	3200	1149	.359*	403	.126
NBR	1	1600	46	.029	24	.015
SBL	1	1600	92	.058*	79	.049
SBT	2	3200	275	.086	894	.279*
SBR	1	1600	4	.003	6	.004
EBL	1	1600	27	.017	8	.005*
EBT	1	1600	398	.249*	187	.117
EBR	1	1600	307	.192	314	.196
WBL	0.5		18	{.011}*	70	
WBT	1.5	3200	330	.157	419	.190*
WBR	0		153		118	
Right Turn Adjustment					EBR	.045*

TOTAL CAPACITY UTILIZATION .677 .642

3 . Superior Av at Coast Hw

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1.5		243		242	
NBT	1.5	4800	512	.227*	279	.144*
NBR	0		336		171	
SBL	1.5		246		309	
SBT	1.5	4800	188	.090*	454	.159*
SBR	2	3200	133	.042	667	.208
EBL	2	3200	737	.230	225	.070*
EBT	3	4800	3078	.641*	1051	.219
EBR	d	1600	173	.108	214	.134
WBL	1	1600	170	.106*	431	.269
WBT	4	6400	884	.138	2718	.425*
WBR	d	1600	291	.182	162	.101
Note: Assumes N/S Split Phasing						
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION			1.064		.798	

4 . Newport Bl at Hospital

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	145	.045	121	.038*
NBT	3	4800	2102	.438*	1336	.278
NBR	1	1600	204	.128	96	.060
SBL	1	1600	109	.068*	111	.069
SBT	3	4800	1251	.261	1796	.374*
SBR	1	1600	416	.260	240	.150
EBL	2	3200	199	.062	358	.112*
EBT	1	1600	247	.154*	162	.101
EBR	1	1600	216	.135	220	.138
WBL	1	1600	63	.039*	184	.115
WBT	2	3200	259	.090	310	.120*
WBR	0	0	29		75	
Right Turn Adjustment					EBR	.021*
TOTAL CAPACITY UTILIZATION			.699		.665	

5 . Newport Bl at Via Lido

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1557	.324*	994	.207*
NBR	1	1600	42	.026	26	.016
SBL	2	3200	278	.087*	444	.139*
SBT	3	4800	830	.173	1537	.320
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	20	.013*	33	.021*
WBT	0	0	0		0	
WBR	2	3200	443	.138	326	.102
Right Turn Adjustment			WBR	.038*		
Note: Assumes Right-Turn Overlap for WBR						
TOTAL CAPACITY UTILIZATION				.462		.367

6 . Newport Bl at 32nd St

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	21	.013	79	.049*
NBT	2	3200	1119	.350*	708	.221
NBR	d	1600	75	.047	31	.019
SBL	1	1600	65	.041*	121	.076
SBT	2	3200	611	.213	1181	.430*
SBR	0	0	69		195	
EBL	2	3200	375	.117*	124	.039
EBT	1	1600	80	.069	68	.068*
EBR	0	0	30		40	
WBL	1	1600	39	.024	60	.038*
WBT	1	1600	40	.025*	66	.041
WBR	f		46		77	
TOTAL CAPACITY UTILIZATION				.533		.585

7 . Riverside Av at Coast Hw

GP Baseline						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	3		8	
NBT	1	1600	0	.003*	3	.018*
NBR	0	0	1		17	
SBL	0.5		118	{.074}*	93	{.058}*
SBT	0.5	1600	0	.074	2	.059
SBR	1	1600	404	.253	427	.267
EBL	2	3200	384	.120	327	.102*
EBT	3	4800	2977	.621*	2131	.444
EBR	0	0	6		2	
WBL	1	1600	5	.003*	30	.019
WBT	3	4800	1780	.391	2919	.621*
WBR	0	0	97		64	
Right Turn Adjustment			SBR	.058*	SBR	.094*
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION				.759	.893	

8 . Tustin Av at Coast Hw

GP Baseline						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	1	{.001}*	1	{.001}*
NBT	1	1600	0	.001	1	.001
NBR	0	0	1		0	
SBL	0	0	70		103	
SBT	1	1600	1	.069*	0	.118*
SBR	0	0	40		86	
EBL	1	1600	64	.040	109	.068*
EBT	3	4800	2860	.597*	1957	.408
EBR	0	0	4		1	
WBL	0	0	0		0	
WBT	3	4800	1740	.378	2734	.584*
WBR	0	0	76		71	
TOTAL CAPACITY UTILIZATION				.667	.771	

9 . MacArthur Bl at Campus Dr

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	220	.069	185	.058*
NBT	4	6400	987	.154*	1221	.191
NBR	1	1600	90	.056	46	.029
SBL	1	1600	193	.121*	143	.089
SBT	3.5	8000	925	.193	1106	.225*
SBR	1.5		673	.210	697	
EBL	2	3200	546	.171*	461	.144*
EBT	3	4800	1057	.220	622	.130
EBR	d	1600	128	.080	163	.102
WBL	2	3200	57	.018	83	.026
WBT	3	4800	638	.133*	1160	.242*
WBR	f		57		131	
Right Turn Adjustment			SBR	.004*		
TOTAL CAPACITY UTILIZATION				.583		.669

10 . MacArthur Bl at Birch St

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	35	.022	142	.089*
NBT	3	4800	878	.183*	854	.178
NBR	1	1600	81	.051	60	.038
SBL	1	1600	106	.066*	114	.071
SBT	4	6400	726	.151	1138	.222*
SBR	0	0	265	.166	280	
EBL	1.5		190		314	
EBT	1.5	4800	514	.165*	426	.161*
EBR	0		87		34	
WBL	1	1600	47	.029	108	.068
WBT	2	3200	380	.119*	569	.178*
WBR	f		162		202	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.533		.650

11 . Von Karman Av at Campus

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	39	.024	50	.031*
NBT	2	3200	853	.292*	564	.223
NBR	0	0	82		148	
SBL	1	1600	93	.058*	224	.140
SBT	2	3200	641	.263	815	.370*
SBR	0	0	201		368	
EBL	2	3200	274	.086*	234	.073*
EBT	2	3200	526	.185	791	.272
EBR	0	0	66		79	
WBL	1	1600	124	.078	78	.049
WBT	2	3200	703	.256*	745	.265*
WBR	0	0	116		104	
TOTAL CAPACITY UTILIZATION				.692		.739

12 . MacArthur Bl at Von Karman

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	44	.028	40	.025*
NBT	3	4800	915	.191*	806	.168
NBR	1	1600	768	.480	191	.119
SBL	1	1600	74	.046*	48	.030
SBT	3	4800	573	.119	1248	.260*
SBR	1	1600	135	.084	68	.043
EBL	1	1600	13	.008*	103	.064
EBT	2	3200	89	.028	213	.067*
EBR	f		19		135	
WBL	2	3200	157	.049	663	.207*
WBT	1	1600	171	.107*	102	.064
WBR	f		52		143	
Right Turn Adjustment			NBR	.289*		
TOTAL CAPACITY UTILIZATION				.641		.559

13 . Jamboree Rd at Campus Dr

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	87	.027	30	.009
NBT	4	6400	1668	.261*	2040	.319*
NBR	1	1600	200	.125	236	.148
SBL	2	3200	563	.176*	362	.113*
SBT	4	6400	1660	.287	2026	.373
SBR	0	0	174		362	
EBL	2	3200	282	.088	491	.153
EBT	2	3200	477	.159*	813	.301*
EBR	0	0	33		149	
WBL	2	3200	427	.133*	208	.065*
WBT	2	3200	540	.169	479	.150
WBR	1	1600	241	.151	554	.346
Right Turn Adjustment					WBR	.020*
Note: Assumes Right-Turn Overlap for WBR NBR						
TOTAL CAPACITY UTILIZATION				.729	.818	

14 . Jamboree Rd at Birch St

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	183	.114*	85	.053*
NBT	3	4800	1567	.328	1756	.366
NBR	0	0	5		0	
SBL	1	1600	2	.001	0	.000
SBT	4	6400	1638	.256*	2109	.330*
SBR	f		557		315	
EBL	1.5		403		314	
EBT	0.5	3200	5	.128*	0	.098*
EBR	f		112		101	
WBL	0	0	0		0	
WBT	1	1600	0	.000*	0	.000*
WBR	0	0	0		0	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.498	.481	

15 . Campus Dr at Bristol St(N)

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	518	.162	488	.153*
NBT	4	6400	2110	.330*	1036	.162
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	547	.085	1317	.206*
SBR	3	4800	229	.048	1191	.248
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	283	.177*	303	.189
WBT	5	8000	1193	.168	2671	.347*
WBR	0	0	150		104	
Right Turn Adjustment					SBR	.042*
TOTAL CAPACITY UTILIZATION				.507		.748

16 . Birch St at Bristol St(N)

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	85	.027	164	.051*
NBT	2	3200	1214	.379*	466	.146
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1.5	6400	264	.083	562	.231*
SBR	2.5		245	.077	918	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		376		578	
WBT	3.5	8000	1300	.257*	2058	.354*
WBR	0		376		194	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.636		.636

17 . Campus Dr at Bristol St(S)

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	5	8000	1362	.206*	1002	.157*
NBR	0	0	287		309	.193
SBL	1	1600	171	.107*	258	.161*
SBT	3	4800	658	.137	1361	.284
SBR	0	0	0		0	
EBL	1.5		1272		518	
EBT	2.5	6400	1914	.498*	973	.233*
EBR	2	3200	534	.167	569	.178
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.036*
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.811	.587	

18 . Birch St at Bristol St(S)

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	2.5	6400	538	.156*	438	.097
NBR	1.5		462		182	
SBL	2	3200	170	.053*	170	.053
SBT	2	3200	470	.147	973	.304*
SBR	0	0	0		0	
EBL	1.5		752		194	.121
EBT	3.5	8000	1378	.285*	1315	.223*
EBR	0		150		110	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.494	.527	

19 . Irvine Av at Mesa Dr

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	132	.083	49	.031*
NBT	3	4800	1346	.280*	791	.165
NBR	1	1600	474	.296	174	.109
SBL	1	1600	17	.011*	6	.004
SBT	3	4800	663	.138	1417	.295*
SBR	1	1600	199	.124	431	.269
EBL	1	1600	280	.175*	190	.119*
EBT	2	3200	389	.155	200	.125
EBR	0	0	106		230	.144
WBL	2	3200	171	.053	443	.138
WBT	1	1600	89	.071*	290	.206*
WBR	0	0	24		39	
Right Turn Adjustment			NBR	.016*		
TOTAL CAPACITY UTILIZATION				.553		.651

20 . Irvine Av at University Dr

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	155	.097	190	.119*
NBT	3	4800	1773	.384*	906	.211
NBR	0	0	71		109	
SBL	1	1600	44	.028*	47	.029
SBT	3	4800	796	.166	1854	.386*
SBR	1	1600	68	.043	162	.101
EBL	1.5		158	.049*	68	
EBT	1.5	4800	55	.034	54	.025*
EBR	1	1600	210	.131	239	.149
WBL	1	1600	44	.028*	97	.061*
WBT	1	1600	17	.011	78	.049
WBR	d	1600	19	.012	36	.023
Right Turn Adjustment			EBR	.082*	EBR	.124*
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.571		.715

21 . Irvine Av at Santiago Dr

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	51	.032	139	.087*
NBT	2	3200	1515	.477*	1029	.329
NBR	0	0	12		24	
SBL	1	1600	45	.028*	101	.063
SBT	2	3200	1068	.334	1701	.532*
SBR	d	1600	39	.024	85	.053
EBL	0.5		150		65	
EBT	0.5	1600	53	.127*	65	.081*
EBR	1	1600	167	.104	170	.106
WBL	0.5		28	{.017}*	34	{.021}*
WBT	0.5	1600	50	.049	46	.050
WBR	d	1600	181	.113	69	.043
Right Turn Adjustment			WBR	.063*	EBR	.025*
TOTAL CAPACITY UTILIZATION				.712		.746

22 . Irvine Av at Highland Dr

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	47	.029	60	.038*
NBT	2	3200	1412	.441*	1252	.391
NBR	d	1600	9	.006	18	.011
SBL	1	1600	30	.019*	36	.023
SBT	2	3200	1181	.369	1754	.548*
SBR	d	1600	30	.019	60	.038
EBL	0.5		76	{.047}*	24	{.015}*
EBT	0.5	1600	21	.061	16	.025
EBR	d	1600	83	.052	50	.031
WBL	0.5		16		16	
WBT	0.5	1600	33	.031*	20	.023*
WBR	d	1600	102	.064	44	.028
Right Turn Adjustment			WBR	.033*	Multi	.008*
TOTAL CAPACITY UTILIZATION				.571		.632

23 . Irvine Av at Dover Dr

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	46	.029	121	.076*
NBT	2	3200	1083	.338*	1065	.333
NBR	1	1600	14	.009	56	.035
SBL	1	1600	161	.101*	181	.113
SBT	2	3200	1143	.357	1455	.455*
SBR	d	1600	22	.014	71	.044
EBL	1	1600	73	.046	53	.033*
EBT	1	1600	145	.111*	103	.104
EBR	0	0	33		64	
WBL	1	1600	14	.009*	31	.019
WBT	1	1600	92	.058	158	.099*
WBR	1	1600	265	.166	262	.164
Right Turn Adjustment			WBR	.092*	WBR	.065*
TOTAL CAPACITY UTILIZATION				.651		.728

24 . Irvine Av at Westcliff Dr

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	255	.080*	331	.103*
NBT	2	3200	675	.211	834	.261
NBR	d	1600	31	.019	65	.041
SBL	2	3200	253	.079	235	.073
SBT	2	3200	696	.218*	785	.245*
SBR	d	1600	210	.131	541	.338
EBL	2	3200	317	.099*	299	.093*
EBT	2	3200	410	.182	442	.200
EBR	0	0	173		199	
WBL	1	1600	37	.023	99	.062
WBT	2	3200	369	.142*	521	.207*
WBR	0	0	84		140	
Right Turn Adjustment					SBR	.093*
TOTAL CAPACITY UTILIZATION				.539		.741

25 . Dover Dr at Westcliff Dr

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	361	.113*	581	.182*
NBT	2	3200	504	.158	547	.171
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	503	.314*	419	.262*
SBR	1	1600	109	.068	111	.069
EBL	2	3200	76	.024*	126	.039*
EBT	0	0	0		0	
EBR	f		507		575	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.451		.483

26 . Dover Dr at 16th St

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	72	.045*	183	.114*
NBT	2	3200	831	.260	1075	.336
NBR	d	1600	43	.027	46	.029
SBL	1	1600	40	.025	80	.050
SBT	2	3200	955	.298*	905	.283*
SBR	d	1600	78	.049	90	.056
EBL	0.5		59		79	
EBT	0.5	1600	21	.050*	23	.064*
EBR	d	1600	205	.128	128	.080
WBL	1	1600	0	.000	0	.000
WBT	1	1600	0	.000	0	.000
WBR	1	1600	0	.000	0	.000
Right Turn Adjustment			EBR	.078*	EBR	.016*
TOTAL CAPACITY UTILIZATION				.471		.477

27 . Dover Dr at Coast Hw

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	44	.028	41	.026
NBT	2	3200	50	.031*	36	.022*
NBR	0	0	59	.037	33	
SBL	3	4800	844	.176*	882	.184*
SBT	1	1600	40	.025	37	.023
SBR	1	1600	110	.069	133	.083
EBL	2	3200	186	.058	128	.040*
EBT	3	4800	2877	.607*	2039	.433
EBR	0	0	35		39	
WBL	1	1600	35	.022*	54	.034
WBT	3	4800	1795	.374	2931	.611*
WBR	f		573		1087	
Right Turn Adjustment			NBR	.006*		
TOTAL CAPACITY UTILIZATION				.842		.857

28 . Bayside Dr at Coast Hw

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2.5		392		535	
NBT	0.5	4800	47	.096*	31	.127*
NBR	0		23		42	
SBL	1	1600	77	.048*	91	.057*
SBT	1	1600	19	.012	65	.041
SBR	d	1600	104	.065	135	.084
EBL	1	1600	138	.086	158	.099*
EBT	3	4800	2820	.588*	2227	.464
EBR	1	1600	511	.319	569	.356
WBL	1	1600	60	.038*	77	.048
WBT	4	6400	1843	.298	3410	.545*
WBR	0	0	65		81	
Right Turn Adjustment			SBR	.017*	SBR	.027*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.787		.855

29 . MacArthur Bl at Jamboree Rd

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	345	.108*	380	.119*
NBT	4	6400	1136	.178	492	.077
NBR	1	1600	385	.241	336	.210
SBL	3	4800	54	.011	210	.044
SBT	3	4800	523	.109*	1445	.301*
SBR	f		196		517	
EBL	2	3200	536	.168*	415	.130*
EBT	4	6400	1361	.213	1085	.170
EBR	1	1600	497	.311	127	.079
WBL	3	4800	440	.092	638	.133
WBT	3	4800	1089	.227*	1572	.328*
WBR	1	1600	88	.055	213	.133
Right Turn Adjustment			EBR	.008*		
Note: Assumes Right-Turn Overlap for NBR						
TOTAL CAPACITY UTILIZATION				.620		.878

30 . Jamboree Rd at Bristol St(N

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	743	.232	803	.251*
NBT	2.5	6400	2320	.483*	1510	.377
NBR	1.5		690	.431	900	
SBL	0	0	0		0	
SBT	3.5	8000	1040	.203	1270	.265*
SBR	1.5		587		1327	.415
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					SBR	.150*
TOTAL CAPACITY UTILIZATION				.483		.666

31 . Bayview Pl at Bristol St(S)

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	2	3200	80	.025	251	.078
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	4	6400	2890	.452*	2419	.378*
EBR	1	1600	360	.225	150	.094
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.025*	NBR	.078*
TOTAL CAPACITY UTILIZATION				.477	.456	

32 . Jamboree Rd at Bristol St(S)

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	6	9600	1966	.207*	1959	.210*
NBR	0	0	25		59	
SBL	0	0	0		0	
SBT	4	6400	1043	.163	1295	.202
SBR	0	0	0		0	
EBL	1.5		1754	.548*	1231	
EBT	1.5	4800	395	.247	671	.396*
EBR	2	3200	847	.265	835	.261
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.755	.606	

33 . Jamboree Rd at Bayview Wy

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	98	.061	37	.023
NBT	4	6400	1823	.293*	2073	.333*
NBR	0	0	51		59	
SBL	1	1600	77	.048*	98	.061*
SBT	4	6400	1716	.268	2027	.317
SBR	1	1600	154	.096	73	.046
EBL	2	3200	51	.016	117	.037*
EBT	1	1600	11	.007*	6	.004
EBR	1	1600	98	.061	123	.077
WBL	1	1600	60	.038*	32	.020
WBT	1	1600	0	.000	1	.001*
WBR	1	1600	11	.007	105	.066
Right Turn Adjustment			EBR	.054*	Multi	.124*
TOTAL CAPACITY UTILIZATION				.440		.556

34 . Jamboree Rd at University D

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	29	.018*	34	.021
NBT	3	4800	1397	.291	1704	.355*
NBR	1	1600	232	.145	345	.216
SBL	2	3200	70	.022	197	.062*
SBT	3	4800	1531	.319*	1566	.326
SBR	1	1600	201	.126	375	.234
EBL	1.5		324		230	
EBT	0.5	3200	97	.132*	101	.103*
EBR	1	1600	9	.006	11	.007
WBL	1.5		458	.143*	364	
WBT	1.5	4800	96	.060	185	.114*
WBR	f		276		180	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.612		.634

35 . Jamboree Rd at Bison Av

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1396	.291*	1539	.321
NBR	d	1600	507	.317	309	.193
SBL	2	3200	223	.070*	112	.035
SBT	3	4800	1703	.355	1715	.357*
SBR	1	1600	50	.031	90	.056
EBL	1	1600	65	.041	37	.023
EBT	0	0	0		0	
EBR	1	1600	122	.076	22	.014
WBL	2	3200	295	.092*	572	.179*
WBT	0	0	0		0	
WBR	2	3200	120	.038	221	.069
Right Turn Adjustment			Multi	.102*	EBR	.014*
TOTAL CAPACITY UTILIZATION				.555		.550

36 . Jamboree Rd at Ford Rd

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	480	.150*	355	.111*
NBT	3	4800	1511	.349	1879	.484
NBR	0	0	166		446	
SBL	1	1600	79	.049	42	.026
SBT	3	4800	1954	.407*	2192	.457*
SBR	1	1600	99	.062	77	.048
EBL	1.5		147	.092	94	.059
EBT	1.5	4800	325	.102*	293	.092*
EBR	f		449		302	
WBL	1.5		296		221	
WBT	1.5	4800	571	.181*	219	.092*
WBR	1	1600	52	.033	30	.019
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.840		.752

37 . Jamboree Rd at San Joaquin

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	26	.016	75	.047
NBT	3	4800	1538	.320*	1621	.338*
NBR	f		146		181	
SBL	2	3200	744	.233*	495	.155*
SBT	3	4800	1929	.402	2076	.433
SBR	f		74		156	
EBL	1.5		320	.100*	84	.026*
EBT	1.5	4800	31	.019	38	.024
EBR	1	1600	59	.037	18	.011
WBL	1.5		222	.069*	238	.074*
WBT	1.5	4800	11	.007	45	.028
WBR	1	1600	32	.020	515	.322
Right Turn Adjustment					WBR	.248*
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.722	.841	

38 . Jamboree Rd at Santa Barbar

GP Baseline							
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C	
NBL	1	1600	10	.006	17	.011*	
NBT	3	4800	1483	.309*	1560	.325	
NBR	1	1600	289	.181	232	.145	
SBL	2	3200	581	.182*	280	.088	
SBT	3	4800	1627	.339	2007	.418*	
SBR	1	1600	29	.018	74	.046	
EBL	1	1600	33	.021*	45	.028*	
EBT	1	1600	5	.003	17	.011	
EBR	1	1600	16	.010	16	.010	
WBL	1.5		63		282		
WBT	0.5	3200	6	.022*	5	.090*	
WBR	1	1600	157	.098	538	.336	
Right Turn Adjustment				WBR	.076*	WBR	.246*
Note: Assumes E/W Split Phasing							
TOTAL CAPACITY UTILIZATION				.610	.793		

39 . Jamboree Rd at Coast Hw

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	41	.026	69	.043
NBT	2	3200	571	.223*	421	.162*
NBR	0	0	143		98	
SBL	1	1600	191	.119*	175	.109*
SBT	2	3200	381	.119	593	.185
SBR	f		875		1133	
EBL	3	4800	955	.199*	959	.200*
EBT	4	6400	1826	.290	1798	.296
EBR	0	0	29		99	
WBL	2	3200	79	.025	168	.053
WBT	4	6400	1084	.169*	2048	.320*
WBR	1	1600	84	.053	210	.131
TOTAL CAPACITY UTILIZATION				.710		.791

40 . Santa Cruz at San Joaquin

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	172	.054*	488	.153*
NBT	1	1600	12	.036	15	.111
NBR	0	0	46		163	
SBL	1	1600	9	.006	11	.007
SBT	2	3200	7	.004*	6	.004*
SBR	0	0	63	.039	24	.015
EBL	1	1600	44	.028	71	.044
EBT	3	4800	506	.158*	526	.145*
EBR	0	0	301	.188	172	
WBL	1	1600	119	.074*	52	.033*
WBT	3	4800	265	.056	459	.101
WBR	0	0	6		24	
Right Turn Adjustment			Multi	.065*	SBR	.011*
TOTAL CAPACITY UTILIZATION				.355		.346

41 . Santa Rosa at San Joaquin

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	30	.019	227	.142*
NBT	1	1600	16	.010*	26	.016
NBR	1	1600	173	.108	627	.392
SBL	1	1600	104	.065*	81	.051
SBT	1	1600	11	.007	11	.007*
SBR	1	1600	20	.013	48	.030
EBL	1	1600	14	.009	56	.035
EBT	3	4800	323	.101*	622	.159*
EBR	0	0	182	.114	142	
WBL	2	3200	827	.258*	527	.165*
WBT	3	4800	479	.123	305	.082
WBR	0	0	110		88	
Right Turn Adjustment			Multi	.111*	Multi	.317*
TOTAL CAPACITY UTILIZATION				.545		.790

42 . Newport Ctr Dr at Coast

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	34	.011*	175	.055*
SBT	0	0	0		0	
SBR	f		168		716	
EBL	2	3200	480	.150	382	.119*
EBT	3	4800	1981	.413*	1505	.314
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1235	.257	1694	.353*
WBR	f		191		148	
TOTAL CAPACITY UTILIZATION				.424		.527

44 . Avocado Av at San Miguel

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	93	.058*	95	.059*
NBT	1	1600	77	.048	44	.028
NBR	1	1600	211	.132	641	.401
SBL	2	3200	38	.012	237	.074
SBT	1	1600	60	.051*	100	.071*
SBR	0	0	22		13	
EBL	1	1600	9	.006	9	.006
EBT	3	4800	155	.042*	690	.165*
EBR	0	0	47		101	
WBL	2	3200	701	.219*	293	.092*
WBT	2	3200	421	.193	448	.155
WBR	0	0	197		48	
Right Turn Adjustment					NBR	.253*
Note: Assumes Right-Turn Overlap for NBR						
TOTAL CAPACITY UTILIZATION				.370	.640	

45 . Avocado Av at Coast Hw

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	143	.089	153	.096*
NBT	1	1600	165	.103*	88	.055
NBR	1	1600	269	.168	201	.126
SBL	1.5		98		294	
SBT	0.5	3200	80	.056*	137	.135*
SBR	f		106		253	
EBL	1	1600	131	.082*	113	.071
EBT	3	4800	713	.149	1405	.293*
EBR	d	1600	28	.018	85	.053
WBL	1	1600	112	.070	198	.124*
WBT	3	4800	1151	.240*	1453	.303
WBR	1	1600	184	.115	118	.074
Right Turn Adjustment			NBR	.065*	NBR	.030*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.546	.678	

46 . SR-73 NB at Bison Av

GP Baseline						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1.5		207	.129*	143	.045*
NBT	0	4800	0		0	
NBR	1.5		472	.148	47	.029
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1600	42	.026	26	.016*
EBT	2	3200	1878	.587*	716	.224
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	243	.076	821	.257*
WBR	1	1600	428	.268	807	.504
Right Turn Adjustment			NBR	.019*	WBR	.247*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.735	.565	

47 . SR-73 SB at Bison Av

GP Baseline						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	1323	.413*	376	.118*
SBT	0	0	0		1	
SBR	f		403		264	
EBL	0	0	0		0	
EBT	2	3200	607	.190*	344	.108
EBR	1	1600	96	.060	156	.098
WBL	2	3200	34	.011*	293	.092
WBT	2	3200	417	.130	666	.208*
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.614	.326	

48 . MacArthur Bl at Bison Av

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	185	.058	191	.060
NBT	4	6400	3197	.500*	2758	.431*
NBR	f		190		181	
SBL	2	3200	72	.023*	259	.081*
SBT	4	6400	2500	.391	2771	.433
SBR	1	1600	483	.302	507	.317
EBL	2	3200	483	.151*	292	.091*
EBT	2	3200	347	.108	270	.084
EBR	f		158		72	
WBL	2	3200	303	.095	260	.081
WBT	2	3200	302	.094*	393	.123*
WBR	1	1600	200	.125	213	.133
Right Turn Adjustment			WBR	.008*		
Note: Assumes Right-Turn Overlap for SBR WBR						
TOTAL CAPACITY UTILIZATION				.776		.726

49 . MacArhtur Bl at Ford Dr

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	211	.066*	118	.037
NBT	4	6400	2326	.363	2615	.409*
NBR	f		110		471	
SBL	3	4800	547	.114	1022	.213*
SBT	4	6400	2735	.427*	2441	.381
SBR	f		29		64	
EBL	2	3200	67	.021	58	.018
EBT	2	3200	340	.106*	497	.155*
EBR	1	1600	113	.071	81	.051
WBL	2	3200	518	.162*	208	.065*
WBT	2	3200	715	.223	318	.099
WBR	f		840		658	
TOTAL CAPACITY UTILIZATION				.761		.842

50 . MacArthur Bl at San Joanqui

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	73	.023	52	.016
NBT	4	6400	1453	.228*	1689	.267*
NBR	0	0	7		20	
SBL	3	4800	522	.109*	609	.127*
SBT	3	4800	1492	.311	1609	.335
SBR	f		1286		510	
EBL	3	4800	247	.051*	925	.193*
EBT	3	4800	282	.076	555	.139
EBR	0	0	82		111	
WBL	1	1600	25	.016	36	.023
WBT	2	3200	362	.113*	319	.100*
WBR	f		940		505	
TOTAL CAPACITY UTILIZATION				.501	.687	

51 . MacArthur Bl at San Miguel

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	136	.043	70	.022*
NBT	3	4800	1248	.260*	817	.170
NBR	1	1600	108	.068	264	.165
SBL	2	3200	4	.001*	5	.002
SBT	3	4800	841	.175	1294	.270*
SBR	1	1600	764	.478	457	.286
EBL	3	4800	267	.056*	908	.189*
EBT	2	3200	110	.034	501	.157
EBR	d	1600	20	.013	142	.089
WBL	2	3200	294	.092	324	.101
WBT	2	3200	428	.134*	263	.082*
WBR	d	1600	12	.008	35	.022
Right Turn Adjustment			SBR	.260*	SBR	.016*
TOTAL CAPACITY UTILIZATION				.711	.579	

52 . MacArhtur BI at Coast Hw

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	581	.182*	712	.223*
SBT	0	0	0		0	
SBR	f		369		588	
EBL	2	3200	561	.175*	541	.169*
EBT	3	4800	579	.121	1348	.281
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1061	.221*	1172	.244*
WBR	f		739		549	
TOTAL CAPACITY UTILIZATION				.578	.636	

53 . SR-73 NB at Bonita Canyon

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	703	.220*	240	.075*
NBT	0	0	0		0	
NBR	1	1600	107	.067	70	.044
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	953	.298*	1390	.434*
EBR	1	1600	217	.136	122	.076
WBL	2	3200	623	.195*	368	.115*
WBT	2	3200	927	.290	1070	.334
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.713	.624	

54 . SR-73 SB at Bonita Canyon

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	114	.036*	227	.071*
NBT	0	0	0		0	
NBR	1	1600	203	.127	314	.196
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1600	0	.000	0	.000
EBT	2	3200	967	.302	1190	.372*
EBR	1	1600	199	.124	676	.423
WBL	2	3200	31	.010	106	.033*
WBT	3	4800	1636	.341*	1217	.254
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.091*	Multi	.176*
TOTAL CAPACITY UTILIZATION				.468		.652

55 . Spyglass Hill at San Miguel

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	49	.031	60	.038
NBT	1	1600	18	.138*	15	.138*
NBR	0	0	203		206	
SBL	0.5		31	{.019}*	34	{.021}*
SBT	0.5	1600	28	.037	13	.029
SBR	1	1600	40	.025	43	.027
EBL	1	1600	23	.014	38	.024
EBT	2	3200	300	.094*	490	.153*
EBR	d	1600	27	.017	34	.021
WBL	1	1600	146	.091*	183	.114*
WBT	2	3200	374	.117	347	.108
WBR	d	1600	29	.018	27	.017
TOTAL CAPACITY UTILIZATION				.342		.426

56 . San Miguel at San Joaquin

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	0	.000	2	.001
NBT	2	3200	253	.079*	459	.143*
NBR	d	1600	105	.066	301	.188
SBL	1	1600	76	.048*	79	.049*
SBT	2	3200	376	.118	281	.088
SBR	d	1600	274	.171	197	.123
EBL	2	3200	231	.072	477	.149
EBT	3	4800	490	.102*	763	.159*
EBR	d	1600	25	.016	27	.017
WBL	1	1600	330	.206*	224	.140*
WBT	3	4800	1046	.218	664	.138
WBR	d	1600	96	.060	56	.035
Right Turn Adjustment			SBR	.044*	NBR	.045*
TOTAL CAPACITY UTILIZATION				.479	.536	

57 . Goldenrod Av at Coast Hw

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	215	{.134}*	170	{.106}*
NBT	1	1600	27	.164	10	.139
NBR	0	0	20		42	
SBL	0	0	55		44	
SBT	1	1600	15	.088*	21	.088*
SBR	0	0	70		75	
EBL	1	1600	36	.023*	54	.034
EBT	2	3200	1376	.454	1833	.596*
EBR	0	0	78		75	
WBL	1	1600	48	.030	64	.040*
WBT	2	3200	1753	.556*	1554	.491
WBR	0	0	27		16	
TOTAL CAPACITY UTILIZATION				.801	.830	

58 . Marguerite Av at San Joanqu

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1.5		380		268	
NBT	0.5	3200	73	.142*	56	.101*
NBR	1	1600	138	.086	146	.091
SBL	1	1600	43	.027	59	.037
SBT	1	1600	57	.091*	88	.069*
SBR	0	0	89		23	
EBL	1	1600	76	.048	30	.019
EBT	2	3200	502	.157*	775	.242*
EBR	1	1600	202	.126	435	.272
WBL	1	1600	122	.076*	127	.079*
WBT	3	4800	756	.158	518	.108
WBR	d	1600	81	.051	34	.021
Right Turn Adjustment					EBR	.030*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.466	.521	

59 . Marguerite Av at Coast Hw

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	110	.069*	72	.045
NBT	1	1600	90	.082	84	.106*
NBR	0	0	41		86	
SBL	1	1600	71	.044	112	.070*
SBT	1	1600	81	.119*	108	.124
SBR	0	0	110		90	
EBL	1	1600	99	.062*	147	.092
EBT	2	3200	1148	.359	1617	.505*
EBR	1	1600	48	.030	66	.041
WBL	1	1600	32	.020	69	.043*
WBT	2	3200	1690	.544*	1341	.438
WBR	0	0	51		61	
TOTAL CAPACITY UTILIZATION				.794	.724	

60 . Spyglass Hill at San Joanqu

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	7	.004*	4	.003*
NBT	1	1600	1	.002	5	.004
NBR	0	0	2		1	
SBL	1	1600	76	.048	85	.053
SBT	1	1600	3	.078*	3	.059*
SBR	0	0	121		91	
EBL	1	1600	100	.063*	168	.105*
EBT	2	3200	572	.179	808	.253
EBR	1	1600	5	.003	9	.006
WBL	1	1600	2	.001	8	.005
WBT	2	3200	832	.260*	588	.184*
WBR	d	1600	49	.031	88	.055
TOTAL CAPACITY UTILIZATION				.405		.351

61 . Poppy Av at Coast Hw

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	35		70	
NBT	1	1600	17	.067*	0	.106*
NBR	0	0	56		100	
SBL	0	0	60	{.037}*	111	{.069}*
SBT	1	1600	19	.054	20	.093
SBR	0	0	8		17	
EBL	1	1600	18	.011*	40	.025
EBT	2	3200	1021	.319	1619	.506*
EBR	d	1600	56	.035	86	.054
WBL	1	1600	35	.022	44	.028*
WBT	2	3200	1778	.566*	1453	.463
WBR	0	0	34		30	
TOTAL CAPACITY UTILIZATION				.681		.709

62 . Newport Coast Dr at SR-73

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	2	3200	1137	.355*	1026	.321*
NBR	f		520		170	
SBL	0	0	0		0	
SBT	2	3200	693	.217	869	.272
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		357		221	
WBT	0	3200	0	.156*	0	.080*
WBR	0.5		143		34	
TOTAL CAPACITY UTILIZATION				.511		.401

63 . Newport Coast Dr at SR-73

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1520	.317	1200	.250
NBR	f		230		340	
SBL	0	0	0		0	
SBT	2	3200	1050	.328*	1090	.341*
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	f		450		570	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.328		.341

64 . Newport Coast at San Joaquin

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	172	.054*	150	.047*
NBT	3	4800	1225	.255	1100	.229
NBR	0	0	0		0	
SBL	1	1600	0	.000	0	.000
SBT	3	4800	1043	.217*	1278	.266*
SBR	1	1600	308	.193	360	.225
EBL	1	1600	485	.303*	410	.256*
EBT	0	0	0		0	
EBR	2	3200	97	.030	142	.044
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.574	.569	

65 . Newport Coast Dr at Coast

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	7	.004	13	.008
NBT	1	1600	11	.007*	27	.017*
NBR	d	1600	4	.003	10	.006
SBL	2	3200	363	.113*	803	.251*
SBT	1	1600	20	.013	7	.004
SBR	f		206		349	
EBL	1	1600	245	.153*	274	.171*
EBT	3	4800	483	.101	1141	.238
EBR	1	1600	5	.003	2	.001
WBL	1	1600	5	.003	1	.001
WBT	3	4800	1138	.237*	898	.187*
WBR	f		764		545	
TOTAL CAPACITY UTILIZATION				.510	.626	

66 . Newport Bl (W) at Coast

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	439	.137*	557	.174*
SBT	0	0	0		0	
SBR	1	1600	543	.339	501	.313
EBL	0	0	0		0	
EBT	2	3200	2791	.872*	1753	.548*
EBR	f		140		90	
WBL	0	0	0		0	
WBT	3	4800	1247	.260	2329	.485
WBR	f		450		680	
Right Turn Adjustment			SBR	.202*	SBR	.139*
TOTAL CAPACITY UTILIZATION				1.211		.861

90 . 15th St at Coast Hw

GP Baseline						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	295	.092*	187	.058*
SBT	0	0	0		0	
SBR	2	3200	351	.110	484	.151
EBL	2	3200	659	.206	307	.096*
EBT	3	4800	3565	.743*	1327	.276
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1159	.241	3347	.697*
WBR	1	1600	181	.113	299	.187
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION				.835		.851

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85 . Red Hill Av. at Barranca Pkwy.

GP Baseline (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C	VOL	V/C
NBL	2	3400	209	.06*	633	.19
NBT	4	6800	380	.06	1665	.24*
NBR	d	1700	82	.05	293	.17
SBL	2	3400	385	.11	297	.09*
SBT	4	6800	973	.14*	486	.07
SBR	d	1700	161	.09	161	.09
EBL	2	3400	182	.05	259	.08*
EBT	4	6800	1229	.22*	940	.15
EBR	0	0	296		89	
WBL	2	3400	407	.12*	186	.05
WBT	4	6800	1005	.15	1536	.23*
WBR	1	1700	281	.17	636	.37
Right Turn Adjustment					WBR	.07*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .59 .76

86 . Red Hill Av. at Alton Pkwy.

GP Baseline (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C	VOL	V/C
NBL	1	1700	393	.23*	381	.22
NBT	3	5100	474	.09	1866	.37*
NBR	1	1700	334	.20	215	.13
SBL	1	1700	251	.15	135	.08*
SBT	3	5100	889	.17*	768	.15
SBR	1	1700	309	.18	115	.07
EBL	2	3400	281	.08	251	.07*
EBT	2	3400	1036	.30*	829	.24
EBR	1	1700	352	.21	417	.25
WBL	2	3400	274	.08*	315	.09
WBT	2	3400	761	.22	974	.29*
WBR	f		165		263	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .83 .86

67 . Red Hill Av. at MacArthur Blvd.

GP Baseline (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C	VOL	V/C
NBL	2	3400	104	.03	206	.06
NBT	3	5100	1064	.21*	1140	.23*
NBR	0	0	24		34	
SBL	2	3400	411	.12*	544	.16*
SBT	3	5100	693	.14	864	.17
SBR	f		399		971	
EBL	2	3400	856	.25*	595	.18*
EBT	3	5100	795	.16	604	.12
EBR	d	1700	102	.06	62	.04
WBL	1	1700	55	.03	55	.03
WBT	3	5100	507	.10*	985	.19*
WBR	f		971		809	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .73 .81

68 . MacArthur Bl. at Main St.

GP Baseline (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C	VOL	V/C
NBL	2	3400	689	.20*	698	.21*
NBT	4	6800	1208	.18	1359	.20
NBR	f		1187		533	
SBL	2	3400	396	.12	401	.12
SBT	4	6800	699	.10*	1031	.15*
SBR	1	1700	77	.05	79	.05
EBL	1	1700	62	.04	83	.05
EBT	3	5100	877	.17*	906	.18*
EBR	1	1700	583	.34	681	.40
WBL	2	3400	318	.09*	768	.23*
WBT	3	5100	583	.11	1044	.20
WBR	f		120		538	
Right Turn Adjustment					EBR	.01*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .61 .83

Note: Assumes Right-Turn Overlap for EBR

69 . MacArthur Bl. at I-405 NB Ramps

GP Baseline (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C	AM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	2009	.30*	2177	.32*
NBR	2	3400	358	.11	1115	.33
SBL	2	3400	162	.05*	495	.15*
SBT	4	6800	1431	.21	2042	.30
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	889	.26*	518	.15*
WBT	0	0	0		0	
WBR	2	3400	1091	.32	423	.12
Right Turn Adjustment			WBR	.02*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .68 .67

70 . MacArthur Bl. at I-405 SB Ramps

GP Baseline (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C	AM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	1499	.22*	2890	.43*
NBR	1	1700	432	.25	676	.40
SBL	2	3400	160	.05*	477	.14*
SBT	4	6800	1692	.25	1719	.25
SBR	1	1700	475	.28	384	.23
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	994	.29*	507	.15*
WBT	1	1700	138	.08	157	.09
WBR	f		809		369	
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for NBR						

TOTAL CAPACITY UTILIZATION .61 .77

71 . MacArthur Bl. at Michelson Dr.

GP Baseline (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C	AM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	254	.15	212	.12
NBT	4	6800	1319	.19*	1759	.26*
NBR	1	1700	300	.18	119	.07
SBL	2	3400	973	.29*	619	.18*
SBT	4	6800	1590	.24	1520	.23
SBR	0	0	14		12	
EBL	2	3400	347	.10*	385	.11
EBT	1	1700	78	.05	112	.07*
EBR	1	1700	86	.05	134	.08
WBL	2	3400	95	.03	517	.15*
WBT	1	1700	92	.05*	107	.06
WBR	1	1700	264	.16	776	.46
Right Turn Adjustment					WBR	.17*
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for WBR						

TOTAL CAPACITY UTILIZATION .68 .88

72 . Von Karman Av. at Barranca Pkwy.

GP Baseline (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C	AM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	183	.05*	319	.09
NBT	2	3400	576	.17	1445	.43*
NBR	d	1700	152	.09	377	.22
SBL	2	3400	285	.08	441	.13*
SBT	2	3400	1131	.33*	661	.19
SBR	2	3400	347	.10	388	.11
EBL	2	3400	224	.07*	507	.15
EBT	3	5100	552	.11	1193	.23*
EBR	1	1700	235	.14	200	.12
WBL	2	3400	544	.16	159	.05*
WBT	4	6800	1480	.22*	833	.12
WBR	1	1700	510	.30	408	.24
Right Turn Adjustment					WBR	.01*
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for SBR						

TOTAL CAPACITY UTILIZATION .72 .90

73 . Von Karman Av. at Alton Pkwy.

GP Baseline (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C	AM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	114	.07*	87	.05
NBT	2	3400	598	.18	1669	.49*
NBR	d	1700	129	.08	297	.17
SBL	1	1700	59	.03	159	.09*
SBT	2	3400	1438	.42*	723	.21
SBR	d	1700	208	.12	147	.09
EBL	1	1700	134	.08	172	.10*
EBT	2	3400	694	.20*	954	.28
EBR	d	1700	69	.04	133	.08
WBL	1	1700	177	.10*	123	.07
WBT	2	3400	739	.22	857	.25*
WBR	d	1700	169	.10	130	.08
Clearance Interval				.05*	.05*	

TOTAL CAPACITY UTILIZATION .84 .98

74 . Von Karman Av. at Main St.

GP Baseline (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C	AM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	214	.06*	302	.09
NBT	2	3400	573	.17	1224	.36*
NBR	1	1700	154	.09	384	.23
SBL	1	1700	110	.06	178	.10*
SBT	2	3400	1100	.32*	625	.18
SBR	1	1700	328	.19	237	.14
EBL	2	3400	227	.07*	501	.15*
EBT	3	5100	706	.14	1681	.33
EBR	f		317		298	
WBL	2	3400	332	.10	188	.06
WBT	3	5100	938	.20*	1253	.28*
WBR	0	0	100		158	
Clearance Interval				.05*	.05*	

TOTAL CAPACITY UTILIZATION .70 .94

76 . Von Karman Av. at Michelson Dr.

GP Baseline (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C	AM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	49	.03	53	.03
NBT	2	3400	837	.25*	1132	.33*
NBR	1	1700	145	.09	137	.08
SBL	1	1700	386	.23*	272	.16*
SBT	2	3400	1141	.42	933	.31
SBR	0	0	292		133	
EBL	1	1700	156	.09*	332	.20*
EBT	2	3400	271	.09	541	.18
EBR	0	0	43		87	
WBL	1	1700	199	.12	200	.12
WBT	2	3400	471	.14*	685	.20*
WBR	f		470		626	
Clearance Interval				.05*	.05*	

TOTAL CAPACITY UTILIZATION .76 .94

77 . Jamboree Rd. at Barranca Pkwy.

GP Baseline (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	2	3400	196	.06*	476	.14
NBT	5	8500	1130	.13	2851	.34*
NBR	1	1700	233	.14	236	.14
SBL	2	3400	483	.14	444	.13*
SBT	4	6800	3217	.47*	1539	.23
SBR	f		1602		449	
EBL	2.5		191	.06	932	
EBT	2.5	8500	564	.11*	920	.22*
EBR	1	1700	146	.09	276	.16
WBL	2	3400	257	.08	225	.07
WBT	3	5100	792	.16*	975	.19*
WBR	f		248		657	
Clearance Interval				.05*		.05*
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .85 .93

78 . Jamboree Rd. at Alton Pkwy.

GP Baseline (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	2	3400	217	.06*	244	.07
NBT	4	6800	1257	.18	2806	.41*
NBR	1	1700	224	.13	258	.15
SBL	2	3400	263	.08	321	.09*
SBT	4	6800	3043	.48*	1447	.25
SBR	0	0	231		282	
EBL	2	3400	164	.05	454	.13
EBT	3	5100	532	.14*	862	.22*
EBR	0	0	170		264	
WBL	2	3400	267	.08*	271	.08*
WBT	3	5100	761	.15	675	.13
WBR	d	1700	159	.09	254	.15
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .81 .85

79 . Jamboree Rd. at Main St.

GP Baseline (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	2	3400	469	.14*	240	.07
NBT	5	8500	1555	.18	2617	.31*
NBR	1	1700	397	.23	525	.31
SBL	2	3400	366	.11	265	.08*
SBT	5	8500	2658	.31*	1849	.22
SBR	1	1700	426	.25	275	.16
EBL	2	3400	167	.05	635	.19
EBT	3	5100	359	.07*	1211	.24*
EBR	f		256		724	
WBL	2	3400	502	.15*	487	.14*
WBT	3	5100	671	.13	565	.11
WBR	1	1700	147	.09	388	.23
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for SBR						

TOTAL CAPACITY UTILIZATION .72 .82

80 . Jamboree Rd. at I-405 NB Ramps

GP Baseline (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	0	0	0		0	
NBT	3	5100	2007	.39*	3151	.62*
NBR	f		510		740	
SBL	0	0	0		0	
SBT	4	6800	2265	.33	2203	.32
SBR	f		1140		1000	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	3	5100	1515	.30*	987	.19*
WBT	0	0	0		0	
WBR	f		933		409	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .74 .86

87 . Harvard Av. at Michelson Dr.

GP Baseline (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1700	99	.06*	92	.05
NBT	2	3400	290	.09	1019	.33*
NBR	0	0	32		87	
SBL	2	3400	178	.05	271	.08*
SBT	2	3400	838	.25*	651	.19
SBR	1	1700	518	.30	259	.15
EBL	2	3400	136	.04*	521	.15*
EBT	2	3400	349	.10	1002	.29
EBR	f		66		166	
WBL	1	1700	105	.06	103	.06
WBT	2	3400	733	.25*	518	.20*
WBR	0	0	114		159	
Right Turn Adjustment			SBR	.02*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .67 .81

88 . Harvard Av. at University Dr.

GP Baseline (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1700	64	.04*	66	.04
NBT	2	3400	263	.08	837	.25*
NBR	d	1700	115	.07	207	.12
SBL	1	1700	39	.02	80	.05*
SBT	2	3400	609	.18*	591	.17
SBR	d	1700	301	.18	223	.13
EBL	1	1700	91	.05*	371	.22
EBT	3	5100	797	.16	1873	.38*
EBR	0	0	40		45	
WBL	1	1700	171	.10	173	.10*
WBT	3	5100	2115	.43*	991	.21
WBR	0	0	85		63	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .75 .83

89 . University Dr. at Campus Dr.

GP Baseline (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	2	3400	122	.04*	299	.09
NBT	3	5100	775	.15	1505	.30*
NBR	1	1700	366	.22	346	.20
SBL	2	3400	172	.05	100	.03*
SBT	3	5100	1733	.34*	946	.19
SBR	1	1700	552	.32	208	.12
EBL	2	3400	101	.03	604	.18*
EBT	2	3400	832	.24*	974	.29
EBR	d	1700	359	.21	121	.07
WBL	2	3400	209	.06*	423	.12
WBT	2	3400	666	.20	1042	.31*
WBR	d	1700	35	.02	181	.11
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .73 .87

90 . MacArthur Blvd. NB at University Dr.

GP Baseline (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1700	18	.01*	10	.01*
NBT	0	0	0		0	
NBR	1	1700	328	.19	257	.15
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	1778	.35*	1463	.29*
EBR	d	1700	152	.09	105	.06
WBL	2	3400	549	.16*	1265	.37*
WBT	3	5100	874	.17	920	.18
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.06*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .63 .72

GP Baseline (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1700	282	.17*	793	.47*
NBT	3	5100	369	.07	100	.02
NBR	d	1700	9	.01	97	.06
SBL	1	1700	1	.00	35	.02
SBT	3	5100	8	.00*	234	.05*
SBR	d	1700	2	.00	291	.17
EBL	1	1700	312	.18*	28	.02*
EBT	0	0	62		238	
EBR	1	1700	956	.56	174	.10
WBL	1	1700	124	.07	12	.01
WBT	0	0	276		136	
WBR	1	1700	41	.02	2	.00
Right Turn Adjustment			EBR	.32*	SBR	.10*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .72 .69

93 . Jamboree Rd. at Fairchild Rd.

GP Baseline (NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	1	1600	12	.01	0	.00
NBT	3	4800	1433	.31*	1596	.34*
NBR	0	0	78		19	
SBL	2	3200	382	.12*	317	.10*
SBT	4	6400	1417	.22	1872	.29
SBR	d	1600	8	.01	30	.02
EBL	1	1600	27	.02	45	.03
EBT	1	1600	0	.03*	15	.07*
EBR	0	0	43		100	
WBL	1	1600	10	.01*	42	.03*
WBT	1	1600	1	.00	10	.01
WBR	1	1600	310	.19	344	.22
Right Turn Adjustment			WBR	.17*	WBR	.15*
TOTAL CAPACITY UTILIZATION				.64		.69

92 . Fairchild Av. at MacArthur Bl.

GP Baseline (NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	37	.02*	446	.28*
SBT	0	0	0		0	
SBR	1	1600	24	.02	234	.15
EBL	1	1600	271	.17*	47	.03
EBT	3	4800	953	.20	2114	.44*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1896	.50*	1086	.26
WBR	0	0	519		153	
TOTAL CAPACITY UTILIZATION				.69		.72

91 . MacArthur Blvd. SB at University Dr.

GP Baseline (NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	1	1600	91	.06*	120	.08*
NBT	0	0	0		0	
NBR	1	1600	644	.40	448	.28
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	4800	1286	.28*	1182	.25*
EBR	0	0	71		20	
WBL	2	3200	99	.03*	280	.09*
WBT	3	4800	979	.20	850	.18
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.34*	NBR	.20*
TOTAL CAPACITY UTILIZATION				.71		.62

APPENDIX 3.3

2006 General Plan Freeway Mainline Analysis Worksheets

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	10361	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00		E_R
E_T	1.5		$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS			

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2297 pc/h/ln	Design LOS	
S	57.1 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	40.2 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-55 to MacArthur Blvd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	13302	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	75.0 mi/h	FFS	75.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2458 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	12323	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	7	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1952 pc/h/ln	Design LOS	
S	65.7 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	29.7 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	10656	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	7	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1688 pc/h/ln	Design LOS	
S	68.9 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	24.5 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	8828	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1958 pc/h/ln	Design LOS	
S	65.6 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	29.8 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-55 to MacArthur Blvd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	11864	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2192 pc/h/ln	Design LOS	
S	60.3 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	36.3 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	12640	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2336 pc/h/ln	Design LOS	
S	55.7 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	41.9 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	01/14/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs

Volume, V	13101	veh/h	Peak-Hour Factor, PHF	0.92
AA DT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length	mi
Driver type adjustment	1.00		Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width	12.0	ft
Rt-Shoulder Lat. Clearance	6.0	ft
Interchange Density	0.50	l/mi
Number of Lanes, N	6	
FFS (measured)	70.0	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	70.0	mi/h

LOS and Performance Measures

Operational (LOS)		
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2421	pc/h/ln
S		mi/h
$D = v_p / S$		pc/mi/ln
LOS	F	

Design (N)

Design (N)		
Design LOS		
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$		pc/h
S		mi/h
$D = v_p / S$		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	6631	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1820 pc/h/ln	Design LOS	
S	67.6 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	26.9 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	8322	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2284 pc/h/ln	Design LOS	
S	57.5 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	39.7 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	7204	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1977 pc/h/ln	Design LOS	
S	65.3 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	30.3 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Bonita Canyon Dr.
Date Performed	002/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4291	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Rolling
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

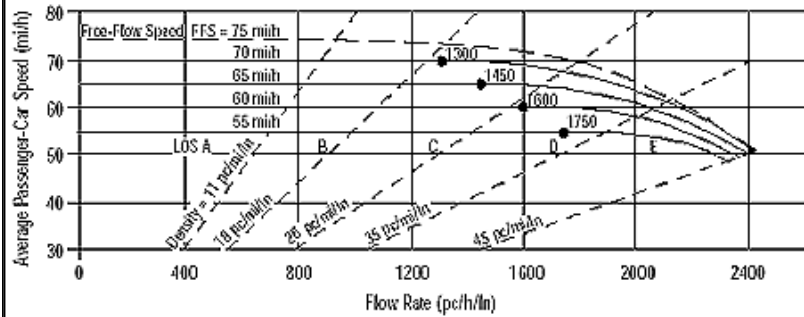
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	942 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	13.5 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	Bonita Canyon to Newport Coast
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	4204	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1154 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	16.5 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	5949	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1633 pc/h/ln	Design LOS	
S	69.3 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	23.6 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	8660	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00		E_R
E_T	1.5		$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS			

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2377 pc/h/ln	Design LOS	
S	54.2 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	43.8 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	7451	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2045 pc/h/ln	Design LOS	
S	63.9 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	32.0 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Bonita Canyon Dr.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4514	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

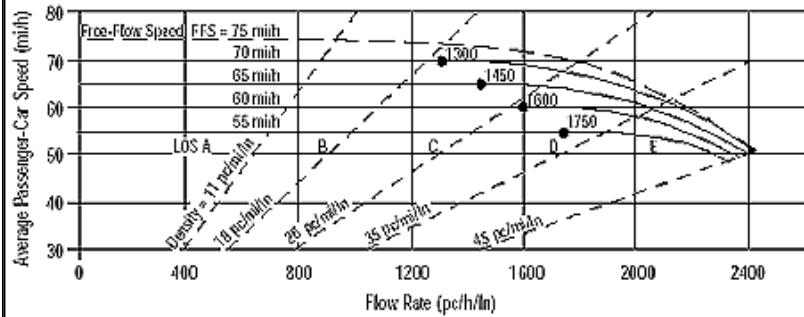
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	991 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	14.2 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads	From/To	Bonita Canyon to Newport Coast
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	4484	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1231 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	17.6 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	Dyer Rd. to MacArthur Blvd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	6325	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1169 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	16.7 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	MacArthur Blvd. to I-405
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	5317	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	982 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	14.0 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	I-405 to SR-73
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	3409	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00		E_R
E_T	1.5		$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	945 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	13.5 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-73 to Mesa Dr.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	3709	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1028 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	14.7 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	Mesa Dr. to 22nd/Victoria Av.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	3337	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	925 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	13.2 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	22nd St./Victoria Av. to End
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	2561	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

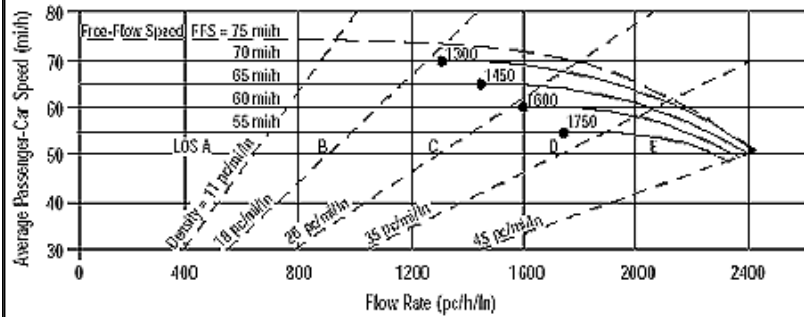
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	3	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	946 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	13.5 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	Dyer Rd. to MacArthur Blvd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	14008	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	3106 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	MacArthur Blvd. to I-405
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	13835	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2556 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	I-405 to SR-73
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	9569	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2652 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-73 to Mesa Dr.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	9384	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2601 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	Mesa Dr. to 22nd/Victoria Av.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	8316	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2305 pc/h/ln	Design LOS	
S	56.8 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	40.6 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	22nd St./Victoria Av. to End
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	6254	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	3	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2311 pc/h/ln	Design LOS	
S	56.6 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	40.8 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{up} =$ ft $V_u =$ veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 40.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{down} =$ ft $V_D =$ veh/h
--	--	--

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	11296	0.92	Level	4	0	0.980	1.00	12524
Ramp	1154	0.92	Level	4	0	0.980	1.00	1279
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v_{12}

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$ $L_{EQ} =$ (Equation 25-2 or 25-3) $P_{FM} =$ using Equation (Exhibit 25-5) $V_{12} =$ pc/h V_3 or V_{av34} pc/h (Equation 25-4 or 25-5) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ $L_{EQ} =$ (Equation 25-8 or 25-9) $P_{FD} =$ 0.260 using Equation (Exhibit 25-12) $V_{12} =$ 3552 pc/h V_3 or V_{av34} 3234 pc/h (Equation 25-15 or 25-16) Is V_3 or $V_{av34} > 2,700$ pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, $V_{12a} =$ 4620 pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V_{FO}		Exhibit 25-7		V_F	10020	Exhibit 25-14	9600	Yes
				$V_{FO} = V_F - V_R$	8741	Exhibit 25-14	9600	No
				V_R	1279	Exhibit 25-3	4100	No

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 25-7		V_{12}	3552	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ $D_R =$ (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ $D_R =$ 12.5 (pc/mi/ln) LOS = F (Exhibit 25-4)
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Speed Determination

Speed Determination

$M_S =$ (Exhibit 25-19) $S_R =$ mph (Exhibit 25-19) $S_0 =$ mph (Exhibit 25-19) $S =$ mph (Exhibit 25-14)	$D_s =$ 0.478 (Exhibit 25-19) $S_R =$ 56.6 mph (Exhibit 25-19) $S_0 =$ 70.2 mph (Exhibit 25-19) $S =$ 63.2 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	pM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	10142	0.92	Level	4	0	0.980	1.00	11244
Ramp	906	0.92	Level	4	0	0.980	1.00	1004
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.209 using Equation (Exhibit 25-5) V ₁₂ = 1827 pc/h V ₃ or V _{av34} = 3458 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3344 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	9748	Exhibit 25-7	Yes	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	4348	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 18.2 (pc/mi/ln) LOS = F (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _S = 0.359 (Exhibit 25-19) S _R = 60.0 mph (Exhibit 25-19) S ₀ = 61.1 mph (Exhibit 25-19) S = 60.6 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
<input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off
$L_{up} =$ ft	$S_{FF} = 70.0$ mph $S_{FR} = 50.0$ mph	$L_{down} =$ 1250 ft
$V_u =$ veh/h	Sketch (show lanes, L_A, L_D, V_R, V_f)	$V_D =$ 622 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	9007	0.92	Level	4	0	0.980	1.00	9986
Ramp	1777	0.92	Level	4	0	0.980	1.00	1970
UpStream								
DownStream	622	0.92	Level	4	0	0.980	1.00	690

Merge Areas				Diverge Areas			
Estimation of v_{12}				Estimation of v_{12}			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
$L_{EQ} =$ using Equation (Exhibit 25-5)				$L_{EQ} =$ 0.260 using Equation (Exhibit 25-12)			
$P_{FM} =$ pc/h				$P_{FD} =$ 3535 pc/h			
$V_{12} =$ pc/h (Equation 25-4 or 25-5)				$V_{12} =$ 2227 pc/h (Equation 25-15 or 25-16)			
Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
If Yes, $V_{12a} =$ pc/h (Equation 25-8)				If Yes, $V_{12a} =$ pc/h (Equation 25-18)			

Capacity Checks				Capacity Checks				
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V_{FO}		Exhibit 25-7		V_F	7989	Exhibit 25-14	9600	No
				$V_{FO} = V_F - V_R$	6019	Exhibit 25-14	9600	No
				V_R	1970	Exhibit 25-3	4100	No

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area				
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 25-7		V_{12}	3535	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$	
$D_R =$ (pc/mi/ln)		$D_R =$ 5.7 (pc/mi/ln)	
LOS = (Exhibit 25-4)		LOS = A (Exhibit 25-4)	

Speed Determination		Speed Determination	
$M_S =$ (Exhibit 25-19)		$D_S =$ 0.410 (Exhibit 25-19)	
$S_R =$ mph (Exhibit 25-19)		$S_R =$ 58.5 mph (Exhibit 25-19)	
$S_0 =$ mph (Exhibit 25-19)		$S_0 =$ 72.0 mph (Exhibit 25-19)	
$S =$ mph (Exhibit 25-14)		$S =$ 65.3 mph (Exhibit 25-15)	

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off		<input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off
$L_{up} = 1250$ ft	$S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph	$L_{down} =$ ft
$V_u = 1777$ veh/h	Sketch (show lanes, L_A, L_D, V_R, V_f)	$V_D =$ veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7520	0.92	Level	4	0	0.980	1.00	8337
Ramp	622	0.92	Level	4	0	0.980	1.00	690
UpStream	1777	0.90	Level	0	0	1.000	1.00	1974
DownStream								

Merge Areas				Diverge Areas			
Estimation of v_{12}				Estimation of v_{12}			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
$L_{EQ} =$	0.228 using Equation (Exhibit 25-5)			$L_{EQ} =$	using Equation (Exhibit 25-12)		
$P_{FM} =$	1360 pc/h			$P_{FD} =$	pc/h		
$V_{12} =$	2300 pc/h (Equation 25-4 or 25-5)			$V_{12} =$	pc/h (Equation 25-15 or 25-16)		
V_3 or V_{av34}	Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			V_3 or V_{av34}	Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, $V_{12a} =$	2384 pc/h (Equation 25-8)			If Yes, $V_{12a} =$	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}	6651	Exhibit 25-7	No	V_F		Exhibit 25-14	
				$V_{FO} = V_F - V_R$		Exhibit 25-14	
				V_R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}	3074	Exhibit 25-7	4600:All	No	V_{12}	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$	
$D_R = 27.5$ (pc/mi/ln)		$D_R =$ (pc/mi/ln)	
LOS = C (Exhibit 25-4)		LOS = (Exhibit 25-4)	

Speed Determination		Speed Determination	
$M_S = 0.390$ (Exhibit 25-19)		$D_S =$ (Exhibit 25-19)	
$S_R = 59.1$ mph (Exhibit 25-19)		$S_R =$ mph (Exhibit 25-19)	
$S_0 = 65.4$ mph (Exhibit 25-19)		$S_0 =$ mph (Exhibit 25-19)	
$S = 62.3$ mph (Exhibit 25-14)		$S =$ mph (Exhibit 25-15)	

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (D)
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
<input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off		<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off
$L_{up} =$ ft	$S_{FF} = 70.0$ mph	$L_{down} =$ 1115 ft
$V_u =$ veh/h	$S_{FR} = 30.0$ mph	$V_D =$ 1068 veh/h
Sketch (show lanes, L_A, L_D, V_R, V_f)		

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7520	0.92	Level	4	0	0.980	1.00	8337
Ramp	622	0.92	Level	4	0	0.980	1.00	690
UpStream								
DownStream	1068	0.90	Level	0	0	1.000	1.00	1187

Merge Areas				Diverge Areas			
Estimation of v_{12}				Estimation of v_{12}			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
$L_{EQ} =$	0.228 using Equation (Exhibit 25-5)			$L_{EQ} =$	using Equation (Exhibit 25-12)		
$P_{FM} =$	1360 pc/h			$P_{FD} =$	pc/h		
$V_{12} =$	2300 pc/h (Equation 25-4 or 25-5)			$V_{12} =$	pc/h (Equation 25-15 or 25-16)		
V_3 or V_{av34}	Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			V_3 or V_{av34}	Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, $V_{12a} =$	2384 pc/h (Equation 25-8)			If Yes, $V_{12a} =$	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}	6651	Exhibit 25-7	No	V_F		Exhibit 25-14	
				$V_{FO} = V_F - V_R$		Exhibit 25-14	
				V_R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}	3074	Exhibit 25-7	4600:All	No	V_{12}	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$	
$D_R =$	27.5 (pc/mi/ln)	$D_R =$	(pc/mi/ln)
LOS =	C (Exhibit 25-4)	LOS =	(Exhibit 25-4)

Speed Determination		Speed Determination	
$M_s =$	0.390 (Exhibit 25-19)	$D_s =$	(Exhibit 25-19)
$S_R =$	59.1 mph (Exhibit 25-19)	$S_R =$	mph (Exhibit 25-19)
$S_0 =$	65.4 mph (Exhibit 25-19)	$S_0 =$	mph (Exhibit 25-19)
$S =$	62.3 mph (Exhibit 25-14)	$S =$	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off		<input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off
$L_{up} =$ 1115 ft	$S_{FF} =$ 70.0 mph $S_{FR} =$ 40.0 mph	$L_{down} =$ ft
$V_u =$ 622 veh/h	Sketch (show lanes, L_A, L_D, V_R, V_f)	$V_D =$ veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	8024	0.92	Level	4	0	0.980	1.00	8896
Ramp	1068	0.92	Level	4	0	0.980	1.00	1184
UpStream	622	0.90	Level	0	0	1.000	1.00	691
DownStream								

Merge Areas				Diverge Areas			
Estimation of v_{12}				Estimation of v_{12}			
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)
$P_{FM} =$	0.209 using Equation (Exhibit 25-5)	$P_{FD} =$	using Equation (Exhibit 25-12)	$P_{FD} =$	using Equation (Exhibit 25-12)	$P_{FD} =$	using Equation (Exhibit 25-12)
$V_{12} =$	1337 pc/h	$V_{12} =$	pc/h	$V_{12} =$	pc/h	$V_{12} =$	pc/h
V_3 or V_{av34}	2529 pc/h (Equation 25-4 or 25-5)	V_3 or V_{av34}	pc/h (Equation 25-15 or 25-16)	V_3 or V_{av34}	pc/h (Equation 25-15 or 25-16)	V_3 or V_{av34}	pc/h (Equation 25-15 or 25-16)
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No
If Yes, $V_{12a} =$	2558 pc/h (Equation 25-8)	If Yes, $V_{12a} =$	pc/h (Equation 25-18)	If Yes, $V_{12a} =$	pc/h (Equation 25-18)	If Yes, $V_{12a} =$	pc/h (Equation 25-18)

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}	7580	Exhibit 25-7	No	V_F		Exhibit 25-14	
				$V_{FO} = V_F - V_R$		Exhibit 25-14	
				V_R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}	3742	Exhibit 25-7	4600:All	No	V_{12}	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R =$ 28.7 (pc/mi/ln)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$	$D_R =$ (pc/mi/ln)
LOS = D (Exhibit 25-4)		LOS = (Exhibit 25-4)	

Speed Determination		Speed Determination	
$M_S =$ 0.416 (Exhibit 25-19)	$S_R =$ 58.4 mph (Exhibit 25-19)	$D_S =$ (Exhibit 25-19)	$S_R =$ mph (Exhibit 25-19)
$S_0 =$ 64.9 mph (Exhibit 25-19)	$S =$ 61.5 mph (Exhibit 25-14)	$S_0 =$ mph (Exhibit 25-19)	$S =$ mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Loop On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off L _{up} = 1360 ft V _u = 706 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	6119	0.92	Level	4	0	0.980	1.00	6784
Ramp	1359	0.92	Level	4	0	0.980	1.00	1507
UpStream	706	0.90	Level	0	0	1.000	1.00	784
DownStream								

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
L _{EQ} =	$V_{12} = V_F (P_{FM})$	(Equation 25-2 or 25-3)		L _{EQ} =	$V_{12} = V_R + (V_F - V_R)P_{FD}$	(Equation 25-8 or 25-9)	
P _{FM} =	0.448	using Equation (Exhibit 25-5)		P _{FD} =		using Equation (Exhibit 25-12)	
V ₁₂ =	2217	pc/h		V ₁₂ =		pc/h	
V ₃ or V _{av34}	1368	pc/h (Equation 25-4 or 25-5)		V ₃ or V _{av34}		pc/h (Equation 25-15 or 25-16)	
Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
If Yes, V _{12a} =		pc/h (Equation 25-8)		If Yes, V _{12a} =		pc/h (Equation 25-18)	

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	6460	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3724	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$		
D _R = 24.4 (pc/mi/ln)	D _R = (pc/mi/ln)		
LOS = C (Exhibit 25-4)	LOS = (Exhibit 25-4)		

Speed Determination		Speed Determination	
M _S = 0.363 (Exhibit 25-19)	D _S = (Exhibit 25-19)		
S _R = 59.8 mph (Exhibit 25-19)	S _R = mph (Exhibit 25-19)		
S ₀ = 66.9 mph (Exhibit 25-19)	S ₀ = mph (Exhibit 25-19)		
S = 62.6 mph (Exhibit 25-14)	S = mph (Exhibit 25-15)		

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1360 ft V _D = 1359 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	6825	0.92	Level	4	0	0.980	1.00	7567
Ramp	706	0.92	Level	4	0	0.980	1.00	783
UpStream								
DownStream	1359	0.92	Level	4	0	0.980	1.00	1507

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 3081 pc/h V ₃ or V _{av34} 1486 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)			

Capacity Checks				Capacity Checks				
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V _{FO}		Exhibit 25-7		V _F	6054	Exhibit 25-14	9600	No
				V _{FO} = V _F - V _R	5271	Exhibit 25-14	9600	No
				V _R	783	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area				
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 25-7		V ₁₂	3081	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
D _R = 5.475 + 0.00734 v _R + 0.0078 V ₁₂ - 0.00627 L _A		D _R = 4.252 + 0.0086 V ₁₂ - 0.0009 L _D	
D _R = (pc/mi/ln)		D _R = 17.2 (pc/mi/ln)	
LOS = (Exhibit 25-4)		LOS = B (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _S = (Exhibit 25-19)		D _S = 0.433 (Exhibit 25-19)	
S _R = mph (Exhibit 25-19)		S _R = 57.9 mph (Exhibit 25-19)	
S ₀ = mph (Exhibit 25-19)		S ₀ = 74.9 mph (Exhibit 25-19)	
S = mph (Exhibit 25-14)		S = 65.1 mph (Exhibit 25-15)	

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs			
Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp	
<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On		<input type="checkbox"/> Yes <input type="checkbox"/> On	
<input type="checkbox"/> No <input type="checkbox"/> Off		<input checked="" type="checkbox"/> No <input type="checkbox"/> Off	
$L_{up} = 1035$ ft		$L_{down} =$ ft	
$V_u = 716$ veh/h	$S_{FF} = 70.0$ mph $S_{FR} = 40.0$ mph	$V_D =$ veh/h	
Sketch (show lanes, L_A, L_D, V_R, V_f)			

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5805	0.92	Level	4	0	0.980	1.00	6436
Ramp	1020	0.92	Level	4	0	0.980	1.00	1131
UpStream	716	0.92	Level	4	0	0.980	1.00	794
DownStream								

Merge Areas				Diverge Areas			
Estimation of v_{12}				Estimation of v_{12}			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
$L_{EQ} =$	0.209 using Equation (Exhibit 25-5)			$L_{EQ} =$	using Equation (Exhibit 25-12)		
$P_{FM} =$	1022 pc/h			$P_{FD} =$	pc/h		
$V_{12} =$	1935 pc/h (Equation 25-4 or 25-5)			$V_{12} =$	pc/h (Equation 25-15 or 25-16)		
V_3 or V_{av34}	Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			V_3 or V_{av34}	Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, $V_{12a} =$	1956 pc/h (Equation 25-8)			If Yes, $V_{12a} =$	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}	6023	Exhibit 25-7	No	V_F		Exhibit 25-14	
				$V_{FO} = V_F - V_R$		Exhibit 25-14	
				V_R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}	3087	Exhibit 25-7	4600:All	No	V_{12}	Exhibit 25-14	

Level of Service Determination (if not F)				Level of Service Determination (if not F)			
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$				$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$			
$D_R =$	19.6 (pc/mi/ln)			$D_R =$	(pc/mi/ln)		
LOS =	B (Exhibit 25-4)			LOS =	(Exhibit 25-4)		

Speed Determination				Speed Determination			
$M_s =$	0.286 (Exhibit 25-19)			$D_s =$	(Exhibit 25-19)		
$S_R =$	62.0 mph (Exhibit 25-19)			$S_R =$	mph (Exhibit 25-19)		
$S_0 =$	66.5 mph (Exhibit 25-19)			$S_0 =$	mph (Exhibit 25-19)		
$S =$	64.1 mph (Exhibit 25-14)			$S =$	mph (Exhibit 25-15)		

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1035 ft V _D = 1020 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	5089	0.92	Level	4	0	0.980	1.00	5642
Ramp	716	0.92	Level	4	0	0.980	1.00	794
UpStream								
DownStream	1020	0.92	Level	4	0	0.980	1.00	1131

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
L _{EQ} =	0.221 using Equation (Exhibit 25-5)			L _{EQ} =	using Equation (Exhibit 25-12)		
P _{FM} =	947 pc/h			P _{FD} =	pc/h		
V ₁₂ =	1670 pc/h (Equation 25-4 or 25-5)			V ₁₂ =	pc/h (Equation 25-15 or 25-16)		
V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, V _{12a} =	1715 pc/h (Equation 25-8)			If Yes, V _{12a} =	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	5082	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2509	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)				Level of Service Determination (if not F)			
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$				$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$			
D _R =	23.0 (pc/mi/ln)			D _R =	(pc/mi/ln)		
LOS =	C (Exhibit 25-4)			LOS =	(Exhibit 25-4)		

Speed Determination		Speed Determination	
M _s =	0.352 (Exhibit 25-19)	D _s =	(Exhibit 25-19)
S _R =	60.1 mph (Exhibit 25-19)	S _R =	mph (Exhibit 25-19)
S ₀ =	67.2 mph (Exhibit 25-19)	S ₀ =	mph (Exhibit 25-19)
S =	63.5 mph (Exhibit 25-14)	S =	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off L _{up} = 1245 ft V _u = 1028 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	5089	0.92	Level	4	0	0.980	1.00	5642
Ramp	716	0.92	Level	4	0	0.980	1.00	794
UpStream	1028	0.92	Level	4	0	0.980	1.00	1140
DownStream								

Merge Areas				Diverge Areas			
Estimation of v₁₂				Estimation of v₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.221 using Equation (Exhibit 25-5) V ₁₂ = 947 pc/h V ₃ or V _{av34} = 1670 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1715 pc/h (Equation 25-8)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)			

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	5082	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2509	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 23.0 (pc/mi/ln) LOS = C (Exhibit 25-4)		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _s = 0.352 (Exhibit 25-19)	S _R = 60.1 mph (Exhibit 25-19)	S ₀ = 67.2 mph (Exhibit 25-19)	S = 63.5 mph (Exhibit 25-14)
S _R = 60.1 mph (Exhibit 25-19)	S ₀ = 67.2 mph (Exhibit 25-19)	S = 63.5 mph (Exhibit 25-14)	

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1245 ft V _D = 716 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	6117	0.92	Level	4	0	0.980	1.00	6782
Ramp	1028	0.92	Level	4	0	0.980	1.00	1140
UpStream								
DownStream	716	0.90	Level	0	0	1.000	1.00	796

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
L _{EQ} =				L _{EQ} =			
P _{FM} = using Equation (Exhibit 25-5)				P _{FD} = 0.260 using Equation (Exhibit 25-12)			
V ₁₂ = pc/h				V ₁₂ = 2342 pc/h			
V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5)				V ₃ or V _{av34} 1711 pc/h (Equation 25-15 or 25-16)			
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
If Yes, V _{12a} = pc/h (Equation 25-8)				If Yes, V _{12a} = pc/h (Equation 25-18)			

Capacity Checks				Capacity Checks				
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V _{FO}		Exhibit 25-7		V _F	5765	Exhibit 25-14	9600	No
				V _{FO} = V _F - V _R	4625	Exhibit 25-14	9600	No
				V _R	1140	Exhibit 25-3	4100	No

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area				
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 25-7		V ₁₂	2342	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
D _R = 5.475 + 0.00734 v _R + 0.0078 V ₁₂ - 0.00627 L _A		D _R = 4.252 + 0.0086 V ₁₂ - 0.0009 L _D	
D _R = (pc/mi/ln)		D _R = 12.9 (pc/mi/ln)	
LOS = (Exhibit 25-4)		LOS = B (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _S = (Exhibit 25-19)		D _S = 0.466 (Exhibit 25-19)	
S _R = mph (Exhibit 25-19)		S _R = 57.0 mph (Exhibit 25-19)	
S ₀ = mph (Exhibit 25-19)		S ₀ = 74.0 mph (Exhibit 25-19)	
S = mph (Exhibit 25-14)		S = 66.0 mph (Exhibit 25-15)	

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bison Av. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	2033	0.92	Level	2	0	0.990	1.00	2232
Ramp	344	0.92	Level	2	0	0.990	1.00	378
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.586 using Equation (Exhibit 25-5) V ₁₂ = 1307 pc/h V ₃ or V _{av34} = 925 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	2610	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1685	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 16.6 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

Speed Determination

M _S = 0.319 (Exhibit 25-19) S _R = 61.1 mph (Exhibit 25-19) S ₀ = 68.5 mph (Exhibit 25-19) S = 63.5 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
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Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Loop Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="text-align: center;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph Sketch (show lanes, L_A, L_D, V_R, V_f) </div>	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	2377	0.92	Level	2	0	0.990	1.00	2610
Ramp	268	0.92	Level	2	0	0.990	1.00	294
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 1304 pc/h V ₃ or V _{av34} 653 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)
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Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	
	V _F	2610	Exhibit 25-14 9600 No
	V _{FO} = V _F - V _R	2316	Exhibit 25-14 9600 No
	V _R	294	Exhibit 25-3 2000 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 13.9 (pc/mi/ln) LOS = B (Exhibit 25-4)
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Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _s = 0.519 (Exhibit 25-19) S _R = 55.5 mph (Exhibit 25-19) S ₀ = 76.8 mph (Exhibit 25-19) S = 64.4 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	2109	0.92	Level	2	0	0.990	1.00	2315
Ramp	578	0.92	Level	2	0	0.990	1.00	635
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.215 using Equation (Exhibit 25-5) V ₁₂ = 498 pc/h V ₃ or V _{av34} = 908 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 926 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	2950	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1561	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 15.6 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

Speed Determination

M _S = 0.318 (Exhibit 25-19) S _R = 61.1 mph (Exhibit 25-19) S ₀ = 69.3 mph (Exhibit 25-19) S = 64.7 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	2687	0.92	Level	2	0	0.990	1.00	2950
Ramp	516	0.92	Level	2	0	0.990	1.00	566
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
 P_{FM} = using Equation (Exhibit 25-5)
 V₁₂ = pc/h
 V₃ or V_{av34} pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
 P_{FD} = 0.436 using Equation (Exhibit 25-12)
 V₁₂ = 1605 pc/h
 V₃ or V_{av34} 672 pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V _F	2950	Exhibit 25-14	9600 No
V _{FO} = V _F - V _R	2384	Exhibit 25-14	9600 No
V _R	566	Exhibit 25-3	2000 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂	1605	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

D_R = 5.475 + 0.00734 v_R + 0.0078 V₁₂ - 0.00627 L_A
 D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

D_R = 4.252 + 0.0086 V₁₂ - 0.0009 L_D
 D_R = 18.1 (pc/mi/ln)
 LOS = B (Exhibit 25-4)

Speed Determination

M_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-14)

Speed Determination

D_S = 0.544 (Exhibit 25-19)
 S_R = 54.8 mph (Exhibit 25-19)
 S₀ = 76.8 mph (Exhibit 25-19)
 S = 63.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
--	---	--

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	2171	0.92	Level	2	0	0.990	1.00	2383
Ramp	211	0.92	Level	2	0	0.990	1.00	232
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
(Equation 25-2 or 25-3)

L_{EQ} =

P_{FM} = 0.250 using Equation (Exhibit 25-5)

V₁₂ = 596 pc/h

V₃ or V_{av34} = 893 pc/h (Equation 25-4 or 25-5)

Is V₃ or V_{av34} > 2,700 pc/h? Yes No

Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No

If Yes, V_{12a} = 953 pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
(Equation 25-8 or 25-9)

L_{EQ} =

P_{FD} = using Equation (Exhibit 25-12)

V₁₂ = pc/h

V₃ or V_{av34} = pc/h (Equation 25-15 or 25-16)

Is V₃ or V_{av34} > 2,700 pc/h? Yes No

Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}	2615	Exhibit 25-7	No

Capacity Checks

	Actual	Capacity	LOS F?
V _F		Exhibit 25-14	
V _{FO} = V _F - V _R		Exhibit 25-14	
V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}	1185	Exhibit 25-7	4600:All
			No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂		Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 13.6 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = 0.324 (Exhibit 25-19)

S_R = 60.9 mph (Exhibit 25-19)

S₀ = 69.2 mph (Exhibit 25-19)

S = 65.2 mph (Exhibit 25-14)

Speed Determination

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S₀ = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bison Av. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="text-align: center;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph Sketch (show lanes, L_A, L_D, V_R, V_f) </div>	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
--	---	--

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3658	0.92	Level	2	0	0.990	1.00	4016
Ramp	117	0.92	Level	2	0	0.990	1.00	128
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
 P_{FM} = using Equation (Exhibit 25-5)
 V₁₂ = pc/h
 V₃ or V_{av34} pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
 P_{FD} = 0.436 using Equation (Exhibit 25-12)
 V₁₂ = 1823 pc/h
 V₃ or V_{av34} 1096 pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V _F	4016	Exhibit 25-14	9600 No
V _{FO} = V _F - V _R	3888	Exhibit 25-14	9600 No
V _R	128	Exhibit 25-3	2000 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂	1823	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 18.7 (pc/mi/ln)
 LOS = B (Exhibit 25-4)

Speed Determination

M_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-14)

Speed Determination

D_S = 0.505 (Exhibit 25-19)
 S_R = 55.9 mph (Exhibit 25-19)
 S₀ = 76.4 mph (Exhibit 25-19)
 S = 65.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Loop On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 40.0$ mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3549	0.92	Level	2	0	0.990	1.00	3896
Ramp	109	0.92	Level	2	0	0.990	1.00	120
UpStream								
DownStream								

Merge Areas	Diverge Areas
Estimation of v₁₂ $V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.271 using Equation (Exhibit 25-5) V ₁₂ = 1056 pc/h V ₃ or V _{av34} = 1420 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1558 pc/h (Equation 25-8)	Estimation of v₁₂ $V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4016	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1678	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)	Level of Service Determination (if not F)
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 17.0 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)

Speed Determination	Speed Determination
M _S = 0.322 (Exhibit 25-19) S _R = 61.0 mph (Exhibit 25-19) S ₀ = 67.6 mph (Exhibit 25-19) S = 64.7 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3740	0.92	Level	2	0	0.990	1.00	4106
Ramp	191	0.92	Level	2	0	0.990	1.00	210
UpStream								
DownStream								

Merge Areas					Diverge Areas				
Estimation of v₁₂					Estimation of v₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 25-2 or 25-3) P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 25-8 or 25-9) P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 1909 pc/h V ₃ or V _{av34} 1098 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)				

Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 25-7			V _F	4106	Exhibit 25-14	9600	No
					V _{FO} = V _F - V _R	3896	Exhibit 25-14	9600	No
					V _R	210	Exhibit 25-3	2000	No

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area				
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 25-7		V ₁₂	1909	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
D _R = 5.475 + 0.00734 v _R + 0.0078 V ₁₂ - 0.00627 L _A		D _R = 4.252 + 0.0086 V ₁₂ - 0.0009 L _D	
D _R = (pc/mi/ln)		D _R = 9.4 (pc/mi/ln)	
LOS = (Exhibit 25-4)		LOS = A (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _S = (Exhibit 25-19)		D _S = 0.512 (Exhibit 25-19)	
S _R = mph (Exhibit 25-19)		S _R = 55.7 mph (Exhibit 25-19)	
S ₀ = mph (Exhibit 25-19)		S ₀ = 76.4 mph (Exhibit 25-19)	
S = mph (Exhibit 25-14)		S = 65.1 mph (Exhibit 25-15)	

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. On-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3566	0.92	Level	2	0	0.990	1.00	3915
Ramp	174	0.92	Level	2	0	0.990	1.00	191
UpStream								
DownStream								

Merge Areas	Diverge Areas
Estimation of v₁₂ $V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.659 using Equation (Exhibit 25-5) V ₁₂ = 2578 pc/h V ₃ or V _{av34} = 668 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	Estimation of v₁₂ $V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4106	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area				
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}	2769	Exhibit 25-7	4600:All	No	V ₁₂		Exhibit 25-14	

Level of Service Determination (if not F)			Level of Service Determination (if not F)		
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 19.1 (pc/mi/ln) LOS = B (Exhibit 25-4)			$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)		

Speed Determination		Speed Determination	
M _S = 0.308 (Exhibit 25-19)		D _S = (Exhibit 25-19)	
S _R = 61.4 mph (Exhibit 25-19)		S _R = mph (Exhibit 25-19)	
S ₀ = 69.4 mph (Exhibit 25-19)		S ₀ = mph (Exhibit 25-19)	
S = 63.8 mph (Exhibit 25-14)		S = mph (Exhibit 25-15)	

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. Off-Ramp
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Existing

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3773	0.92	Level	2	0	0.990	1.00	4142
Ramp	207	0.92	Level	2	0	0.990	1.00	227
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 1934 pc/h V ₃ or V _{av34} 1104 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)
---	--

Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V _{FO}		Exhibit 25-7		V _F	4142	Exhibit 25-14	9600	No
				V _{FO} = V _F - V _R	3915	Exhibit 25-14	9600	No
				V _R	227	Exhibit 25-3	2000	No

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 25-7		V ₁₂	1934	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 20.9 (pc/mi/ln) LOS = C (Exhibit 25-4)
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Speed Determination

Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _s = 0.513 (Exhibit 25-19) S _R = 55.6 mph (Exhibit 25-19) S ₀ = 76.4 mph (Exhibit 25-19) S = 65.0 mph (Exhibit 25-15)
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APPENDIX 3.4

2006 General Plan Freeway Ramp Analysis Worksheets

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	10844	0.92	Level	4	0	0.980	1.00	12023
Ramp	1941	0.92	Level	4	0	0.980	1.00	2152
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.260 using Equation (Exhibit 25-12) V ₁₂ = 4093 pc/h V ₃ or V _{av34} 2763 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = 4219 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	
	V _F	9619	Exhibit 25-14 9600 Yes
	V _{FO} = V _F - V _R	7467	Exhibit 25-14 9600 No
	V _R	2152	Exhibit 25-3 4100 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 9.0 (pc/mi/ln) LOS = F (Exhibit 25-4)
---	--

Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _s = 0.557 (Exhibit 25-19) S _R = 54.4 mph (Exhibit 25-19) S ₀ = 70.2 mph (Exhibit 25-19) S = 62.3 mph (Exhibit 25-15)
---	--

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs	
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	9461	0.92	Level	4	0	0.980	1.00	10489
Ramp	592	0.92	Level	4	0	0.980	1.00	656
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.209 using Equation (Exhibit 25-5) V ₁₂ = 1670 pc/h V ₃ or V _{av34} = 3159 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2589 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	8645	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3245	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 9.8 (pc/mi/ln) LOS = A (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _S = 0.157 (Exhibit 25-19) S _R = 65.6 mph (Exhibit 25-19) S ₀ = 61.1 mph (Exhibit 25-19) S = 62.7 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 50.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1250 ft V _D = 299 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8419	0.92	Level	4	0	0.980	1.00	9334
Ramp	2510	0.92	Level	4	0	0.980	1.00	2783
UpStream								
DownStream	299	0.92	Level	4	0	0.980	1.00	331

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
L _{EQ} =				L _{EQ} =			
P _{FM} = using Equation (Exhibit 25-5)				P _{FD} = 0.260 using Equation (Exhibit 25-12)			
V ₁₂ = pc/h				V ₁₂ = 4001 pc/h			
V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5)				V ₃ or V _{av34} 1733 pc/h (Equation 25-15 or 25-16)			
Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No				Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No				Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
If Yes, V _{12a} = pc/h (Equation 25-8)				If Yes, V _{12a} = pc/h (Equation 25-18)			

Capacity Checks				Capacity Checks				
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V _{FO}		Exhibit 25-7		V _F	7468	Exhibit 25-14	9600	No
				V _{FO} = V _F - V _R	4685	Exhibit 25-14	9600	No
				V _R	2783	Exhibit 25-3	4100	No

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area				
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 25-7		V ₁₂	4001	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
D _R = 5.475 + 0.00734 v _R + 0.0078 V ₁₂ - 0.00627 L _A		D _R = 4.252 + 0.0086 V ₁₂ - 0.0009 L _D	
D _R = (pc/mi/ln)		D _R = 9.7 (pc/mi/ln)	
LOS = (Exhibit 25-4)		LOS = A (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _S = (Exhibit 25-19)		D _S = 0.483 (Exhibit 25-19)	
S _R = mph (Exhibit 25-19)		S _R = 56.5 mph (Exhibit 25-19)	
S ₀ = mph (Exhibit 25-19)		S ₀ = 73.9 mph (Exhibit 25-19)	
S = mph (Exhibit 25-14)		S = 63.4 mph (Exhibit 25-15)	

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	01/14/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan 2035

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{up} = 1250 ft V _u = 2510 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	6940	0.92	Level	4	0	0.980	1.00	7694
Ramp	299	0.92	Level	4	0	0.980	1.00	331
UpStream	2510	0.92	Level	0	0	1.000	1.00	2728
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.273 using Equation (Exhibit 25-5) V ₁₂ = 1502 pc/h V ₃ or V _{av34} = 2000 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2200 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	5833	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2531	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 23.4 (pc/mi/ln) LOS = C (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _s = 0.354 (Exhibit 25-19) S _R = 60.1 mph (Exhibit 25-19) S ₀ = 65.9 mph (Exhibit 25-19) S = 63.2 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (D)
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1115 ft V _D = 753 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	6940	0.92	Level	4	0	0.980	1.00	7694
Ramp	299	0.92	Level	4	0	0.980	1.00	331
UpStream								
DownStream	753	0.92	Level	0	0	1.000	1.00	818

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
L _{EQ} =	$V_{12} = V_F (P_{FM})$	(Equation 25-2 or 25-3)		L _{EQ} =	$V_{12} = V_R + (V_F - V_R)P_{FD}$	(Equation 25-8 or 25-9)	
P _{FM} =	0.273	using Equation (Exhibit 25-5)		P _{FD} =		using Equation (Exhibit 25-12)	
V ₁₂ =	1502	pc/h		V ₁₂ =		pc/h	
V ₃ or V _{av34}	2000	pc/h (Equation 25-4 or 25-5)		V ₃ or V _{av34}		pc/h (Equation 25-15 or 25-16)	
Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
If Yes, V _{12a} =	2200	pc/h (Equation 25-8)		If Yes, V _{12a} =		pc/h (Equation 25-18)	

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	5833	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2531	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)				Level of Service Determination (if not F)			
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$				$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$			
D _R =	23.4	(pc/mi/ln)		D _R =		(pc/mi/ln)	
LOS =	C	(Exhibit 25-4)		LOS =		(Exhibit 25-4)	

Speed Determination		Speed Determination	
M _s =	0.354 (Exhibit 25-19)	D _s =	(Exhibit 25-19)
S _R =	60.1 mph (Exhibit 25-19)	S _R =	mph (Exhibit 25-19)
S ₀ =	65.9 mph (Exhibit 25-19)	S ₀ =	mph (Exhibit 25-19)
S =	63.2 mph (Exhibit 25-14)	S =	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{up} = 1115 ft V _u = 299 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	7145	0.92	Level	4	0	0.980	1.00	7922
Ramp	753	0.92	Level	4	0	0.980	1.00	835
UpStream	299	0.92	Level	0	0	1.000	1.00	325
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.209 using Equation (Exhibit 25-5) V ₁₂ = 1184 pc/h V ₃ or V _{av34} = 2240 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2266 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	6500	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3101	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 23.8 (pc/mi/ln) LOS = C (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _s = 0.338 (Exhibit 25-19) S _R = 60.5 mph (Exhibit 25-19) S ₀ = 65.7 mph (Exhibit 25-19) S = 63.1 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Loop On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off L _{up} = 1360 ft V _u = 1980 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8990	0.92	Level	4	0	0.980	1.00	9967
Ramp	520	0.92	Level	4	0	0.980	1.00	577
UpStream	1980	0.92	Level	0	0	1.000	1.00	2152
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.564 using Equation (Exhibit 25-5) V ₁₂ = 4210 pc/h V ₃ or V _{av34} = 1628 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	8044	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	4787	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 33.1 (pc/mi/ln) LOS = D (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

M _S = 0.669 (Exhibit 25-19) S _R = 51.3 mph (Exhibit 25-19) S ₀ = 65.9 mph (Exhibit 25-19) S = 56.3 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1360 ft V _D = 520 veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	10304	0.92	Level	4	0	0.980	1.00	11424
Ramp	1980	0.92	Level	4	0	0.980	1.00	2195
UpStream								
DownStream	520	0.92	Level	4	0	0.980	1.00	577

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
 (Equation 25-2 or 25-3)
 L_{EQ} =
 P_{FM} = using Equation (Exhibit 25-5)
 V₁₂ = pc/h
 V₃ or V_{av34} pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
 (Equation 25-8 or 25-9)
 L_{EQ} =
 P_{FD} = 0.436 using Equation (Exhibit 25-12)
 V₁₂ = 5223 pc/h
 V₃ or V_{av34} 1958 pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V _F	9140	Exhibit 25-14	9600 No
V _{FO} = V _F - V _R	6945	Exhibit 25-14	9600 No
V _R	2195	Exhibit 25-3	2100 Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂	5223	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
 D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
 D_R = 35.7 (pc/mi/ln)
 LOS = F (Exhibit 25-4)

Speed Determination

M_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-14)

Speed Determination

D_S = 0.561 (Exhibit 25-19)
 S_R = 54.3 mph (Exhibit 25-19)
 S₀ = 73.1 mph (Exhibit 25-19)
 S = 61.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{up} = 1035 ft V _u = 510 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8675	0.92	Level	4	0	0.980	1.00	9618
Ramp	1140	0.92	Level	4	0	0.980	1.00	1264
UpStream	510	0.92	Level	4	0	0.980	1.00	565
DownStream								

Merge Areas				Diverge Areas			
Estimation of v₁₂				Estimation of v₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
L _{EQ} =	0.209 using Equation (Exhibit 25-5)			L _{EQ} =	using Equation (Exhibit 25-12)		
P _{FM} =	1488 pc/h			P _{FD} =	pc/h		
V ₁₂ =	2815 pc/h (Equation 25-4 or 25-5)			V ₁₂ =	pc/h (Equation 25-15 or 25-16)		
V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, V _{12a} =	1718 pc/h (Equation 25-8)			If Yes, V _{12a} =	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	8382	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2982	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 18.7 (pc/mi/ln) LOS = B (Exhibit 25-4)		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _s =	0.278 (Exhibit 25-19)	D _s =	(Exhibit 25-19)
S _R =	62.2 mph (Exhibit 25-19)	S _R =	mph (Exhibit 25-19)
S ₀ =	61.1 mph (Exhibit 25-19)	S ₀ =	mph (Exhibit 25-19)
S =	61.5 mph (Exhibit 25-14)	S =	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (D)
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1035 ft V _D = 1140 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8559	0.92	Level	4	0	0.980	1.00	9489
Ramp	510	0.92	Level	4	0	0.980	1.00	565
UpStream								
DownStream	1140	0.92	Level	4	0	0.980	1.00	1264

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
L _{EQ} =	0.249 using Equation (Exhibit 25-5)			L _{EQ} =	using Equation (Exhibit 25-12)		
P _{FM} =	1743 pc/h			P _{FD} =	pc/h		
V ₁₂ =	2623 pc/h (Equation 25-4 or 25-5)			V ₁₂ =	pc/h (Equation 25-15 or 25-16)		
V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, V _{12a} =	2795 pc/h (Equation 25-8)			If Yes, V _{12a} =	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	7554	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3360	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)				Level of Service Determination (if not F)			
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$				$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$			
D _R =	29.7 (pc/mi/ln)			D _R =	(pc/mi/ln)		
LOS =	D (Exhibit 25-4)			LOS =	(Exhibit 25-4)		

Speed Determination		Speed Determination	
M _s =	0.417 (Exhibit 25-19)	D _s =	(Exhibit 25-19)
S _R =	58.3 mph (Exhibit 25-19)	S _R =	mph (Exhibit 25-19)
S ₀ =	64.3 mph (Exhibit 25-19)	S ₀ =	mph (Exhibit 25-19)
S =	61.5 mph (Exhibit 25-14)	S =	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off L _{up} = 1245 ft V _u = 2448 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8559	0.92	Level	4	0	0.980	1.00	9489
Ramp	510	0.92	Level	4	0	0.980	1.00	565
UpStream	2448	0.92	Level	4	0	0.980	1.00	2714
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.249 using Equation (Exhibit 25-5) V ₁₂ = 1743 pc/h V ₃ or V _{av34} = 2623 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2795 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	7554	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3360	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 29.7 (pc/mi/ln) LOS = D (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _s = 0.417 (Exhibit 25-19) S _R = 58.3 mph (Exhibit 25-19) S ₀ = 64.3 mph (Exhibit 25-19) S = 61.5 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1245 ft V _D = 510 veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	10680	0.92	Level	4	0	0.980	1.00	11841
Ramp	2448	0.92	Level	4	0	0.980	1.00	2714
UpStream								
DownStream	510	0.92	Level	0	0	1.000	1.00	554

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
 (Equation 25-2 or 25-3)
 L_{EQ} =
 P_{FM} = using Equation (Exhibit 25-5)
 V₁₂ = pc/h
 V₃ or V_{av34} pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
 (Equation 25-8 or 25-9)
 L_{EQ} =
 P_{FD} = 0.260 using Equation (Exhibit 25-12)
 V₁₂ = 4471 pc/h
 V₃ or V_{av34} 2501 pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V _F	9473	Exhibit 25-14	9600 No
V _{FO} = V _F - V _R	6759	Exhibit 25-14	9600 No
V _R	2714	Exhibit 25-3	4100 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂	4471	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
 D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
 D_R = 31.2 (pc/mi/ln)
 LOS = D (Exhibit 25-4)

Speed Determination

M_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-14)

Speed Determination

D_S = 0.607 (Exhibit 25-19)
 S_R = 53.0 mph (Exhibit 25-19)
 S₀ = 70.9 mph (Exhibit 25-19)
 S = 61.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bison Av. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4161	0.92	Level	2	0	0.990	1.00	4568
Ramp	130	0.92	Level	2	0	0.990	1.00	143
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
(Equation 25-2 or 25-3)

L_{EQ} =

P_{FM} = 0.281 using Equation (Exhibit 25-5)

V₁₂ = 1283 pc/h

V₃ or V_{av34} = 1642 pc/h (Equation 25-4 or 25-5)

Is V₃ or V_{av34} > 2,700 pc/h? Yes No

Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No

If Yes, V_{12a} = 1827 pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
(Equation 25-8 or 25-9)

L_{EQ} =

P_{FD} = using Equation (Exhibit 25-12)

V₁₂ = pc/h

V₃ or V_{av34} = pc/h (Equation 25-15 or 25-16)

Is V₃ or V_{av34} > 2,700 pc/h? Yes No

Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}	4711	Exhibit 25-7	No

Capacity Checks

	Actual	Capacity	LOS F?
V _F		Exhibit 25-14	
V _{FO} = V _F - V _R		Exhibit 25-14	
V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}	1970	Exhibit 25-7 4600:All	No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂		Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 19.0 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = 0.326 (Exhibit 25-19)

S_R = 60.9 mph (Exhibit 25-19)

S₀ = 66.9 mph (Exhibit 25-19)

S = 64.2 mph (Exhibit 25-14)

Speed Determination

D_S = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S₀ = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Loop Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{up} =$ ft $V_u =$ veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{down} =$ ft $V_D =$ veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4291	0.92	Level	2	0	0.990	1.00	4711
Ramp	317	0.92	Level	2	0	0.990	1.00	348
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v_{12}

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$ $L_{EQ} =$ (Equation 25-2 or 25-3) $P_{FM} =$ using Equation (Exhibit 25-5) $V_{12} =$ pc/h V_3 or V_{av34} pc/h (Equation 25-4 or 25-5) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ $L_{EQ} =$ (Equation 25-8 or 25-9) $P_{FD} =$ 0.436 using Equation (Exhibit 25-12) $V_{12} =$ 2250 pc/h V_3 or V_{av34} 1230 pc/h (Equation 25-15 or 25-16) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}		Exhibit 25-7		V_F	4711	Exhibit 25-14	9600
				$V_{FO} = V_F - V_R$	4363	Exhibit 25-14	9600
				V_R	348	Exhibit 25-3	2000

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}		Exhibit 25-7		V_{12}	2250	Exhibit 25-14	4400:All

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ $D_R =$ (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ $D_R =$ 22.0 (pc/mi/ln) LOS = C (Exhibit 25-4)
--	--

Speed Determination

Speed Determination

$M_S =$ (Exhibit 25-19) $S_R =$ mph (Exhibit 25-19) $S_0 =$ mph (Exhibit 25-19) $S =$ mph (Exhibit 25-14)	$D_S =$ 0.524 (Exhibit 25-19) $S_R =$ 55.3 mph (Exhibit 25-19) $S_0 =$ 75.9 mph (Exhibit 25-19) $S =$ 64.4 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3974	0.92	Level	2	0	0.990	1.00	4363
Ramp	230	0.92	Level	2	0	0.990	1.00	252
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.263 using Equation (Exhibit 25-5) V ₁₂ = 895 pc/h V ₃ or V _{av34} = 1254 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1361 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	3656	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1613	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 16.2 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

M _S = 0.319 (Exhibit 25-19) S _R = 61.1 mph (Exhibit 25-19) S ₀ = 68.1 mph (Exhibit 25-19) S = 64.8 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{up} =$ ft $V_u =$ veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{down} =$ ft $V_D =$ veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4204	0.92	Level	2	0	0.990	1.00	4615
Ramp	450	0.92	Level	2	0	0.990	1.00	494
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v_{12}

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$ $L_{EQ} =$ (Equation 25-2 or 25-3) $P_{FM} =$ using Equation (Exhibit 25-5) $V_{12} =$ pc/h V_3 or V_{av34} pc/h (Equation 25-4 or 25-5) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ $L_{EQ} =$ (Equation 25-8 or 25-9) $P_{FD} =$ 0.436 using Equation (Exhibit 25-12) $V_{12} =$ 2291 pc/h V_3 or V_{av34} 1162 pc/h (Equation 25-15 or 25-16) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V_{FO}		Exhibit 25-7		V_F	4615	Exhibit 25-14	9600	No
				$V_{FO} = V_F - V_R$	4121	Exhibit 25-14	9600	No
				V_R	494	Exhibit 25-3	2000	No

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V_{R12}		Exhibit 25-7		V_{12}	2291	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ $D_R =$ (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ $D_R =$ 24.0 (pc/mi/ln) LOS = C (Exhibit 25-4)
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Speed Determination

Speed Determination

$M_S =$ (Exhibit 25-19) $S_R =$ mph (Exhibit 25-19) $S_0 =$ mph (Exhibit 25-19) $S =$ mph (Exhibit 25-14)	$D_s =$ 0.537 (Exhibit 25-19) $S_R =$ 55.0 mph (Exhibit 25-19) $S_0 =$ 76.2 mph (Exhibit 25-19) $S =$ 63.9 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3754	0.92	Level	2	0	0.990	1.00	4121
Ramp	230	0.92	Level	2	0	0.990	1.00	252
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.248 using Equation (Exhibit 25-5) V ₁₂ = 1020 pc/h V ₃ or V _{av34} = 1550 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1648 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4373	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1900	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 19.1 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

M _S = 0.337 (Exhibit 25-19) S _R = 60.6 mph (Exhibit 25-19) S ₀ = 67.4 mph (Exhibit 25-19) S = 64.2 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bison Av. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{up} =$ ft $V_u =$ veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{down} =$ ft $V_D =$ veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4514	0.92	Level	2	0	0.990	1.00	4956
Ramp	679	0.92	Level	2	0	0.990	1.00	745
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v_{12}

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$ $L_{EQ} =$ (Equation 25-2 or 25-3) $P_{FM} =$ using Equation (Exhibit 25-5) $V_{12} =$ pc/h V_3 or V_{av34} pc/h (Equation 25-4 or 25-5) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ $L_{EQ} =$ (Equation 25-8 or 25-9) $P_{FD} =$ 0.436 using Equation (Exhibit 25-12) $V_{12} =$ 2365 pc/h V_3 or V_{av34} 1048 pc/h (Equation 25-15 or 25-16) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}		Exhibit 25-7		V_F	4461	Exhibit 25-14	9600
				$V_{FO} = V_F - V_R$	3716	Exhibit 25-14	9600
				V_R	745	Exhibit 25-3	2000

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}		Exhibit 25-7		V_{12}	2365	Exhibit 25-14	4400:All

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ $D_R =$ (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ $D_R =$ 23.3 (pc/mi/ln) LOS = C (Exhibit 25-4)
--	--

Speed Determination

Speed Determination

$M_S =$ (Exhibit 25-19) $S_R =$ mph (Exhibit 25-19) $S_0 =$ mph (Exhibit 25-19) $S =$ mph (Exhibit 25-14)	$D_s =$ 0.560 (Exhibit 25-19) $S_R =$ 54.3 mph (Exhibit 25-19) $S_0 =$ 76.6 mph (Exhibit 25-19) $S =$ 62.9 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Loop On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs	
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)
Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3674	0.92	Level	2	0	0.990	1.00	4033
Ramp	840	0.92	Level	2	0	0.990	1.00	922
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.171 using Equation (Exhibit 25-5) V ₁₂ = 537 pc/h V ₃ or V _{av34} = 1304 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1258 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4068	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2180	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 20.5 (pc/mi/ln) LOS = C (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

M _S = 0.336 (Exhibit 25-19) S _R = 60.6 mph (Exhibit 25-19) S ₀ = 68.4 mph (Exhibit 25-19) S = 64.0 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst		IA		Freeway/Dir of Travel		SR-73 NB			
Agency or Company		Urban Crossroads, Inc.		Junction		Bonita Cyn. Dr. Off-Ramp			
Date Performed		02/20/2014		Jurisdiction		Caltrans			
Analysis Time Period		AM Peak Hour		Analysis Year		2006 General Plan			
Project Description City of Newport Beach LUE Amendment TIA (JN08911)									
Inputs									
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h		Terrain: Level					Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h		
		S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p	
Freeway	4484	0.92	Level	2	0	0.990	1.00	4923	
Ramp	810	0.92	Level	2	0	0.990	1.00	889	
UpStream									
DownStream									
Merge Areas					Diverge Areas				
Estimation of v ₁₂					Estimation of v ₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 25-2 or 25-3) P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 25-8 or 25-9) P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 2648 pc/h V ₃ or V _{av34} = 1137 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V _{FO}		Exhibit 25-7			V _F	4923	Exhibit 25-14	9600	No
					V _{FO} = V _F - V _R	4034	Exhibit 25-14	9600	No
					V _R	889	Exhibit 25-3	2000	No
Flow Entering Merge Influence Area					Flow Entering Merge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V _{R12}		Exhibit 25-7			V ₁₂	2648	Exhibit 25-14	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)					$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 15.8 (pc/mi/ln) LOS = B (Exhibit 25-4)				
Speed Determination					Speed Determination				
M _S =	(Exhibit 25-19)				D _S =	0.573 (Exhibit 25-19)			
S _R =	mph (Exhibit 25-19)				S _R =	54.0 mph (Exhibit 25-19)			
S ₀ =	mph (Exhibit 25-19)				S ₀ =	76.3 mph (Exhibit 25-19)			
S =	mph (Exhibit 25-14)				S =	62.4 mph (Exhibit 25-15)			

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{up} =$ ft $V_u =$ veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{down} =$ ft $V_D =$ veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3964	0.92	Level	2	0	0.990	1.00	4352
Ramp	520	0.92	Level	2	0	0.990	1.00	571
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v_{12}

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$ $L_{EQ} =$ (Equation 25-2 or 25-3) $P_{FM} =$ 0.611 using Equation (Exhibit 25-5) $V_{12} =$ 2659 pc/h V_3 or V_{av34} 846 pc/h (Equation 25-4 or 25-5) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ $L_{EQ} =$ (Equation 25-8 or 25-9) $P_{FD} =$ using Equation (Exhibit 25-12) $V_{12} =$ pc/h V_3 or V_{av34} pc/h (Equation 25-15 or 25-16) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}	4923	Exhibit 25-7	No	V_F		Exhibit 25-14	
				$V_{FO} = V_F - V_R$		Exhibit 25-14	
				V_R		Exhibit 25-3	

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}	3230	Exhibit 25-7	4600:All	No	V_{12}	Exhibit 25-14	

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ $D_R =$ 22.6 (pc/mi/ln) LOS = C (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ $D_R =$ (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

Speed Determination

$M_S =$ 0.345 (Exhibit 25-19) $S_R =$ 60.4 mph (Exhibit 25-19) $S_0 =$ 68.8 mph (Exhibit 25-19) $S =$ 63.0 mph (Exhibit 25-14)	$D_s =$ (Exhibit 25-19) $S_R =$ mph (Exhibit 25-19) $S_0 =$ mph (Exhibit 25-19) $S =$ mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4464	0.92	Level	2	0	0.990	1.00	4901
Ramp	500	0.92	Level	2	0	0.990	1.00	549
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 2446 pc/h V ₃ or V _{av34} 1227 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V _{FO}		Exhibit 25-7		V _F	4901	Exhibit 25-14	9600	No
				V _{FO} = V _F - V _R	4352	Exhibit 25-14	9600	No
				V _R	549	Exhibit 25-3	2000	No

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 25-7		V ₁₂	2446	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 25.3 (pc/mi/ln) LOS = C (Exhibit 25-4)
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Speed Determination

Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _s = 0.542 (Exhibit 25-19) S _R = 54.8 mph (Exhibit 25-19) S ₀ = 75.9 mph (Exhibit 25-19) S = 63.7 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
--	--	--

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	9078	0.92	Level	4	0	0.980	1.00	10065
Ramp	1033	0.92	Level	4	0	0.980	1.00	1145
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.260 using Equation (Exhibit 25-12) V ₁₂ = 2941 pc/h V ₃ or V _{av34} 2555 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3220 pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7		V _F	8052	Exhibit 25-14	9600
				V _{FO} = V _F - V _R	6907	Exhibit 25-14	9600
				V _R	1145	Exhibit 25-3	4100

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7		V ₁₂	2941	Exhibit 25-14	4400:All

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 0.4 (pc/mi/ln) LOS = A (Exhibit 25-4)
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Speed Determination

Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _s = 0.466 (Exhibit 25-19) S _R = 57.0 mph (Exhibit 25-19) S ₀ = 71.3 mph (Exhibit 25-19) S = 64.8 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{up} =$ ft $V_u =$ veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 40.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{down} =$ ft $V_D =$ veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	8361	0.92	Level	4	0	0.980	1.00	9270
Ramp	1153	0.92	Level	4	0	0.980	1.00	1278
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v_{12}

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) $L_{EQ} =$ $P_{FM} = 0.209$ using Equation (Exhibit 25-5) $V_{12} = 1415$ pc/h V_3 or $V_{av34} = 2677$ pc/h (Equation 25-4 or 25-5) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, $V_{12a} = 2708$ pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) $L_{EQ} =$ $P_{FD} =$ using Equation (Exhibit 25-12) $V_{12} =$ pc/h V_3 or V_{av34} pc/h (Equation 25-15 or 25-16) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}	8048	Exhibit 25-7	No	V_F		Exhibit 25-14	
				$V_{FO} = V_F - V_R$		Exhibit 25-14	
				V_R		Exhibit 25-3	

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}	3986	Exhibit 25-7	4600:All	No	V_{12}	Exhibit 25-14	

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ $D_R = 15.3$ (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ $D_R =$ (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

Speed Determination

$M_S = 0.267$ (Exhibit 25-19) $S_R = 62.5$ mph (Exhibit 25-19) $S_0 = 64.5$ mph (Exhibit 25-19) $S = 63.5$ mph (Exhibit 25-14)	$D_s =$ (Exhibit 25-19) $S_R =$ mph (Exhibit 25-19) $S_0 =$ mph (Exhibit 25-19) $S =$ mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 50.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1250 ft V _D = 800 veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	7858	0.92	Level	4	0	0.980	1.00	8712
Ramp	1916	0.92	Level	4	0	0.980	1.00	2124
UpStream								
DownStream	800	0.92	Level	4	0	0.980	1.00	887

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
 (Equation 25-2 or 25-3)
 L_{EQ} =
 P_{FM} = using Equation (Exhibit 25-5)
 V₁₂ = pc/h
 V₃ or V_{av34} pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
 (Equation 25-8 or 25-9)
 L_{EQ} =
 P_{FD} = 0.260 using Equation (Exhibit 25-12)
 V₁₂ = 3384 pc/h
 V₃ or V_{av34} 1793 pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V _F	6970	Exhibit 25-14	9600 No
V _{FO} = V _F - V _R	4846	Exhibit 25-14	9600 No
V _R	2124	Exhibit 25-3	4100 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂	3384	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
 D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
 D_R = 4.4 (pc/mi/ln)
 LOS = A (Exhibit 25-4)

Speed Determination

M_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-14)

Speed Determination

D_S = 0.424 (Exhibit 25-19)
 S_R = 58.1 mph (Exhibit 25-19)
 S₀ = 73.7 mph (Exhibit 25-19)
 S = 65.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{up} = 1250 ft V _u = 1916 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	6428	0.92	Level	4	0	0.980	1.00	7127
Ramp	800	0.92	Level	4	0	0.980	1.00	887
UpStream	1916	0.92	Level	0	0	1.000	1.00	2083
DownStream								

Merge Areas				Diverge Areas			
Estimation of v₁₂				Estimation of v₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.204 using Equation (Exhibit 25-5) V ₁₂ = 1059 pc/h V ₃ or V _{av34} = 2072 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2081 pc/h (Equation 25-8)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)			

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	6090	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2968	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 26.6 (pc/mi/ln) LOS = C (Exhibit 25-4)		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _s = 0.381 (Exhibit 25-19)	S _R = 59.3 mph (Exhibit 25-19)	D _s = (Exhibit 25-19)	S _R = mph (Exhibit 25-19)
S ₀ = 66.2 mph (Exhibit 25-19)	S = 62.7 mph (Exhibit 25-14)	S ₀ = mph (Exhibit 25-19)	S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (D)
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1115 ft V _D = 1330 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	6428	0.92	Level	4	0	0.980	1.00	7127
Ramp	800	0.92	Level	4	0	0.980	1.00	887
UpStream								
DownStream	1330	0.92	Level	0	0	1.000	1.00	1446

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
L _{EQ} =	$V_{12} = V_F (P_{FM})$	(Equation 25-2 or 25-3)		L _{EQ} =	$V_{12} = V_R + (V_F - V_R)P_{FD}$	(Equation 25-8 or 25-9)	
P _{FM} =	0.204	using Equation (Exhibit 25-5)		P _{FD} =		using Equation (Exhibit 25-12)	
V ₁₂ =	1059	pc/h		V ₁₂ =		pc/h	
V ₃ or V _{av34}	2072	pc/h (Equation 25-4 or 25-5)		V ₃ or V _{av34}		pc/h (Equation 25-15 or 25-16)	
Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
If Yes, V _{12a} =	2081	pc/h (Equation 25-8)		If Yes, V _{12a} =		pc/h (Equation 25-18)	

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	6090	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2968	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$		
D _R = 26.6 (pc/mi/ln)	D _R = (pc/mi/ln)		
LOS = C (Exhibit 25-4)	LOS = (Exhibit 25-4)		

Speed Determination		Speed Determination	
M _s = 0.381 (Exhibit 25-19)	D _s = (Exhibit 25-19)	S _R = 59.3 mph (Exhibit 25-19)	S _R = mph (Exhibit 25-19)
S _R = 59.3 mph (Exhibit 25-19)	S ₀ = 66.2 mph (Exhibit 25-19)	S ₀ = 62.7 mph (Exhibit 25-14)	S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{up} = 1115 ft V _u = 800 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	6974	0.92	Level	4	0	0.980	1.00	7732
Ramp	1330	0.92	Level	4	0	0.980	1.00	1475
UpStream	800	0.92	Level	0	0	1.000	1.00	870
DownStream								

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
L _{EQ} =	$V_{12} = V_F (P_{FM})$	(Equation 25-2 or 25-3)		L _{EQ} =	$V_{12} = V_R + (V_F - V_R)P_{FD}$	(Equation 25-8 or 25-9)	
P _{FM} =	0.209	using Equation (Exhibit 25-5)		P _{FD} =		using Equation (Exhibit 25-12)	
V ₁₂ =	1156	pc/h		V ₁₂ =		pc/h	
V ₃ or V _{av34}	2186	pc/h (Equation 25-4 or 25-5)		V ₃ or V _{av34}		pc/h (Equation 25-15 or 25-16)	
Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
If Yes, V _{12a} =	2211	pc/h (Equation 25-8)		If Yes, V _{12a} =		pc/h (Equation 25-18)	

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	7004	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3686	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$	D _R = 28.1 (pc/mi/ln)	D _R = (pc/mi/ln)
LOS = D (Exhibit 25-4)		LOS = D (Exhibit 25-4)	LOS = (Exhibit 25-4)

Speed Determination		Speed Determination	
M _s = 0.407 (Exhibit 25-19)	D _s = (Exhibit 25-19)	S _R = 58.6 mph (Exhibit 25-19)	S _R = mph (Exhibit 25-19)
S ₀ = 65.8 mph (Exhibit 25-19)	S ₀ = mph (Exhibit 25-19)	S = 61.8 mph (Exhibit 25-14)	S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Loop On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off L _{up} = 1360 ft V _u = 941 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8458	0.92	Level	4	0	0.980	1.00	9377
Ramp	1610	0.92	Level	4	0	0.980	1.00	1785
UpStream	941	0.92	Level	0	0	1.000	1.00	1023
DownStream								

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
L _{EQ} =	V ₁₂ = V _F (P _{FM})	(Equation 25-2 or 25-3)		L _{EQ} =	V ₁₂ = V _R + (V _F - V _R)P _{FD}	(Equation 25-8 or 25-9)	
P _{FM} =	0.413	using Equation (Exhibit 25-5)		P _{FD} =		using Equation (Exhibit 25-12)	
V ₁₂ =	2839	pc/h		V ₁₂ =		pc/h	
V ₃ or V _{av34}	2019	pc/h (Equation 25-4 or 25-5)		V ₃ or V _{av34}		pc/h (Equation 25-15 or 25-16)	
Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
If Yes, V _{12a} =		pc/h (Equation 25-8)		If Yes, V _{12a} =		pc/h (Equation 25-18)	

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	8662	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	4624	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
D _R = 5.475 + 0.00734 v _R + 0.0078 V ₁₂ - 0.00627 L _A D _R = 31.3 (pc/mi/ln) LOS = D (Exhibit 25-4)	D _R = 4.252 + 0.0086 V ₁₂ - 0.0009 L _D D _R = (pc/mi/ln) LOS = (Exhibit 25-4)		

Speed Determination		Speed Determination	
M _S = 0.598 (Exhibit 25-19) S _R = 53.2 mph (Exhibit 25-19) S ₀ = 64.5 mph (Exhibit 25-19) S = 58.0 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)		

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1360 ft V _D = 1610 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	9319	0.92	Level	4	0	0.980	1.00	10332
Ramp	941	0.92	Level	4	0	0.980	1.00	1043
UpStream								
DownStream	1610	0.92	Level	4	0	0.980	1.00	1785

Merge Areas					Diverge Areas				
Estimation of v₁₂					Estimation of v₁₂				
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 4192 pc/h V ₃ or V _{av34} 2037 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)				

Capacity Checks				Capacity Checks				
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V _{FO}		Exhibit 25-7		V _F	8266	Exhibit 25-14	9600	No
				V _{FO} = V _F - V _R	7223	Exhibit 25-14	9600	No
				V _R	1043	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area				
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 25-7		V ₁₂	4192	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
D _R = 5.475 + 0.00734 v _R + 0.0078 V ₁₂ - 0.00627 L _A		D _R = 4.252 + 0.0086 V ₁₂ - 0.0009 L _D	
D _R = (pc/mi/ln)		D _R = 26.8 (pc/mi/ln)	
LOS = (Exhibit 25-4)		LOS = C (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _S = (Exhibit 25-19)		D _S = 0.457 (Exhibit 25-19)	
S _R = mph (Exhibit 25-19)		S _R = 57.2 mph (Exhibit 25-19)	
S ₀ = mph (Exhibit 25-19)		S ₀ = 72.7 mph (Exhibit 25-19)	
S = mph (Exhibit 25-14)		S = 63.9 mph (Exhibit 25-15)	

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{up} = 1035 ft V _u = 740 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	7799	0.92	Level	4	0	0.980	1.00	8647
Ramp	1000	0.92	Level	4	0	0.980	1.00	1109
UpStream	740	0.92	Level	4	0	0.980	1.00	820
DownStream								

Merge Areas				Diverge Areas			
Estimation of v₁₂				Estimation of v₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
L _{EQ} =	0.209 using Equation (Exhibit 25-5)			L _{EQ} =	using Equation (Exhibit 25-12)		
P _{FM} =	1285 pc/h			P _{FD} =	pc/h		
V ₁₂ =	2431 pc/h (Equation 25-4 or 25-5)			V ₁₂ =	pc/h (Equation 25-15 or 25-16)		
V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, V _{12a} =	2458 pc/h (Equation 25-8)			If Yes, V _{12a} =	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	7256	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area				
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}	3567	Exhibit 25-7	4600:All	No	V ₁₂		Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$	
D _R =	23.4 (pc/mi/ln)	D _R =	(pc/mi/ln)
LOS =	C (Exhibit 25-4)	LOS =	(Exhibit 25-4)

Speed Determination		Speed Determination	
M _s =	0.339 (Exhibit 25-19)	D _s =	(Exhibit 25-19)
S _R =	60.5 mph (Exhibit 25-19)	S _R =	mph (Exhibit 25-19)
S ₀ =	65.2 mph (Exhibit 25-19)	S ₀ =	mph (Exhibit 25-19)
S =	62.8 mph (Exhibit 25-14)	S =	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (D)
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1035 ft V _D = 1000 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	7196	0.92	Level	4	0	0.980	1.00	7978
Ramp	740	0.92	Level	4	0	0.980	1.00	820
UpStream								
DownStream	1000	0.92	Level	4	0	0.980	1.00	1109

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
L _{EQ} =	0.218 using Equation (Exhibit 25-5)			L _{EQ} =	using Equation (Exhibit 25-12)		
P _{FM} =	1241 pc/h			P _{FD} =	pc/h		
V ₁₂ =	2232 pc/h (Equation 25-4 or 25-5)			V ₁₂ =	pc/h (Equation 25-15 or 25-16)		
V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, V _{12a} =	2282 pc/h (Equation 25-8)			If Yes, V _{12a} =	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	6525	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3102	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)				Level of Service Determination (if not F)			
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$				$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$			
D _R =	27.6 (pc/mi/ln)			D _R =	(pc/mi/ln)		
LOS =	C (Exhibit 25-4)			LOS =	(Exhibit 25-4)		

Speed Determination		Speed Determination	
M _s =	0.391 (Exhibit 25-19)	D _s =	(Exhibit 25-19)
S _R =	59.0 mph (Exhibit 25-19)	S _R =	mph (Exhibit 25-19)
S ₀ =	65.6 mph (Exhibit 25-19)	S ₀ =	mph (Exhibit 25-19)
S =	62.3 mph (Exhibit 25-14)	S =	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off L _{up} = 1245 ft V _u = 1396 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	7196	0.92	Level	4	0	0.980	1.00	7978
Ramp	740	0.92	Level	4	0	0.980	1.00	820
UpStream	1396	0.92	Level	4	0	0.980	1.00	1548
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.218 using Equation (Exhibit 25-5) V ₁₂ = 1241 pc/h V ₃ or V _{av34} = 2232 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2282 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	6525	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3102	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 27.6 (pc/mi/ln) LOS = C (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _s = 0.391 (Exhibit 25-19) S _R = 59.0 mph (Exhibit 25-19) S ₀ = 65.6 mph (Exhibit 25-19) S = 62.3 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1245 ft V _D = 740 veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8526	0.92	Level	4	0	0.980	1.00	9453
Ramp	1396	0.92	Level	4	0	0.980	1.00	1548
UpStream								
DownStream	740	0.92	Level	0	0	1.000	1.00	804

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.260 using Equation (Exhibit 25-12) V ₁₂ = 3112 pc/h V ₃ or V _{av34} 2225 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}	V _F	7563	Exhibit 25-14 9600 No
	V _{FO} = V _F - V _R	6015	Exhibit 25-14 9600 No
	V _R	1548	Exhibit 25-3 4100 No

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}	Exhibit 25-7		

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 19.5 (pc/mi/ln) LOS = B (Exhibit 25-4)
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Speed Determination

Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _S = 0.502 (Exhibit 25-19) S _R = 55.9 mph (Exhibit 25-19) S ₀ = 72.0 mph (Exhibit 25-19) S = 64.4 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bison Av. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3447	0.92	Level	2	0	0.990	1.00	3784
Ramp	449	0.92	Level	2	0	0.990	1.00	493
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
(Equation 25-2 or 25-3)

L_{EQ} =

P_{FM} = 0.237 using Equation (Exhibit 25-5)

V₁₂ = 897 pc/h

V₃ or V_{av34} = 1443 pc/h (Equation 25-4 or 25-5)

Is V₃ or V_{av34} > 2,700 pc/h? Yes No

Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No

If Yes, V_{12a} = 1513 pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
(Equation 25-8 or 25-9)

L_{EQ} =

P_{FD} = using Equation (Exhibit 25-12)

V₁₂ = pc/h

V₃ or V_{av34} = pc/h (Equation 25-15 or 25-16)

Is V₃ or V_{av34} > 2,700 pc/h? Yes No

Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}	4277	Exhibit 25-7	No

Capacity Checks

	Actual	Capacity	LOS F?
V _F		Exhibit 25-14	
V _{FO} = V _F - V _R		Exhibit 25-14	
V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}	2006	Exhibit 25-7 4600:All	No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂		Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 19.1 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = 0.327 (Exhibit 25-19)

S_R = 60.8 mph (Exhibit 25-19)

S₀ = 67.7 mph (Exhibit 25-19)

S = 64.3 mph (Exhibit 25-14)

Speed Determination

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S₀ = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information	Site Information
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Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Loop Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="text-align: center;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph Sketch (show lanes, L_A, L_D, V_R, V_f) </div>	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3896	0.92	Level	2	0	0.990	1.00	4277
Ramp	541	0.92	Level	2	0	0.990	1.00	594
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 2014 pc/h V ₃ or V _{av34} 918 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)
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Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	
	V _F	3850	Exhibit 25-14 9600 No
	V _{FO} = V _F - V _R	3256	Exhibit 25-14 9600 No
	V _R	594	Exhibit 25-3 2000 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 20.0 (pc/mi/ln) LOS = B (Exhibit 25-4)
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Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _S = 0.546 (Exhibit 25-19) S _R = 54.7 mph (Exhibit 25-19) S ₀ = 76.8 mph (Exhibit 25-19) S = 63.4 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3355	0.92	Level	2	0	0.990	1.00	3683
Ramp	782	0.92	Level	2	0	0.990	1.00	858
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.187 using Equation (Exhibit 25-5) V ₁₂ = 538 pc/h V ₃ or V _{av34} = 1167 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1149 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	3731	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2007	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 19.0 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _S = 0.328 (Exhibit 25-19) S _R = 60.8 mph (Exhibit 25-19) S ₀ = 68.7 mph (Exhibit 25-19) S = 64.2 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4137	0.92	Level	2	0	0.990	1.00	4542
Ramp	570	0.92	Level	2	0	0.990	1.00	626
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 2333 pc/h V ₃ or V _{av34} 1104 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V _{FO}		Exhibit 25-7		V _F	4542	Exhibit 25-14	9600	No
				V _{FO} = V _F - V _R	3916	Exhibit 25-14	9600	No
				V _R	626	Exhibit 25-3	2000	No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 25-7		V ₁₂	2333	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 24.3 (pc/mi/ln) LOS = C (Exhibit 25-4)
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Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _s = 0.549 (Exhibit 25-19) S _R = 54.6 mph (Exhibit 25-19) S ₀ = 76.4 mph (Exhibit 25-19) S = 63.4 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3567	0.92	Level	2	0	0.990	1.00	3916
Ramp	340	0.92	Level	2	0	0.990	1.00	373
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
(Equation 25-2 or 25-3)

L_{EQ} =

P_{FM} = 0.233 using Equation (Exhibit 25-5)

V₁₂ = 910 pc/h

V₃ or V_{av34} = 1503 pc/h (Equation 25-4 or 25-5)

Is V₃ or V_{av34} > 2,700 pc/h? Yes No

Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No

If Yes, V_{12a} = 1566 pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
(Equation 25-8 or 25-9)

L_{EQ} =

P_{FD} = using Equation (Exhibit 25-12)

V₁₂ = pc/h

V₃ or V_{av34} = pc/h (Equation 25-15 or 25-16)

Is V₃ or V_{av34} > 2,700 pc/h? Yes No

Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}	4289	Exhibit 25-7	No

Capacity Checks

	Actual	Capacity	LOS F?
V _F		Exhibit 25-14	
V _{FO} = V _F - V _R		Exhibit 25-14	
V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}	1939	Exhibit 25-7	4600:All
			No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂		Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 19.4 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = 0.338 (Exhibit 25-19)

S_R = 60.5 mph (Exhibit 25-19)

S₀ = 67.6 mph (Exhibit 25-19)

S = 64.2 mph (Exhibit 25-14)

Speed Determination

D_S = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S₀ = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bison Av. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{up} =$ ft $V_u =$ veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{down} =$ ft $V_D =$ veh/h
--	--	--

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5085	0.92	Level	2	0	0.990	1.00	5582
Ramp	190	0.92	Level	2	0	0.990	1.00	209
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
 $L_{EQ} =$ (Equation 25-2 or 25-3)
 $P_{FM} =$ using Equation (Exhibit 25-5)
 $V_{12} =$ pc/h
 V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
 Is V_3 or $V_{av34} > 2,700$ pc/h? Yes No
 Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ Yes No
 If Yes, $V_{12a} =$ pc/h (Equation 25-8)

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
 $L_{EQ} =$ (Equation 25-8 or 25-9)
 $P_{FD} =$ 0.436 using Equation (Exhibit 25-12)
 $V_{12} =$ 2187 pc/h
 V_3 or V_{av34} 1279 pc/h (Equation 25-15 or 25-16)
 Is V_3 or $V_{av34} > 2,700$ pc/h? Yes No
 Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ Yes No
 If Yes, $V_{12a} =$ pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V_{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V_F	4745	Exhibit 25-14	9600 No
$V_{FO} = V_F - V_R$	4536	Exhibit 25-14	9600 No
V_R	209	Exhibit 25-3	2000 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V_{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V_{12}	2187	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
 $D_R =$ (pc/mi/ln)
 LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
 $D_R =$ 21.8 (pc/mi/ln)
 LOS = C (Exhibit 25-4)

Speed Determination

$M_S =$ (Exhibit 25-19)
 $S_R =$ mph (Exhibit 25-19)
 $S_0 =$ mph (Exhibit 25-19)
 $S =$ mph (Exhibit 25-14)

Speed Determination

$D_s =$ 0.512 (Exhibit 25-19)
 $S_R =$ 55.7 mph (Exhibit 25-19)
 $S_0 =$ 75.7 mph (Exhibit 25-19)
 $S =$ 64.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Loop On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4595	0.92	Level	2	0	0.990	1.00	5045
Ramp	490	0.92	Level	2	0	0.990	1.00	538
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.219 using Equation (Exhibit 25-5) V ₁₂ = 861 pc/h V ₃ or V _{av34} = 1537 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1574 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4474	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2112	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 20.2 (pc/mi/ln) LOS = C (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

M _S = 0.334 (Exhibit 25-19) S _R = 60.7 mph (Exhibit 25-19) S ₀ = 67.5 mph (Exhibit 25-19) S = 64.1 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
--	--	--

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4905	0.92	Level	2	0	0.990	1.00	5385
Ramp	310	0.92	Level	2	0	0.990	1.00	340
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
 P_{FM} = using Equation (Exhibit 25-5)
 V₁₂ = pc/h
 V₃ or V_{av34} pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
 P_{FD} = 0.436 using Equation (Exhibit 25-12)
 V₁₂ = 2540 pc/h
 V₃ or V_{av34} 1422 pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V _F	5385	Exhibit 25-14	9600 No
V _{FO} = V _F - V _R	5045	Exhibit 25-14	9600 No
V _R	340	Exhibit 25-3	2000 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂	2540	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 14.8 (pc/mi/ln)
 LOS = B (Exhibit 25-4)

Speed Determination

M_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-14)

Speed Determination

D_S = 0.524 (Exhibit 25-19)
 S_R = 55.3 mph (Exhibit 25-19)
 S₀ = 75.1 mph (Exhibit 25-19)
 S = 64.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
--	--	--

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4735	0.92	Level	2	0	0.990	1.00	5198
Ramp	170	0.92	Level	2	0	0.990	1.00	187
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
(Equation 25-2 or 25-3)

L_{EQ} =

P_{FM} = 0.659 using Equation (Exhibit 25-5)

V₁₂ = 3426 pc/h

V₃ or V_{av34} = 886 pc/h (Equation 25-4 or 25-5)

Is V₃ or V_{av34} > 2,700 pc/h? Yes No

Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No

If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
(Equation 25-8 or 25-9)

L_{EQ} =

P_{FD} = using Equation (Exhibit 25-12)

V₁₂ = pc/h

V₃ or V_{av34} = pc/h (Equation 25-15 or 25-16)

Is V₃ or V_{av34} > 2,700 pc/h? Yes No

Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}	5385	Exhibit 25-7	No

Capacity Checks

	Actual	Capacity	LOS F?
V _F		Exhibit 25-14	
V _{FO} = V _F - V _R		Exhibit 25-14	
V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}	3613	Exhibit 25-7 4600:All	No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂		Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 25.7 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = 0.391 (Exhibit 25-19)

S_R = 59.1 mph (Exhibit 25-19)

S₀ = 68.6 mph (Exhibit 25-19)

S = 61.9 mph (Exhibit 25-14)

Speed Determination

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S₀ = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	2006 General Plan

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{up} =$ ft $V_u =$ veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{down} =$ ft $V_D =$ veh/h
--	--	--

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4990	0.92	Level	2	0	0.990	1.00	5478
Ramp	255	0.92	Level	2	0	0.990	1.00	280
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v_{12}

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$ $L_{EQ} =$ (Equation 25-2 or 25-3) $P_{FM} =$ using Equation (Exhibit 25-5) $V_{12} =$ pc/h V_3 or V_{av34} pc/h (Equation 25-4 or 25-5) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ $L_{EQ} =$ (Equation 25-8 or 25-9) $P_{FD} =$ 0.436 using Equation (Exhibit 25-12) $V_{12} =$ 2546 pc/h V_3 or V_{av34} 1466 pc/h (Equation 25-15 or 25-16) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-18)
---	--

Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}		Exhibit 25-7		V_F	5478	Exhibit 25-14	9600
				$V_{FO} = V_F - V_R$	5198	Exhibit 25-14	9600
				V_R	280	Exhibit 25-3	2000

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}		Exhibit 25-7		V_{12}	2546	Exhibit 25-14	4400:All

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ $D_R =$ (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ $D_R =$ 26.1 (pc/mi/ln) LOS = C (Exhibit 25-4)
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Speed Determination

Speed Determination

$M_S =$ (Exhibit 25-19) $S_R =$ mph (Exhibit 25-19) $S_0 =$ mph (Exhibit 25-19) $S =$ mph (Exhibit 25-14)	$D_s =$ 0.518 (Exhibit 25-19) $S_R =$ 55.5 mph (Exhibit 25-19) $S_0 =$ 75.0 mph (Exhibit 25-19) $S =$ 64.5 mph (Exhibit 25-15)
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APPENDIX 3.5

Irvine Cumulative ICU Analysis Worksheets

85 . Red Hill Av. at Barranca Pkwy.

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	212	.06*	633	.19
NBT	4	6800	379	.06	1667	.25*
NBR	d	1700	80	.05	298	.18
SBL	2	3400	378	.11	301	.09*
SBT	4	6800	975	.14*	485	.07
SBR	d	1700	166	.10	160	.09
EBL	2	3400	180	.05	261	.08*
EBT	4	6800	1178	.22*	961	.15
EBR	0	0	290		90	
WBL	2	3400	403	.12*	185	.05
WBT	4	6800	1020	.15	1527	.22*
WBR	1	1700	280	.16	632	.37
Right Turn Adjustment					WBR	.08*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .59 .77

86 . Red Hill Av. at Alton Pkwy.

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	396	.23*	379	.22
NBT	3	5100	481	.09	1873	.37*
NBR	1	1700	333	.20	210	.12
SBL	1	1700	249	.15	133	.08*
SBT	3	5100	890	.17*	769	.15
SBR	1	1700	310	.18	115	.07
EBL	2	3400	283	.08	257	.08*
EBT	2	3400	1025	.30*	828	.24
EBR	1	1700	352	.21	422	.25
WBL	2	3400	271	.08*	311	.09
WBT	2	3400	754	.22	967	.28*
WBR	f		165		263	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .83 .86

67 . Red Hill Av. at MacArthur Blvd.

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	102	.03	203	.06
NBT	3	5100	1064	.21*	1126	.23*
NBR	0	0	24		35	
SBL	2	3400	396	.12*	551	.16*
SBT	3	5100	694	.14	870	.17
SBR	f		390		947	
EBL	2	3400	844	.25*	596	.18*
EBT	3	5100	764	.15	624	.12
EBR	d	1700	102	.06	63	.04
WBL	1	1700	57	.03	57	.03
WBT	3	5100	511	.10*	990	.19*
WBR	f		992		818	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .73 .81

68 . MacArthur Bl. at Main St.

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	703	.21*	694	.20*
NBT	4	6800	1221	.18	1356	.20
NBR	f		1187		540	
SBL	2	3400	382	.11	415	.12
SBT	4	6800	673	.10*	1056	.16*
SBR	1	1700	76	.04	80	.05
EBL	1	1700	63	.04	85	.05
EBT	3	5100	876	.17*	938	.18*
EBR	1	1700	581	.34	698	.41
WBL	2	3400	338	.10*	779	.23*
WBT	3	5100	633	.12	1048	.21
WBR	f		128		542	
Right Turn Adjustment					EBR	.03*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .63 .85

Note: Assumes Right-Turn Overlap for EBR

69 . MacArthur Bl. at I-405 NB Ramps

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C	AM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	2028	.30*	2175	.32*
NBR	2	3400	360	.11	1111	.33
SBL	2	3400	160	.05*	499	.15*
SBT	4	6800	1422	.21	2092	.31
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	898	.26*	528	.16*
WBT	0	0	0		0	
WBR	2	3400	1102	.32	425	.13
Right Turn Adjustment			WBR	.02*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .68 .68

70 . MacArthur Bl. at I-405 SB Ramps

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C	AM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	4	6800	1521	.22*	2894	.43*
NBR	1	1700	441	.26	683	.40
SBL	2	3400	161	.05*	492	.14*
SBT	4	6800	1684	.25	1760	.26
SBR	1	1700	483	.28	388	.23
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	992	.29*	509	.15*
WBT	1	1700	140	.08	155	.09
WBR	f		808		370	
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for NBR						

TOTAL CAPACITY UTILIZATION .61 .77

71 . MacArthur Bl. at Michelson Dr.

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C	AM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1700	253	.15	212	.12
NBT	4	6800	1313	.19*	1754	.26*
NBR	1	1700	297	.17	117	.07
SBL	2	3400	966	.28*	619	.18*
SBT	4	6800	1587	.24	1523	.23
SBR	0	0	14		12	
EBL	2	3400	347	.10*	392	.12
EBT	1	1700	77	.05	113	.07*
EBR	1	1700	86	.05	135	.08
WBL	2	3400	97	.03	512	.15*
WBT	1	1700	94	.06*	107	.06
WBR	1	1700	270	.16	774	.46
Right Turn Adjustment					WBR	.18*
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for WBR						

TOTAL CAPACITY UTILIZATION .68 .89

72 . Von Karman Av. at Barranca Pkwy.

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C	AM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	188	.06*	323	.10
NBT	2	3400	558	.16	1443	.42*
NBR	d	1700	153	.09	384	.23
SBL	2	3400	286	.08	447	.13*
SBT	2	3400	1135	.33*	654	.19
SBR	2	3400	358	.11	380	.11
EBL	2	3400	212	.06*	513	.15
EBT	3	5100	521	.10	1212	.24*
EBR	1	1700	238	.14	205	.12
WBL	2	3400	547	.16	162	.05*
WBT	4	6800	1543	.23*	840	.12
WBR	1	1700	520	.31	398	.23
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for SBR						

TOTAL CAPACITY UTILIZATION .73 .89

73 . Von Karman Av. at Alton Pkwy.

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	122	.07*	86	.05
NBT	2	3400	590	.17	1672	.49*
NBR	d	1700	129	.08	305	.18
SBL	1	1700	56	.03	159	.09*
SBT	2	3400	1449	.43*	728	.21
SBR	d	1700	213	.13	142	.08
EBL	1	1700	129	.08	172	.10
EBT	2	3400	675	.20*	980	.29*
EBR	d	1700	71	.04	137	.08
WBL	1	1700	181	.11*	126	.07*
WBT	2	3400	764	.22	845	.25
WBR	d	1700	161	.09	129	.08
Clearance Interval				.05*	.05*	

TOTAL CAPACITY UTILIZATION .86 .99

74 . Von Karman Av. at Main St.

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	213	.06*	303	.09
NBT	2	3400	587	.17	1220	.36*
NBR	1	1700	151	.09	396	.23
SBL	1	1700	110	.06	184	.11*
SBT	2	3400	1099	.32*	628	.18
SBR	1	1700	331	.19	238	.14
EBL	2	3400	231	.07*	500	.15*
EBT	3	5100	689	.14	1740	.34
EBR	f		311		301	
WBL	2	3400	361	.11	191	.06
WBT	3	5100	1027	.22*	1269	.28*
WBR	0	0	112		160	
Clearance Interval				.05*	.05*	

TOTAL CAPACITY UTILIZATION .72 .95

76 . Von Karman Av. at Michelson Dr.

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	48	.03	53	.03
NBT	2	3400	841	.25*	1146	.34*
NBR	1	1700	142	.08	141	.08
SBL	1	1700	382	.22*	280	.16*
SBT	2	3400	1148	.42	936	.31
SBR	0	0	288		133	
EBL	1	1700	152	.09*	332	.20*
EBT	2	3400	256	.09	551	.19
EBR	0	0	42		87	
WBL	1	1700	200	.12	199	.12
WBT	2	3400	464	.14*	685	.20*
WBR	f		476		626	
Clearance Interval				.05*	.05*	

TOTAL CAPACITY UTILIZATION .75 .95

77 . Jamboree Rd. at Barranca Pkwy.

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	2	3400	196	.06*	478	.14
NBT	5	8500	1106	.13	2841	.33*
NBR	1	1700	226	.13	240	.14
SBL	2	3400	472	.14	450	.13*
SBT	4	6800	3208	.47*	1510	.22
SBR	f		1615		448	
EBL	2.5		186	.05	948	
EBT	2.5	8500	542	.11*	959	.22*
EBR	1	1700	143	.08	279	.16
WBL	2	3400	269	.08	221	.07
WBT	3	5100	839	.16*	974	.19*
WBR	f		258		651	
Clearance Interval				.05*		.05*
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .85 .92

78 . Jamboree Rd. at Alton Pkwy.

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	2	3400	218	.06*	245	.07
NBT	4	6800	1242	.18	2817	.41*
NBR	1	1700	226	.13	267	.16
SBL	2	3400	263	.08	318	.09*
SBT	4	6800	3039	.48*	1441	.25
SBR	0	0	231		272	
EBL	2	3400	157	.05	452	.13
EBT	3	5100	521	.13*	885	.23*
EBR	0	0	166		273	
WBL	2	3400	274	.08*	276	.08*
WBT	3	5100	781	.15	664	.13
WBR	d	1700	160	.09	250	.15
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .80 .86

79 . Jamboree Rd. at Main St.

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	2	3400	489	.14*	250	.07
NBT	5	8500	1588	.19	2617	.31*
NBR	1	1700	384	.23	535	.31
SBL	2	3400	342	.10	270	.08*
SBT	5	8500	2626	.31*	1851	.22
SBR	1	1700	430	.25	287	.17
EBL	2	3400	186	.05	633	.19
EBT	3	5100	380	.07*	1227	.24*
EBR	f		284		720	
WBL	2	3400	496	.15*	482	.14*
WBT	3	5100	677	.13	584	.11
WBR	1	1700	146	.09	384	.23
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for SBR						

TOTAL CAPACITY UTILIZATION .72 .82

80 . Jamboree Rd. at I-405 NB Ramps

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	0	0	0		0	
NBT	3	5100	2023	.40*	3166	.62*
NBR	f		510		730	
SBL	0	0	0		0	
SBT	4	6800	2272	.33	2200	.32
SBR	f		1140		1000	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	3	5100	1548	.30*	1000	.20*
WBT	0	0	0		0	
WBR	f		937		414	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .75 .87

81 . Jamboree Rd. at I-405 SB Ramps

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	4	6800	1688	.25	2843	.42*
NBR	f		766		1340	
SBL	0	0	0		0	
SBT	4	6800	3496	.51*	2501	.37
SBR	f		311		800	
EBL	1.5		901	{.37}*	917	{.27}*
EBT	0	6800	0	.37	0	{.27}
EBR	2.5		1609		999	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .93 .74

82 . Jamboree Rd. at Michelson Dr.

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	217	.13	84	.05
NBT	4	6800	1549	.23*	2364	.35*
NBR	f		349		410	
SBL	2	3400	1275	.38*	973	.29*
SBT	4	6800	2445	.36	1838	.27
SBR	f		1156		590	
EBL	2	3400	302	.09*	747	.22*
EBT	2	3400	395	.12	847	.25
EBR	1	1700	85	.05	106	.06
WBL	2	3400	370	.11	396	.12
WBT	2	3400	677	.20*	536	.16*
WBR	f		669		1188	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .95 1.07

83 . Carlson Av. at Michelson Dr.

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	426	.13*	159	.05*
NBT	2	3400	218	.06	86	.03
NBR	1	1700	256	.15	384	.23
SBL	2	3400	67	.02	183	.05
SBT	1	1700	37	.02*	246	.14*
SBR	f		296		1211	
EBL	2	3400	996	.29*	658	.19
EBT	2	3400	837	.25	1236	.36*
EBR	1	1700	98	.06	355	.21
WBL	1	1700	206	.12	451	.27*
WBT	2	3400	938	.28*	974	.29
WBR	f		256		206	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .77 .87

84 . Carlson Av. at Campus Dr.

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1700	228	.13*	294	.17*
SBT	0	0	0		0	
SBR	1	1700	252	.15	236	.14
EBL	1	1700	192	.11*	317	.19*
EBT	2	3400	932	.27	1296	.38
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3400	1168	.34*	1194	.35*
WBR	d	1700	188	.11	273	.16
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .63 .76

87 . Harvard Av. at Michelson Dr.

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	1	1700	101	.06*	93	.05
NBT	2	3400	297	.10	1017	.33*
NBR	0	0	33		89	
SBL	2	3400	179	.05	274	.08*
SBT	2	3400	838	.25*	650	.19
SBR	1	1700	523	.31	258	.15
EBL	2	3400	137	.04*	516	.15
EBT	2	3400	348	.10	1017	.30*
EBR	f		66		166	
WBL	1	1700	106	.06	104	.06*
WBT	2	3400	747	.25*	519	.20
WBR	0	0	117		158	
Right Turn Adjustment			SBR	.03*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .68 .82

88 . Harvard Av. at University Dr.

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	1	1700	65	.04*	66	.04
NBT	2	3400	267	.08	841	.25*
NBR	d	1700	120	.07	212	.12
SBL	1	1700	39	.02	84	.05*
SBT	2	3400	608	.18*	589	.17
SBR	d	1700	300	.18	229	.13
EBL	1	1700	88	.05*	370	.22
EBT	3	5100	793	.16	1902	.38*
EBR	0	0	39		44	
WBL	1	1700	174	.10	170	.10*
WBT	3	5100	2160	.44*	1000	.21
WBR	0	0	86		63	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .76 .83

89 . University Dr. at Campus Dr.

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	2	3400	123	.04*	300	.09
NBT	3	5100	767	.15	1529	.30*
NBR	1	1700	362	.21	348	.20
SBL	2	3400	173	.05	101	.03*
SBT	3	5100	1762	.35*	962	.19
SBR	1	1700	563	.33	209	.12
EBL	2	3400	99	.03	611	.18*
EBT	2	3400	815	.24*	973	.29
EBR	d	1700	357	.21	122	.07
WBL	2	3400	211	.06*	428	.13
WBT	2	3400	674	.20	1043	.31*
WBR	d	1700	34	.02	183	.11
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .74 .87

90 . MacArthur Blvd. NB at University Dr.

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	1	1700	18	.01*	10	.01*
NBT	0	0	0		0	
NBR	1	1700	328	.19	257	.15
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	1768	.35*	1483	.29*
EBR	d	1700	153	.09	106	.06
WBL	2	3400	569	.17*	1274	.37*
WBT	3	5100	894	.18	910	.18
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.05*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .63 .72

GP Cumulative (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1700	288	.17*	787	.46*
NBT	3	5100	382	.07	111	.02
NBR	d	1700	10	.01	98	.06
SBL	1	1700	1	.00	39	.02
SBT	3	5100	8	.00*	247	.05*
SBR	d	1700	2	.00	297	.17
EBL	1	1700	297	.17*	27	.02*
EBT	0	0	70		234	
EBR	1	1700	963	.57	170	.10
WBL	1	1700	129	.08	12	.01
WBT	0	0	270		137	
WBR	1	1700	41	.02	2	.00
Right Turn Adjustment Clearance Interval			EBR	.35*	SBR	.10*
				.05*		.05*
TOTAL CAPACITY UTILIZATION				.74	.68	

93 . Jamboree Rd. at Fairchild Rd.

GP Cumulative (NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	11	.01	0	.00
NBT	3	4800	1407	.31*	1610	.34*
NBR	0	0	77		19	
SBL	2	3200	383	.12*	325	.10*
SBT	4	6400	1515	.24	1868	.29
SBR	d	1600	8	.01	30	.02
EBL	1	1600	26	.02	45	.03
EBT	1	1600	0	.03*	16	.07*
EBR	0	0	44		100	
WBL	1	1600	11	.01*	42	.03*
WBT	1	1600	1	.00	10	.01
WBR	1	1600	317	.20	345	.22
Right Turn Adjustment			WBR	.18*	WBR	.15*

TOTAL CAPACITY UTILIZATION .65 .69

92 . Fairchild Av. at MacArthur Bl.

GP Cumulative (NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	37	.02*	445	.28*
SBT	0	0	0		0	
SBR	1	1600	24	.02	237	.15
EBL	1	1600	268	.17*	50	.03
EBT	3	4800	953	.20	2125	.44*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1916	.51*	1093	.26
WBR	0	0	522		160	

TOTAL CAPACITY UTILIZATION .70 .72

91 . MacArthur Blvd. SB at University Dr.

GP Cumulative (NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	88	.06*	123	.08*
NBT	0	0	0		0	
NBR	1	1600	645	.40	465	.29
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	4800	1275	.28*	1191	.25*
EBR	0	0	69		20	
WBL	2	3200	101	.03*	281	.09*
WBT	3	4800	992	.21	840	.18
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.34*	NBR	.21*

TOTAL CAPACITY UTILIZATION .71 .63

APPENDIX 4.1

General Plan LUE Amendment (Proposed Project) Trip Generation Change Worksheets

Table 1
Model Trip Generation Rates (August 1, 2013)

NBTM Land Use Code	NBTM Land Use Description	Quantity	Units	Trip Rate						
				AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
1a	Res-Low (SFD)-Coastal	1	DU	0.19	0.50	0.69	0.41	0.27	0.69	7.50
1b	Res-Low (SFD)	1	DU	0.21	0.64	0.84	0.49	0.30	0.79	8.63
2a	Res-Medium (SFA)-Coastal	1	DU	0.12	0.41	0.53	0.32	0.19	0.52	5.64
2b	Res-Medium (SFA)	1	DU	0.13	0.55	0.68	0.40	0.21	0.61	6.66
3a	Apartment-Coastal	1	DU	0.11	0.38	0.49	0.31	0.19	0.49	5.37
3b	Apartment	1	DU	0.12	0.48	0.60	0.36	0.20	0.56	6.12
3c	Apartment (High-Rise)	1	DU	0.10	0.38	0.48	0.29	0.16	0.45	4.90
3d	Apartment (Res-over-Retail)	1	DU	0.11	0.43	0.54	0.32	0.18	0.50	5.51
3e	Apartment (Mid-Rise Newport Center)	1	DU	0.09	0.38	0.47	0.28	0.16	0.44	4.83
4	Elderly Residential	1	DU	0.11	0.29	0.40	0.27	0.18	0.45	4.90
5a	Mobile Home-Coastal	1	DU	0.10	0.34	0.44	0.29	0.18	0.46	5.06
5b	Mobile Home	1	DU	0.11	0.45	0.56	0.34	0.20	0.54	5.92
6	Motel	1	ROOM	0.40	0.13	0.53	0.23	0.34	0.57	6.08
7	Hotel	1	ROOM	0.51	0.17	0.68	0.28	0.43	0.71	7.58
9	Regional Commercial	1	TSF	1.14	0.49	1.64	0.93	1.25	2.18	23.48
10a	General Commercial	1	TSF	1.78	0.80	2.59	1.53	2.02	3.55	38.24
10b	Comm (Res-over-Retail)	1	TSF	1.61	0.72	2.33	1.38	1.82	3.20	34.00
11	Comm./Recreation	1	ACRE	2.12	0.80	2.92	1.42	2.04	3.46	37.07
13	Restaurant	1	TSF	2.39	1.07	3.46	2.05	2.70	4.75	51.18
15	Fast Food Restaurant	1	TSF	2.94	1.32	4.25	2.51	3.32	5.83	62.78
16	Auto Dealer/Sales	1	TSF	1.74	0.74	2.48	1.38	1.86	3.24	34.84
17	Yacht Club	1	TSF	1.30	0.49	1.79	0.87	1.25	2.12	22.71
18	Health Club	1	TSF	1.30	0.49	1.79	0.87	1.25	2.12	22.71
19	Tennis Club	1	CRT	1.35	0.54	1.89	0.98	1.34	2.35	25.26
20	Marina	1	SLIP	0.12	0.05	0.17	0.09	0.13	0.22	2.39
21	Theater	1	SEAT	0.02	0.01	0.03	0.01	0.02	0.03	0.34
22	Newport Dunes	1	ACRE	0.96	0.42	1.39	0.80	1.06	1.86	20.02
23a	General Office	1	TSF	0.84	0.26	1.10	0.39	0.65	1.04	11.08
23b	Office (>300K block Newport Center)	1	TSF	0.76	0.23	0.99	0.35	0.59	0.94	9.97
24	Medical/Government Office	1	TSF	1.14	0.39	1.53	0.64	0.98	1.63	17.38
25	R & D	1	TSF	0.57	0.17	0.74	0.25	0.42	0.67	7.10
26	Industrial	1	TSF	0.48	0.13	0.62	0.18	0.33	0.52	5.48
27	Mini-Storage/Warehouse	1	TSF	0.40	0.11	0.51	0.16	0.28	0.43	4.61
28	Pre-School/Day Care	1	TSF	2.08	0.65	2.73	1.04	1.68	2.72	29.05
29	Elementary/Private School	1	STU	0.18	0.02	0.20	0.04	0.07	0.11	1.30
30	Junior/High School	1	STU	0.18	0.02	0.20	0.04	0.07	0.11	1.30
31	Cultural/Learning Center	1	TSF	1.13	0.35	1.48	0.54	0.89	1.43	15.22
32	Library	1	TSF	1.13	0.35	1.48	0.54	0.89	1.43	15.22
33	Post Office	1	TSF	1.54	0.49	2.03	0.78	1.25	2.03	21.63
34	Hospital	1	BEDS	1.10	0.32	1.42	0.47	0.80	1.27	13.57
35	Nursing/Conv. Home	1	BEDS	0.12	0.08	0.20	0.08	0.10	0.18	2.00
36	Church	1	TSF	0.48	0.14	0.62	0.21	0.36	0.57	6.09
37	Youth Ctr/Service	1	TSF	2.08	0.65	2.73	1.04	1.68	2.72	29.05
38	Park	1	ACRE	0.18	0.06	0.23	0.09	0.14	0.23	2.49
39	Regional Park	1	ACRE	0.18	0.06	0.23	0.09	0.14	0.23	2.49
40	Golf Course	1	ACRE	0.27	0.10	0.37	0.17	0.25	0.42	4.55
41	Resort Golf Course	1	ACRE	0.27	0.10	0.37	0.17	0.25	0.42	4.55

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3 Westcift Plaza

Table X
Model Trip Generation

NBTM Land Use Code	NBTM Land Use Description	Quantity	Units	Trips						
				AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
1a	Res-Low (SFD)-Balboa	0	DU	0	0	0	0	0	0	0
1b	Res-Low (SFD)	0	DU	0	0	0	0	0	0	0
2a	Res-Medium (SFA)-Balboa	0	DU	0	0	0	0	0	0	0
2b	Res-Medium (SFA)	0	DU	0	0	0	0	0	0	0
3a	Apartment-Balboa	0	DU	0	0	0	0	0	0	0
3b	Apartment	0	DU	0	0	0	0	0	0	0
3c	Apartment (High-Rise)	0	DU	0	0	0	0	0	0	0
3d	Apartment (Res-over-Retail)	0	DU	0	0	0	0	0	0	0
3e	Apartment (Mid-Rise Newport Center)	0	DU	0	0	0	0	0	0	0
4	Elderly Residential	0	DU	0	0	0	0	0	0	0
5a	Mobile Home-Balboa	0	DU	0	0	0	0	0	0	0
5b	Mobile Home	0	DU	0	0	0	0	0	0	0
6	Motel	0	ROOM	0	0	0	0	0	0	0
7	Hotel	0	ROOM	0	0	0	0	0	0	0
9	Regional Commercial	0	TSF	0	0	0	0	0	0	0
10a	General Commercial	-15.514	TSF	-28	-12	-40	-24	-31	-55	-593
10b	Comm (Res-over-Retail)	0	TSF	0	0	0	0	0	0	0
11	Comm./Recreation	0	ACRE	0	0	0	0	0	0	0
13	Restaurant	0	TSF	0	0	0	0	0	0	0
15	Fast Food Restaurant	0	TSF	0	0	0	0	0	0	0
16	Auto Dealer/Sales	0	TSF	0	0	0	0	0	0	0
17	Yacht Club	0	TSF	0	0	0	0	0	0	0
18	Health Club	0	TSF	0	0	0	0	0	0	0
19	Tennis Club	0	CRT	0	0	0	0	0	0	0
20	Marina	0	SLIP	0	0	0	0	0	0	0
21	Theater	0	SEAT	0	0	0	0	0	0	0
22	Newport Dunes	0	ACRE	0	0	0	0	0	0	0
23a	General Office	0	TSF	0	0	0	0	0	0	0
23b	Office (>300K block Newport Center)	0	TSF	0	0	0	0	0	0	0
24	Medical/Government Office	0	TSF	0	0	0	0	0	0	0
25	R & D	0	TSF	0	0	0	0	0	0	0
26	industrial	0	TSF	0	0	0	0	0	0	0
27	Mini-Storage/Warehouse	0	TSF	0	0	0	0	0	0	0
28	Pre-School/Day Care	0	TSF	0	0	0	0	0	0	0
29	Elementary/Private School	0	STU	0	0	0	0	0	0	0
30	Junior/High School	0	STU	0	0	0	0	0	0	0
31	Cultural/Learning Center	0	TSF	0	0	0	0	0	0	0
32	Library	0	TSF	0	0	0	0	0	0	0
33	Post Office	0	TSF	0	0	0	0	0	0	0
34	Hospital	0	BEDS	0	0	0	0	0	0	0
35	Nursing/Conv. Home	0	BEDS	0	0	0	0	0	0	0
36	Church	0	TSF	0	0	0	0	0	0	0
37	Youth Ctr/Service	0	TSF	0	0	0	0	0	0	0
38	Park	0	ACRE	0	0	0	0	0	0	0
39	Regional Park	0	ACRE	0	0	0	0	0	0	0
40	Golf Course	0	ACRE	0	0	0	0	0	0	0
41	Resort Golf Course	0	ACRE	0	0	0	0	0	0	0
Total				-28	-12	-40	-24	-31	-55	-593

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⑥ Newport Coast Cntr,

Table X
Model Trip Generation

NBTM Land Use Code	NBTM Land Use Description	Quantity	Units	Trips						
				AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
1a	Res-Low (SFD)-Balboa	0	DU	0	0	0	0	0	0	0
1b	Res-Low (SFD)	0	DU	0	0	0	0	0	0	0
2a	Res-Medium (SFA)-Balboa	0	DU	0	0	0	0	0	0	0
2b	Res-Medium (SFA)	0	DU	0	0	0	0	0	0	0
3a	Apartment-Balboa	0	DU	0	0	0	0	0	0	0
3b	Apartment	0	DU	0	0	0	0	0	0	0
3c	Apartment (High-Rise)	0	DU	0	0	0	0	0	0	0
3d	Apartment (Res-over-Retail)	0	DU	0	0	0	0	0	0	0
3e	Apartment (Mid-Rise Newport Center)	0	DU	0	0	0	0	0	0	0
4	Elderly Residential	0	DU	0	0	0	0	0	0	0
5a	Mobile Home-Balboa	0	DU	0	0	0	0	0	0	0
5b	Mobile Home	0	DU	0	0	0	0	0	0	0
6	Motel	0	ROOM	0	0	0	0	0	0	0
7	Hotel	0	ROOM	0	0	0	0	0	0	0
9	Regional Commercial	0	TSF	0	0	0	0	0	0	0
10a	General Commercial	-37.875	TSF	-67	-30	-98	-58	-77	-134	-1448
10b	Comm (Res-over-Retail)	0	TSF	0	0	0	0	0	0	0
11	Comm./Recreation	0	ACRE	0	0	0	0	0	0	0
13	Restaurant	0	TSF	0	0	0	0	0	0	0
15	Fast Food Restaurant	0	TSF	0	0	0	0	0	0	0
16	Auto Dealer/Sales	0	TSF	0	0	0	0	0	0	0
17	Yacht Club	0	TSF	0	0	0	0	0	0	0
18	Health Club	0	TSF	0	0	0	0	0	0	0
19	Tennis Club	0	CRT	0	0	0	0	0	0	0
20	Marina	0	SLIP	0	0	0	0	0	0	0
21	Theater	0	SEAT	0	0	0	0	0	0	0
22	Newport Dunes	0	ACRE	0	0	0	0	0	0	0
23a	General Office	0	TSF	0	0	0	0	0	0	0
23b	Office (>300K block Newport Center)	0	TSF	0	0	0	0	0	0	0
24	Medical/Government Office	0	TSF	0	0	0	0	0	0	0
25	R & D	0	TSF	0	0	0	0	0	0	0
26	Industrial	0	TSF	0	0	0	0	0	0	0
27	Mini-Storage/Warehouse	0	TSF	0	0	0	0	0	0	0
28	Pre-School/Day Care	0	TSF	0	0	0	0	0	0	0
29	Elementary/Private School	0	STU	0	0	0	0	0	0	0
30	Junior/High School	0	STU	0	0	0	0	0	0	0
31	Cultural/Learning Center	0	TSF	0	0	0	0	0	0	0
32	Library	0	TSF	0	0	0	0	0	0	0
33	Post Office	0	TSF	0	0	0	0	0	0	0
34	Hospital	0	BEDS	0	0	0	0	0	0	0
35	Nursing/Conv. Home	0	BEDS	0	0	0	0	0	0	0
36	Church	0	TSF	0	0	0	0	0	0	0
37	Youth Ctr/Service	0	TSF	0	0	0	0	0	0	0
38	Park	0	ACRE	0	0	0	0	0	0	0
39	Regional Park	0	ACRE	0	0	0	0	0	0	0
40	Golf Course	0	ACRE	0	0	0	0	0	0	0
41	Resort Golf Course	0	ACRE	0	0	0	0	0	0	0
Total				-67	-30	-98	-58	-77	-134	-1448

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⑦ Newport Coast Hotel

Table X
Model Trip Generation

NBTM Land Use Code	NBTM Land Use Description	Quantity	Units	Trips						
				AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
1a	Res-Low (SFD)-Balboa	0	DU	0	0	0	0	0	0	0
1b	Res-Low (SFD)	0	DU	0	0	0	0	0	0	0
2a	Res-Medium (SFA)-Balboa	0	DU	0	0	0	0	0	0	0
2b	Res-Medium (SFA)	0	DU	0	0	0	0	0	0	0
3a	Apartment-Balboa	0	DU	0	0	0	0	0	0	0
3b	Apartment	0	DU	0	0	0	0	0	0	0
3c	Apartment (High-Rise)	0	DU	0	0	0	0	0	0	0
3d	Apartment (Res-over-Retail)	0	DU	0	0	0	0	0	0	0
3e	Apartment (Mid-Rise Newport Center)	0	DU	0	0	0	0	0	0	0
4	Elderly Residential	0	DU	0	0	0	0	0	0	0
5a	Mobile Home-Balboa	0	DU	0	0	0	0	0	0	0
5b	Mobile Home	0	DU	0	0	0	0	0	0	0
6	Motel	0	ROOM	0	0	0	0	0	0	0
7	Hotel	-1001	ROOM	-511	-170	-681	-280	-430	-711	-7588
9	Regional Commercial	0	TSF	0	0	0	0	0	0	0
10a	General Commercial	0	TSF	0	0	0	0	0	0	0
10b	Comm (Res-over-Retail)	0	TSF	0	0	0	0	0	0	0
11	Comm./Recreation	0	ACRE	0	0	0	0	0	0	0
13	Restaurant	0	TSF	0	0	0	0	0	0	0
15	Fast Food Restaurant	0	TSF	0	0	0	0	0	0	0
16	Auto Dealer/Sales	0	TSF	0	0	0	0	0	0	0
17	Yacht Club	0	TSF	0	0	0	0	0	0	0
18	Health Club	0	TSF	0	0	0	0	0	0	0
19	Tennis Club	0	CRT	0	0	0	0	0	0	0
20	Marina	0	SLIP	0	0	0	0	0	0	0
21	Theater	0	SEAT	0	0	0	0	0	0	0
22	Newport Dunes	0	ACRE	0	0	0	0	0	0	0
23a	General Office	0	TSF	0	0	0	0	0	0	0
23b	Office (>300K block Newport Center)	0	TSF	0	0	0	0	0	0	0
24	Medical/Government Office	0	TSF	0	0	0	0	0	0	0
25	R & D	0	TSF	0	0	0	0	0	0	0
26	Industrial	0	TSF	0	0	0	0	0	0	0
27	Mini-Storage/Warehouse	0	TSF	0	0	0	0	0	0	0
28	Pre-School/Day Care	0	TSF	0	0	0	0	0	0	0
29	Elementary/Private School	0	STU	0	0	0	0	0	0	0
30	Junior/High School	0	STU	0	0	0	0	0	0	0
31	Cultural/Learning Center	0	TSF	0	0	0	0	0	0	0
32	Library	0	TSF	0	0	0	0	0	0	0
33	Post Office	0	TSF	0	0	0	0	0	0	0
34	Hospital	0	BEDS	0	0	0	0	0	0	0
35	Nursing/Conv. Home	0	BEDS	0	0	0	0	0	0	0
36	Church	0	TSF	0	0	0	0	0	0	0
37	Youth Ctr/Service	0	TSF	0	0	0	0	0	0	0
38	Park	0	ACRE	0	0	0	0	0	0	0
39	Regional Park	0	ACRE	0	0	0	0	0	0	0
40	Golf Course	0	ACRE	0	0	0	0	0	0	0
41	Resort Golf Course	0	ACRE	0	0	0	0	0	0	0
Total				-511	-170	-681	-280	-430	-711	-7588

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8) BaySide Center

Table X
Model Trip Generation

NBTM Land Use Code	NBTM Land Use Description	Quantity	Units	Trips						Daily
				AM Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total	
1a	Res-Low (SFD)-Balboa	0	DU	0	0	0	0	0	0	0
1b	Res-Low (SFD)	0	DU	0	0	0	0	0	0	0
2a	Res-Medium (SFA)-Balboa	0	DU	0	0	0	0	0	0	0
2b	Res-Medium (SFA)	0	DU	0	0	0	0	0	0	0
3a	Apartment-Balboa	0	DU	0	0	0	0	0	0	0
3b	Apartment	0	DU	0	0	0	0	0	0	0
3c	Apartment (High-Rise)	0	DU	0	0	0	0	0	0	0
3d	Apartment (Res-over-Retail)	0	DU	0	0	0	0	0	0	0
3e	Apartment (Mid-Rise Newport Center)	0	DU	0	0	0	0	0	0	0
4	Elderly Residential	0	DU	0	0	0	0	0	0	0
5a	Mobile Home-Balboa	0	DU	0	0	0	0	0	0	0
5b	Mobile Home	0	DU	0	0	0	0	0	0	0
6	Motel	0	ROOM	0	0	0	0	0	0	0
7	Hotel	0	ROOM	0	0	0	0	0	0	0
9	Regional Commercial	0	TSF	0	0	0	0	0	0	0
10a	General Commercial	-0.366	TSF	-1	0	-1	-1	-1	-1	-14
10b	Comm (Res-over-Retail)	0	TSF	0	0	0	0	0	0	0
11	Comm./Recreation	0	ACRE	0	0	0	0	0	0	0
13	Restaurant	0	TSF	0	0	0	0	0	0	0
15	Fast Food Restaurant	0	TSF	0	0	0	0	0	0	0
16	Auto Dealer/Sales	0	TSF	0	0	0	0	0	0	0
17	Yacht Club	0	TSF	0	0	0	0	0	0	0
18	Health Club	0	TSF	0	0	0	0	0	0	0
19	Tennis Club	0	CRT	0	0	0	0	0	0	0
20	Marina	0	SLIP	0	0	0	0	0	0	0
21	Theater	0	SEAT	0	0	0	0	0	0	0
22	Newport Dunes	0	ACRE	0	0	0	0	0	0	0
23a	General Office	0	TSF	0	0	0	0	0	0	0
23b	Office (>300K block Newport Center)	0	TSF	0	0	0	0	0	0	0
24	Medical/Government Office	0	TSF	0	0	0	0	0	0	0
25	R & D	0	TSF	0	0	0	0	0	0	0
26	Industrial	0	TSF	0	0	0	0	0	0	0
27	Mini-Storage/Warehouse	0	TSF	0	0	0	0	0	0	0
28	Pre-School/Day Care	0	TSF	0	0	0	0	0	0	0
29	Elementary/Private School	0	STU	0	0	0	0	0	0	0
30	Junior/High School	0	STU	0	0	0	0	0	0	0
31	Cultural/Learning Center	0	TSF	0	0	0	0	0	0	0
32	Library	0	TSF	0	0	0	0	0	0	0
33	Post Office	0	TSF	0	0	0	0	0	0	0
34	Hospital	0	BEDS	0	0	0	0	0	0	0
35	Nursing/Conv. Home	0	BEDS	0	0	0	0	0	0	0
36	Church	0	TSF	0	0	0	0	0	0	0
37	Youth Ctr/Service	0	TSF	0	0	0	0	0	0	0
38	Park	0	ACRE	0	0	0	0	0	0	0
39	Regional Park	0	ACRE	0	0	0	0	0	0	0
40	Golf Course	0	ACRE	0	0	0	0	0	0	0
41	Resort Golf Course	0	ACRE	0	0	0	0	0	0	0
Total				-1	0	-1	-1	-1	-1	-14

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9 Harbor View

Table X
Model Trip Generation

NBTM Land Use Code	NBTM Land Use Description	Quantity	Units	Trips						
				AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
1a	Res-Low (SFD)-Balboa	0	DU	0	0	0	0	0	0	0
1b	Res-Low (SFD)	0	DU	0	0	0	0	0	0	0
2a	Res-Medium (SFA)-Balboa	0	DU	0	0	0	0	0	0	0
2b	Res-Medium (SFA)	0	DU	0	0	0	0	0	0	0
3a	Apartment-Balboa	0	DU	0	0	0	0	0	0	0
3b	Apartment	0	DU	0	0	0	0	0	0	0
3c	Apartment (High-Rise)	0	DU	0	0	0	0	0	0	0
3d	Apartment (Res-over-Retail)	0	DU	0	0	0	0	0	0	0
3e	Apartment (Mid-Rise Newport Center)	0	DU	0	0	0	0	0	0	0
4	Elderly Residential	0	DU	0	0	0	0	0	0	0
5a	Mobile Home-Balboa	0	DU	0	0	0	0	0	0	0
5b	Mobile Home	0	DU	0	0	0	0	0	0	0
6	Motel	0	ROOM	0	0	0	0	0	0	0
7	Hotel	0	ROOM	0	0	0	0	0	0	0
9	Regional Commercial	0	TSF	0	0	0	0	0	0	0
10a	General Commercial	-1.857	TSF	-3	-1	-5	-3	-4	-7	-71
10b	Comm (Res-over-Retail)	0	TSF	0	0	0	0	0	0	0
11	Comm./Recreation	0	ACRE	0	0	0	0	0	0	0
13	Restaurant	0	TSF	0	0	0	0	0	0	0
15	Fast Food Restaurant	0	TSF	0	0	0	0	0	0	0
16	Auto Dealer/Sales	0	TSF	0	0	0	0	0	0	0
17	Yacht Club	0	TSF	0	0	0	0	0	0	0
18	Health Club	0	TSF	0	0	0	0	0	0	0
19	Tennis Club	0	CRT	0	0	0	0	0	0	0
20	Marina	0	SLIP	0	0	0	0	0	0	0
21	Theater	0	SEAT	0	0	0	0	0	0	0
22	Newport Dunes	0	ACRE	0	0	0	0	0	0	0
23a	General Office	0	TSF	0	0	0	0	0	0	0
23b	Office (>300K block Newport Center)	0	TSF	0	0	0	0	0	0	0
24	Medical/Government Office	0	TSF	0	0	0	0	0	0	0
25	R & D	0	TSF	0	0	0	0	0	0	0
26	Industrial	0	TSF	0	0	0	0	0	0	0
27	Mini-Storage/Warehouse	0	TSF	0	0	0	0	0	0	0
28	Pre-School/Day Care	0	TSF	0	0	0	0	0	0	0
29	Elementary/Private School	0	STU	0	0	0	0	0	0	0
30	Junior/High School	0	STU	0	0	0	0	0	0	0
31	Cultural/Learning Center	0	TSF	0	0	0	0	0	0	0
32	Library	0	TSF	0	0	0	0	0	0	0
33	Post Office	0	TSF	0	0	0	0	0	0	0
34	Hospital	0	BEDS	0	0	0	0	0	0	0
35	Nursing/Conv. Home	0	BEDS	0	0	0	0	0	0	0
36	Church	0	TSF	0	0	0	0	0	0	0
37	Youth Ctr/Service	0	TSF	0	0	0	0	0	0	0
38	Park	0	ACRE	0	0	0	0	0	0	0
39	Regional Park	0	ACRE	0	0	0	0	0	0	0
40	Golf Course	0	ACRE	0	0	0	0	0	0	0
41	Resort Golf Course	0	ACRE	0	0	0	0	0	0	0
Total				-3	-1	-5	-3	-4	-7	-71

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10 The Bluffs

Table X
Model Trip Generation

NBTM Land Use Code	NBTM Land Use Description	Quantity	Units	Trips						
				AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
1a	Res-Low (SFD)-Balboa	0	DU	0	0	0	0	0	0	0
1b	Res-Low (SFD)	0	DU	0	0	0	0	0	0	0
2a	Res-Medium (SFA)-Balboa	0	DU	0	0	0	0	0	0	0
2b	Res-Medium (SFA)	0	DU	0	0	0	0	0	0	0
3a	Apartment-Balboa	0	DU	0	0	0	0	0	0	0
3b	Apartment	0	DU	0	0	0	0	0	0	0
3c	Apartment (High-Rise)	0	DU	0	0	0	0	0	0	0
3d	Apartment (Res-over-Retail)	0	DU	0	0	0	0	0	0	0
3e	Apartment (Mid-Rise Newport Center)	0	DU	0	0	0	0	0	0	0
4	Elderly Residential	0	DU	0	0	0	0	0	0	0
5a	Mobile Home-Balboa	0	DU	0	0	0	0	0	0	0
5b	Mobile Home	0	DU	0	0	0	0	0	0	0
6	Motel	0	ROOM	0	0	0	0	0	0	0
7	Hotel	0	ROOM	0	0	0	0	0	0	0
9	Regional Commercial	0	TSF	0	0	0	0	0	0	0
10a	General Commercial	-3.538	TSF	-6	-3	-9	-5	-7	-13	-135
10b	Comm (Res-over-Retail)	0	TSF	0	0	0	0	0	0	0
11	Comm./Recreation	0	ACRE	0	0	0	0	0	0	0
13	Restaurant	0	TSF	0	0	0	0	0	0	0
15	Fast Food Restaurant	0	TSF	0	0	0	0	0	0	0
16	Auto Dealer/Sales	0	TSF	0	0	0	0	0	0	0
17	Yacht Club	0	TSF	0	0	0	0	0	0	0
18	Health Club	0	TSF	0	0	0	0	0	0	0
19	Tennis Club	0	CRT	0	0	0	0	0	0	0
20	Marina	0	SLIP	0	0	0	0	0	0	0
21	Theater	0	SEAT	0	0	0	0	0	0	0
22	Newport Dunes	0	ACRE	0	0	0	0	0	0	0
23a	General Office	0	TSF	0	0	0	0	0	0	0
23b	Office (>300K block Newport Center)	0	TSF	0	0	0	0	0	0	0
24	Medical/Government Office	0	TSF	0	0	0	0	0	0	0
25	R & D	0	TSF	0	0	0	0	0	0	0
26	Industrial	0	TSF	0	0	0	0	0	0	0
27	Mini-Storage/Warehouse	0	TSF	0	0	0	0	0	0	0
28	Pre-School/Day Care	0	TSF	0	0	0	0	0	0	0
29	Elementary/Private School	0	STU	0	0	0	0	0	0	0
30	Junior/High School	0	STU	0	0	0	0	0	0	0
31	Cultural/Learning Center	0	TSF	0	0	0	0	0	0	0
32	Library	0	TSF	0	0	0	0	0	0	0
33	Post Office	0	TSF	0	0	0	0	0	0	0
34	Hospital	0	BEDS	0	0	0	0	0	0	0
35	Nursing/Conv. Home	0	BEDS	0	0	0	0	0	0	0
36	Church	0	TSF	0	0	0	0	0	0	0
37	Youth Ctr/Service	0	TSF	0	0	0	0	0	0	0
38	Park	0	ACRE	0	0	0	0	0	0	0
39	Regional Park	0	ACRE	0	0	0	0	0	0	0
40	Golf Course	0	ACRE	0	0	0	0	0	0	0
41	Resort Golf Course	0	ACRE	0	0	0	0	0	0	0
Total				-6	-3	-9	-5	-7	-13	-135

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11 Gateway Park

Table X
Model Trip Generation

NBTM Land Use Code	NBTM Land Use Description	Quantity	Units	Trips						Daily
				AM Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total	
1a	Res-Low (SFD)-Balboa	0	DU	0	0	0	0	0	0	0
1b	Res-Low (SFD)	0	DU	0	0	0	0	0	0	0
2a	Res-Medium (SFA)-Balboa	0	DU	0	0	0	0	0	0	0
2b	Res-Medium (SFA)	0	DU	0	0	0	0	0	0	0
3a	Apartment-Balboa	0	DU	0	0	0	0	0	0	0
3b	Apartment	0	DU	0	0	0	0	0	0	0
3c	Apartment (High-Rise)	0	DU	0	0	0	0	0	0	0
3d	Apartment (Res-over-Retail)	0	DU	0	0	0	0	0	0	0
3e	Apartment (Mid-Rise Newport Center)	0	DU	0	0	0	0	0	0	0
4	Elderly Residential	0	DU	0	0	0	0	0	0	0
5a	Mobile Home-Balboa	0	DU	0	0	0	0	0	0	0
5b	Mobile Home	0	DU	0	0	0	0	0	0	0
6	Motel	0	ROOM	0	0	0	0	0	0	0
7	Hotel	0	ROOM	0	0	0	0	0	0	0
9	Regional Commercial	0	TSF	0	0	0	0	0	0	0
10a	General Commercial	-4.356	TSF	-8	-3	-11	-7	-9	-15	-167
10b	Comm (Res-over-Retail)	0	TSF	0	0	0	0	0	0	0
11	Comm./Recreation	0	ACRE	0	0	0	0	0	0	0
13	Restaurant	0	TSF	0	0	0	0	0	0	0
15	Fast Food Restaurant	0	TSF	0	0	0	0	0	0	0
16	Auto Dealer/Sales	0	TSF	0	0	0	0	0	0	0
17	Yacht Club	0	TSF	0	0	0	0	0	0	0
18	Health Club	0	TSF	0	0	0	0	0	0	0
19	Tennis Club	0	CRT	0	0	0	0	0	0	0
20	Marina	0	SLIP	0	0	0	0	0	0	0
21	Theater	0	SEAT	0	0	0	0	0	0	0
22	Newport Dunes	0	ACRE	0	0	0	0	0	0	0
23a	General Office	0	TSF	0	0	0	0	0	0	0
23b	Office (>300K block Newport Center)	0	TSF	0	0	0	0	0	0	0
24	Medical/Government Office	0	TSF	0	0	0	0	0	0	0
25	R & D	0	TSF	0	0	0	0	0	0	0
26	Industrial	0	TSF	0	0	0	0	0	0	0
27	Mini-Storage/Warehouse	0	TSF	0	0	0	0	0	0	0
28	Pre-School/Day Care	0	TSF	0	0	0	0	0	0	0
29	Elementary/Private School	0	STU	0	0	0	0	0	0	0
30	Junior/High School	0	STU	0	0	0	0	0	0	0
31	Cultural/Learning Center	0	TSF	0	0	0	0	0	0	0
32	Library	0	TSF	0	0	0	0	0	0	0
33	Post Office	0	TSF	0	0	0	0	0	0	0
34	Hospital	0	BEDS	0	0	0	0	0	0	0
35	Nursing/Conv. Home	0	BEDS	0	0	0	0	0	0	0
36	Church	0	TSF	0	0	0	0	0	0	0
37	Youth Ctr/Service	0	TSF	0	0	0	0	0	0	0
38	Park	0	ACRE	0	0	0	0	0	0	0
39	Regional Park	0	ACRE	0	0	0	0	0	0	0
40	Golf Course	0	ACRE	0	0	0	0	0	0	0
41	Resort Golf Course	0	ACRE	0	0	0	0	0	0	0
Total				-8	-3	-11	-7	-9	-15	-167

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Table X
Model Trip Generation

NBTM Land Use Code	NBTM Land Use Description	Quantity	Units	Trips						Daily
				AM Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total	
1a	Res-Low (SFD)-Balboa	0	DU	0	0	0	0	0	0	0
1b	Res-Low (SFD)	0	DU	0	0	0	0	0	0	0
2a	Res-Medium (SFA)-Balboa	0	DU	0	0	0	0	0	0	0
2b	Res-Medium (SFA)	0	DU	0	0	0	0	0	0	0
3a	Apartment-Balboa	0	DU	0	0	0	0	0	0	0
3b	Apartment	-6	DU	-1	-3	-4	-2	-1	-3	-37
3c	Apartment (High-Rise)	0	DU	0	0	0	0	0	0	0
3d	Apartment (Res-over-Retail)	0	DU	0	0	0	0	0	0	0
3e	Apartment (Mid-Rise Newport Center)	0	DU	0	0	0	0	0	0	0
4	Elderly Residential	0	DU	0	0	0	0	0	0	0
5a	Mobile Home-Balboa	0	DU	0	0	0	0	0	0	0
5b	Mobile Home	0	DU	0	0	0	0	0	0	0
6	Motel	0	ROOM	0	0	0	0	0	0	0
7	Hotel	0	ROOM	0	0	0	0	0	0	0
9	Regional Commercial	0	TSF	0	0	0	0	0	0	0
10a	General Commercial	7.524	TSF	13	6	19	12	15	27	288
10b	Comm (Res-over-Retail)	0	TSF	0	0	0	0	0	0	0
11	Comm./Recreation	0	ACRE	0	0	0	0	0	0	0
13	Restaurant	0	TSF	0	0	0	0	0	0	0
15	Fast Food Restaurant	0	TSF	0	0	0	0	0	0	0
16	Auto Dealer/Sales	0	TSF	0	0	0	0	0	0	0
17	Yacht Club	0	TSF	0	0	0	0	0	0	0
18	Health Club	0	TSF	0	0	0	0	0	0	0
19	Tennis Club	0	CRT	0	0	0	0	0	0	0
20	Marina	0	SLIP	0	0	0	0	0	0	0
21	Theater	0	SEAT	0	0	0	0	0	0	0
22	Newport Dunes	0	ACRE	0	0	0	0	0	0	0
23a	General Office	0	TSF	0	0	0	0	0	0	0
23b	Office (>300K block Newport Center)	0	TSF	0	0	0	0	0	0	0
24	Medical/Government Office	0	TSF	0	0	0	0	0	0	0
25	R & D	0	TSF	0	0	0	0	0	0	0
26	Industrial	0	TSF	0	0	0	0	0	0	0
27	Mini-Storage/Warehouse	0	TSF	0	0	0	0	0	0	0
28	Pre-School/Day Care	0	TSF	0	0	0	0	0	0	0
29	Elementary/Private School	0	STU	0	0	0	0	0	0	0
30	Junior/High School	0	STU	0	0	0	0	0	0	0
31	Cultural/Learning Center	0	TSF	0	0	0	0	0	0	0
32	Library	0	TSF	0	0	0	0	0	0	0
33	Post Office	0	TSF	0	0	0	0	0	0	0
34	Hospital	0	BEDS	0	0	0	0	0	0	0
35	Nursing/Conv. Home	0	BEDS	0	0	0	0	0	0	0
36	Church	0	TSF	0	0	0	0	0	0	0
37	Youth Ctr/Service	0	TSF	0	0	0	0	0	0	0
38	Park	0	ACRE	0	0	0	0	0	0	0
39	Regional Park	0	ACRE	0	0	0	0	0	0	0
40	Golf Course	0	ACRE	0	0	0	0	0	0	0
41	Resort Golf Course	0	ACRE	0	0	0	0	0	0	0
Total				12	3	15	10	14	24	251

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② 813 E. Balboa

Table X
Model Trip Generation

NBTM Land Use Code	NBTM Land Use Description	Quantity	Units	Trips						
				AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
1a	Res-Low (SFD)-Balboa	0	DU	0	0	0	0	0	0	0
1b	Res-Low (SFD)	0	DU	0	0	0	0	0	0	0
2a	Res-Medium (SFA)-Balboa	-2	DU	0	-1	-1	-1	0	-1	-11
2b	Res-Medium (SFA)	0	DU	0	0	0	0	0	0	0
3a	Apartment-Balboa	0	DU	0	0	0	0	0	0	0
3b	Apartment	0	DU	0	0	0	0	0	0	0
3c	Apartment (High-Rise)	0	DU	0	0	0	0	0	0	0
3d	Apartment (Res-over-Retail)	2	DU	0	1	1	1	0	1	11
3e	Apartment (Mid-Rise Newport Center)	0	DU	0	0	0	0	0	0	0
4	Elderly Residential	0	DU	0	0	0	0	0	0	0
5a	Mobile Home-Balboa	0	DU	0	0	0	0	0	0	0
5b	Mobile Home	0	DU	0	0	0	0	0	0	0
6	Motel	0	ROOM	0	0	0	0	0	0	0
7	Hotel	0	ROOM	0	0	0	0	0	0	0
9	Regional Commercial	0	TSF	0	0	0	0	0	0	0
10a	General Commercial	0	TSF	0	0	0	0	0	0	0
10b	Comm (Res-over-Retail)	1.917	TSF	3	1	4	3	3	6	65
11	Comm./Recreation	0	ACRE	0	0	0	0	0	0	0
13	Restaurant	0	TSF	0	0	0	0	0	0	0
15	Fast Food Restaurant	0	TSF	0	0	0	0	0	0	0
16	Auto Dealer/Sales	0	TSF	0	0	0	0	0	0	0
17	Yacht Club	0	TSF	0	0	0	0	0	0	0
18	Health Club	0	TSF	0	0	0	0	0	0	0
19	Tennis Club	0	CRT	0	0	0	0	0	0	0
20	Marina	0	SLIP	0	0	0	0	0	0	0
21	Theater	0	SEAT	0	0	0	0	0	0	0
22	Newport Dunes	0	ACRE	0	0	0	0	0	0	0
23a	General Office	0	TSF	0	0	0	0	0	0	0
23b	Office (>300K block Newport Center)	0	TSF	0	0	0	0	0	0	0
24	Medical/Government Office	0	TSF	0	0	0	0	0	0	0
25	R & D	0	TSF	0	0	0	0	0	0	0
26	Industrial	0	TSF	0	0	0	0	0	0	0
27	Mini-Storage/Warehouse	0	TSF	0	0	0	0	0	0	0
28	Pre-School/Day Care	0	TSF	0	0	0	0	0	0	0
29	Elementary/Private School	0	STU	0	0	0	0	0	0	0
30	Junior/High School	0	STU	0	0	0	0	0	0	0
31	Cultural/Learning Center	0	TSF	0	0	0	0	0	0	0
32	Library	0	TSF	0	0	0	0	0	0	0
33	Post Office	0	TSF	0	0	0	0	0	0	0
34	Hospital	0	BEDS	0	0	0	0	0	0	0
35	Nursing/Conv. Home	0	BEDS	0	0	0	0	0	0	0
36	Church	0	TSF	0	0	0	0	0	0	0
37	Youth Ctr/Service	0	TSF	0	0	0	0	0	0	0
38	Park	0	ACRE	0	0	0	0	0	0	0
39	Regional Park	0	ACRE	0	0	0	0	0	0	0
40	Golf Course	0	ACRE	0	0	0	0	0	0	0
41	Resort Golf Course	0	ACRE	0	0	0	0	0	0	0
Total				3	1	4	3	3	6	65

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Newport Center /
Fashion Island

Table X
Model Trip Generation

NBTM Land Use Code	NBTM Land Use Description	Quantity	Units	Trips						
				AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
1a	Res-Low (SFD)-Balboa	0	DU	0	0	0	0	0	0	0
1b	Res-Low (SFD)	0	DU	0	0	0	0	0	0	0
2a	Res-Medium (SFA)-Balboa	0	DU	0	0	0	0	0	0	0
2b	Res-Medium (SFA)	0	DU	0	0	0	0	0	0	0
3a	Apartment-Balboa	0	DU	0	0	0	0	0	0	0
3b	Apartment	0	DU	0	0	0	0	0	0	0
3c	Apartment (High-Rise)	0	DU	0	0	0	0	0	0	0
3d	Apartment (Res-over-Retail)	0	DU	0	0	0	0	0	0	0
3e	Apartment (Mid-Rise Newport Center)	500	DU	45	190	235	140	80	220	2415
4	Elderly Residential	0	DU	0	0	0	0	0	0	0
5a	Mobile Home-Balboa	0	DU	0	0	0	0	0	0	0
5b	Mobile Home	0	DU	0	0	0	0	0	0	0
6	Motel	0	ROOM	0	0	0	0	0	0	0
7	Hotel	0	ROOM	0	0	0	0	0	0	0
9	Regional Commercial	50	TSF	57	25	82	47	63	109	1174
10a	General Commercial	0	TSF	0	0	0	0	0	0	0
10b	Comm (Res-over-Retail)	0	TSF	0	0	0	0	0	0	0
11	Comm./Recreation	0	ACRE	0	0	0	0	0	0	0
13	Restaurant	0	TSF	0	0	0	0	0	0	0
15	Fast Food Restaurant	0	TSF	0	0	0	0	0	0	0
16	Auto Dealer/Sales	0	TSF	0	0	0	0	0	0	0
17	Yacht Club	0	TSF	0	0	0	0	0	0	0
18	Health Club	0	TSF	0	0	0	0	0	0	0
19	Tennis Club	0	CRT	0	0	0	0	0	0	0
20	Marina	0	SLIP	0	0	0	0	0	0	0
21	Theater	0	SEAT	0	0	0	0	0	0	0
22	Newport Dunes	0	ACRE	0	0	0	0	0	0	0
23a	General Office	175	TSF	147	46	193	68	114	182	1939
23b	Office (>300K block Newport Center)	325	TSF	247	75	322	114	192	306	3240
24	Medical/Government Office	0	TSF	0	0	0	0	0	0	0
25	R & D	0	TSF	0	0	0	0	0	0	0
26	Industrial	0	TSF	0	0	0	0	0	0	0
27	Mini-Storage/Warehouse	0	TSF	0	0	0	0	0	0	0
28	Pre-School/Day Care	0	TSF	0	0	0	0	0	0	0
29	Elementary/Private School	0	STU	0	0	0	0	0	0	0
30	Junior/High School	0	STU	0	0	0	0	0	0	0
31	Cultural/Learning Center	0	TSF	0	0	0	0	0	0	0
32	Library	0	TSF	0	0	0	0	0	0	0
33	Post Office	0	TSF	0	0	0	0	0	0	0
34	Hospital	0	BEDS	0	0	0	0	0	0	0
35	Nursing/Conv. Home	0	BEDS	0	0	0	0	0	0	0
36	Church	0	TSF	0	0	0	0	0	0	0
37	Youth Ctr/Service	0	TSF	0	0	0	0	0	0	0
38	Park	0	ACRE	0	0	0	0	0	0	0
39	Regional Park	0	ACRE	0	0	0	0	0	0	0
40	Golf Course	0	ACRE	0	0	0	0	0	0	0
41	Resort Golf Course	0	ACRE	0	0	0	0	0	0	0
Total				496	336	832	369	449	817	8768

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Table X
Model Trip Generation

NBTM Land Use Code	NBTM Land Use Description	Quantity	Units	Trips						
				AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
1a	Res-Low (SFD)-Balboa	0	DU	0	0	0	0	0	0	0
1b	Res-Low (SFD)	0	DU	0	0	0	0	0	0	0
2a	Res-Medium (SFA)-Balboa	0	DU	0	0	0	0	0	0	0
2b	Res-Medium (SFA)	0	DU	0	0	0	0	0	0	0
3a	Apartment-Balboa	0	DU	0	0	0	0	0	0	0
3b	Apartment	0	DU	0	0	0	0	0	0	0
3c	Apartment (High-Rise)	0	DU	0	0	0	0	0	0	0
3d	Apartment (Res-over-Retail)	0	DU	0	0	0	0	0	0	0
3e	Apartment (Mid-Rise Newport Center)	0	DU	0	0	0	0	0	0	0
4	Elderly Residential	0	DU	0	0	0	0	0	0	0
5a	Mobile Home-Balboa	0	DU	0	0	0	0	0	0	0
5b	Mobile Home	0	DU	0	0	0	0	0	0	0
6	Motel	0	ROOM	0	0	0	0	0	0	0
7	Hotel	0	ROOM	0	0	0	0	0	0	0
9	Regional Commercial	0	TSF	0	0	0	0	0	0	0
10a	General Commercial	0	TSF	0	0	0	0	0	0	0
10b	Comm (Res-over-Retail)	0	TSF	0	0	0	0	0	0	0
11	Comm./Recreation	0	ACRE	0	0	0	0	0	0	0
13	Restaurant	0	TSF	0	0	0	0	0	0	0
15	Fast Food Restaurant	0	TSF	0	0	0	0	0	0	0
16	Auto Dealer/Sales	0	TSF	0	0	0	0	0	0	0
17	Yacht Club	0	TSF	0	0	0	0	0	0	0
18	Health Club	0	TSF	0	0	0	0	0	0	0
19	Tennis Club	0	CRT	0	0	0	0	0	0	0
20	Marina	0	SLIP	0	0	0	0	0	0	0
21	Theater	0	SEAT	0	0	0	0	0	0	0
22	Newport Dunes	0	ACRE	0	0	0	0	0	0	0
23a	General Office	0	TSF	0	0	0	0	0	0	0
23b	Office (>300K block Newport Center)	0	TSF	0	0	0	0	0	0	0
24	Medical/Government Office	0	TSF	0	0	0	0	0	0	0
25	R & D	0	TSF	0	0	0	0	0	0	0
26	Industrial	0	TSF	0	0	0	0	0	0	0
27	Mini-Storage/Warehouse	0	TSF	0	0	0	0	0	0	0
28	Pre-School/Day Care	0	TSF	0	0	0	0	0	0	0
29	Elementary/Private School	72	STU	13	1	14	3	5	8	94
30	Junior/High School	0	STU	0	0	0	0	0	0	0
31	Cultural/Learning Center	0	TSF	0	0	0	0	0	0	0
32	Library	0	TSF	0	0	0	0	0	0	0
33	Post Office	0	TSF	0	0	0	0	0	0	0
34	Hospital	0	BEDS	0	0	0	0	0	0	0
35	Nursing/Conv. Home	0	BEDS	0	0	0	0	0	0	0
36	Church	0	TSF	0	0	0	0	0	0	0
37	Youth Ctr/Service	0	TSF	0	0	0	0	0	0	0
38	Park	0	ACRE	0	0	0	0	0	0	0
39	Regional Park	0	ACRE	0	0	0	0	0	0	0
40	Golf Course	0	ACRE	0	0	0	0	0	0	0
41	Resort Golf Course	0	ACRE	0	0	0	0	0	0	0
Total				13	1	14	3	5	8	94

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4) Saunders

Table X
Model Trip Generation

NBTM Land Use Code	NBTM Land Use Description	Quantity	Units	Trips						
				AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
1a	Res-Low (SFD)-Balboa	0	DU	0	0	0	0	0	0	0
1b	Res-Low (SFD)	0	DU	0	0	0	0	0	0	0
2a	Res-Medium (SFA)-Balboa	0	DU	0	0	0	0	0	0	0
2b	Res-Medium (SFA)	0	DU	0	0	0	0	0	0	0
3a	Apartment-Balboa	0	DU	0	0	0	0	0	0	0
3b	Apartment	329	DU	39	158	197	118	66	184	2013
3c	Apartment (High-Rise)	0	DU	0	0	0	0	0	0	0
3d	Apartment (Res-over-Retail)	0	DU	0	0	0	0	0	0	0
3e	Apartment (Mid-Rise Newport Center)	0	DU	0	0	0	0	0	0	0
4	Elderly Residential	0	DU	0	0	0	0	0	0	0
5a	Mobile Home-Balboa	0	DU	0	0	0	0	0	0	0
5b	Mobile Home	0	DU	0	0	0	0	0	0	0
6	Motel	0	ROOM	0	0	0	0	0	0	0
7	Hotel	0	ROOM	0	0	0	0	0	0	0
9	Regional Commercial	0	TSF	0	0	0	0	0	0	0
10a	General Commercial	0	TSF	0	0	0	0	0	0	0
10b	Comm (Res-over-Retail)	0	TSF	0	0	0	0	0	0	0
11	Comm./Recreation	0	ACRE	0	0	0	0	0	0	0
13	Restaurant	0	TSF	0	0	0	0	0	0	0
15	Fast Food Restaurant	0	TSF	0	0	0	0	0	0	0
16	Auto Dealer/Sales	0	TSF	0	0	0	0	0	0	0
17	Yacht Club	0	TSF	0	0	0	0	0	0	0
18	Health Club	0	TSF	0	0	0	0	0	0	0
19	Tennis Club	0	CRT	0	0	0	0	0	0	0
20	Marina	0	SLIP	0	0	0	0	0	0	0
21	Theater	0	SEAT	0	0	0	0	0	0	0
22	Newport Dunes	0	ACRE	0	0	0	0	0	0	0
23a	General Office	238.077	TSF	200	62	262	93	155	248	2638
23b	Office (>300K block Newport Center)	0	TSF	0	0	0	0	0	0	0
24	Medical/Government Office	0	TSF	0	0	0	0	0	0	0
25	R & D	0	TSF	0	0	0	0	0	0	0
26	Industrial	0	TSF	0	0	0	0	0	0	0
27	Mini-Storage/Warehouse	0	TSF	0	0	0	0	0	0	0
28	Pre-School/Day Care	0	TSF	0	0	0	0	0	0	0
29	Elementary/Private School	0	STU	0	0	0	0	0	0	0
30	Junior/High School	0	STU	0	0	0	0	0	0	0
31	Cultural/Learning Center	0	TSF	0	0	0	0	0	0	0
32	Library	0	TSF	0	0	0	0	0	0	0
33	Post Office	0	TSF	0	0	0	0	0	0	0
34	Hospital	0	BEDS	0	0	0	0	0	0	0
35	Nursing/Conv. Home	0	BEDS	0	0	0	0	0	0	0
36	Church	0	TSF	0	0	0	0	0	0	0
37	Youth Ctr/Service	0	TSF	0	0	0	0	0	0	0
38	Park	0	ACRE	0	0	0	0	0	0	0
39	Regional Park	0	ACRE	0	0	0	0	0	0	0
40	Golf Course	0	ACRE	0	0	0	0	0	0	0
41	Resort Golf Course	0	ACRE	0	0	0	0	0	0	0
Total				239	220	459	211	221	432	4651

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④ Hangars

**Table X
Model Trip Generation**

NBTM Land Use Code	NBTM Land Use Description	Quantity	Units	Trips						Daily
				AM Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total	
1a	Res-Low (SFD)-Balboa	0	DU	0	0	0	0	0	0	0
1b	Res-Low (SFD)	0	DU	0	0	0	0	0	0	0
2a	Res-Medium (SFA)-Balboa	0	DU	0	0	0	0	0	0	0
2b	Res-Medium (SFA)	0	DU	0	0	0	0	0	0	0
3a	Apartment-Balboa	0	DU	0	0	0	0	0	0	0
3b	Apartment	0	DU	0	0	0	0	0	0	0
3c	Apartment (High-Rise)	0	DU	0	0	0	0	0	0	0
3d	Apartment (Res-over-Retail)	0	DU	0	0	0	0	0	0	0
3e	Apartment (Mid-Rise Newport Center)	0	DU	0	0	0	0	0	0	0
4	Elderly Residential	0	DU	0	0	0	0	0	0	0
5a	Mobile Home-Balboa	0	DU	0	0	0	0	0	0	0
5b	Mobile Home	0	DU	0	0	0	0	0	0	0
6	Motel	0	ROOM	0	0	0	0	0	0	0
7	Hotel	0	ROOM	0	0	0	0	0	0	0
9	Regional Commercial	0	TSF	0	0	0	0	0	0	0
10a	General Commercial	11.8	TSF	21	9	31	18	24	42	451
10b	Comm (Res-over-Retail)	0	TSF	0	0	0	0	0	0	0
11	Comm./Recreation	0	ACRE	0	0	0	0	0	0	0
13	Restaurant	0	TSF	0	0	0	0	0	0	0
15	Fast Food Restaurant	0	TSF	0	0	0	0	0	0	0
16	Auto Dealer/Sales	0	TSF	0	0	0	0	0	0	0
17	Yacht Club	0	TSF	0	0	0	0	0	0	0
18	Health Club	0	TSF	0	0	0	0	0	0	0
19	Tennis Club	0	CRT	0	0	0	0	0	0	0
20	Marina	0	SLIP	0	0	0	0	0	0	0
21	Theater	0	SEAT	0	0	0	0	0	0	0
22	Newport Dunes	0	ACRE	0	0	0	0	0	0	0
23a	General Office	-10	TSF	-8	-3	-11	-4	-7	-10	-111
23b	Office (>300K block Newport Center)	0	TSF	0	0	0	0	0	0	0
24	Medical/Government Office	0	TSF	0	0	0	0	0	0	0
25	R & D	0	TSF	0	0	0	0	0	0	0
26	Industrial	0	TSF	0	0	0	0	0	0	0
27	Mini-Storage/Warehouse	0	TSF	0	0	0	0	0	0	0
28	Pre-School/Day Care	0	TSF	0	0	0	0	0	0	0
29	Elementary/Private School	0	STU	0	0	0	0	0	0	0
30	Junior/High School	0	STU	0	0	0	0	0	0	0
31	Cultural/Learning Center	0	TSF	0	0	0	0	0	0	0
32	Library	0	TSF	0	0	0	0	0	0	0
33	Post Office	0	TSF	0	0	0	0	0	0	0
34	Hospital	0	BEDS	0	0	0	0	0	0	0
35	Nursing/Conv. Home	0	BEDS	0	0	0	0	0	0	0
36	Church	0	TSF	0	0	0	0	0	0	0
37	Youth Ctr/Service	0	TSF	0	0	0	0	0	0	0
38	Park	0	ACRE	0	0	0	0	0	0	0
39	Regional Park	0	ACRE	0	0	0	0	0	0	0
40	Golf Course	0	ACRE	0	0	0	0	0	0	0
41	Resort Golf Course	0	ACRE	0	0	0	0	0	0	0
Total				13	6	20	14	17	32	340

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4
Lyon

Table X
Model Trip Generation

NBTM Land Use Code	NBTM Land Use Description	Quantity	Units	Trips						
				AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
1a	Res-Low (SFD)-Balboa	0	DU	0	0	0	0	0	0	0
1b	Res-Low (SFD)	0	DU	0	0	0	0	0	0	0
2a	Res-Medium (SFA)-Balboa	0	DU	0	0	0	0	0	0	0
2b	Res-Medium (SFA)	0	DU	0	0	0	0	0	0	0
3a	Apartment-Balboa	0	DU	0	0	0	0	0	0	0
3b	Apartment	0	DU	0	0	0	0	0	0	0
3c	Apartment (High-Rise)	850	DU	85	323	408	247	136	383	4165
3d	Apartment (Res-over-Retail)	0	DU	0	0	0	0	0	0	0
3e	Apartment (Mid-Rise Newport Center)	0	DU	0	0	0	0	0	0	0
4	Elderly Residential	0	DU	0	0	0	0	0	0	0
5a	Mobile Home-Balboa	0	DU	0	0	0	0	0	0	0
5b	Mobile Home	0	DU	0	0	0	0	0	0	0
6	Motel	0	ROOM	0	0	0	0	0	0	0
7	Hotel	150	ROOM	77	26	102	42	65	107	1137
9	Regional Commercial	0	TSF	0	0	0	0	0	0	0
10a	General Commercial	85	TSF	151	68	220	130	172	302	3250
10b	Comm (Res-over-Retail)	0	TSF	0	0	0	0	0	0	0
11	Comm./Recreation	0	ACRE	0	0	0	0	0	0	0
13	Restaurant	0	TSF	0	0	0	0	0	0	0
15	Fast Food Restaurant	0	TSF	0	0	0	0	0	0	0
16	Auto Dealer/Sales	0	TSF	0	0	0	0	0	0	0
17	Yacht Club	0	TSF	0	0	0	0	0	0	0
18	Health Club	0	TSF	0	0	0	0	0	0	0
19	Tennis Club	0	CRT	0	0	0	0	0	0	0
20	Marina	0	SLIP	0	0	0	0	0	0	0
21	Theater	0	SEAT	0	0	0	0	0	0	0
22	Newport Dunes	0	ACRE	0	0	0	0	0	0	0
23a	General Office	-250.176	TSF	-210	-65	-275	-98	-163	-260	-2772
23b	Office (>300K block Newport Center)	0	TSF	0	0	0	0	0	0	0
24	Medical/Government Office	0	TSF	0	0	0	0	0	0	0
25	R & D	0	TSF	0	0	0	0	0	0	0
26	Industrial	0	TSF	0	0	0	0	0	0	0
27	Mini-Storage/Warehouse	0	TSF	0	0	0	0	0	0	0
28	Pre-School/Day Care	0	TSF	0	0	0	0	0	0	0
29	Elementary/Private School	0	STU	0	0	0	0	0	0	0
30	Junior/High School	0	STU	0	0	0	0	0	0	0
31	Cultural/Learning Center	0	TSF	0	0	0	0	0	0	0
32	Library	0	TSF	0	0	0	0	0	0	0
33	Post Office	0	TSF	0	0	0	0	0	0	0
34	Hospital	0	BEDS	0	0	0	0	0	0	0
35	Nursing/Conv. Home	0	BEDS	0	0	0	0	0	0	0
36	Church	0	TSF	0	0	0	0	0	0	0
37	Youth Ctr/Service	0	TSF	0	0	0	0	0	0	0
38	Park	0	ACRE	0	0	0	0	0	0	0
39	Regional Park	0	ACRE	0	0	0	0	0	0	0
40	Golf Course	0	ACRE	0	0	0	0	0	0	0
41	Resort Golf Course	0	ACRE	0	0	0	0	0	0	0
Total				103	352	455	321	210	532	5780

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Newport Ridge

Table X
Model Trip Generation

NBTM Land Use Code	NBTM Land Use Description	Quantity	Units	Trips						
				AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
1a	Res-Low (SFD)-Balboa	0	DU	0	0	0	0	0	0	0
1b	Res-Low (SFD)	0	DU	0	0	0	0	0	0	0
2a	Res-Medium (SFA)-Balboa	0	DU	0	0	0	0	0	0	0
2b	Res-Medium (SFA)	-356	DU	-46	-196	-242	-142	-75	-217	-2371
3a	Apartment-Balboa	0	DU	0	0	0	0	0	0	0
3b	Apartment	0	DU	0	0	0	0	0	0	0
3c	Apartment (High-Rise)	0	DU	0	0	0	0	0	0	0
3d	Apartment (Res-over-Retail)	0	DU	0	0	0	0	0	0	0
3e	Apartment (Mid-Rise Newport Center)	0	DU	0	0	0	0	0	0	0
4	Elderly Residential	0	DU	0	0	0	0	0	0	0
5a	Mobile Home-Balboa	0	DU	0	0	0	0	0	0	0
5b	Mobile Home	0	DU	0	0	0	0	0	0	0
6	Motel	0	ROOM	0	0	0	0	0	0	0
7	Hotel	0	ROOM	0	0	0	0	0	0	0
9	Regional Commercial	0	TSF	0	0	0	0	0	0	0
10a	General Commercial	0	TSF	0	0	0	0	0	0	0
10b	Comm (Res-over-Retail)	0	TSF	0	0	0	0	0	0	0
11	Comm./Recreation	0	ACRE	0	0	0	0	0	0	0
13	Restaurant	0	TSF	0	0	0	0	0	0	0
15	Fast Food Restaurant	0	TSF	0	0	0	0	0	0	0
16	Auto Dealer/Sales	0	TSF	0	0	0	0	0	0	0
17	Yacht Club	0	TSF	0	0	0	0	0	0	0
18	Health Club	0	TSF	0	0	0	0	0	0	0
19	Tennis Club	0	CRT	0	0	0	0	0	0	0
20	Marina	0	SLIP	0	0	0	0	0	0	0
21	Theater	0	SEAT	0	0	0	0	0	0	0
22	Newport Dunes	0	ACRE	0	0	0	0	0	0	0
23a	General Office	0	TSF	0	0	0	0	0	0	0
23b	Office (>300K block Newport Center)	0	TSF	0	0	0	0	0	0	0
24	Medical/Government Office	0	TSF	0	0	0	0	0	0	0
25	R & D	0	TSF	0	0	0	0	0	0	0
26	Industrial	0	TSF	0	0	0	0	0	0	0
27	Mini-Storage/Warehouse	0	TSF	0	0	0	0	0	0	0
28	Pre-School/Day Care	0	TSF	0	0	0	0	0	0	0
29	Elementary/Private School	0	STU	0	0	0	0	0	0	0
30	Junior/High School	0	STU	0	0	0	0	0	0	0
31	Cultural/Learning Center	0	TSF	0	0	0	0	0	0	0
32	Library	0	TSF	0	0	0	0	0	0	0
33	Post Office	0	TSF	0	0	0	0	0	0	0
34	Hospital	0	BEDS	0	0	0	0	0	0	0
35	Nursing/Conv. Home	0	BEDS	0	0	0	0	0	0	0
36	Church	0	TSF	0	0	0	0	0	0	0
37	Youth Ctr/Service	0	TSF	0	0	0	0	0	0	0
38	Park	0	ACRE	0	0	0	0	0	0	0
39	Regional Park	0	ACRE	0	0	0	0	0	0	0
40	Golf Course	0	ACRE	0	0	0	0	0	0	0
41	Resort Golf Course	0	ACRE	0	0	0	0	0	0	0
Total				-46	-196	-242	-142	-75	-217	-2371

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Table X
Model Trip Generation

NBTM Land Use Code	NBTM Land Use Description	Quantity	Units	Trips						
				AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
1a	Res-Low (SFD)-Balboa	0	DU	0	0	0	0	0	0	0
1b	Res-Low (SFD)	0	DU	0	0	0	0	0	0	0
2a	Res-Medium (SFA)-Balboa	0	DU	0	0	0	0	0	0	0
2b	Res-Medium (SFA)	0	DU	0	0	0	0	0	0	0
3a	Apartment-Balboa	0	DU	0	0	0	0	0	0	0
3b	Apartment	0	DU	0	0	0	0	0	0	0
3c	Apartment (High-Rise)	0	DU	0	0	0	0	0	0	0
3d	Apartment (Res-over-Retail)	0	DU	0	0	0	0	0	0	0
3e	Apartment (Mid-Rise Newport Center)	0	DU	0	0	0	0	0	0	0
4	Elderly Residential	0	DU	0	0	0	0	0	0	0
5a	Mobile Home-Balboa	0	DU	0	0	0	0	0	0	0
5b	Mobile Home	0	DU	0	0	0	0	0	0	0
6	Motel	0	ROOM	0	0	0	0	0	0	0
7	Hotel	125	ROOM	64	21	85	35	54	89	948
9	Regional Commercial	0	TSF	0	0	0	0	0	0	0
10a	General Commercial	-8.5	TSF	-15	-7	-22	-13	-17	-30	-325
10b	Comm (Res-over-Retail)	0	TSF	0	0	0	0	0	0	0
11	Comm./Recreation	0	ACRE	0	0	0	0	0	0	0
13	Restaurant	0	TSF	0	0	0	0	0	0	0
15	Fast Food Restaurant	0	TSF	0	0	0	0	0	0	0
16	Auto Dealer/Sales	0	TSF	0	0	0	0	0	0	0
17	Yacht Club	0	TSF	0	0	0	0	0	0	0
18	Health Club	0	TSF	0	0	0	0	0	0	0
19	Tennis Club	0	CRT	0	0	0	0	0	0	0
20	Marina	0	SLIP	0	0	0	0	0	0	0
21	Theater	0	SEAT	0	0	0	0	0	0	0
22	Newport Dunes	0	ACRE	0	0	0	0	0	0	0
23a	General Office	0	TSF	0	0	0	0	0	0	0
23b	Office (>300K block Newport Center)	0	TSF	0	0	0	0	0	0	0
24	Medical/Government Office	0	TSF	0	0	0	0	0	0	0
25	R & D	0	TSF	0	0	0	0	0	0	0
26	Industrial	0	TSF	0	0	0	0	0	0	0
27	Mini-Storage/Warehouse	0	TSF	0	0	0	0	0	0	0
28	Pre-School/Day Care	0	TSF	0	0	0	0	0	0	0
29	Elementary/Private School	0	STU	0	0	0	0	0	0	0
30	Junior/High School	0	STU	0	0	0	0	0	0	0
31	Cultural/Learning Center	0	TSF	0	0	0	0	0	0	0
32	Library	0	TSF	0	0	0	0	0	0	0
33	Post Office	0	TSF	0	0	0	0	0	0	0
34	Hospital	0	BEDS	0	0	0	0	0	0	0
35	Nursing/Conv. Home	0	BEDS	0	0	0	0	0	0	0
36	Church	0	TSF	0	0	0	0	0	0	0
37	Youth Ctr/Service	0	TSF	0	0	0	0	0	0	0
38	Park	0	ACRE	0	0	0	0	0	0	0
39	Regional Park	0	ACRE	0	0	0	0	0	0	0
40	Golf Course	0	ACRE	0	0	0	0	0	0	0
41	Resort Golf Course	0	ACRE	0	0	0	0	0	0	0
Total				49	14	63	22	37	59	623

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100 Newport Center

Table X
Model Trip Generation

NBTM Land Use Code	NBTM Land Use Description	Quantity	Units	Trips						
				AM Peak Hour			PM Peak Hour			Daily
				In	Out	Total	In	Out	Total	
1a	Res-Low (SFD)-Balboa	0	DU	0	0	0	0	0	0	0
1b	Res-Low (SFD)	0	DU	0	0	0	0	0	0	0
2a	Res-Medium (SFA)-Balboa	0	DU	0	0	0	0	0	0	0
2b	Res-Medium (SFA)	0	DU	0	0	0	0	0	0	0
3a	Apartment-Balboa	0	DU	0	0	0	0	0	0	0
3b	Apartment	0	DU	0	0	0	0	0	0	0
3c	Apartment (High-Rise)	0	DU	0	0	0	0	0	0	0
3d	Apartment (Res-over-Retail)	0	DU	0	0	0	0	0	0	0
3e	Apartment (Mid-Rise Newport Center)	0	DU	0	0	0	0	0	0	0
4	Elderly Residential	0	DU	0	0	0	0	0	0	0
5a	Mobile Home-Balboa	0	DU	0	0	0	0	0	0	0
5b	Mobile Home	0	DU	0	0	0	0	0	0	0
6	Motel	0	ROOM	0	0	0	0	0	0	0
7	Hotel	0	ROOM	0	0	0	0	0	0	0
9	Regional Commercial	15	TSF	17	7	25	14	19	33	352
10a	General Commercial	0	TSF	0	0	0	0	0	0	0
10b	Comm (Res-over-Retail)	0	TSF	0	0	0	0	0	0	0
11	Comm./Recreation	0	ACRE	0	0	0	0	0	0	0
13	Restaurant	0	TSF	0	0	0	0	0	0	0
15	Fast Food Restaurant	0	TSF	0	0	0	0	0	0	0
16	Auto Dealer/Sales	0	TSF	0	0	0	0	0	0	0
17	Yacht Club	0	TSF	0	0	0	0	0	0	0
18	Health Club	0	TSF	0	0	0	0	0	0	0
19	Tennis Club	0	CRT	0	0	0	0	0	0	0
20	Marina	0	SLIP	0	0	0	0	0	0	0
21	Theater	0	SEAT	0	0	0	0	0	0	0
22	Newport Dunes	0	ACRE	0	0	0	0	0	0	0
23a	General Office	0	TSF	0	0	0	0	0	0	0
23b	Office (>300K block Newport Center)	0	TSF	0	0	0	0	0	0	0
24	Medical/Government Office	0	TSF	0	0	0	0	0	0	0
25	R & D	0	TSF	0	0	0	0	0	0	0
26	Industrial	0	TSF	0	0	0	0	0	0	0
27	Mini-Storage/Warehouse	0	TSF	0	0	0	0	0	0	0
28	Pre-School/Day Care	0	TSF	0	0	0	0	0	0	0
29	Elementary/Private School	0	STU	0	0	0	0	0	0	0
30	Junior/High School	0	STU	0	0	0	0	0	0	0
31	Cultural/Learning Center	0	TSF	0	0	0	0	0	0	0
32	Library	0	TSF	0	0	0	0	0	0	0
33	Post Office	0	TSF	0	0	0	0	0	0	0
34	Hospital	0	BEDS	0	0	0	0	0	0	0
35	Nursing/Conv. Home	0	BEDS	0	0	0	0	0	0	0
36	Church	0	TSF	0	0	0	0	0	0	0
37	Youth Ctr/Service	0	TSF	0	0	0	0	0	0	0
38	Park	0	ACRE	0	0	0	0	0	0	0
39	Regional Park	0	ACRE	0	0	0	0	0	0	0
40	Golf Course	0	ACRE	0	0	0	0	0	0	0
41	Resort Golf Course	0	ACRE	0	0	0	0	0	0	0
Total				17	7	25	14	19	33	352

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APPENDIX 4.2

General Plan LUE Amendment (Proposed Project) ICU Analysis Worksheets
(Existing Lane Configuration)

1 . Bluff Rd at Coast Hw

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	309	.097*	157	.049*
SBT	0	0	0		0	
SBR	2	3200	180	.056	220	.069
EBL	2	3200	410	.128	171	.053*
EBT	3	4800	3479	.725*	1293	.269
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1122	.234	3380	.704*
WBR	1	1600	111	.069	319	.199

Note: Assumes Right-Turn Overlap for SBR

TOTAL CAPACITY UTILIZATION .822 .806

2 . Superior Av at Placentia Av

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	360	.225	205	.128*
NBT	2	3200	1138	.356*	394	.123
NBR	1	1600	37	.023	26	.016
SBL	1	1600	89	.056*	88	.055
SBT	2	3200	272	.085	884	.276*
SBR	1	1600	5	.003	6	.004
EBL	1	1600	31	.019	8	.005*
EBT	1	1600	382	.239*	201	.126
EBR	1	1600	298	.186	299	.187
WBL	0.5		11	{.007}*	69	
WBT	1.5	3200	278	.127	441	.196*
WBR	0		117		117	
Right Turn Adjustment					EBR	.029*

TOTAL CAPACITY UTILIZATION .658 .634

3 . Superior Av at Coast Hw

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1.5		261		249	
NBT	1.5	4800	515	.229*	279	.144*
NBR	0		322		163	
SBL	1.5		232		293	
SBT	1.5	4800	190	.088*	453	.155*
SBR	2	3200	141	.044	684	.214
EBL	2	3200	761	.238	227	.071*
EBT	3	4800	3026	.630*	1014	.211
EBR	1	1600	182	.114	216	.135
WBL	1	1600	157	.098*	411	.257
WBT	4	6400	857	.134	2667	.417*
WBR	d	1600	264	.165	154	.096
Note: Assumes N/S Split Phasing						
Note: Assumes Right-Turn Overlap for SBR						

TOTAL CAPACITY UTILIZATION 1.045 .787

4 . Newport Bl at Hospital

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	121	.076	130	.081*
NBT	3	4800	2090	.435*	1331	.277
NBR	1	1600	173	.108	97	.061
SBL	1	1600	103	.064*	106	.066
SBT	3	4800	1344	.280	1808	.377*
SBR	1	1600	390	.244	244	.153
EBL	2	3200	212	.066	366	.114*
EBT	1	1600	225	.141*	167	.104
EBR	1	1600	222	.139	240	.150
WBL	1	1600	67	.042*	192	.120
WBT	2	3200	240	.085	326	.125*
WBR	0	0	32		74	
Right Turn Adjustment					EBR	.031*

TOTAL CAPACITY UTILIZATION .682 .728

5 . Newport BI at Via Lido

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1540	.321*	983	.205*
NBR	1	1600	43	.027	26	.016
SBL	2	3200	277	.087*	444	.139*
SBT	3	4800	830	.173	1527	.318
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	20	.013*	33	.021*
WBT	0	0	0		0	
WBR	2	3200	430	.134	317	.099
Right Turn Adjustment			WBR	.034*		
Note: Assumes Right-Turn Overlap for WBR						
TOTAL CAPACITY UTILIZATION				.455	.365	

6 . Newport BI at 32nd St

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	19	.012	83	.052*
NBT	2	3200	1110	.347*	705	.220
NBR	d	1600	73	.046	32	.020
SBL	1	1600	69	.043*	118	.074
SBT	2	3200	602	.210	1185	.430*
SBR	0	0	69		190	
EBL	1.5		368		121	
EBT	0.5	3200	78	.139*	70	.060*
EBR	1	1600	27	.017	42	.026
WBL	0.5		40		63	
WBT	1.5	3200	42	.026*	67	.041*
WBR	f		52		74	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.555	.583	

7 . Riverside Av at Coast Hw

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	3	{.002}*	8	
NBT	1	1600	0	.003	3	.018*
NBR	0	0	1		17	
SBL	0.5		116		93	{.058}*
SBT	0.5	1600	0	.073*	2	.059
SBR	1	1600	405	.253	427	.267
EBL	1	1600	407	.254	335	.209*
EBT	2	3200	2854	.894*	2087	.653
EBR	0	0	6		2	
WBL	1	1600	5	.003*	30	.019
WBT	3	4800	1565	.326	2833	.590*
WBR	1	1600	93	.058	65	.041

Note: Assumes Right-Turn Overlap for SBR

TOTAL CAPACITY UTILIZATION .972 .875

8 . Tustin Av at Coast Hw

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	1	{.001}*	1	{.001}*
NBT	1	1600	0	.001	1	.001
NBR	0	0	1		0	
SBL	0	0	64		119	
SBT	1	1600	1	.063*	0	.137*
SBR	0	0	36		100	
EBL	1	1600	67	.042	85	.053*
EBT	2	3200	2746	.859*	1941	.607
EBR	0	0	4		1	
WBL	0	0	0		0	
WBT	3	4800	1524	.333	2640	.561*
WBR	0	0	73		55	

TOTAL CAPACITY UTILIZATION .923 .752

9 . MacArthur Bl at Campus Dr

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	245	.153*	189	.118*
NBT	4	6400	1072	.168	1268	.198
NBR	1	1600	83	.052	47	.029
SBL	1	1600	170	.106	157	.098
SBT	4	6400	849	.133*	1283	.200*
SBR	1	1600	718	.449	752	.470
EBL	2	3200	670	.209*	482	.151*
EBT	3	4800	1106	.230	646	.135
EBR	d	1600	139	.087	180	.113
WBL	2	3200	42	.013	87	.027
WBT	3	4800	547	.114*	1129	.235*
WBR	f		47		130	
Right Turn Adjustment			SBR	.316*	SBR	.270*
TOTAL CAPACITY UTILIZATION				.925	.974	

10 . MacArthur Bl at Birch St

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	34	.021	151	.094*
NBT	3	4800	911	.190*	872	.182
NBR	1	1600	67	.042	63	.039
SBL	1	1600	85	.053*	136	.085
SBT	4	6400	687	.143	1249	.248*
SBR	0	0	255	.159	336	
EBL	1.5		261		338	
EBT	1.5	4800	567	.196*	472	.176*
EBR	0		112		34	
WBL	1	1600	51	.032	107	.067
WBT	2	3200	420	.131*	613	.192*
WBR	f		188		210	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.570	.710	

11 . Von Karman Av at Campus

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	47	.029	50	.031*
NBT	2	3200	885	.277*	567	.177
NBR	f		101		155	
SBL	1	1600	91	.057*	216	.135
SBT	2	3200	724	.288	845	.369*
SBR	0	0	196		335	
EBL	1	1600	263	.164*	228	.143*
EBT	2	3200	597	.187	809	.253
EBR	1	1600	87	.054	87	.054
WBL	1	1600	120	.075	88	.055
WBT	2	3200	586	.209*	735	.262*
WBR	0	0	82		104	
TOTAL CAPACITY UTILIZATION				.707	.805	

12 . MacArthur B1 at Von Karman

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	46	.029	51	.032*
NBT	3	4800	906	.189*	833	.174
NBR	1	1600	735	.459	201	.126
SBL	1	1600	64	.040*	49	.031
SBT	3	4800	601	.125	1282	.267*
SBR	1	1600	128	.080	84	.053
EBL	1	1600	23	.014*	102	.064
EBT	2	3200	151	.047	212	.066*
EBR	f		40		137	
WBL	2	3200	179	.056	672	.210*
WBT	1	1600	176	.110*	125	.078
WBR	f		51		141	
Right Turn Adjustment			NBR	.270*		
TOTAL CAPACITY UTILIZATION				.623	.575	

13 . Jamboree Rd at Campus Dr

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	67	.021	31	.010*
NBT	4	6400	1684	.292*	2103	.364
NBR	0	0	184		225	
SBL	2	3200	495	.155*	349	.109
SBT	3	4800	1603	.361	2003	.496*
SBR	0	0	128		376	
EBL	2	3200	324	.101	502	.157*
EBT	2	3200	501	.157*	767	.240
EBR	f		38		145	
WBL	2	3200	449	.140*	196	.061
WBT	2	3200	435	.136	475	.148*
WBR	1	1600	253	.158	550	.344
Right Turn Adjustment					WBR	.196*
TOTAL CAPACITY UTILIZATION				.744	1.007	

14 . Jamboree Rd at Birch St

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	276	.173*	102	.064*
NBT	3	4800	1538	.321	1766	.368
NBR	0	0	5		0	
SBL	1	1600	2	.001	0	.000
SBT	3	4800	1591	.331*	2071	.431*
SBR	f		594		328	
EBL	1.5		412		354	
EBT	0.5	3200	5	.130*	0	.111*
EBR	f		159		129	
WBL	0	0	0		0	
WBT	1	1600	0	.000*	0	.000*
WBR	0	0	0		0	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.634	.606	

15 . Campus Dr at Bristol St(N)

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	546	.171	467	.146*
NBT	3	4800	2042	.425*	1060	.221
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	552	.086	1269	.198*
SBR	2	3200	244	.076	1141	.357
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	288	.180	301	.188
WBT	4	6400	1281	.223*	2632	.428*
WBR	0	0	148		110	
Right Turn Adjustment					SBR	.159*
TOTAL CAPACITY UTILIZATION				.648		.931

16 . Birch St at Bristol St(N)

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	84	.026	174	.054*
NBT	2	3200	1111	.347*	496	.155
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1.5	6400	315	.098	560	.225*
SBR	2.5		314	.098	880	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		357		602	
WBT	3.5	8000	1326	.255*	2062	.357*
WBR	0		353		195	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.602		.636

17 . Campus Dr at Bristol St(S)

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	5	8000	1386	.210*	988	.154*
NBR	0	0	295		303	.189
SBL	1	1600	170	.106*	255	.159*
SBT	3	4800	669	.139	1314	.274
SBR	0	0	0		0	
EBL	1.5		1204		532	
EBT	2.5	6400	1825	.473*	992	.238*
EBR	2	3200	521	.163	566	.177
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.035*
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.789	.586	

18 . Birch St at Bristol St(S)

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	2.5	6400	524	.161*	462	.100
NBR	1.5		506		178	
SBL	2	3200	170	.053*	177	.055
SBT	2	3200	501	.157	983	.307*
SBR	0	0	0		0	
EBL	1.5		666		208	.130
EBT	3.5	8000	1374	.275*	1315	.222*
EBR	0		159		107	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.489	.529	

19 . Irvine Av at Mesa Dr

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	141	.088	54	.034*
NBT	3	4800	1369	.285*	789	.164
NBR	1	1600	491	.307	208	.130
SBL	1	1600	17	.011*	6	.004
SBT	3	4800	654	.136	1395	.291*
SBR	1	1600	212	.133	391	.244
EBL	1	1600	283	.177*	156	.098*
EBT	2	3200	401	.158	196	.123
EBR	0	0	105		225	.141
WBL	2	3200	190	.059	470	.147
WBT	1	1600	107	.084*	284	.199*
WBR	0	0	28		35	
Right Turn Adjustment			NBR	.022*		
TOTAL CAPACITY UTILIZATION				.579		.622

20 . Irvine Av at University Dr

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	150	.094	193	.121*
NBT	2	3200	1755	.548*	938	.293
NBR	1	1600	61	.038	107	.067
SBL	1	1600	47	.029*	45	.028
SBT	2	3200	783	.245	1864	.583*
SBR	1	1600	81	.051	160	.100
EBL	1	1600	203	.127*	76	.048
EBT	1	1600	61	.038	58	.036*
EBR	1	1600	218	.136	268	.168
WBL	1	1600	40	.025	98	.061*
WBT	1	1600	19	.012*	77	.048
WBR	d	1600	22	.014	36	.023
Right Turn Adjustment			Multi	.024*	EBR	.132*
TOTAL CAPACITY UTILIZATION				.740		.933

21 . Irvine Av at Santiago Dr

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	53	.033	138	.086*
NBT	2	3200	1506	.474*	1035	.331
NBR	0	0	11		24	
SBL	1	1600	47	.029*	103	.064
SBT	2	3200	1068	.334	1693	.529*
SBR	d	1600	44	.028	86	.054
EBL	0.5		153	{.096}*	64	
EBT	0.5	1600	52	.128	63	.079*
EBR	1	1600	156	.098	163	.102
WBL	0.5		26		34	{.021}*
WBT	0.5	1600	52	.049*	46	.050
WBR	d	1600	181	.113	70	.044
Right Turn Adjustment			WBR	.064*	EBR	.023*
TOTAL CAPACITY UTILIZATION				.712		.738

22 . Irvine Av at Highland Dr

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	48	.030	64	.040*
NBT	2	3200	1422	.444*	1252	.391
NBR	d	1600	9	.006	17	.011
SBL	1	1600	29	.018*	36	.023
SBT	2	3200	1173	.367	1744	.545*
SBR	d	1600	29	.018	65	.041
EBL	0.5		78	{.049}*	24	{.015}*
EBT	0.5	1600	22	.063	16	.025
EBR	d	1600	90	.056	50	.031
WBL	0.5		17		16	
WBT	0.5	1600	33	.031*	21	.023*
WBR	d	1600	101	.063	43	.027
Right Turn Adjustment			WBR	.032*	Multi	.007*
TOTAL CAPACITY UTILIZATION				.574		.630

23 . Irvine Av at Dover Dr

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	43	.027	123	.077*
NBT	2	3200	1084	.339*	1073	.335
NBR	1	1600	13	.008	56	.035
SBL	1	1600	156	.098*	175	.109
SBT	2	3200	1132	.354	1452	.454*
SBR	d	1600	21	.013	70	.044
EBL	1	1600	75	.047	53	.033*
EBT	1	1600	141	.109*	102	.104
EBR	0	0	33		65	
WBL	1	1600	15	.009*	31	.019
WBT	1	1600	95	.059	158	.099*
WBR	1	1600	290	.181	261	.163
Right Turn Adjustment			WBR	.110*	WBR	.064*
TOTAL CAPACITY UTILIZATION				.665		.727

24 . Irvine Av at Westcliff Dr

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	263	.082*	330	.103
NBT	2	3200	656	.205	866	.271*
NBR	d	1600	32	.020	70	.044
SBL	2	3200	267	.083	251	.078*
SBT	2	3200	671	.210*	771	.241
SBR	d	1600	221	.138	534	.334
EBL	2	3200	316	.099*	297	.093*
EBT	2	3200	435	.188	458	.202
EBR	0	0	168		189	
WBL	1	1600	36	.023	100	.063
WBT	2	3200	390	.148*	526	.210*
WBR	0	0	83		147	
Right Turn Adjustment					SBR	.088*
TOTAL CAPACITY UTILIZATION				.539		.740

25 . Dover Dr at Westcliff Dr

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	398	.124*	590	.184*
NBT	2	3200	545	.170	538	.168
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	502	.314*	411	.257*
SBR	1	1600	102	.064	110	.069
EBL	2	3200	75	.023*	132	.041*
EBT	0	0	0		0	
EBR	f		548		619	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.461		.482

26 . Dover Dr at 16th St

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	67	.042*	181	.113*
NBT	2	3200	903	.282	1090	.341
NBR	d	1600	43	.027	46	.029
SBL	1	1600	40	.025	81	.051
SBT	2	3200	968	.303*	925	.289*
SBR	d	1600	83	.052	97	.061
EBL	0.5		67		83	
EBT	0.5	1600	21	.055*	24	.067*
EBR	d	1600	192	.120	124	.078
WBL	1	1600	0	.000	0	.000
WBT	1	1600	0	.000	0	.000
WBR	1	1600	0	.000	0	.000
Right Turn Adjustment			EBR	.065*	EBR	.011*
TOTAL CAPACITY UTILIZATION				.465		.480

27 . Dover Dr at Coast Hw

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	38	.024	41	.026
NBT	2	3200	54	.034*	37	.022*
NBR	0	0	60	.038	32	
SBL	3	4800	858	.179*	878	.183*
SBT	1	1600	39	.024	38	.024
SBR	1	1600	94	.059	136	.085
EBL	2	3200	189	.059	137	.043*
EBT	3	4800	2762	.582*	2017	.428
EBR	0	0	33		39	
WBL	1	1600	37	.023*	53	.033
WBT	3	4800	1638	.341	2840	.592*
WBR	f		656		1113	
Right Turn Adjustment			NBR	.004*		
TOTAL CAPACITY UTILIZATION				.822		.840

28 . Bayside Dr at Coast Hw

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2.5		356		540	
NBT	0.5	4800	44	.088*	32	.129*
NBR	0		21		45	
SBL	1	1600	78	.049*	94	.059*
SBT	1	1600	19	.012	65	.041
SBR	d	1600	104	.065	131	.082
EBL	1	1600	138	.086	149	.093*
EBT	3	4800	2741	.571*	2241	.467
EBR	1	1600	492	.308	557	.348
WBL	1	1600	59	.037*	78	.049
WBT	4	6400	1830	.297	3339	.534*
WBR	0	0	68		79	
Right Turn Adjustment			SBR	.016*	SBR	.023*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.761		.838

29 . MacArthur Bl at Jamboree Rd

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	365	.114*	384	.120*
NBT	4	6400	1093	.171	513	.080
NBR	1	1600	400	.250	352	.220
SBL	3	4800	59	.012	221	.046
SBT	3	4800	548	.114*	1467	.306*
SBR	f		216		524	
EBL	2	3200	524	.164	431	.135*
EBT	3	4800	1434	.299*	1138	.237
EBR	1	1600	505	.316	128	.080
WBL	2	3200	450	.141*	638	.199
WBT	3	4800	1173	.244	1566	.326*
WBR	1	1600	86	.054	218	.136
Right Turn Adjustment			Multi	.051*		
TOTAL CAPACITY UTILIZATION				.719	.887	

30 . Jamboree Rd at Bristol St(N)

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	730	.228	805	.252*
NBT	2.5	6400	2370	.494*	1610	.392
NBR	1.5		690	.431	900	
SBL	0	0	0		0	
SBT	3.5	8000	1110	.218	1280	.267*
SBR	1.5		630		1345	.420
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					SBR	.153*
TOTAL CAPACITY UTILIZATION				.494	.672	

31 . Bayview Pl at Bristol St(S)

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	2	3200	90	.028	270	.084
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	4	6400	2899	.453*	2440	.381*
EBR	1	1600	371	.232	151	.094
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.028*	NBR	.084*
TOTAL CAPACITY UTILIZATION				.481		.465

32 . Jamboree Rd at Bristol St(S)

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	5	8000	1956	.248*	2033	.262*
NBR	0	0	24		59	
SBL	0	0	0		0	
SBT	4	6400	1104	.173	1299	.203
SBR	0	0	0		0	
EBL	1.5		1804	.564*	1257	
EBT	1.5	4800	396	.248	671	.402*
EBR	2	3200	786	.246	831	.260
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.812		.664

33 . Jamboree Rd at Bayview Wy

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	102	.064	38	.024
NBT	4	6400	1818	.292*	2153	.346*
NBR	0	0	51		59	
SBL	1	1600	76	.048*	98	.061*
SBT	4	6400	1711	.267	2027	.317
SBR	1	1600	160	.100	72	.045
EBL	2	3200	51	.016	117	.037*
EBT	1	1600	11	.007*	6	.004
EBR	1	1600	99	.062	123	.077
WBL	1	1600	60	.038*	32	.020
WBT	1	1600	0	.000	1	.001*
WBR	1	1600	11	.007	105	.066
Right Turn Adjustment			EBR	.055*	Multi	.124*
TOTAL CAPACITY UTILIZATION				.440		.569

34 . Jamboree Rd at University D

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	34	.021*	34	.021
NBT	3	4800	1391	.290	1733	.361*
NBR	1	1600	226	.141	328	.205
SBL	2	3200	60	.019	190	.059*
SBT	3	4800	1549	.323*	1557	.324
SBR	1	1600	200	.125	388	.243
EBL	1.5		345		255	
EBT	0.5	3200	102	.140*	106	.113*
EBR	1	1600	12	.008	12	.008
WBL	1.5		495	.155*	342	
WBT	1.5	4800	102	.064	181	.109*
WBR	f		255		175	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.639		.642

35 . Jamboree Rd at Bison Av

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1392	.290	1581	.329*
NBR	d	1600	539	.337	342	.214
SBL	2	3200	231	.072	110	.034*
SBT	3	4800	1789	.373*	1732	.361
SBR	1	1600	50	.031	82	.051
EBL	1	1600	62	.039	36	.023
EBT	0	0	0		0	
EBR	1	1600	126	.079	24	.015
WBL	2	3200	335	.105*	635	.198*
WBT	0	0	0		0	
WBR	2	3200	126	.039	220	.069
Right Turn Adjustment			Multi	.115*	EBR	.015*
TOTAL CAPACITY UTILIZATION				.593		.576

36 . Jamboree Rd at Ford Rd

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	509	.159*	379	.118*
NBT	3	4800	1518	.348	1957	.500
NBR	0	0	153		442	
SBL	1	1600	77	.048	39	.024
SBT	3	4800	2079	.433*	2226	.464*
SBR	1	1600	111	.069	78	.049
EBL	1.5		153	.096	98	.061
EBT	1.5	4800	310	.097*	290	.091*
EBR	f		470		323	
WBL	1.5		281	.176	217	
WBT	1.5	4800	570	.178*	215	.090*
WBR	1	1600	49	.031	29	.018
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.867		.763

37 . Jamboree Rd at San Joaquin

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	20	.013	73	.046
NBT	3	4800	1515	.316*	1688	.352*
NBR	f		108		178	
SBL	2	3200	788	.246*	502	.157*
SBT	3	4800	1938	.404	2115	.441
SBR	f		84		156	
EBL	1.5		338	.106*	86	.027*
EBT	1.5	4800	24	.015	36	.023
EBR	1	1600	44	.028	17	.011
WBL	1.5		277	.087*	229	.072*
WBT	1.5	4800	15	.009	42	.026
WBR	1	1600	56	.035	526	.329
Right Turn Adjustment					WBR	.257*
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.755	.865	

38 . Jamboree Rd at Santa Barbar

GP Project Ex Lanes							
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C	
NBL	1	1600	10	.006	17	.011	
NBT	3	4800	1389	.289*	1515	.316*	
NBR	1	1600	338	.211	270	.169	
SBL	2	3200	672	.210*	383	.120*	
SBT	3	4800	1600	.333	1951	.406	
SBR	1	1600	29	.018	74	.046	
EBL	1	1600	33	.021*	45	.028*	
EBT	1	1600	5	.003	17	.011	
EBR	1	1600	16	.010	16	.010	
WBL	1.5		80		288		
WBT	0.5	3200	6	.027*	5	.092*	
WBR	1	1600	191	.119	644	.403	
Right Turn Adjustment				WBR	.092*	WBR	.311*
Note: Assumes E/W Split Phasing							
TOTAL CAPACITY UTILIZATION				.639	.867		

39 . Jamboree Rd at Coast Hw

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	40	.025	66	.041
NBT	2	3200	563	.220*	399	.153*
NBR	0	0	141		92	
SBL	1	1600	191	.119*	166	.104*
SBT	2	3200	381	.119	586	.183
SBR	f		861		1097	
EBL	3	4800	922	.192*	975	.203*
EBT	4	6400	1768	.281	1812	.299
EBR	0	0	28		104	
WBL	2	3200	80	.025	170	.053
WBT	4	6400	1079	.169*	2028	.317*
WBR	1	1600	85	.053	206	.129
TOTAL CAPACITY UTILIZATION				.700		.777

40 . Santa Cruz at San Joaquin

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	265	.083*	485	.152*
NBT	1	1600	18	.059	15	.109
NBR	0	0	77		160	
SBL	1	1600	10	.006	11	.007
SBT	2	3200	7	.004*	5	.003*
SBR	0	0	62	.039	23	.014
EBL	1	1600	38	.024	72	.045
EBT	3	4800	523	.163*	526	.146*
EBR	0	0	290	.181	174	
WBL	1	1600	120	.075*	54	.034*
WBT	3	4800	264	.056	472	.103
WBR	0	0	6		24	
Right Turn Adjustment			Multi	.053*	SBR	.011*
TOTAL CAPACITY UTILIZATION				.378		.346

41 . Santa Rosa at San Joaquin

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	33	.021	248	.155*
NBT	1	1600	18	.011*	28	.018
NBR	1	1600	173	.108	627	.392
SBL	1	1600	103	.064*	78	.049
SBT	1	1600	13	.008	13	.008*
SBR	1	1600	22	.014	50	.031
EBL	1	1600	17	.011	57	.036
EBT	3	4800	344	.108*	595	.157*
EBR	0	0	236	.148	160	
WBL	2	3200	910	.284*	567	.177*
WBT	3	4800	475	.123	302	.081
WBR	0	0	115		85	
Right Turn Adjustment			Multi	.137*	Multi	.301*
TOTAL CAPACITY UTILIZATION				.604		.798

42 . Newport Ctr Dr at Coast

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	33	.010*	182	.057*
SBT	0	0	0		0	
SBR	f		179		718	
EBL	2	3200	532	.166*	412	.129*
EBT	3	4800	1857	.387	1498	.312
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1231	.256*	1692	.353*
WBR	f		208		168	
TOTAL CAPACITY UTILIZATION				.432		.539

44 . Avocado Av at San Miguel

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	99	.062*	97	.061*
NBT	1	1600	79	.049	49	.031
NBR	1	1600	202	.126	643	.402
SBL	2	3200	38	.012	247	.077
SBT	1	1600	58	.051*	103	.073*
SBR	0	0	23		14	
EBL	1	1600	10	.006	11	.007
EBT	3	4800	168	.046*	750	.179*
EBR	0	0	52		109	
WBL	2	3200	714	.223*	278	.087*
WBT	2	3200	469	.214	439	.153
WBR	0	0	216		50	
Right Turn Adjustment					NBR	.258*
Note: Assumes Right-Turn Overlap for NBR						
TOTAL CAPACITY UTILIZATION				.382	.658	

45 . Avocado Av at Coast Hw

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	143	.089	158	.099*
NBT	1	1600	171	.107*	88	.055
NBR	1	1600	268	.168	194	.121
SBL	1.5		98		284	
SBT	0.5	3200	81	.056*	135	.131*
SBR	f		106		263	
EBL	1	1600	117	.073*	117	.073
EBT	3	4800	614	.128	1392	.290*
EBR	d	1600	24	.015	86	.054
WBL	1	1600	114	.071	189	.118*
WBT	3	4800	1161	.242*	1459	.304
WBR	1	1600	192	.120	115	.072
Right Turn Adjustment			NBR	.061*	NBR	.022*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.539	.660	

46 . SR-73 NB at Bison Av

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1.5		207	.129*	135	.042*
NBT	0	4800	0		0	
NBR	1.5		465	.145	45	.028
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1600	40	.025	26	.016*
EBT	2	3200	1855	.580*	728	.228
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	253	.079	819	.256*
WBR	1	1600	430	.269	807	.504
Right Turn Adjustment			NBR	.016*	WBR	.248*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.725		.562

47 . SR-73 SB at Bison Av

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	1305	.408*	377	.118*
SBT	0	0	0		1	
SBR	f		405		266	
EBL	0	0	0		0	
EBT	2	3200	595	.186*	353	.110
EBR	1	1600	95	.059	159	.099
WBL	2	3200	35	.011*	290	.091
WBT	2	3200	425	.133	664	.208*
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.605		.326

48 . MacArthur Bl at Bison Av

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	189	.059	200	.063
NBT	4	6400	3172	.496*	2810	.439*
NBR	f		175		178	
SBL	2	3200	70	.022*	266	.083*
SBT	4	6400	2609	.408	2764	.432
SBR	1	1600	520	.325	549	.343
EBL	2	3200	517	.162*	308	.096*
EBT	2	3200	344	.108	276	.086
EBR	f		168		71	
WBL	2	3200	303	.095	245	.077
WBT	2	3200	312	.098*	401	.125*
WBR	1	1600	201	.126	212	.133
Right Turn Adjustment			WBR	.006*		
Note: Assumes Right-Turn Overlap for SBR WBR						
TOTAL CAPACITY UTILIZATION				.784		.743

49 . MacArhtur Bl at Ford Dr

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	204	.064	117	.037
NBT	4	6400	2311	.361*	2669	.417*
NBR	f		106		483	
SBL	2	3200	584	.183*	1016	.318*
SBT	4	6400	2821	.441	2455	.384
SBR	f		32		61	
EBL	2	3200	65	.020	57	.018
EBT	2	3200	321	.100*	491	.153*
EBR	1	1600	103	.064	81	.051
WBL	2	3200	499	.156*	213	.067*
WBT	2	3200	712	.223	312	.098
WBR	f		862		664	
TOTAL CAPACITY UTILIZATION				.800		.955

50 . MacArthur Bl at San Joaqui

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	88	.028	66	.021
NBT	3	4800	1520	.317*	1823	.380*
NBR	1	1600	8	.005	24	.015
SBL	2	3200	501	.157*	578	.181*
SBT	3	4800	1510	.315	1665	.347
SBR	f		1301		519	
EBL	3	4800	250	.052*	897	.187*
EBT	3	4800	312	.085	588	.149
EBR	0	0	96		128	
WBL	1	1600	26	.016	37	.023
WBT	2	3200	374	.117*	325	.102*
WBR	f		843		440	
TOTAL CAPACITY UTILIZATION				.643	.850	

51 . MacArthur Bl at San Miguel

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	141	.044	71	.022*
NBT	3	4800	1332	.278*	897	.187
NBR	1	1600	120	.075	271	.169
SBL	2	3200	5	.002*	5	.002
SBT	3	4800	832	.173	1367	.285*
SBR	1	1600	798	.499	461	.288
EBL	3	4800	265	.055*	983	.205*
EBT	2	3200	114	.036	506	.158
EBR	d	1600	18	.011	149	.093
WBL	2	3200	299	.093	298	.093
WBT	2	3200	460	.144*	230	.072*
WBR	d	1600	13	.008	33	.021
Right Turn Adjustment			SBR	.263*	SBR	.003*
TOTAL CAPACITY UTILIZATION				.742	.587	

52 . MacArhtur B1 at Coast Hw

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	583	.182*	793	.248*
SBT	0	0	0		0	
SBR	f		367		578	
EBL	2	3200	550	.172*	537	.168*
EBT	3	4800	499	.104	1322	.275
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1077	.224*	1185	.247*
WBR	f		863		635	
TOTAL CAPACITY UTILIZATION			.578		.663	

53 . SR-73 NB at Bonita Canyon

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	584	.183*	235	.073*
NBT	0	0	0		0	
NBR	1	1600	124	.078	47	.029
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	959	.300*	1383	.432*
EBR	1	1600	139	.087	121	.076
WBL	2	3200	563	.176*	249	.078*
WBT	2	3200	931	.291	1065	.333
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION			.659		.583	

54 . SR-73 SB at Bonita Canyon

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	109	.034*	196	.061*
NBT	0	0	0		0	
NBR	1	1600	209	.131	284	.178
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1600	0	.000	0	.000
EBT	2	3200	881	.275	1226	.383*
EBR	1	1600	187	.117	629	.393
WBL	2	3200	33	.010	101	.032*
WBT	3	4800	1511	.315*	1214	.253
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.097*	Multi	.127*
TOTAL CAPACITY UTILIZATION				.446		.603

55 . Spyglass Hill at San Miguel

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	47	.029	65	.041
NBT	1	1600	17	.133*	15	.141*
NBR	0	0	196		210	
SBL	0.5		32	{.020}*	33	{.021}*
SBT	0.5	1600	27	.037	13	.029
SBR	1	1600	41	.026	44	.028
EBL	1	1600	23	.014	41	.026
EBT	2	3200	311	.097*	512	.160*
EBR	d	1600	26	.016	39	.024
WBL	1	1600	147	.092*	183	.114*
WBT	2	3200	402	.126	341	.107
WBR	d	1600	30	.019	26	.016
TOTAL CAPACITY UTILIZATION				.342		.436

56 . San Miguel at San Joaquin

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	0	.000	2	.001
NBT	2	3200	271	.085*	481	.150*
NBR	d	1600	107	.067	292	.183
SBL	1	1600	70	.044*	84	.053*
SBT	2	3200	405	.127	270	.084
SBR	d	1600	274	.171	201	.126
EBL	2	3200	243	.076	506	.158*
EBT	3	4800	493	.103*	751	.156
EBR	d	1600	29	.018	24	.015
WBL	1	1600	327	.204*	193	.121
WBT	3	4800	966	.201	609	.127*
WBR	d	1600	86	.054	58	.036
Right Turn Adjustment			SBR	.042*	NBR	.033*
TOTAL CAPACITY UTILIZATION				.478		.521

57 . Goldenrod Av at Coast Hw

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	214	{.134}*	148	{.092}*
NBT	1	1600	27	.164	10	.126
NBR	0	0	21		43	
SBL	0	0	57		48	
SBT	1	1600	16	.088*	20	.088*
SBR	0	0	68		72	
EBL	1	1600	33	.021*	52	.033
EBT	2	3200	1312	.434	1904	.617*
EBR	0	0	77		69	
WBL	1	1600	57	.036	71	.044*
WBT	2	3200	1888	.599*	1675	.529
WBR	0	0	30		18	
TOTAL CAPACITY UTILIZATION				.842		.841

58 . Marguerite Av at San Joanqu

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1.5		278		210	
NBT	0.5	3200	59	.105*	51	.082*
NBR	1	1600	104	.065	137	.086
SBL	1	1600	45	.028	67	.042
SBT	1	1600	55	.091*	84	.066*
SBR	0	0	91		22	
EBL	1	1600	81	.051	30	.019
EBT	2	3200	501	.157*	796	.249*
EBR	1	1600	182	.114	379	.237
WBL	1	1600	113	.071*	126	.079*
WBT	3	4800	751	.156	508	.106
WBR	d	1600	89	.056	39	.024
Right Turn Adjustment					NBR	.004*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.424	.480	

59 . Marguerite Av at Coast Hw

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	152	.095*	108	.068*
NBT	1	1600	61	.058	64	.083
NBR	0	0	32		69	
SBL	1	1600	48	.030	76	.048
SBT	1	1600	74	.129*	100	.134*
SBR	0	0	133		115	
EBL	1	1600	83	.052*	144	.090
EBT	2	3200	1091	.341	1640	.513*
EBR	1	1600	61	.038	91	.057
WBL	1	1600	25	.016	51	.032*
WBT	2	3200	1764	.559*	1411	.451
WBR	0	0	26		33	
TOTAL CAPACITY UTILIZATION				.835	.747	

60 . Spyglass Hill at San Joanqu

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	6	.004*	4	.003
NBT	1	1600	1	.002	5	.004*
NBR	0	0	2		1	
SBL	1	1600	91	.057	89	.056*
SBT	1	1600	3	.074*	3	.057
SBR	0	0	116		89	
EBL	1	1600	91	.057*	173	.108*
EBT	2	3200	557	.174	830	.259
EBR	1	1600	4	.003	9	.006
WBL	1	1600	3	.002	8	.005
WBT	2	3200	828	.259*	567	.177*
WBR	d	1600	58	.036	92	.058
TOTAL CAPACITY UTILIZATION			.394		.345	

61 . Poppy Av at Coast Hw

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	47		68	
NBT	1	1600	23	.099*	0	.108*
NBR	0	0	88		104	
SBL	0	0	55	{.034}*	106	{.066}*
SBT	1	1600	18	.050	19	.088
SBR	0	0	7		15	
EBL	1	1600	14	.009*	34	.021
EBT	2	3200	940	.294	1620	.506*
EBR	d	1600	52	.033	85	.053
WBL	1	1600	41	.026	46	.029*
WBT	2	3200	1762	.561*	1446	.460
WBR	0	0	33		26	
TOTAL CAPACITY UTILIZATION			.703		.709	

64 . Newport Coast at San Joanqu

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	197	.062	128	.040*
NBT	3	4800	1210	.252*	808	.168
NBR	0	0	0		0	
SBL	1	1600	0	.000	0	.000
SBT	3	4800	788	.164	1140	.238*
SBR	1	1600	383	.239	392	.245
EBL	1	1600	510	.319*	452	.283*
EBT	0	0	0		0	
EBR	2	3200	72	.023	150	.047
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			SBR	.049*	SBR	.007*
TOTAL CAPACITY UTILIZATION				.620		.568

65 . Newport Coast Dr at Coast

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	7	.004	16	.010
NBT	1	1600	9	.006*	22	.014*
NBR	d	1600	5	.003	13	.008
SBL	2	3200	312	.098*	708	.221*
SBT	1	1600	18	.011	6	.004
SBR	f		149		265	
EBL	1	1600	191	.119*	170	.106*
EBT	3	4800	533	.111	1245	.259
EBR	1	1600	6	.004	3	.002
WBL	1	1600	6	.004	1	.001
WBT	3	4800	1194	.249*	993	.207*
WBR	f		670		398	
TOTAL CAPACITY UTILIZATION				.472		.548

66 . Newport Bl (W) at Coast

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	480	.150*	577	.180*
SBT	0	0	0		0	
SBR	1	1600	558	.349	510	.319
EBL	0	0	0		0	
EBT	2	3200	2740	.856*	1743	.545*
EBR	f		140		90	
WBL	0	0	0		0	
WBT	3	4800	1202	.250	2280	.475
WBR	f		370		640	
Right Turn Adjustment			SBR	.199*	SBR	.139*
TOTAL CAPACITY UTILIZATION				1.205		.864

90 . 15th St at Coast Hw

GP Project Ex Lanes						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	315	.098*	208	.065*
SBT	0	0	0		0	
SBR	2	3200	325	.102	472	.148
EBL	2	3200	647	.202	286	.089*
EBT	3	4800	3545	.739*	1309	.273
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1145	.239	3315	.691*
WBR	1	1600	203	.127	321	.201
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION				.837		.845

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85 . Red Hill Av. at Barranca Pkwy.

GP Project Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	222	.07*	570	.17
NBT	4	6800	392	.06	1705	.25*
NBR	d	1700	80	.05	292	.17
SBL	2	3400	364	.11	292	.09*
SBT	4	6800	954	.14*	480	.07
SBR	d	1700	161	.09	167	.10
EBL	2	3400	191	.06	251	.07*
EBT	4	6800	1265	.22*	925	.15
EBR	0	0	258		100	
WBL	2	3400	408	.12*	178	.05
WBT	4	6800	996	.15	1587	.23*
WBR	1	1700	289	.17	615	.36
Right Turn Adjustment					WBR	.06*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION			.60		.75	

86 . Red Hill Av. at Alton Pkwy.

GP Project Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	397	.23*	369	.22
NBT	3	5100	494	.15	1867	.41*
NBR	0	0	332	.20	233	
SBL	1	1700	259	.15	143	.08*
SBT	3	5100	861	.17*	774	.15
SBR	d	1700	311	.18	115	.07
EBL	1	1700	280	.16*	261	.15*
EBT	2	3400	1066	.31	822	.24
EBR	1	1700	346	.20	415	.24
WBL	2	3400	269	.08	316	.09
WBT	1	1700	760	.45*	982	.58*
WBR	1	1700	185	.11	249	.15
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION			1.06		1.27	

67 . Red Hill Av. at MacArthur Blvd.

GP Project Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	102	.03	182	.05
NBT	3	5100	1078	.22*	1139	.23*
NBR	0	0	24		34	
SBL	2	3400	431	.13*	554	.16*
SBT	3	5100	693	.14	860	.17
SBR	f		386		979	
EBL	2	3400	886	.26*	610	.18*
EBT	3	5100	766	.15	619	.12
EBR	d	1700	93	.05	61	.04
WBL	1	1700	55	.03	51	.03
WBT	3	5100	505	.10*	1061	.21*
WBR	f		992		793	
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION			.76		.83	

68 . MacArthur Bl. at Main St.

GP Project Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	728	.21*	635	.19*
NBT	4	6800	1250	.18	1415	.21
NBR	f		1198		552	
SBL	2	3400	375	.11	398	.12
SBT	4	6800	718	.11*	1064	.16*
SBR	1	1700	77	.05	79	.05
EBL	1	1700	62	.04	83	.05
EBT	3	5100	888	.17*	898	.18*
EBR	1	1700	527	.31	702	.41
WBL	2	3400	308	.09*	761	.22*
WBT	3	5100	571	.11	1072	.21
WBR	f		108		533	
Right Turn Adjustment					EBR	.04*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION			.63		.84	

Note: Assumes Right-Turn Overlap for EBR

69 . MacArthur Bl. at I-405 NB Ramps

GP Project Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	4	6800	2105	.31*	2183	.32*
NBR	2	3400	392	.12	1206	.35
SBL	2	3400	159	.05*	479	.14*
SBT	4	6800	1386	.20	2105	.31
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	914	.27*	517	.15*
WBT	0	0	0		0	
WBR	2	3400	1087	.32	428	.13
Right Turn Adjustment			WBR	.01*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .69 .66

70 . MacArthur Bl. at I-405 SB Ramps

GP Project Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	4	6800	1628	.24*	2990	.44*
NBR	1	1700	447	.26	682	.40
SBL	2	3400	156	.05*	468	.14*
SBT	4	6800	1764	.26	1788	.26
SBR	1	1700	387	.23	387	.23
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	987	.29*	535	.16*
WBT	1	1700	148	.09	158	.09
WBR	f		810		366	
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for NBR						

TOTAL CAPACITY UTILIZATION .63 .79

71 . MacArthur Bl. at Michelson Dr.

GP Project Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	275	.16	158	.09
NBT	4	6800	1427	.21*	1864	.27*
NBR	1	1700	315	.19	122	.07
SBL	2	3400	1024	.30*	619	.18*
SBT	4	6800	1631	.24	1626	.24
SBR	0	0	14		12	
EBL	2	3400	355	.10*	361	.11
EBT	1	1700	77	.05	83	.05*
EBR	1	1700	85	.05	140	.08
WBL	2	3400	106	.03	550	.16*
WBT	1	1700	69	.04*	91	.05
WBR	1	1700	263	.15	794	.47
Right Turn Adjustment					WBR	.19*
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for WBR						

TOTAL CAPACITY UTILIZATION .70 .90

72 . Von Karman Av. at Barranca Pkwy.

GP Project Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	177	.05*	332	.10
NBT	2	3400	571	.17	1463	.43*
NBR	d	1700	164	.10	376	.22
SBL	2	3400	225	.07	428	.13*
SBT	2	3400	1133	.33*	678	.20
SBR	2	3400	341	.10	388	.11
EBL	1	1700	223	.13*	506	.30*
EBT	3	5100	578	.11	1183	.23
EBR	d	1700	231	.14	186	.11
WBL	2	3400	539	.16	162	.05
WBT	3	5100	1483	.29*	839	.16*
WBR	1	1700	532	.31	393	.23
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for SBR						

TOTAL CAPACITY UTILIZATION .85 1.07

73 . Von Karman Av. at Alton Pkwy.

GP Project Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	152	.09*	26	.02
NBT	2	3400	618	.18	1733	.51*
NBR	d	1700	108	.06	282	.17
SBL	1	1700	80	.05	155	.09*
SBT	2	3400	1416	.42*	728	.21
SBR	d	1700	205	.12	149	.09
EBL	1	1700	145	.09	162	.10*
EBT	2	3400	740	.22*	978	.29
EBR	d	1700	48	.03	138	.08
WBL	1	1700	219	.13*	142	.08
WBT	2	3400	718	.21	911	.27*
WBR	d	1700	142	.08	103	.06
Clearance Interval				.05*	.05*	

TOTAL CAPACITY UTILIZATION .91 1.02

74 . Von Karman Av. at Main St.

GP Project Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	219	.06*	314	.09
NBT	2	3400	544	.16	1199	.35*
NBR	1	1700	152	.09	387	.23
SBL	1	1700	121	.07	177	.10*
SBT	2	3400	1080	.32*	650	.19
SBR	1	1700	332	.20	235	.14
EBL	2	3400	238	.07*	522	.15*
EBT	3	5100	708	.14	1683	.33
EBR	f		307		284	
WBL	2	3400	357	.11	186	.05
WBT	3	5100	935	.20*	1254	.28*
WBR	0	0	100		172	
Clearance Interval				.05*	.05*	

TOTAL CAPACITY UTILIZATION .70 .93

76 . Von Karman Av. at Michelson Dr.

GP Project Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	53	.03	46	.03
NBT	2	3400	886	.26*	1146	.34*
NBR	1	1700	148	.09	129	.08
SBL	1	1700	380	.22*	277	.16*
SBT	2	3400	1141	.42	944	.32
SBR	0	0	282		159	
EBL	1	1700	167	.10*	319	.19*
EBT	2	3400	287	.10	548	.19
EBR	0	0	44		81	
WBL	1	1700	200	.12	200	.12
WBT	2	3400	468	.14*	671	.20*
WBR	f		457		645	
Clearance Interval				.05*	.05*	

TOTAL CAPACITY UTILIZATION .77 .94

77 . Jamboree Rd. at Barranca Pkwy.

GP Project Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	2	3400	216	.06*	465	.14
NBT	4	6800	1132	.17	2841	.42*
NBR	f		239		239	
SBL	2	3400	482	.14	443	.13*
SBT	4	6800	3217	.47*	1544	.23
SBR	f		1574		442	
EBL	2.5		192	.06	930	
EBT	2.5	8500	567	.11*	915	.22*
EBR	1	1700	126	.07	271	.16
WBL	2	3400	259	.08	229	.07
WBT	3	5100	811	.16*	981	.19*
WBR	f		248		657	
Clearance Interval				.05*		.05*
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .85 1.01

78 . Jamboree Rd. at Alton Pkwy.

GP Project Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	2	3400	158	.05*	277	.08
NBT	4	6800	1299	.19	2802	.41*
NBR	1	1700	236	.14	237	.14
SBL	2	3400	264	.08	326	.10*
SBT	4	6800	2991	.48*	1454	.26
SBR	0	0	272		282	
EBL	2	3400	134	.04	452	.13
EBT	3	5100	542	.15*	871	.22*
EBR	0	0	213		264	
WBL	2	3400	273	.08*	261	.08*
WBT	3	5100	770	.15	681	.13
WBR	d	1700	171	.10	255	.15
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .81 .86

79 . Jamboree Rd. at Main St.

GP Project Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	2	3400	460	.14*	242	.07
NBT	4	6800	1580	.23	2614	.38*
NBR	f		411		523	
SBL	2	3400	370	.11	265	.08*
SBT	4	6800	2637	.39*	1850	.27
SBR	1	1700	419	.25	270	.16
EBL	2	3400	166	.05	630	.19
EBT	3	5100	367	.07*	1208	.24*
EBR	f		250		721	
WBL	2	3400	479	.14*	479	.14*
WBT	3	5100	686	.13	571	.11
WBR	f		139		392	
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for SBR						

TOTAL CAPACITY UTILIZATION .79 .89

80 . Jamboree Rd. at I-405 NB Ramps

GP Project Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C		
NBL	0	0	0		0	
NBT	3	5100	2026	.40*	3155	.62*
NBR	f		536		752	
SBL	0	0	3		0	
SBT	4	6800	2232	.33	2196	.32
SBR	f		1121		999	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	3	5100	1505	.30*	1017	.20*
WBT	0	0	0		0	
WBR	f		944		404	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .75 .87

81 . Jamboree Rd. at I-405 SB Ramps

GP Project Ex Lanes(IRVINE ISEC)							
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C	
NBL	0	0	8		0		
NBT	4	6800	1737	.26	2837	.42*	
NBR	f		798		1386		
SBL	0	0	0		0		
SBT	4	6800	3431	.50*	2515	.37	
SBR	f		291		795		
EBL	1.5		878	{.37}*	929	.27*	
EBT	0	6800	0	.37	0		
EBR	2.5		1645		993	{.27}	
WBL	0	0	0		0		
WBT	0	0	0		0		
WBR	0	0	0		0		
Clearance Interval				.05*		.05*	

TOTAL CAPACITY UTILIZATION .92 .74

82 . Jamboree Rd. at Michelson Dr.

GP Project Ex Lanes(IRVINE ISEC)							
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C	
NBL	1	1700	209	.12	86	.05	
NBT	4	6800	1605	.24*	2373	.35*	
NBR	1	1700	360	.21	419	.25	
SBL	2	3400	1269	.37*	953	.28*	
SBT	4	6800	2446	.36	1864	.27	
SBR	f		1146		604		
EBL	2	3400	315	.09*	728	.21	
EBT	2	3400	404	.15	852	.28*	
EBR	0	0	91		104		
WBL	2	3400	333	.10	358	.11*	
WBT	2	3400	684	.20*	554	.16	
WBR	f		691		1189		
Clearance Interval				.05*		.05*	

TOTAL CAPACITY UTILIZATION .95 1.07

83 . Carlson Av. at Michelson Dr.

GP Project Ex Lanes(IRVINE ISEC)							
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C	
NBL	2	3400	426	.13*	175	.05*	
NBT	2	3400	211	.06	90	.03	
NBR	1	1700	251	.15	382	.22	
SBL	2	3400	66	.02	181	.05	
SBT	1	1700	42	.02*	261	.15*	
SBR	f		300		1199		
EBL	2	3400	1015	.30*	659	.19	
EBT	2	3400	842	.25	1234	.36*	
EBR	1	1700	96	.06	352	.21	
WBL	1	1700	218	.13	472	.28*	
WBT	2	3400	922	.27*	952	.28	
WBR	f		244		212		
Clearance Interval				.05*		.05*	

TOTAL CAPACITY UTILIZATION .77 .89

84 . Carlson Av. at Campus Dr.

GP Project Ex Lanes(IRVINE ISEC)							
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C	
NBL	0	0	0		0		
NBT	0	0	0		0		
NBR	0	0	0		0		
SBL	1	1700	235	.14*	290	.17*	
SBT	0	0	0		0		
SBR	1	1700	268	.16	274	.16	
EBL	1	1700	197	.12*	318	.19*	
EBT	1	1700	943	.55	1290	.76	
EBR	0	0	0		0		
WBL	0	0	0		0		
WBT	1	1700	1145	.67*	1176	.69*	
WBR	d	1700	186	.11	288	.17	
Clearance Interval				.05*		.05*	

TOTAL CAPACITY UTILIZATION .98 1.10

87 . Harvard Av. at Michelson Dr.

GP Project Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1700	100	.06*	92	.05
NBT	2	3400	292	.10	1019	.33*
NBR	0	0	32		87	
SBL	1	1700	176	.10	271	.16*
SBT	2	3400	834	.25*	653	.19
SBR	1	1700	527	.31	263	.15
EBL	2	3400	138	.04*	526	.15*
EBT	2	3400	354	.10	994	.29
EBR	f		64		168	
WBL	1	1700	105	.06	103	.06
WBT	2	3400	719	.25*	528	.20*
WBR	0	0	120		156	
Right Turn Adjustment			SBR	.03*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .68 .89

88 . Harvard Av. at University Dr.

GP Project Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1700	73	.04*	61	.04
NBT	2	3400	261	.08	833	.25*
NBR	d	1700	103	.06	210	.12
SBL	1	1700	39	.02	80	.05*
SBT	2	3400	596	.18*	589	.17
SBR	d	1700	310	.18	229	.13
EBL	1	1700	97	.06*	374	.22
EBT	3	5100	817	.17	1881	.38*
EBR	0	0	40		46	
WBL	1	1700	186	.11	171	.10*
WBT	3	5100	2106	.43*	1020	.21
WBR	0	0	83		63	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .76 .83

89 . University Dr. at Campus Dr.

GP Project Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1700	122	.07*	294	.17*
NBT	3	5100	800	.16	1519	.30
NBR	1	1700	363	.21	358	.21
SBL	1	1700	173	.10	100	.06
SBT	2	3400	1754	.52*	976	.29*
SBR	1	1700	538	.32	207	.12
EBL	1	1700	101	.06	601	.35*
EBT	2	3400	818	.24*	970	.29
EBR	d	1700	371	.22	129	.08
WBL	1	1700	201	.12*	425	.25
WBT	2	3400	674	.20	1045	.31*
WBR	d	1700	35	.02	181	.11
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION 1.00 1.17

90 . MacArthur Blvd. NB at University Dr.

GP Project Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1700	18	.01*	10	.01*
NBT	0	0	0		0	
NBR	1	1700	326	.19	256	.15
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	1823	.36*	1462	.29*
EBR	d	1700	141	.08	109	.06
WBL	2	3400	562	.17*	1267	.37*
WBT	2	3400	873	.26	943	.28
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.05*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .64 .72

GP Project Ex Lanes(IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	298	.18*	819	.48*
NBT	3	5100	418	.08	106	.02
NBR	d	1700	25	.01	123	.07
SBL	1	1700	1	.00	34	.02
SBT	3	5100	11	.00*	272	.05*
SBR	d	1700	0	.00	265	.16
EBL	1	1700	280	.16*	20	.01*
EBT	0	0	62		238	
EBR	1	1700	965	.57	208	.12
WBL	1	1700	94	.06	11	.01
WBT	0	0	276		136	
WBR	1	1700	21	.01	0	.00
Right Turn Adjustment			EBR	.33*	SBR	.10*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.72	.69	

93 . Jamboree Rd. at Fairchild Rd.

GP Project Ex Lanes(NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	12	.01	0	.00
NBT	3	4800	1417	.31*	1579	.33*
NBR	0	0	78		19	
SBL	2	3200	397	.12*	330	.10*
SBT	4	6400	1431	.22	1888	.29
SBR	d	1600	8	.01	29	.02
EBL	1	1600	26	.02	37	.02
EBT	1	1600	0	.02*	9	.07*
EBR	0	0	37		97	
WBL	1	1600	10	.01*	42	.03*
WBT	1	1600	0	.00	9	.01
WBR	1	1600	325	.20	367	.23
Right Turn Adjustment			WBR	.19*	WBR	.15*
TOTAL CAPACITY UTILIZATION				.65		.68

92 . Fairchild Av. at MacArthur Bl.

GP Project Ex Lanes(NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	47	.03*	447	.28*
SBT	0	0	0		0	
SBR	1	1600	23	.01	234	.15
EBL	1	1600	269	.17*	46	.03
EBT	3	4800	976	.20	2118	.44*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1891	.50*	1077	.26
WBR	0	0	528		174	
TOTAL CAPACITY UTILIZATION				.70		.72

91 . MacArthur Blvd. SB at University Dr.

GP Project Ex Lanes(NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	91	.06*	115	.07*
NBT	0	0	0		0	
NBR	1	1600	658	.41	445	.28
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	4800	1306	.29*	1188	.25*
EBR	0	0	66		20	
WBL	2	3200	101	.03*	281	.09*
WBT	3	4800	976	.20	872	.18
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.35*	NBR	.21*
TOTAL CAPACITY UTILIZATION				.73		.62

APPENDIX 4.3

General Plan LUE Amendment (Proposed Project) ICU Analysis Worksheets
(Planned Lane Configuration)

1 . Bluff Rd at Coast Hw

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	309	.097*	157	.049*
SBT	0	0	0		0	
SBR	2	3200	180	.056	220	.069
EBL	2	3200	410	.128	171	.053*
EBT	3	4800	3479	.725*	1293	.269
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1122	.234	3380	.704*
WBR	1	1600	111	.069	319	.199
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION				.822	.806	

2 . Superior Av at Placentia Av

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	360	.225	205	.128*
NBT	2	3200	1138	.356*	394	.123
NBR	1	1600	37	.023	26	.016
SBL	1	1600	89	.056*	88	.055
SBT	2	3200	272	.085	884	.276*
SBR	1	1600	5	.003	6	.004
EBL	1	1600	31	.019	8	.005*
EBT	1	1600	382	.239*	201	.126
EBR	1	1600	298	.186	299	.187
WBL	0.5		11	{.007}*	69	
WBT	1.5	3200	278	.127	441	.196*
WBR	0		117		117	
Right Turn Adjustment					EBR	.029*
TOTAL CAPACITY UTILIZATION				.658	.634	

3 . Superior Av at Coast Hw

GP Project						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	1.5		261		249	
NBT	1.5	4800	515	.229*	279	.144*
NBR	0		322		163	
SBL	1.5		232		293	
SBT	1.5	4800	190	.088*	453	.155*
SBR	2	3200	141	.044	684	.214
EBL	2	3200	761	.238	227	.071*
EBT	3	4800	3026	.630*	1014	.211
EBR	d	1600	182	.114	216	.135
WBL	1	1600	157	.098*	411	.257
WBT	4	6400	857	.134	2667	.417*
WBR	d	1600	264	.165	154	.096
Note: Assumes N/S Split Phasing						
Note: Assumes Right-Turn Overlap for SBR						

TOTAL CAPACITY UTILIZATION 1.045 .787

4 . Newport Bl at Hospital

GP Project						
	LANES	CAPACITY	AM PK HOUR VOL V/C		PM PK HOUR VOL V/C	
NBL	2	3200	121	.038	130	.041*
NBT	3	4800	2090	.435*	1331	.277
NBR	1	1600	173	.108	97	.061
SBL	1	1600	103	.064*	106	.066
SBT	3	4800	1344	.280	1808	.377*
SBR	1	1600	390	.244	244	.153
EBL	2	3200	212	.066	366	.114*
EBT	1	1600	225	.141*	167	.104
EBR	1	1600	222	.139	240	.150
WBL	1	1600	67	.042*	192	.120
WBT	2	3200	240	.085	326	.125*
WBR	0	0	32		74	
Right Turn Adjustment					EBR	.031*

TOTAL CAPACITY UTILIZATION .682 .688

5 . Newport Bl at Via Lido

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1540	.321*	983	.205*
NBR	1	1600	43	.027	26	.016
SBL	2	3200	277	.087*	444	.139*
SBT	3	4800	830	.173	1527	.318
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	20	.013*	33	.021*
WBT	0	0	0		0	
WBR	2	3200	430	.134	317	.099
Right Turn Adjustment			WBR	.034*		
Note: Assumes Right-Turn Overlap for WBR						
TOTAL CAPACITY UTILIZATION				.455		.365

6 . Newport Bl at 32nd St

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	19	.012	83	.052*
NBT	2	3200	1110	.347*	705	.220
NBR	d	1600	73	.046	32	.020
SBL	1	1600	69	.043*	118	.074
SBT	2	3200	602	.210	1185	.430*
SBR	0	0	69		190	
EBL	2	3200	368	.115*	121	.038
EBT	1	1600	78	.066	70	.070*
EBR	0	0	27		42	
WBL	1	1600	40	.025	63	.039*
WBT	1	1600	42	.026*	67	.042
WBR	f		52		74	
TOTAL CAPACITY UTILIZATION				.531		.591

7 . Riverside Av at Coast Hw

GP Project						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	3	{.002}*	8	
NBT	1	1600	0	.003	3	.018*
NBR	0	0	1		17	
SBL	0.5		116		93	{.058}*
SBT	0.5	1600	0	.073*	2	.059
SBR	1	1600	405	.253	427	.267
EBL	2	3200	407	.127	335	.105*
EBT	3	4800	2854	.596*	2087	.435
EBR	0	0	6		2	
WBL	1	1600	5	.003*	30	.019
WBT	3	4800	1565	.345	2833	.604*
WBR	0	0	93		65	
Right Turn Adjustment			SBR	.053*	SBR	.091*
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION				.727	.876	

8 . Tustin Av at Coast Hw

GP Project						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	1	{.001}*	1	{.001}*
NBT	1	1600	0	.001	1	.001
NBR	0	0	1		0	
SBL	0	0	64		119	
SBT	1	1600	1	.063*	0	.137*
SBR	0	0	36		100	
EBL	1	1600	67	.042	85	.053*
EBT	3	4800	2746	.573*	1941	.405
EBR	0	0	4		1	
WBL	0	0	0		0	
WBT	3	4800	1524	.333	2640	.561*
WBR	0	0	73		55	
TOTAL CAPACITY UTILIZATION				.637	.752	

9 . MacArthur Bl at Campus Dr

GP Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	2	3200	245	.077	189	.059*
NBT	4	6400	1072	.168*	1268	.198
NBR	1	1600	83	.052	47	.029
SBL	1	1600	170	.106*	157	.098
SBT	3.5	8000	849	.177	1283	.254*
SBR	1.5		718	.224	752	
EBL	2	3200	670	.209*	482	.151*
EBT	3	4800	1106	.230	646	.135
EBR	d	1600	139	.087	180	.113
WBL	2	3200	42	.013	87	.027
WBT	3	4800	547	.114*	1129	.235*
WBR	f		47		130	
Right Turn Adjustment			SBR	.027*		
TOTAL CAPACITY UTILIZATION				.624		.699

10 . MacArthur Bl at Birch St

GP Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1600	34	.021	151	.094*
NBT	3	4800	911	.190*	872	.182
NBR	1	1600	67	.042	63	.039
SBL	1	1600	85	.053*	136	.085
SBT	4	6400	687	.143	1249	.248*
SBR	0	0	255	.159	336	
EBL	1.5		261		338	
EBT	1.5	4800	567	.196*	472	.176*
EBR	0		112		34	
WBL	1	1600	51	.032	107	.067
WBT	2	3200	420	.131*	613	.192*
WBR	f		188		210	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.570		.710

11 . Von Karman Av at Campus

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	47	.029	50	.031*
NBT	2	3200	885	.308*	567	.226
NBR	0	0	101		155	
SBL	1	1600	91	.057*	216	.135
SBT	2	3200	724	.288	845	.369*
SBR	0	0	196		335	
EBL	2	3200	263	.082*	228	.071
EBT	2	3200	597	.214	809	.280*
EBR	0	0	87		87	
WBL	1	1600	120	.075	88	.055*
WBT	2	3200	586	.209*	735	.262
WBR	0	0	82		104	
TOTAL CAPACITY UTILIZATION				.656		.735

12 . MacArthur Bl at Von Karman

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	46	.029	51	.032*
NBT	3	4800	906	.189*	833	.174
NBR	1	1600	735	.459	201	.126
SBL	1	1600	64	.040*	49	.031
SBT	3	4800	601	.125	1282	.267*
SBR	1	1600	128	.080	84	.053
EBL	1	1600	23	.014*	102	.064
EBT	2	3200	151	.047	212	.066*
EBR	f		40		137	
WBL	2	3200	179	.056	672	.210*
WBT	1	1600	176	.110*	125	.078
WBR	f		51		141	
Right Turn Adjustment			NBR	.270*		
TOTAL CAPACITY UTILIZATION				.623		.575

13 . Jamboree Rd at Campus Dr

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	67	.021	31	.010
NBT	4	6400	1684	.263*	2103	.329*
NBR	1	1600	184	.115	225	.141
SBL	2	3200	495	.155*	349	.109*
SBT	4	6400	1603	.270	2003	.372
SBR	0	0	128		376	
EBL	2	3200	324	.101	502	.157
EBT	2	3200	501	.168*	767	.285*
EBR	0	0	38		145	
WBL	2	3200	449	.140*	196	.061*
WBT	2	3200	435	.136	475	.148
WBR	1	1600	253	.158	550	.344
Right Turn Adjustment					WBR	.046*
Note: Assumes Right-Turn Overlap for WBR NBR						
TOTAL CAPACITY UTILIZATION				.726	.830	

14 . Jamboree Rd at Birch St

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	276	.173*	102	.064*
NBT	3	4800	1538	.321	1766	.368
NBR	0	0	5		0	
SBL	1	1600	2	.001	0	.000
SBT	4	6400	1591	.249*	2071	.324*
SBR	f		594		328	
EBL	1.5		412		354	
EBT	0.5	3200	5	.130*	0	.111*
EBR	f		159		129	
WBL	0	0	0		0	
WBT	1	1600	0	.000*	0	.000*
WBR	0	0	0		0	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.552	.499	

15 . Campus Dr at Bristol St(N)

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	546	.171	467	.146*
NBT	4	6400	2042	.319*	1060	.166
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	552	.086	1269	.198*
SBR	3	4800	244	.051	1141	.238
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	288	.180*	301	.188
WBT	5	8000	1281	.179	2632	.343*
WBR	0	0	148		110	
Right Turn Adjustment					SBR	.040*
TOTAL CAPACITY UTILIZATION				.499	.727	

16 . Birch St at Bristol St(N)

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	84	.026	174	.054*
NBT	2	3200	1111	.347*	496	.155
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1.5	6400	315	.098	560	.225*
SBR	2.5		314	.098	880	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		357		602	
WBT	3.5	8000	1326	.255*	2062	.357*
WBR	0		353		195	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.602	.636	

17 . Campus Dr at Bristol St(S)

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	5	8000	1386	.210*	988	.154*
NBR	0	0	295		303	.189
SBL	1	1600	170	.106*	255	.159*
SBT	3	4800	669	.139	1314	.274
SBR	0	0	0		0	
EBL	1.5		1204		532	
EBT	2.5	6400	1825	.473*	992	.238*
EBR	2	3200	521	.163	566	.177
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.035*
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.789	.586	

18 . Birch St at Bristol St(S)

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	2.5	6400	524	.161*	462	.100
NBR	1.5		506		178	
SBL	2	3200	170	.053*	177	.055
SBT	2	3200	501	.157	983	.307*
SBR	0	0	0		0	
EBL	1.5		666		208	.130
EBT	3.5	8000	1374	.275*	1315	.222*
EBR	0		159		107	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.489	.529	

19 . Irvine Av at Mesa Dr

GP Project						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	141	.088	54	.034*
NBT	3	4800	1369	.285*	789	.164
NBR	1	1600	491	.307	208	.130
SBL	1	1600	17	.011*	6	.004
SBT	3	4800	654	.136	1395	.291*
SBR	1	1600	212	.133	391	.244
EBL	1	1600	283	.177*	156	.098*
EBT	2	3200	401	.158	196	.123
EBR	0	0	105		225	.141
WBL	2	3200	190	.059	470	.147
WBT	1	1600	107	.084*	284	.199*
WBR	0	0	28		35	
Right Turn Adjustment			NBR	.022*		
TOTAL CAPACITY UTILIZATION				.579		.622

20 . Irvine Av at University Dr

GP Project						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	150	.094	193	.121*
NBT	3	4800	1755	.378*	938	.218
NBR	0	0	61		107	
SBL	1	1600	47	.029*	45	.028
SBT	3	4800	783	.163	1864	.388*
SBR	1	1600	81	.051	160	.100
EBL	1.5		203	.063*	76	
EBT	1.5	4800	61	.038	58	.028*
EBR	1	1600	218	.136	268	.168
WBL	1	1600	40	.025*	98	.061*
WBT	1	1600	19	.012	77	.048
WBR	d	1600	22	.014	36	.023
Right Turn Adjustment			EBR	.073*	EBR	.140*
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.568		.738

21 . Irvine Av at Santiago Dr

GP Project						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	53	.033	138	.086*
NBT	2	3200	1506	.474*	1035	.331
NBR	0	0	11		24	
SBL	1	1600	47	.029*	103	.064
SBT	2	3200	1068	.334	1693	.529*
SBR	d	1600	44	.028	86	.054
EBL	0.5		153	{.096}*	64	
EBT	0.5	1600	52	.128	63	.079*
EBR	1	1600	156	.098	163	.102
WBL	0.5		26		34	{.021}*
WBT	0.5	1600	52	.049*	46	.050
WBR	d	1600	181	.113	70	.044
Right Turn Adjustment			WBR	.064*	EBR	.023*
TOTAL CAPACITY UTILIZATION				.712	.738	

22 . Irvine Av at Highland Dr

GP Project						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	48	.030	64	.040*
NBT	2	3200	1422	.444*	1252	.391
NBR	d	1600	9	.006	17	.011
SBL	1	1600	29	.018*	36	.023
SBT	2	3200	1173	.367	1744	.545*
SBR	d	1600	29	.018	65	.041
EBL	0.5		78	{.049}*	24	{.015}*
EBT	0.5	1600	22	.063	16	.025
EBR	d	1600	90	.056	50	.031
WBL	0.5		17		16	
WBT	0.5	1600	33	.031*	21	.023*
WBR	d	1600	101	.063	43	.027
Right Turn Adjustment			WBR	.032*	Multi	.007*
TOTAL CAPACITY UTILIZATION				.574	.630	

23 . Irvine Av at Dover Dr

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	43	.027	123	.077*
NBT	2	3200	1084	.339*	1073	.335
NBR	1	1600	13	.008	56	.035
SBL	1	1600	156	.098*	175	.109
SBT	2	3200	1132	.354	1452	.454*
SBR	d	1600	21	.013	70	.044
EBL	1	1600	75	.047	53	.033*
EBT	1	1600	141	.109*	102	.104
EBR	0	0	33		65	
WBL	1	1600	15	.009*	31	.019
WBT	1	1600	95	.059	158	.099*
WBR	1	1600	290	.181	261	.163
Right Turn Adjustment			WBR	.110*	WBR	.064*
TOTAL CAPACITY UTILIZATION				.665		.727

24 . Irvine Av at Westcliff Dr

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	263	.082*	330	.103
NBT	2	3200	656	.205	866	.271*
NBR	d	1600	32	.020	70	.044
SBL	2	3200	267	.083	251	.078*
SBT	2	3200	671	.210*	771	.241
SBR	d	1600	221	.138	534	.334
EBL	2	3200	316	.099*	297	.093*
EBT	2	3200	435	.188	458	.202
EBR	0	0	168		189	
WBL	1	1600	36	.023	100	.063
WBT	2	3200	390	.148*	526	.210*
WBR	0	0	83		147	
Right Turn Adjustment					SBR	.088*
TOTAL CAPACITY UTILIZATION				.539		.740

25 . Dover Dr at Westcliff Dr

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	398	.124*	590	.184*
NBT	2	3200	545	.170	538	.168
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	502	.314*	411	.257*
SBR	1	1600	102	.064	110	.069
EBL	2	3200	75	.023*	132	.041*
EBT	0	0	0		0	
EBR	f		548		619	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.461		.482

26 . Dover Dr at 16th St

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	67	.042*	181	.113*
NBT	2	3200	903	.282	1090	.341
NBR	d	1600	43	.027	46	.029
SBL	1	1600	40	.025	81	.051
SBT	2	3200	968	.303*	925	.289*
SBR	d	1600	83	.052	97	.061
EBL	0.5		67		83	
EBT	0.5	1600	21	.055*	24	.067*
EBR	d	1600	192	.120	124	.078
WBL	1	1600	0	.000	0	.000
WBT	1	1600	0	.000	0	.000
WBR	1	1600	0	.000	0	.000
Right Turn Adjustment			EBR	.065*	EBR	.011*
TOTAL CAPACITY UTILIZATION				.465		.480

27 . Dover Dr at Coast Hw

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	38	.024	41	.026
NBT	2	3200	54	.034*	37	.022*
NBR	0	0	60	.038	32	
SBL	3	4800	858	.179*	878	.183*
SBT	1	1600	39	.024	38	.024
SBR	1	1600	94	.059	136	.085
EBL	2	3200	189	.059	137	.043*
EBT	3	4800	2762	.582*	2017	.428
EBR	0	0	33		39	
WBL	1	1600	37	.023*	53	.033
WBT	3	4800	1638	.341	2840	.592*
WBR	f		656		1113	
Right Turn Adjustment			NBR	.004*		
TOTAL CAPACITY UTILIZATION				.822		.840

28 . Bayside Dr at Coast Hw

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2.5		356		540	
NBT	0.5	4800	44	.088*	32	.129*
NBR	0		21		45	
SBL	1	1600	78	.049*	94	.059*
SBT	1	1600	19	.012	65	.041
SBR	d	1600	104	.065	131	.082
EBL	1	1600	138	.086	149	.093*
EBT	3	4800	2741	.571*	2241	.467
EBR	1	1600	492	.308	557	.348
WBL	1	1600	59	.037*	78	.049
WBT	4	6400	1830	.297	3339	.534*
WBR	0	0	68		79	
Right Turn Adjustment			SBR	.016*	SBR	.023*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.761		.838

29 . MacArthur Bl at Jamboree Rd

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	365	.114*	384	.120*
NBT	4	6400	1093	.171	513	.080
NBR	1	1600	400	.250	352	.220
SBL	3	4800	59	.012	221	.046
SBT	3	4800	548	.114*	1467	.306*
SBR	f		216		524	
EBL	2	3200	524	.164*	431	.135*
EBT	4	6400	1434	.224	1138	.178
EBR	1	1600	505	.316	128	.080
WBL	3	4800	450	.094	638	.133
WBT	3	4800	1173	.244*	1566	.326*
WBR	1	1600	86	.054	218	.136
Right Turn Adjustment			EBR	.002*		
Note: Assumes Right-Turn Overlap for NBR						
TOTAL CAPACITY UTILIZATION			.638		.887	

30 . Jamboree Rd at Bristol St(N

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	730	.228	805	.252*
NBT	2.5	6400	2370	.494*	1610	.392
NBR	1.5		690	.431	900	
SBL	0	0	0		0	
SBT	3.5	8000	1110	.218	1280	.267*
SBR	1.5		630		1345	.420
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					SBR	.153*
TOTAL CAPACITY UTILIZATION			.494		.672	

31 . Bayview Pl at Bristol St(S)

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	2	3200	90	.028	270	.084
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	4	6400	2899	.453*	2440	.381*
EBR	1	1600	371	.232	151	.094
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.028*	NBR	.084*
TOTAL CAPACITY UTILIZATION				.481	.465	

32 . Jamboree Rd at Bristol St(S)

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	6	9600	1956	.206*	2033	.218*
NBR	0	0	24		59	
SBL	0	0	0		0	
SBT	4	6400	1104	.173	1299	.203
SBR	0	0	0		0	
EBL	1.5		1804	.564*	1257	
EBT	1.5	4800	396	.248	671	.402*
EBR	2	3200	786	.246	831	.260
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.770	.620	

33 . Jamboree Rd at Bayview Wy

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	102	.064	38	.024
NBT	4	6400	1818	.292*	2153	.346*
NBR	0	0	51		59	
SBL	1	1600	76	.048*	98	.061*
SBT	4	6400	1711	.267	2027	.317
SBR	1	1600	160	.100	72	.045
EBL	2	3200	51	.016	117	.037*
EBT	1	1600	11	.007*	6	.004
EBR	1	1600	99	.062	123	.077
WBL	1	1600	60	.038*	32	.020
WBT	1	1600	0	.000	1	.001*
WBR	1	1600	11	.007	105	.066
Right Turn Adjustment			EBR	.055*	Multi	.124*
TOTAL CAPACITY UTILIZATION				.440		.569

34 . Jamboree Rd at University D

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	34	.021*	34	.021
NBT	3	4800	1391	.290	1733	.361*
NBR	1	1600	226	.141	328	.205
SBL	2	3200	60	.019	190	.059*
SBT	3	4800	1549	.323*	1557	.324
SBR	1	1600	200	.125	388	.243
EBL	1.5		345		255	
EBT	0.5	3200	102	.140*	106	.113*
EBR	1	1600	12	.008	12	.008
WBL	1.5		495	.155*	342	
WBT	1.5	4800	102	.064	181	.109*
WBR	f		255		175	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.639		.642

35 . Jamboree Rd at Bison Av

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1392	.290	1581	.329*
NBR	d	1600	539	.337	342	.214
SBL	2	3200	231	.072	110	.034*
SBT	3	4800	1789	.373*	1732	.361
SBR	1	1600	50	.031	82	.051
EBL	1	1600	62	.039	36	.023
EBT	0	0	0		0	
EBR	1	1600	126	.079	24	.015
WBL	2	3200	335	.105*	635	.198*
WBT	0	0	0		0	
WBR	2	3200	126	.039	220	.069
Right Turn Adjustment			Multi	.115*	EBR	.015*
TOTAL CAPACITY UTILIZATION				.593		.576

36 . Jamboree Rd at Ford Rd

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	509	.159*	379	.118*
NBT	3	4800	1518	.348	1957	.500
NBR	0	0	153		442	
SBL	1	1600	77	.048	39	.024
SBT	3	4800	2079	.433*	2226	.464*
SBR	1	1600	111	.069	78	.049
EBL	1.5		153	.096	98	.061
EBT	1.5	4800	310	.097*	290	.091*
EBR	f		470		323	
WBL	1.5		281	.176	217	
WBT	1.5	4800	570	.178*	215	.090*
WBR	1	1600	49	.031	29	.018
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.867		.763

37 . Jamboree Rd at San Joaquin

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	20	.013	73	.046
NBT	3	4800	1515	.316*	1688	.352*
NBR	f		108		178	
SBL	2	3200	788	.246*	502	.157*
SBT	3	4800	1938	.404	2115	.441
SBR	f		84		156	
EBL	1.5		338	.106*	86	.027*
EBT	1.5	4800	24	.015	36	.023
EBR	1	1600	44	.028	17	.011
WBL	1.5		277	.087*	229	.072*
WBT	1.5	4800	15	.009	42	.026
WBR	1	1600	56	.035	526	.329
Right Turn Adjustment					WBR	.257*
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.755	.865	

38 . Jamboree Rd at Santa Barbar

GP Project							
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C	
NBL	1	1600	10	.006	17	.011	
NBT	3	4800	1389	.289*	1515	.316*	
NBR	1	1600	338	.211	270	.169	
SBL	2	3200	672	.210*	383	.120*	
SBT	3	4800	1600	.333	1951	.406	
SBR	1	1600	29	.018	74	.046	
EBL	1	1600	33	.021*	45	.028*	
EBT	1	1600	5	.003	17	.011	
EBR	1	1600	16	.010	16	.010	
WBL	1.5		80		288		
WBT	0.5	3200	6	.027*	5	.092*	
WBR	1	1600	191	.119	644	.403	
Right Turn Adjustment				WBR	.092*	WBR	.311*
Note: Assumes E/W Split Phasing							
TOTAL CAPACITY UTILIZATION				.639	.867		

39 . Jamboree Rd at Coast Hw

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	40	.025	66	.041
NBT	2	3200	563	.220*	399	.153*
NBR	0	0	141		92	
SBL	1	1600	191	.119*	166	.104*
SBT	2	3200	381	.119	586	.183
SBR	f		861		1097	
EBL	3	4800	922	.192*	975	.203*
EBT	4	6400	1768	.281	1812	.299
EBR	0	0	28		104	
WBL	2	3200	80	.025	170	.053
WBT	4	6400	1079	.169*	2028	.317*
WBR	1	1600	85	.053	206	.129
TOTAL CAPACITY UTILIZATION				.700		.777

40 . Santa Cruz at San Joaquin

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	265	.083*	485	.152*
NBT	1	1600	18	.059	15	.109
NBR	0	0	77		160	
SBL	1	1600	10	.006	11	.007
SBT	2	3200	7	.004*	5	.003*
SBR	0	0	62	.039	23	.014
EBL	1	1600	38	.024	72	.045
EBT	3	4800	523	.163*	526	.146*
EBR	0	0	290	.181	174	
WBL	1	1600	120	.075*	54	.034*
WBT	3	4800	264	.056	472	.103
WBR	0	0	6		24	
Right Turn Adjustment			Multi	.053*	SBR	.011*
TOTAL CAPACITY UTILIZATION				.378		.346

41 . Santa Rosa at San Joaquin

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	33	.021	248	.155*
NBT	1	1600	18	.011*	28	.018
NBR	1	1600	173	.108	627	.392
SBL	1	1600	103	.064*	78	.049
SBT	1	1600	13	.008	13	.008*
SBR	1	1600	22	.014	50	.031
EBL	1	1600	17	.011	57	.036
EBT	3	4800	344	.108*	595	.157*
EBR	0	0	236	.148	160	
WBL	2	3200	910	.284*	567	.177*
WBT	3	4800	475	.123	302	.081
WBR	0	0	115		85	
Right Turn Adjustment			Multi	.137*	Multi	.301*
TOTAL CAPACITY UTILIZATION				.604	.798	

42 . Newport Ctr Dr at Coast

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	33	.010*	182	.057*
SBT	0	0	0		0	
SBR	f		179		718	
EBL	2	3200	532	.166*	412	.129*
EBT	3	4800	1857	.387	1498	.312
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1231	.256*	1692	.353*
WBR	f		208		168	
TOTAL CAPACITY UTILIZATION				.432	.539	

44 . Avocado Av at San Miguel

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	99	.062*	97	.061*
NBT	1	1600	79	.049	49	.031
NBR	1	1600	202	.126	643	.402
SBL	2	3200	38	.012	247	.077
SBT	1	1600	58	.051*	103	.073*
SBR	0	0	23		14	
EBL	1	1600	10	.006	11	.007
EBT	3	4800	168	.046*	750	.179*
EBR	0	0	52		109	
WBL	2	3200	714	.223*	278	.087*
WBT	2	3200	469	.214	439	.153
WBR	0	0	216		50	
Right Turn Adjustment					NBR	.258*
Note: Assumes Right-Turn Overlap for NBR						
TOTAL CAPACITY UTILIZATION				.382	.658	

45 . Avocado Av at Coast Hw

GP Project							
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C	
NBL	1	1600	143	.089	158	.099*	
NBT	1	1600	171	.107*	88	.055	
NBR	1	1600	268	.168	194	.121	
SBL	1.5		98		284		
SBT	0.5	3200	81	.056*	135	.131*	
SBR	f		106		263		
EBL	1	1600	117	.073*	117	.073	
EBT	3	4800	614	.128	1392	.290*	
EBR	d	1600	24	.015	86	.054	
WBL	1	1600	114	.071	189	.118*	
WBT	3	4800	1161	.242*	1459	.304	
WBR	1	1600	192	.120	115	.072	
Right Turn Adjustment				NBR	.061*	NBR	.022*
Note: Assumes N/S Split Phasing							
TOTAL CAPACITY UTILIZATION				.539	.660		

46 . SR-73 NB at Bison Av

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1.5		207	.129*	135	.042*
NBT	0	4800	0		0	
NBR	1.5		465	.145	45	.028
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1600	40	.025	26	.016*
EBT	2	3200	1855	.580*	728	.228
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	253	.079	819	.256*
WBR	1	1600	430	.269	807	.504
Right Turn Adjustment			NBR	.016*	WBR	.248*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.725	.562	

47 . SR-73 SB at Bison Av

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	1305	.408*	377	.118*
SBT	0	0	0		1	
SBR	f		405		266	
EBL	0	0	0		0	
EBT	2	3200	595	.186*	353	.110
EBR	1	1600	95	.059	159	.099
WBL	2	3200	35	.011*	290	.091
WBT	2	3200	425	.133	664	.208*
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.605	.326	

48 . MacArthur Bl at Bison Av

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	189	.059	200	.063
NBT	4	6400	3172	.496*	2810	.439*
NBR	f		175		178	
SBL	2	3200	70	.022*	266	.083*
SBT	4	6400	2609	.408	2764	.432
SBR	1	1600	520	.325	549	.343
EBL	2	3200	517	.162*	308	.096*
EBT	2	3200	344	.108	276	.086
EBR	f		168		71	
WBL	2	3200	303	.095	245	.077
WBT	2	3200	312	.098*	401	.125*
WBR	1	1600	201	.126	212	.133
Right Turn Adjustment			WBR	.006*		
Note: Assumes Right-Turn Overlap for SBR WBR						
TOTAL CAPACITY UTILIZATION				.784		.743

49 . MacArhtur Bl at Ford Dr

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	204	.064*	117	.037
NBT	4	6400	2311	.361	2669	.417*
NBR	f		106		483	
SBL	3	4800	584	.122	1016	.212*
SBT	4	6400	2821	.441*	2455	.384
SBR	f		32		61	
EBL	2	3200	65	.020	57	.018
EBT	2	3200	321	.100*	491	.153*
EBR	1	1600	103	.064	81	.051
WBL	2	3200	499	.156*	213	.067*
WBT	2	3200	712	.223	312	.098
WBR	f		862		664	
TOTAL CAPACITY UTILIZATION				.761		.849

50 . MacArthur B1 at San Joaqui

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	88	.028*	66	.021
NBT	4	6400	1520	.239	1823	.289*
NBR	0	0	8		24	
SBL	3	4800	501	.104	578	.120*
SBT	3	4800	1510	.315*	1665	.347
SBR	f		1301		519	
EBL	3	4800	250	.052*	897	.187*
EBT	3	4800	312	.085	588	.149
EBR	0	0	96		128	
WBL	1	1600	26	.016	37	.023
WBT	2	3200	374	.117*	325	.102*
WBR	f		843		440	
TOTAL CAPACITY UTILIZATION				.512		.698

51 . MacArthur B1 at San Miguel

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	141	.044	71	.022*
NBT	3	4800	1332	.278*	897	.187
NBR	1	1600	120	.075	271	.169
SBL	2	3200	5	.002*	5	.002
SBT	3	4800	832	.173	1367	.285*
SBR	1	1600	798	.499	461	.288
EBL	3	4800	265	.055*	983	.205*
EBT	2	3200	114	.036	506	.158
EBR	d	1600	18	.011	149	.093
WBL	2	3200	299	.093	298	.093
WBT	2	3200	460	.144*	230	.072*
WBR	d	1600	13	.008	33	.021
Right Turn Adjustment			SBR	.263*	SBR	.003*
TOTAL CAPACITY UTILIZATION				.742		.587

52 . MacArhtur B1 at Coast Hw

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	583	.182*	793	.248*
SBT	0	0	0		0	
SBR	f		367		578	
EBL	2	3200	550	.172*	537	.168*
EBT	3	4800	499	.104	1322	.275
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1077	.224*	1185	.247*
WBR	f		863		635	
TOTAL CAPACITY UTILIZATION				.578		.663

53 . SR-73 NB at Bonita Canyon

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	584	.183*	235	.073*
NBT	0	0	0		0	
NBR	1	1600	124	.078	47	.029
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	959	.300*	1383	.432*
EBR	1	1600	139	.087	121	.076
WBL	2	3200	563	.176*	249	.078*
WBT	2	3200	931	.291	1065	.333
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.659		.583

54 . SR-73 SB at Bonita Canyon

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	109	.034*	196	.061*
NBT	0	0	0		0	
NBR	1	1600	209	.131	284	.178
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1600	0	.000	0	.000
EBT	2	3200	881	.275	1226	.383*
EBR	1	1600	187	.117	629	.393
WBL	2	3200	33	.010	101	.032*
WBT	3	4800	1511	.315*	1214	.253
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.097*	Multi	.127*
TOTAL CAPACITY UTILIZATION				.446		.603

55 . Spyglass Hill at San Miguel

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	47	.029	65	.041
NBT	1	1600	17	.133*	15	.141*
NBR	0	0	196		210	
SBL	0.5		32	{.020}*	33	{.021}*
SBT	0.5	1600	27	.037	13	.029
SBR	1	1600	41	.026	44	.028
EBL	1	1600	23	.014	41	.026
EBT	2	3200	311	.097*	512	.160*
EBR	d	1600	26	.016	39	.024
WBL	1	1600	147	.092*	183	.114*
WBT	2	3200	402	.126	341	.107
WBR	d	1600	30	.019	26	.016
TOTAL CAPACITY UTILIZATION				.342		.436

56 . San Miguel at San Joaquin

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	0	.000	2	.001
NBT	2	3200	271	.085*	481	.150*
NBR	d	1600	107	.067	292	.183
SBL	1	1600	70	.044*	84	.053*
SBT	2	3200	405	.127	270	.084
SBR	d	1600	274	.171	201	.126
EBL	2	3200	243	.076	506	.158*
EBT	3	4800	493	.103*	751	.156
EBR	d	1600	29	.018	24	.015
WBL	1	1600	327	.204*	193	.121
WBT	3	4800	966	.201	609	.127*
WBR	d	1600	86	.054	58	.036
Right Turn Adjustment			SBR	.042*	NBR	.033*
TOTAL CAPACITY UTILIZATION				.478	.521	

57 . Goldenrod Av at Coast Hw

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	214	{.134}*	148	{.092}*
NBT	1	1600	27	.164	10	.126
NBR	0	0	21		43	
SBL	0	0	57		48	
SBT	1	1600	16	.088*	20	.088*
SBR	0	0	68		72	
EBL	1	1600	33	.021*	52	.033
EBT	2	3200	1312	.434	1904	.617*
EBR	0	0	77		69	
WBL	1	1600	57	.036	71	.044*
WBT	2	3200	1888	.599*	1675	.529
WBR	0	0	30		18	
TOTAL CAPACITY UTILIZATION				.842	.841	

62 . Newport Coast Dr at SR-73

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	2	3200	1037	.324*	781	.244*
NBR	f		520		170	
SBL	0	0	0		0	
SBT	2	3200	633	.198	762	.238
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		417		238	
WBT	0	3200	0	.156*	0	.087*
WBR	0.5		83		39	
TOTAL CAPACITY UTILIZATION				.480		.331

63 . Newport Coast Dr at SR-73

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1535	.320	930	.194
NBR	f		231		350	
SBL	0	0	0		0	
SBT	2	3200	1053	.329*	1000	.313*
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	f		281		560	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.329		.313

64 . Newport Coast at San Joanqu

GP Project						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	2	3200	197	.062	128	.040*
NBT	3	4800	1210	.252*	808	.168
NBR	0	0	0		0	
SBL	1	1600	0	.000	0	.000
SBT	3	4800	788	.164	1140	.238*
SBR	1	1600	383	.239	392	.245
EBL	1	1600	510	.319*	452	.283*
EBT	0	0	0		0	
EBR	2	3200	72	.023	150	.047
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			SBR	.049*	SBR	.007*
TOTAL CAPACITY UTILIZATION				.620		.568

65 . Newport Coast Dr at Coast

GP Project						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1600	7	.004	16	.010
NBT	1	1600	9	.006*	22	.014*
NBR	d	1600	5	.003	13	.008
SBL	2	3200	312	.098*	708	.221*
SBT	1	1600	18	.011	6	.004
SBR	f		149		265	
EBL	1	1600	191	.119*	170	.106*
EBT	3	4800	533	.111	1245	.259
EBR	1	1600	6	.004	3	.002
WBL	1	1600	6	.004	1	.001
WBT	3	4800	1194	.249*	993	.207*
WBR	f		670		398	
TOTAL CAPACITY UTILIZATION				.472		.548

66 . Newport Bl (W) at Coast

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	480	.150*	577	.180*
SBT	0	0	0		0	
SBR	1	1600	558	.349	510	.319
EBL	0	0	0		0	
EBT	2	3200	2740	.856*	1743	.545*
EBR	f		140		90	
WBL	0	0	0		0	
WBT	3	4800	1202	.250	2280	.475
WBR	f		370		640	
Right Turn Adjustment			SBR	.199*	SBR	.139*
TOTAL CAPACITY UTILIZATION				1.205		.864

90 . 15th St at Coast Hw

1B

GP Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	315	.098*	208	.065*
SBT	0	0	0		0	
SBR	2	3200	325	.102	472	.148
EBL	2	3200	647	.202	286	.089*
EBT	3	4800	3545	.739*	1309	.273
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1145	.239	3315	.691*
WBR	1	1600	203	.127	321	.201
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION				.837		.845

85 . Red Hill Av. at Barranca Pkwy.

86 . Red Hill Av. at Alton Pkwy.

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3400	222	.07*	570	.17
NBT	4	6800	392	.06	1705	.25*
NBR	d	1700	80	.05	292	.17
SBL	2	3400	364	.11	292	.09*
SBT	4	6800	954	.14*	480	.07
SBR	d	1700	161	.09	167	.10
EBL	2	3400	191	.06	251	.07*
EBT	4	6800	1265	.22*	925	.15
EBR	0	0	258		100	
WBL	2	3400	408	.12*	178	.05
WBT	4	6800	996	.15	1587	.23*
WBR	1	1700	289	.17	615	.36
Right Turn Adjustment					WBR	.06*
Clearance Interval				.05*		.05*

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1700	397	.23*	369	.22
NBT	3	5100	494	.10	1867	.37*
NBR	1	1700	332	.20	233	.14
SBL	1	1700	259	.15	143	.08*
SBT	3	5100	861	.17*	774	.15
SBR	1	1700	311	.18	115	.07
EBL	2	3400	280	.08	261	.08*
EBT	2	3400	1066	.31*	822	.24
EBR	1	1700	346	.20	415	.24
WBL	2	3400	269	.08*	316	.09
WBT	2	3400	760	.22	982	.29*
WBR	f		185		249	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .60 .75

TOTAL CAPACITY UTILIZATION .84 .87

67 . Red Hill Av. at MacArthur Blvd.

68 . MacArthur Bl. at Main St.

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3400	102	.03	182	.05
NBT	3	5100	1078	.22*	1139	.23*
NBR	0	0	24		34	
SBL	2	3400	431	.13*	554	.16*
SBT	3	5100	693	.14	860	.17
SBR	f		386		979	
EBL	2	3400	886	.26*	610	.18*
EBT	3	5100	766	.15	619	.12
EBR	d	1700	93	.05	61	.04
WBL	1	1700	55	.03	51	.03
WBT	3	5100	505	.10*	1061	.21*
WBR	f		992		793	
Clearance Interval				.05*		.05*

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3400	728	.21*	635	.19*
NBT	4	6800	1250	.18	1415	.21
NBR	f		1198		552	
SBL	2	3400	375	.11	398	.12
SBT	4	6800	718	.11*	1064	.16*
SBR	1	1700	77	.05	79	.05
EBL	1	1700	62	.04	83	.05
EBT	3	5100	888	.17*	898	.18*
EBR	1	1700	527	.31	702	.41
WBL	2	3400	308	.09*	761	.22*
WBT	3	5100	571	.11	1072	.21
WBR	f		108		533	
Right Turn Adjustment					EBR	.04*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .76 .83

TOTAL CAPACITY UTILIZATION .63 .84

Note: Assumes Right-Turn Overlap for EBR

69 . MacArthur Bl. at I-405 NB Ramps

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	4	6800	2105	.31*	2183	.32*
NBR	2	3400	392	.12	1206	.35
SBL	2	3400	159	.05*	479	.14*
SBT	4	6800	1386	.20	2105	.31
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	914	.27*	517	.15*
WBT	0	0	0		0	
WBR	2	3400	1087	.32	428	.13
Right Turn Adjustment			WBR	.01*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .69 .66

70 . MacArthur Bl. at I-405 SB Ramps

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	4	6800	1628	.24*	2990	.44*
NBR	1	1700	447	.26	682	.40
SBL	2	3400	156	.05*	468	.14*
SBT	4	6800	1764	.26	1788	.26
SBR	1	1700	387	.23	387	.23
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	987	.29*	535	.16*
WBT	1	1700	148	.09	158	.09
WBR	f		810		366	
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for NBR						

TOTAL CAPACITY UTILIZATION .63 .79

71 . MacArthur Bl. at Michelson Dr.

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	275	.16	158	.09
NBT	4	6800	1427	.21*	1864	.27*
NBR	1	1700	315	.19	122	.07
SBL	2	3400	1024	.30*	619	.18*
SBT	4	6800	1631	.24	1626	.24
SBR	0	0	14		12	
EBL	2	3400	355	.10*	361	.11
EBT	1	1700	77	.05	83	.05*
EBR	1	1700	85	.05	140	.08
WBL	2	3400	106	.03	550	.16*
WBT	1	1700	69	.04*	91	.05
WBR	1	1700	263	.15	794	.47
Right Turn Adjustment					WBR	.19*
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for WBR						

TOTAL CAPACITY UTILIZATION .70 .90

72 . Von Karman Av. at Barranca Pkwy.

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	177	.05*	332	.10
NBT	2	3400	571	.17	1463	.43*
NBR	d	1700	164	.10	376	.22
SBL	2	3400	225	.07	428	.13*
SBT	2	3400	1133	.33*	678	.20
SBR	2	3400	341	.10	388	.11
EBL	2	3400	223	.07*	506	.15
EBT	3	5100	578	.11	1183	.23*
EBR	1	1700	231	.14	186	.11
WBL	2	3400	539	.16	162	.05*
WBT	4	6800	1483	.22*	839	.12
WBR	1	1700	532	.31	393	.23
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for SBR						

TOTAL CAPACITY UTILIZATION .72 .89

73 . Von Karman Av. at Alton Pkwy.

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1700	152	.09*	26	.02
NBT	2	3400	618	.18	1733	.51*
NBR	d	1700	108	.06	282	.17
SBL	1	1700	80	.05	155	.09*
SBT	2	3400	1416	.42*	728	.21
SBR	d	1700	205	.12	149	.09
EBL	1	1700	145	.09	162	.10*
EBT	2	3400	740	.22*	978	.29
EBR	d	1700	48	.03	138	.08
WBL	1	1700	219	.13*	142	.08
WBT	2	3400	718	.21	911	.27*
WBR	d	1700	142	.08	103	.06
Clearance Interval				.05*	.05*	

TOTAL CAPACITY UTILIZATION .91 1.02

74 . Von Karman Av. at Main St.

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3400	219	.06*	314	.09
NBT	2	3400	544	.16	1199	.35*
NBR	1	1700	152	.09	387	.23
SBL	1	1700	121	.07	177	.10*
SBT	2	3400	1080	.32*	650	.19
SBR	1	1700	332	.20	235	.14
EBL	2	3400	238	.07*	522	.15*
EBT	3	5100	708	.14	1683	.33
EBR	f		307		284	
WBL	2	3400	357	.11	186	.05
WBT	3	5100	935	.20*	1254	.28*
WBR	0	0	100		172	
Clearance Interval				.05*	.05*	

TOTAL CAPACITY UTILIZATION .70 .93

76 . Von Karman Av. at Michelson Dr.

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1700	53	.03	46	.03
NBT	2	3400	886	.26*	1146	.34*
NBR	1	1700	148	.09	129	.08
SBL	1	1700	380	.22*	277	.16*
SBT	2	3400	1141	.42	944	.32
SBR	0	0	282		159	
EBL	1	1700	167	.10*	319	.19*
EBT	2	3400	287	.10	548	.19
EBR	0	0	44		81	
WBL	1	1700	200	.12	200	.12
WBT	2	3400	468	.14*	671	.20*
WBR	f		457		645	
Clearance Interval				.05*	.05*	

TOTAL CAPACITY UTILIZATION .77 .94

77 . Jamboree Rd. at Barranca Pkwy.

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	2	3400	216	.06*	465	.14
NBT	5	8500	1132	.13	2841	.33*
NBR	1	1700	239	.14	239	.14
SBL	2	3400	482	.14	443	.13*
SBT	4	6800	3217	.47*	1544	.23
SBR	f		1574		442	
EBL	2.5		192	.06	930	
EBT	2.5	8500	567	.11*	915	.22*
EBR	1	1700	126	.07	271	.16
WBL	2	3400	259	.08	229	.07
WBT	3	5100	811	.16*	981	.19*
WBR	f		248		657	
Clearance Interval				.05*		.05*
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .85 .92

78 . Jamboree Rd. at Alton Pkwy.

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	2	3400	158	.05*	277	.08
NBT	4	6800	1299	.19	2802	.41*
NBR	1	1700	236	.14	237	.14
SBL	2	3400	264	.08	326	.10*
SBT	4	6800	2991	.48*	1454	.26
SBR	0	0	272		282	
EBL	2	3400	134	.04	452	.13
EBT	3	5100	542	.15*	871	.22*
EBR	0	0	213		264	
WBL	2	3400	273	.08*	261	.08*
WBT	3	5100	770	.15	681	.13
WBR	d	1700	171	.10	255	.15
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .81 .86

79 . Jamboree Rd. at Main St.

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	2	3400	460	.14*	242	.07
NBT	5	8500	1580	.19	2614	.31*
NBR	1	1700	411	.24	523	.31
SBL	2	3400	370	.11	265	.08*
SBT	5	8500	2637	.31*	1850	.22
SBR	1	1700	419	.25	270	.16
EBL	2	3400	166	.05	630	.19
EBT	3	5100	367	.07*	1208	.24*
EBR	f		250		721	
WBL	2	3400	479	.14*	479	.14*
WBT	3	5100	686	.13	571	.11
WBR	1	1700	139	.08	392	.23
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for SBR						

TOTAL CAPACITY UTILIZATION .71 .82

80 . Jamboree Rd. at I-405 NB Ramps

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	0		0	
NBT	3	5100	2026	.40*	3155	.62*
NBR	f		536		752	
SBL	0	0	3		0	
SBT	4	6800	2232	.33	2196	.32
SBR	f		1121		999	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	3	5100	1505	.30*	1017	.20*
WBT	0	0	0		0	
WBR	f		944		404	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .75 .87

81 . Jamboree Rd. at I-405 SB Ramps

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	8		0	
NBT	4	6800	1737	.26	2837	.42*
NBR	f		798		1386	
SBL	0	0	0		0	
SBT	4	6800	3431	.50*	2515	.37
SBR	f		291		795	
EBL	1.5		878	{.37}*	929	.27*
EBT	0	6800	0	.37	0	
EBR	2.5		1645		993	{.27}
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .92 .74

82 . Jamboree Rd. at Michelson Dr.

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	209	.12	86	.05
NBT	4	6800	1605	.24*	2373	.35*
NBR	f		360		419	
SBL	2	3400	1269	.37*	953	.28*
SBT	4	6800	2446	.36	1864	.27
SBR	f		1146		604	
EBL	2	3400	315	.09*	728	.21*
EBT	2	3400	404	.12	852	.25
EBR	1	1700	91	.05	104	.06
WBL	2	3400	333	.10	358	.11
WBT	2	3400	684	.20*	554	.16*
WBR	f		691		1189	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .95 1.05

83 . Carlson Av. at Michelson Dr.

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	426	.13*	175	.05*
NBT	2	3400	211	.06	90	.03
NBR	1	1700	251	.15	382	.22
SBL	2	3400	66	.02	181	.05
SBT	1	1700	42	.02*	261	.15*
SBR	f		300		1199	
EBL	2	3400	1015	.30*	659	.19
EBT	2	3400	842	.25	1234	.36*
EBR	1	1700	96	.06	352	.21
WBL	1	1700	218	.13	472	.28*
WBT	2	3400	922	.27*	952	.28
WBR	f		244		212	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .77 .89

84 . Carlson Av. at Campus Dr.

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1700	235	.14*	290	.17*
SBT	0	0	0		0	
SBR	1	1700	268	.16	274	.16
EBL	1	1700	197	.12*	318	.19*
EBT	2	3400	943	.28	1290	.38
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3400	1145	.34*	1176	.35*
WBR	d	1700	186	.11	288	.17
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .65 .76

87 . Harvard Av. at Michelson Dr.

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	100	.06*	92	.05
NBT	2	3400	292	.10	1019	.33*
NBR	0	0	32		87	
SBL	2	3400	176	.05	271	.08*
SBT	2	3400	834	.25*	653	.19
SBR	1	1700	527	.31	263	.15
EBL	2	3400	138	.04*	526	.15*
EBT	2	3400	354	.10	994	.29
EBR	f		64		168	
WBL	1	1700	105	.06	103	.06
WBT	2	3400	719	.25*	528	.20*
WBR	0	0	120		156	
Right Turn Adjustment			SBR	.03*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .68 .81

88 . Harvard Av. at University Dr.

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	73	.04*	61	.04
NBT	2	3400	261	.08	833	.25*
NBR	d	1700	103	.06	210	.12
SBL	1	1700	39	.02	80	.05*
SBT	2	3400	596	.18*	589	.17
SBR	d	1700	310	.18	229	.13
EBL	1	1700	97	.06*	374	.22
EBT	3	5100	817	.17	1881	.38*
EBR	0	0	40		46	
WBL	1	1700	186	.11	171	.10*
WBT	3	5100	2106	.43*	1020	.21
WBR	0	0	83		63	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .76 .83

89 . University Dr. at Campus Dr.

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	122	.04*	294	.09
NBT	3	5100	800	.16	1519	.30*
NBR	1	1700	363	.21	358	.21
SBL	2	3400	173	.05	100	.03*
SBT	3	5100	1754	.34*	976	.19
SBR	1	1700	538	.32	207	.12
EBL	2	3400	101	.03	601	.18*
EBT	2	3400	818	.24*	970	.29
EBR	d	1700	371	.22	129	.08
WBL	2	3400	201	.06*	425	.13
WBT	2	3400	674	.20	1045	.31*
WBR	d	1700	35	.02	181	.11
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .73 .87

90 . MacArthur Blvd. NB at University Dr.

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	18	.01*	10	.01*
NBT	0	0	0		0	
NBR	1	1700	326	.19	256	.15
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5100	1823	.36*	1462	.29*
EBR	d	1700	141	.08	109	.06
WBL	2	3400	562	.17*	1267	.37*
WBT	3	5100	873	.17	943	.18
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.05*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .64 .72

GP Project (IRVINE ISEC)						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1700	298	.18*	819	.48*
NBT	3	5100	418	.08	106	.02
NBR	d	1700	25	.01	123	.07
SBL	1	1700	1	.00	34	.02
SBT	3	5100	11	.00*	272	.05*
SBR	d	1700	0	.00	265	.16
EBL	1	1700	280	.16*	20	.01*
EBT	0	0	62		238	
EBR	1	1700	965	.57	208	.12
WBL	1	1700	94	.06	11	.01
WBT	0	0	276		136	
WBR	1	1700	21	.01	0	.00
Right Turn Adjustment			EBR	.33*	SBR	.10*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.72	.69	

93 . Jamboree Rd. at Fairchild Rd.

GP Project (NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	12	.01	0	.00
NBT	3	4800	1417	.31*	1579	.33*
NBR	0	0	78		19	
SBL	2	3200	397	.12*	330	.10*
SBT	4	6400	1431	.22	1888	.29
SBR	d	1600	8	.01	29	.02
EBL	1	1600	26	.02	37	.02
EBT	1	1600	0	.02*	9	.07*
EBR	0	0	37		97	
WBL	1	1600	10	.01*	42	.03*
WBT	1	1600	0	.00	9	.01
WBR	1	1600	325	.20	367	.23
Right Turn Adjustment			WBR	.19*	WBR	.15*

TOTAL CAPACITY UTILIZATION .65 .68

92 . Fairchild Av. at MacArthur Bl.

GP Project (NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	47	.03*	447	.28*
SBT	0	0	0		0	
SBR	1	1600	23	.01	234	.15
EBL	1	1600	269	.17*	46	.03
EBT	3	4800	976	.20	2118	.44*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1891	.50*	1077	.26
WBR	0	0	528		174	

TOTAL CAPACITY UTILIZATION .70 .72

91 . MacArthur Blvd. SB at University Dr.

GP Project (NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	91	.06*	115	.07*
NBT	0	0	0		0	
NBR	1	1600	658	.41	445	.28
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	4800	1306	.29*	1188	.25*
EBR	0	0	66		20	
WBL	2	3200	101	.03*	281	.09*
WBT	3	4800	976	.20	872	.18
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.35*	NBR	.21*

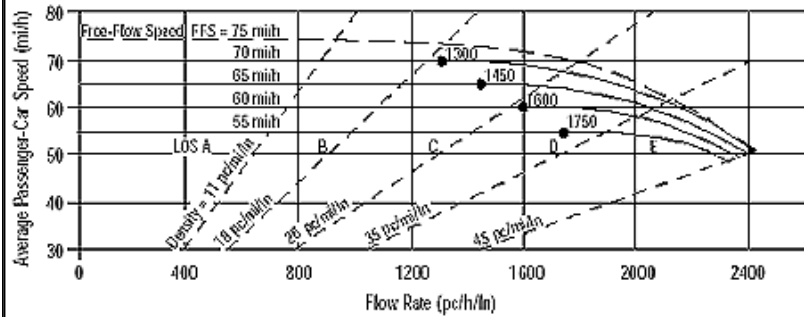
TOTAL CAPACITY UTILIZATION .73 .62

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APPENDIX 4.4

General Plan LUE Amendment (Proposed Project)
Freeway Mainline Analysis Worksheets

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	10396	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2305 pc/h/ln	Design LOS	
S	56.8 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	40.6 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-55 to MacArthur Blvd.
Date Performed	02/19/20014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	13294	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	75.0 mi/h	FFS	75.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2456 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs

Volume, V	12367	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length	mi
Driver type adjustment	1.00		Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width	12.0	ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0	ft	f_{LC}	mi/h
Interchange Density	0.50	l/mi	f_{ID}	mi/h
Number of Lanes, N	7		f_N	mi/h
FFS (measured)	70.0	mi/h	FFS	70.0
Base free-flow Speed, BFFS		mi/h		

Calc Speed Adj and FFS

LOS and Performance Measures

Operational (LOS)	Design (N)
Design LOS	Design LOS
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$
1959	pc/h
pc/h/ln	pc/h
S	S
65.6	mi/h
mi/h	mi/h
$D = v_p / S$	$D = v_p / S$
29.9	pc/mi/ln
pc/mi/ln	pc/mi/ln
LOS	Required Number of Lanes, N
D	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	10722	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	7	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1698 pc/h/ln	Design LOS	
S	68.8 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	24.7 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	8883	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00		E_R
E_T	1.5		$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS			

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1970 pc/h/ln	Design LOS	
S	65.4 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	30.1 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-55 to MacArthur Blvd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	11921	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

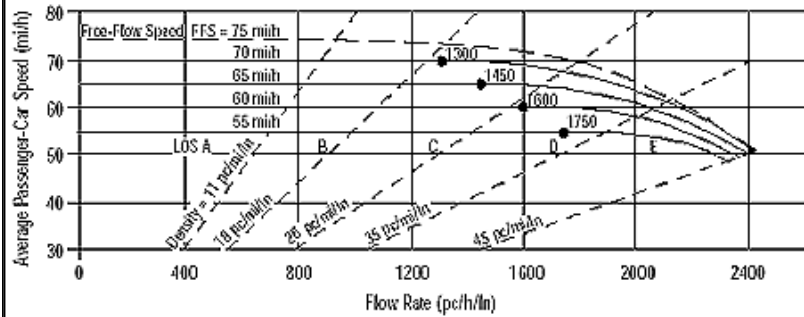
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2203 pc/h/ln	Design LOS	
S	60.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	36.7 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	12729	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2352 pc/h/ln	Design LOS	
S	55.2 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	42.6 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	13031	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2408 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	6750	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1853 pc/h/ln	Design LOS	
S	67.2 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	27.6 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	8403	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2306 pc/h/ln	Design LOS	
S	56.8 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	40.6 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	7289	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2001 pc/h/ln	Design LOS	
S	64.8 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	30.9 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Bonita Canyon Dr.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4289	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

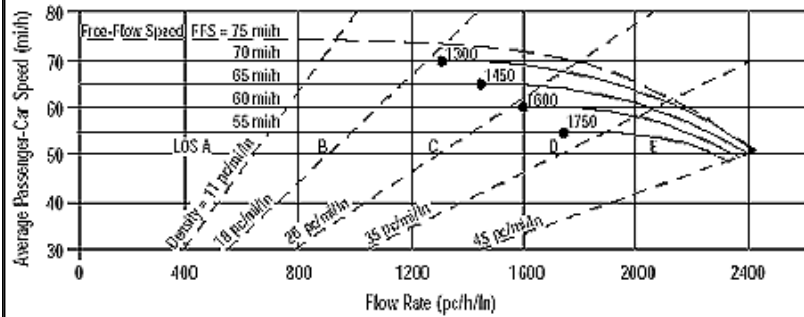
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	942 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	13.5 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	Bonita Canyon to Newport Coast
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	4191	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1150 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	16.4 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	5972	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1639 pc/h/ln	Design LOS	
S	69.2 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	23.7 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	8658	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2376 pc/h/ln	Design LOS	
S	54.3 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	43.8 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	7442	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2043 pc/h/ln	Design LOS	
S	64.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	31.9 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Bonita Canyon Dr.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4407	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	968 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	13.8 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads	From/To	Bonita Canyon to Newport Coast
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	4413	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1211 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	17.3 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	Dyer Rd. to MacArthur Blvd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	6355	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1174 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	16.8 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	MacArthur Blvd. to I-405
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	5339	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	987 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	14.1 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	I-405 to SR-73
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	3404	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	943 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	13.5 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-73 to Mesa Dr.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS) Des.(N) Planning Data

Flow Inputs

Volume, V	3736	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length	mi
Driver type adjustment	1.00		Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs

Lane Width	12.0	ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0	ft	f_{LC}	mi/h
Interchange Density	0.50	l/mi	f_{ID}	mi/h
Number of Lanes, N	4		f_N	mi/h
FFS (measured)	70.0	mi/h	FFS	70.0
Base free-flow Speed, BFFS		mi/h		

Calc Speed Adj and FFS

LOS and Performance Measures

<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1036	pc/h/ln	Design LOS
S	70.0	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$
$D = v_p / S$	14.8	pc/mi/ln	S
LOS	B		$D = v_p / S$
			Required Number of Lanes, N

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	Mesa Dr. to 22nd/Victoria Av.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	3341	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	926 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	13.2 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	22nd St./Victoria Av. to End
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	2553	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	3	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	943 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	13.5 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	Dyer Rd. to MacArthur Blvd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	14054	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	3116 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	MacArthur Blvd. to I-405
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	13849	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00		E_R
E_T	1.5		$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS			

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2559 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	I-405 to SR-73
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	9619	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

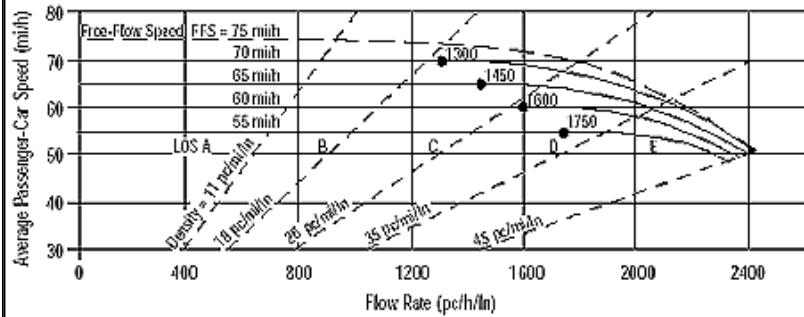
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2666 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-73 to Mesa Dr.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	9398	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2605 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	Mesa Dr. to 22nd/Victoria Av.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	8346	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2313 pc/h/ln	Design LOS	
S	56.5 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	40.9 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	22nd St./Victoria Av. to End
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	6283	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	3	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2322 pc/h/ln	Design LOS	
S	56.2 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	41.3 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	11015	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2442 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-55 to MacArthur Blvd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	11239	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

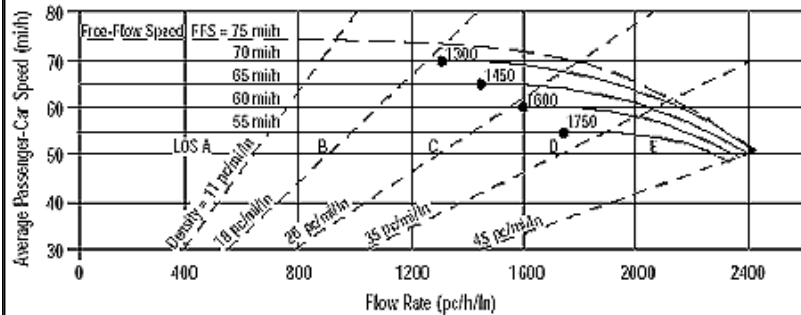
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	75.0 mi/h	FFS	75.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2077 pc/h/ln	Design LOS	
S	65.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	31.9 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	11507	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	7	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1823 pc/h/ln	Design LOS	
S	67.6 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	27.0 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	11452	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	7	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1814 pc/h/ln	Design LOS	
S	67.7 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	26.8 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	6603	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1464 pc/h/ln	Design LOS	
S	69.9 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	20.9 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-55 to MacArthur Blvd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	12066	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2230 pc/h/ln	Design LOS	
S	59.2 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	37.7 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	11447	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2115 pc/h/ln	Design LOS	
S	62.4 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	33.9 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	10511	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1942 pc/h/ln	Design LOS	
S	65.9 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	29.5 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	5647	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1550 pc/h/ln	Design LOS	
S	69.6 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	22.3 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	7812	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2144 pc/h/ln	Design LOS	
S	61.6 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	34.8 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	6720	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1844 pc/h/ln	Design LOS	
S	67.3 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	27.4 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Bonita Canyon Dr.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	3857	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

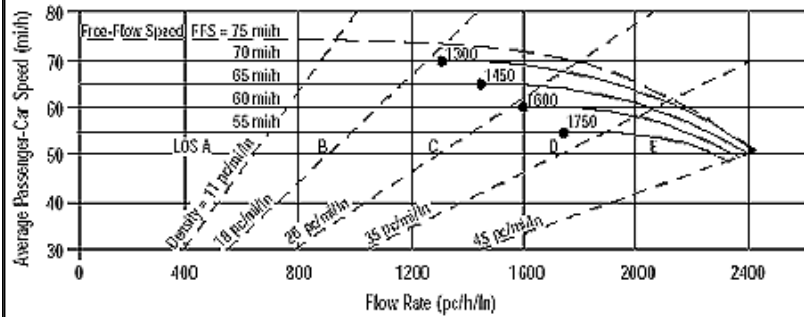
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	847 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	12.1 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	Bonita Canyon to Newport Coast
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	4107	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1127 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	16.1 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	7677	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2107 pc/h/ln	Design LOS	
S	62.6 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	33.7 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	10363	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2844 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	8244	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2263 pc/h/ln	Design LOS	
S	58.2 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	38.9 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Bonita Canyon Dr.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	5003	veh/h	Peak-Hour Factor, PHF 0.92
AA DT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1098 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	15.7 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads	From/To	Bonita Canyon to Newport Coast
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	4915	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1349 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	19.3 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	Dyer Rd. to MacArthur Blvd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	8391	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1551 pc/h/ln	Design LOS	
S	69.6 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	22.3 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	MacArthur Blvd. to I-405
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	8314	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

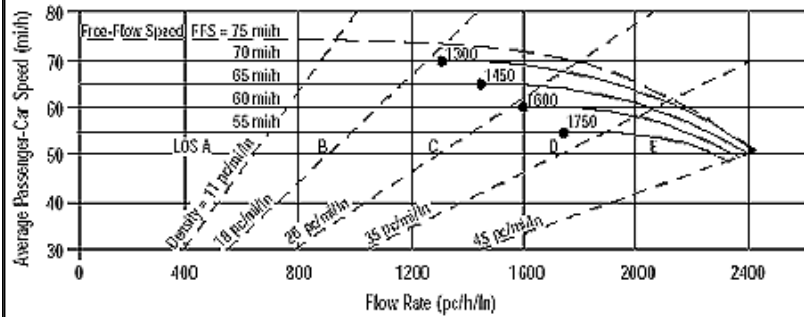
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1536 pc/h/ln	Design LOS	
S	69.7 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	22.0 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	I-405 to SR-73
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	5358	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1485 pc/h/ln	Design LOS	
S	69.8 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	21.3 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-73 to Mesa Dr.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	5505	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1526 pc/h/ln	Design LOS	
S	69.7 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	21.9 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	Mesa Dr. to 22nd/Victoria Av.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4867	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1349 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	19.3 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	22nd St./Victoria Av. to End
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	3671	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	3	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1357 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	19.4 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	Dyer Rd. to MacArthur Blvd.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	11570	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2566 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	MacArthur Blvd. to I-405
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	11068	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2045 pc/h/ln	Design LOS	
S	63.9 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	32.0 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	I-405 to SR-73
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	7384	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2047 pc/h/ln	Design LOS	
S	63.9 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	32.0 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-73 to Mesa Dr.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	7672	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2126 pc/h/ln	Design LOS	
S	62.1 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	34.2 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	Mesa Dr. to 22nd/Victoria Av.
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	6759	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1873 pc/h/ln	Design LOS	
S	66.9 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	28.0 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	22nd St./Victoria Av. to End
Date Performed	02/19/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4929	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	3	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<u>Operational (LOS)</u>		<u>Design (N)</u>	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1822 pc/h/ln	Design LOS	
S	67.6 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	27.0 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

APPENDIX 4.5

General Plan LUE Amendment (Proposed Project)
Freeway Ramp Analysis Worksheets

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs	
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)
Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	10838	0.92	Level	4	0	0.980	1.00	12016
Ramp	1945	0.92	Level	4	0	0.980	1.00	2156
UpStream								
DownStream								

Merge Areas	Diverge Areas																								
Estimation of v₁₂																									
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.260 using Equation (Exhibit 25-12) V ₁₂ = 4095 pc/h V ₃ or V _{av34} 2759 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = 4213 pc/h (Equation 25-18)																								
Capacity Checks																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Actual</th> <th>Capacity</th> <th>LOS F?</th> </tr> </thead> <tbody> <tr> <td>V_{FO}</td> <td></td> <td>Exhibit 25-7</td> <td></td> </tr> </tbody> </table>		Actual	Capacity	LOS F?	V _{FO}		Exhibit 25-7		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Actual</th> <th>Capacity</th> <th>LOS F?</th> </tr> </thead> <tbody> <tr> <td>V_F</td> <td>9613</td> <td>Exhibit 25-14</td> <td>9600 Yes</td> </tr> <tr> <td>V_{FO} = V_F - V_R</td> <td>7457</td> <td>Exhibit 25-14</td> <td>9600 No</td> </tr> <tr> <td>V_R</td> <td>2156</td> <td>Exhibit 25-3</td> <td>4100 No</td> </tr> </tbody> </table>		Actual	Capacity	LOS F?	V _F	9613	Exhibit 25-14	9600 Yes	V _{FO} = V _F - V _R	7457	Exhibit 25-14	9600 No	V _R	2156	Exhibit 25-3	4100 No
	Actual	Capacity	LOS F?																						
V _{FO}		Exhibit 25-7																							
	Actual	Capacity	LOS F?																						
V _F	9613	Exhibit 25-14	9600 Yes																						
V _{FO} = V _F - V _R	7457	Exhibit 25-14	9600 No																						
V _R	2156	Exhibit 25-3	4100 No																						
Flow Entering Merge Influence Area																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Actual</th> <th>Max Desirable</th> <th>Violation?</th> </tr> </thead> <tbody> <tr> <td>V_{R12}</td> <td></td> <td>Exhibit 25-7</td> <td></td> </tr> </tbody> </table>		Actual	Max Desirable	Violation?	V _{R12}		Exhibit 25-7		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Actual</th> <th>Max Desirable</th> <th>Violation?</th> </tr> </thead> <tbody> <tr> <td>V₁₂</td> <td>4095</td> <td>Exhibit 25-14</td> <td>4400:All No</td> </tr> </tbody> </table>		Actual	Max Desirable	Violation?	V ₁₂	4095	Exhibit 25-14	4400:All No								
	Actual	Max Desirable	Violation?																						
V _{R12}		Exhibit 25-7																							
	Actual	Max Desirable	Violation?																						
V ₁₂	4095	Exhibit 25-14	4400:All No																						
Level of Service Determination (if not F)																									
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 9.0 (pc/mi/ln) LOS = F (Exhibit 25-4)																								
Speed Determination																									
M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _s = 0.557 (Exhibit 25-19) S _R = 54.4 mph (Exhibit 25-19) S ₀ = 70.2 mph (Exhibit 25-19) S = 62.3 mph (Exhibit 25-15)																								

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs	
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	9430	0.92	Level	4	0	0.980	1.00	10455
Ramp	603	0.92	Level	4	0	0.980	1.00	669
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.209 using Equation (Exhibit 25-5) V ₁₂ = 1663 pc/h V ₃ or V _{av34} = 3146 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2555 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	8624	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area	Flow Entering Merge Influence Area
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	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3224	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)	Level of Service Determination (if not F)
---	---

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 9.6 (pc/mi/ln) LOS = A (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
---	--

Speed Determination	Speed Determination
---------------------	---------------------

M _S = 0.155 (Exhibit 25-19) S _R = 65.7 mph (Exhibit 25-19) S ₀ = 61.1 mph (Exhibit 25-19) S = 62.7 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
--	---

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 50.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1250 ft V _D = 291 veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8449	0.92	Level	4	0	0.980	1.00	9367
Ramp	2523	0.92	Level	4	0	0.980	1.00	2797
UpStream								
DownStream	291	0.92	Level	4	0	0.980	1.00	323

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.260 using Equation (Exhibit 25-12) V ₁₂ = 4018 pc/h V ₃ or V _{av34} 1738 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)
---	--

Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}	V _F	7494	Exhibit 25-14 9600 No
	V _{FO} = V _F - V _R	4697	Exhibit 25-14 9600 No
	V _R	2797	Exhibit 25-3 4100 No

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}	Exhibit 25-7	4400:All	No

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 9.8 (pc/mi/ln) LOS = A (Exhibit 25-4)
---	--

Speed Determination

Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _S = 0.485 (Exhibit 25-19) S _R = 56.4 mph (Exhibit 25-19) S ₀ = 73.9 mph (Exhibit 25-19) S = 63.4 mph (Exhibit 25-15)
---	--

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off		<input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off
$L_{up} =$ 1250 ft	$S_{FF} =$ 70.0 mph $S_{FR} =$ 30.0 mph	$L_{down} =$ ft
$V_u =$ 2523 veh/h	Sketch (show lanes, L_A, L_D, V_R, V_f)	$V_D =$ veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6952	0.92	Level	4	0	0.980	1.00	7708
Ramp	291	0.92	Level	4	0	0.980	1.00	323
UpStream	2523	0.92	Level	0	0	1.000	1.00	2742
DownStream								

Merge Areas				Diverge Areas			
Estimation of v_{12}				Estimation of v_{12}			
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)
$P_{FM} =$	0.274 using Equation (Exhibit 25-5)	$P_{FD} =$	using Equation (Exhibit 25-12)	$P_{FD} =$	using Equation (Exhibit 25-12)	$P_{FD} =$	using Equation (Exhibit 25-12)
$V_{12} =$	1511 pc/h	$V_{12} =$	pc/h	$V_{12} =$	pc/h	$V_{12} =$	pc/h
V_3 or V_{av34}	2000 pc/h (Equation 25-4 or 25-5)	V_3 or V_{av34}	pc/h (Equation 25-15 or 25-16)	V_3 or V_{av34}	pc/h (Equation 25-15 or 25-16)	V_3 or V_{av34}	pc/h (Equation 25-15 or 25-16)
Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 2,700$ pc/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No	Is V_3 or $V_{av34} > 1.5 * V_{12}/2$	<input type="checkbox"/> Yes <input type="checkbox"/> No
If Yes, $V_{12a} =$	2204 pc/h (Equation 25-8)	If Yes, $V_{12a} =$	pc/h (Equation 25-18)	If Yes, $V_{12a} =$	pc/h (Equation 25-18)	If Yes, $V_{12a} =$	pc/h (Equation 25-18)

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}	5835	Exhibit 25-7	No	V_F		Exhibit 25-14	
				$V_{FO} = V_F - V_R$		Exhibit 25-14	
				V_R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}	2527	Exhibit 25-7	4600:All	No	V_{12}	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R =$ 23.4 (pc/mi/ln)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$	$D_R =$ (pc/mi/ln)
LOS = C (Exhibit 25-4)		LOS = (Exhibit 25-4)	

Speed Determination		Speed Determination	
$M_s =$ 0.354 (Exhibit 25-19)	$S_R =$ 60.1 mph (Exhibit 25-19)	$D_s =$ (Exhibit 25-19)	$S_R =$ mph (Exhibit 25-19)
$S_0 =$ 65.8 mph (Exhibit 25-19)	$S =$ 63.2 mph (Exhibit 25-14)	$S_0 =$ mph (Exhibit 25-19)	$S =$ mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (D)
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1115 ft V _D = 798 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	6952	0.92	Level	4	0	0.980	1.00	7708
Ramp	291	0.92	Level	4	0	0.980	1.00	323
UpStream								
DownStream	798	0.92	Level	0	0	1.000	1.00	867

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
L _{EQ} =	$V_{12} = V_F (P_{FM})$	(Equation 25-2 or 25-3)		L _{EQ} =	$V_{12} = V_R + (V_F - V_R)P_{FD}$	(Equation 25-8 or 25-9)	
P _{FM} =	0.274	using Equation (Exhibit 25-5)		P _{FD} =		using Equation (Exhibit 25-12)	
V ₁₂ =	1511	pc/h		V ₁₂ =		pc/h	
V ₃ or V _{av34}	2000	pc/h (Equation 25-4 or 25-5)		V ₃ or V _{av34}		pc/h (Equation 25-15 or 25-16)	
Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
If Yes, V _{12a} =	2204	pc/h (Equation 25-8)		If Yes, V _{12a} =		pc/h (Equation 25-18)	

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	5835	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2527	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$		
D _R = 23.4 (pc/mi/ln)	D _R = (pc/mi/ln)		
LOS = C (Exhibit 25-4)	LOS = (Exhibit 25-4)		

Speed Determination		Speed Determination	
M _s = 0.354 (Exhibit 25-19)	D _s = (Exhibit 25-19)		
S _R = 60.1 mph (Exhibit 25-19)	S _R = mph (Exhibit 25-19)		
S ₀ = 65.8 mph (Exhibit 25-19)	S ₀ = mph (Exhibit 25-19)		
S = 63.2 mph (Exhibit 25-14)	S = mph (Exhibit 25-15)		

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{up} = 1115 ft V _u = 291 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	7151	0.92	Level	4	0	0.980	1.00	7928
Ramp	798	0.92	Level	4	0	0.980	1.00	885
UpStream	291	0.92	Level	0	0	1.000	1.00	316
DownStream								

Merge Areas				Diverge Areas			
Estimation of v₁₂				Estimation of v₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.209 using Equation (Exhibit 25-5) V ₁₂ = 1185 pc/h V ₃ or V _{av34} = 2242 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2267 pc/h (Equation 25-8)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)			

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	6554	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3152	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 24.2 (pc/mi/ln) LOS = C (Exhibit 25-4)		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _s = 0.343 (Exhibit 25-19)	S _R = 60.4 mph (Exhibit 25-19)	S _s = (Exhibit 25-19)	S _R = mph (Exhibit 25-19)
S ₀ = 65.7 mph (Exhibit 25-19)	S = 63.0 mph (Exhibit 25-14)	S ₀ = mph (Exhibit 25-19)	S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Loop On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off L _{up} = 1360 ft V _u = 2001 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8980	0.92	Level	4	0	0.980	1.00	9956
Ramp	551	0.92	Level	4	0	0.980	1.00	611
UpStream	2001	0.92	Level	0	0	1.000	1.00	2175
DownStream								

Merge Areas	Diverge Areas
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Estimation of v₁₂	Estimation of v₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.560 using Equation (Exhibit 25-5) V ₁₂ = 4172 pc/h V ₃ or V _{av34} = 1642 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	8067	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	4783	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 33.1 (pc/mi/ln) LOS = D (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _s = 0.667 (Exhibit 25-19) S _R = 51.3 mph (Exhibit 25-19) S ₀ = 65.9 mph (Exhibit 25-19) S = 56.4 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1360 ft V _D = 551 veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	10377	0.92	Level	4	0	0.980	1.00	11505
Ramp	2001	0.92	Level	4	0	0.980	1.00	2218
UpStream								
DownStream	551	0.92	Level	4	0	0.980	1.00	611

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
 (Equation 25-2 or 25-3)
 L_{EQ} =
 P_{FM} = using Equation (Exhibit 25-5)
 V₁₂ = pc/h
 V₃ or V_{av34} pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
 (Equation 25-8 or 25-9)
 L_{EQ} =
 P_{FD} = 0.436 using Equation (Exhibit 25-12)
 V₁₂ = 5264 pc/h
 V₃ or V_{av34} 1970 pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V _F	9204	Exhibit 25-14	9600 No
V _{FO} = V _F - V _R	6986	Exhibit 25-14	9600 No
V _R	2218	Exhibit 25-3	2100 Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂	5264	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
 D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
 D_R = 36.0 (pc/mi/ln)
 LOS = F (Exhibit 25-4)

Speed Determination

M_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-14)

Speed Determination

D_S = 0.563 (Exhibit 25-19)
 S_R = 54.2 mph (Exhibit 25-19)
 S₀ = 73.0 mph (Exhibit 25-19)
 S = 61.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{up} = 1035 ft V _u = 536 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8988	0.92	Level	4	0	0.980	1.00	9965
Ramp	1121	0.92	Level	4	0	0.980	1.00	1243
UpStream	536	0.92	Level	4	0	0.980	1.00	594
DownStream								

Merge Areas				Diverge Areas			
Estimation of v₁₂				Estimation of v₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
L _{EQ} =	0.209 using Equation (Exhibit 25-5)			L _{EQ} =	using Equation (Exhibit 25-12)		
P _{FM} =	1560 pc/h			P _{FD} =	pc/h		
V ₁₂ =	2952 pc/h (Equation 25-4 or 25-5)			V ₁₂ =	pc/h (Equation 25-15 or 25-16)		
V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, V _{12a} =	2065 pc/h (Equation 25-8)			If Yes, V _{12a} =	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	8708	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3308	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 21.3 (pc/mi/ln) LOS = C (Exhibit 25-4)		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _s =	0.308 (Exhibit 25-19)	D _s =	(Exhibit 25-19)
S _R =	61.4 mph (Exhibit 25-19)	S _R =	mph (Exhibit 25-19)
S ₀ =	61.1 mph (Exhibit 25-19)	S ₀ =	mph (Exhibit 25-19)
S =	61.2 mph (Exhibit 25-14)	S =	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (D)
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1035 ft V _D = 1121 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8551	0.92	Level	4	0	0.980	1.00	9480
Ramp	536	0.92	Level	4	0	0.980	1.00	594
UpStream								
DownStream	1121	0.92	Level	4	0	0.980	1.00	1243

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
L _{EQ} =	$V_{12} = V_F (P_{FM})$	(Equation 25-2 or 25-3)		L _{EQ} =	$V_{12} = V_R + (V_F - V_R)P_{FD}$	(Equation 25-8 or 25-9)	
P _{FM} =	0.246	using Equation (Exhibit 25-5)		P _{FD} =		using Equation (Exhibit 25-12)	
V ₁₂ =	1715	pc/h		V ₁₂ =		pc/h	
V ₃ or V _{av34}	2632	pc/h (Equation 25-4 or 25-5)		V ₃ or V _{av34}		pc/h (Equation 25-15 or 25-16)	
Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
If Yes, V _{12a} =	2792	pc/h (Equation 25-8)		If Yes, V _{12a} =		pc/h (Equation 25-18)	

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	7574	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3386	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)			Level of Service Determination (if not F)		
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$				
D _R = 29.9 (pc/mi/ln)	D _R = (pc/mi/ln)		D _R = (pc/mi/ln)		
LOS = D (Exhibit 25-4)	LOS = (Exhibit 25-4)		LOS = (Exhibit 25-4)		

Speed Determination		Speed Determination	
M _S = 0.420 (Exhibit 25-19)		D _S = (Exhibit 25-19)	
S _R = 58.2 mph (Exhibit 25-19)		S _R = mph (Exhibit 25-19)	
S ₀ = 64.3 mph (Exhibit 25-19)		S ₀ = mph (Exhibit 25-19)	
S = 61.4 mph (Exhibit 25-14)		S = mph (Exhibit 25-15)	

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off L _{up} = 1245 ft V _u = 2449 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8551	0.92	Level	4	0	0.980	1.00	9480
Ramp	536	0.92	Level	4	0	0.980	1.00	594
UpStream	2449	0.92	Level	4	0	0.980	1.00	2715
DownStream								

Merge Areas				Diverge Areas			
Estimation of v₁₂				Estimation of v₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.246 using Equation (Exhibit 25-5) V ₁₂ = 1715 pc/h V ₃ or V _{av34} = 2632 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2792 pc/h (Equation 25-8)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)			

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	7574	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3386	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 29.9 (pc/mi/ln) LOS = D (Exhibit 25-4)		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _s = 0.420 (Exhibit 25-19)	S _R = 58.2 mph (Exhibit 25-19)	S ₀ = 64.3 mph (Exhibit 25-19)	S = 61.4 mph (Exhibit 25-14)
S _R = 58.2 mph (Exhibit 25-19)	S ₀ = 64.3 mph (Exhibit 25-19)	S = 61.4 mph (Exhibit 25-14)	

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1245 ft V _D = 536 veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	10623	0.92	Level	4	0	0.980	1.00	11778
Ramp	2449	0.92	Level	4	0	0.980	1.00	2715
UpStream								
DownStream	536	0.92	Level	0	0	1.000	1.00	583

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 25-2 or 25-3) P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 25-8 or 25-9) P _{FD} = 0.260 using Equation (Exhibit 25-12) V ₁₂ = 4459 pc/h V ₃ or V _{av34} 2482 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	
	V _F	9423	Exhibit 25-14 9600 No
	V _{FO} = V _F - V _R	6708	Exhibit 25-14 9600 No
		V _R	2715 Exhibit 25-3 4100 No

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	
V ₁₂	4459	Exhibit 25-14 4400:All	No

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 31.1 (pc/mi/ln) LOS = D (Exhibit 25-4)
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Speed Determination

Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _S = 0.607 (Exhibit 25-19) S _R = 53.0 mph (Exhibit 25-19) S ₀ = 71.0 mph (Exhibit 25-19) S = 61.2 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bison Av. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4159	0.92	Level	2	0	0.990	1.00	4566
Ramp	130	0.92	Level	2	0	0.990	1.00	143
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.281 using Equation (Exhibit 25-5) V ₁₂ = 1282 pc/h V ₃ or V _{av34} = 1642 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1826 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4709	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1969	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 18.9 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _S = 0.326 (Exhibit 25-19) S _R = 60.9 mph (Exhibit 25-19) S ₀ = 66.9 mph (Exhibit 25-19) S = 64.2 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information				Site Information				
Analyst	IA	Freeway/Dir of Travel	SR-73 SB	Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Loop Off-Ramp	
Date Performed	02/20/2014	Jurisdiction	Caltrans	Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment	
Project Description City of Newport Beach LUE Amendment TIA (JN08911)								
Inputs								
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h		Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)			Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h			
Conversion to pc/h Under Base Conditions								
	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4289	0.92	Level	2	0	0.990	1.00	4709
Ramp	318	0.92	Level	2	0	0.990	1.00	349
UpStream								
DownStream								
Merge Areas				Diverge Areas				
Estimation of v₁₂				Estimation of v₁₂				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 25-2 or 25-3) P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 25-8 or 25-9) P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 2045 pc/h V ₃ or V _{av34} 1097 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)				
Capacity Checks				Capacity Checks				
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V _{FO}		Exhibit 25-7		V _F	4239	Exhibit 25-14	9600	No
				V _{FO} = V _F - V _R	3890	Exhibit 25-14	9600	No
				V _R	349	Exhibit 25-3	2000	No
Flow Entering Merge Influence Area				Flow Entering Merge Influence Area				
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 25-7		V ₁₂	2045	Exhibit 25-14	4400:All	No
Level of Service Determination (if not F)				Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)				$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 20.3 (pc/mi/ln) LOS = C (Exhibit 25-4)				
Speed Determination				Speed Determination				
M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)				D _s = 0.524 (Exhibit 25-19) S _R = 55.3 mph (Exhibit 25-19) S ₀ = 76.4 mph (Exhibit 25-19) S = 64.5 mph (Exhibit 25-15)				

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3971	0.92	Level	2	0	0.990	1.00	4359
Ramp	220	0.92	Level	2	0	0.990	1.00	242
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.264 using Equation (Exhibit 25-5) V ₁₂ = 899 pc/h V ₃ or V _{av34} = 1251 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1360 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	3643	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area	Flow Entering Merge Influence Area
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	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1602	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)	Level of Service Determination (if not F)
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$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 16.1 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination	Speed Determination
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M _S = 0.318 (Exhibit 25-19) S _R = 61.1 mph (Exhibit 25-19) S ₀ = 68.1 mph (Exhibit 25-19) S = 64.8 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4191	0.92	Level	2	0	0.990	1.00	4601
Ramp	281	0.92	Level	2	0	0.990	1.00	308
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 2180 pc/h V ₃ or V _{av34} 1210 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7		V _F	4601	Exhibit 25-14	9600
				V _{FO} = V _F - V _R	4293	Exhibit 25-14	9600
				V _R	308	Exhibit 25-3	2000

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7		V ₁₂	2180	Exhibit 25-14	4400:All

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 23.0 (pc/mi/ln) LOS = C (Exhibit 25-4)
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Speed Determination

Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _S = 0.521 (Exhibit 25-19) S _R = 55.4 mph (Exhibit 25-19) S ₀ = 76.0 mph (Exhibit 25-19) S = 64.6 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3910	0.92	Level	2	0	0.990	1.00	4292
Ramp	231	0.92	Level	2	0	0.990	1.00	254
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.247 using Equation (Exhibit 25-5) V ₁₂ = 1062 pc/h V ₃ or V _{av34} = 1615 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1716 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4546	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1970	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 19.7 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _S = 0.339 (Exhibit 25-19) S _R = 60.5 mph (Exhibit 25-19) S ₀ = 67.2 mph (Exhibit 25-19) S = 64.1 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bison Av. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="text-align: center;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph Sketch (show lanes, L_A, L_D, V_R, V_f) </div>	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4407	0.92	Level	2	0	0.990	1.00	4838
Ramp	672	0.92	Level	2	0	0.990	1.00	738
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 2315 pc/h V ₃ or V _{av34} 1020 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual		Capacity		LOS F?
V _{FO}	V _F	4355	Exhibit 25-14	9600	No
	V _{FO} = V _F - V _R	3617	Exhibit 25-14	9600	No
	V _R	738	Exhibit 25-3	2000	No

Flow Entering Merge Influence Area

	Actual		Max Desirable		Violation?
V _{R12}		Exhibit 25-7			
V ₁₂	2315	Exhibit 25-14	4400	All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 22.9 (pc/mi/ln) LOS = C (Exhibit 25-4)
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Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _s = 0.559 (Exhibit 25-19) S _R = 54.3 mph (Exhibit 25-19) S ₀ = 76.7 mph (Exhibit 25-19) S = 62.9 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Loop On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3705	0.92	Level	2	0	0.990	1.00	4067
Ramp	702	0.92	Level	2	0	0.990	1.00	771
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.190 using Equation (Exhibit 25-5) V ₁₂ = 602 pc/h V ₃ or V _{av34} = 1285 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1269 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	3944	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2040	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 19.5 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _S = 0.331 (Exhibit 25-19) S _R = 60.7 mph (Exhibit 25-19) S ₀ = 68.4 mph (Exhibit 25-19) S = 64.2 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4413	0.92	Level	2	0	0.990	1.00	4845
Ramp	708	0.92	Level	2	0	0.990	1.00	777
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 2551 pc/h V ₃ or V _{av34} 1147 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V _{FO}		Exhibit 25-7		V _F	4845	Exhibit 25-14	9600	No
				V _{FO} = V _F - V _R	4068	Exhibit 25-14	9600	No
				V _R	777	Exhibit 25-3	2000	No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 25-7		V ₁₂	2551	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 14.9 (pc/mi/ln) LOS = B (Exhibit 25-4)
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Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _s = 0.563 (Exhibit 25-19) S _R = 54.2 mph (Exhibit 25-19) S ₀ = 76.2 mph (Exhibit 25-19) S = 62.8 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs	
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3893	0.92	Level	2	0	0.990	1.00	4274
Ramp	520	0.92	Level	2	0	0.990	1.00	571
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.611 using Equation (Exhibit 25-5) V ₁₂ = 2611 pc/h V ₃ or V _{av34} = 831 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4845	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3182	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 22.2 (pc/mi/ln) LOS = C (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

M _S = 0.340 (Exhibit 25-19) S _R = 60.5 mph (Exhibit 25-19) S ₀ = 68.8 mph (Exhibit 25-19) S = 63.1 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{up} =$ ft $V_u =$ veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{down} =$ ft $V_D =$ veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4393	0.92	Level	2	0	0.990	1.00	4823
Ramp	500	0.92	Level	2	0	0.990	1.00	549
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v_{12}

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$ $L_{EQ} =$ (Equation 25-2 or 25-3) $P_{FM} =$ using Equation (Exhibit 25-5) $V_{12} =$ pc/h V_3 or V_{av34} pc/h (Equation 25-4 or 25-5) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ $L_{EQ} =$ (Equation 25-8 or 25-9) $P_{FD} =$ 0.436 using Equation (Exhibit 25-12) $V_{12} =$ 2412 pc/h V_3 or V_{av34} 1205 pc/h (Equation 25-15 or 25-16) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}		Exhibit 25-7		V_F	4823	Exhibit 25-14	9600
				$V_{FO} = V_F - V_R$	4274	Exhibit 25-14	9600
				V_R	549	Exhibit 25-3	2000

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}		Exhibit 25-7		V_{12}	2412	Exhibit 25-14	4400:All

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ $D_R =$ (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ $D_R =$ 25.0 (pc/mi/ln) LOS = C (Exhibit 25-4)
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Speed Determination

Speed Determination

$M_S =$ (Exhibit 25-19) $S_R =$ mph (Exhibit 25-19) $S_0 =$ mph (Exhibit 25-19) $S =$ mph (Exhibit 25-14)	$D_s =$ 0.542 (Exhibit 25-19) $S_R =$ 54.8 mph (Exhibit 25-19) $S_0 =$ 76.0 mph (Exhibit 25-19) $S =$ 63.7 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	9162	0.92	Level	4	0	0.980	1.00	10158
Ramp	1059	0.92	Level	4	0	0.980	1.00	1174
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.260 using Equation (Exhibit 25-12) V ₁₂ = 2982 pc/h V ₃ or V _{av34} 2572 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3250 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	
	V _F	8127	Exhibit 25-14 9600 No
	V _{FO} = V _F - V _R	6953	Exhibit 25-14 9600 No
	V _R	1174	Exhibit 25-3 4100 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 0.7 (pc/mi/ln) LOS = A (Exhibit 25-4)
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Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _s = 0.469 (Exhibit 25-19) S _R = 56.9 mph (Exhibit 25-19) S ₀ = 71.2 mph (Exhibit 25-19) S = 64.7 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8355	0.92	Level	4	0	0.980	1.00	9263
Ramp	1150	0.92	Level	4	0	0.980	1.00	1275
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.209 using Equation (Exhibit 25-5) V ₁₂ = 1413 pc/h V ₃ or V _{av34} = 2675 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2705 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	8038	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3980	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 15.2 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

M _S = 0.266 (Exhibit 25-19) S _R = 62.6 mph (Exhibit 25-19) S ₀ = 64.5 mph (Exhibit 25-19) S = 63.5 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 50.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1250 ft V _D = 795 veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	7861	0.92	Level	4	0	0.980	1.00	8715
Ramp	1922	0.92	Level	4	0	0.980	1.00	2131
UpStream								
DownStream	795	0.92	Level	4	0	0.980	1.00	881

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
 (Equation 25-2 or 25-3)
 L_{EQ} =
 P_{FM} = using Equation (Exhibit 25-5)
 V₁₂ = pc/h
 V₃ or V_{av34} pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
 (Equation 25-8 or 25-9)
 L_{EQ} =
 P_{FD} = 0.260 using Equation (Exhibit 25-12)
 V₁₂ = 3390 pc/h
 V₃ or V_{av34} 1791 pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V _F	6972	Exhibit 25-14	9600 No
V _{FO} = V _F - V _R	4841	Exhibit 25-14	9600 No
V _R	2131	Exhibit 25-3	4100 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂	3390	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
 D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
 D_R = 4.4 (pc/mi/ln)
 LOS = A (Exhibit 25-4)

Speed Determination

M_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-14)

Speed Determination

D_S = 0.425 (Exhibit 25-19)
 S_R = 58.1 mph (Exhibit 25-19)
 S₀ = 73.7 mph (Exhibit 25-19)
 S = 65.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{up} = 1250 ft V _u = 1922 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	6482	0.92	Level	4	0	0.980	1.00	7187
Ramp	795	0.92	Level	4	0	0.980	1.00	881
UpStream	1922	0.92	Level	0	0	1.000	1.00	2089
DownStream								

Merge Areas				Diverge Areas			
Estimation of v₁₂				Estimation of v₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.204 using Equation (Exhibit 25-5) V ₁₂ = 1072 pc/h V ₃ or V _{av34} = 2087 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2098 pc/h (Equation 25-8)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)			

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	6128	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2979	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 26.7 (pc/mi/ln) LOS = C (Exhibit 25-4)		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _s = 0.382 (Exhibit 25-19)	S _R = 59.3 mph (Exhibit 25-19)	S ₀ = 66.1 mph (Exhibit 25-19)	S = 62.6 mph (Exhibit 25-14)
S _R = 59.3 mph (Exhibit 25-19)	S ₀ = 66.1 mph (Exhibit 25-19)	S = 62.6 mph (Exhibit 25-14)	

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (D)
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1115 ft V _D = 1386 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	6482	0.92	Level	4	0	0.980	1.00	7187
Ramp	795	0.92	Level	4	0	0.980	1.00	881
UpStream								
DownStream	1386	0.92	Level	0	0	1.000	1.00	1507

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
L _{EQ} =	$V_{12} = V_F (P_{FM})$	(Equation 25-2 or 25-3)		L _{EQ} =	$V_{12} = V_R + (V_F - V_R)P_{FD}$	(Equation 25-8 or 25-9)	
P _{FM} =	0.204	using Equation (Exhibit 25-5)		P _{FD} =		using Equation (Exhibit 25-12)	
V ₁₂ =	1072	pc/h		V ₁₂ =		pc/h	
V ₃ or V _{av34}	2087	pc/h (Equation 25-4 or 25-5)		V ₃ or V _{av34}		pc/h (Equation 25-15 or 25-16)	
Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
If Yes, V _{12a} =	2098	pc/h (Equation 25-8)		If Yes, V _{12a} =		pc/h (Equation 25-18)	

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	6128	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2979	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$		
D _R = 26.7 (pc/mi/ln)	D _R = (pc/mi/ln)		
LOS = C (Exhibit 25-4)	LOS = (Exhibit 25-4)		

Speed Determination		Speed Determination	
M _s = 0.382 (Exhibit 25-19)	D _s = (Exhibit 25-19)	S _R = 59.3 mph (Exhibit 25-19)	S _R = mph (Exhibit 25-19)
S _R = 59.3 mph (Exhibit 25-19)	S ₀ = 66.1 mph (Exhibit 25-19)	S ₀ = 62.6 mph (Exhibit 25-14)	S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{up} = 1115 ft V _u = 795 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	7025	0.92	Level	4	0	0.980	1.00	7789
Ramp	1386	0.92	Level	4	0	0.980	1.00	1537
UpStream	795	0.92	Level	0	0	1.000	1.00	864
DownStream								

Merge Areas				Diverge Areas			
Estimation of v₁₂				Estimation of v₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
L _{EQ} =	0.209 using Equation (Exhibit 25-5)			L _{EQ} =	using Equation (Exhibit 25-12)		
P _{FM} =	1164 pc/h			P _{FD} =	pc/h		
V ₁₂ =	2203 pc/h (Equation 25-4 or 25-5)			V ₁₂ =	pc/h (Equation 25-15 or 25-16)		
V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, V _{12a} =	2228 pc/h (Equation 25-8)			If Yes, V _{12a} =	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	7107	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3765	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 28.7 (pc/mi/ln) LOS = D (Exhibit 25-4)		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _s =	0.420 (Exhibit 25-19)	D _s =	(Exhibit 25-19)
S _R =	58.2 mph (Exhibit 25-19)	S _R =	mph (Exhibit 25-19)
S ₀ =	65.8 mph (Exhibit 25-19)	S ₀ =	mph (Exhibit 25-19)
S =	61.6 mph (Exhibit 25-14)	S =	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Loop On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off L _{up} = 1360 ft V _u = 945 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8446	0.92	Level	4	0	0.980	1.00	9364
Ramp	1685	0.92	Level	4	0	0.980	1.00	1868
UpStream	945	0.92	Level	0	0	1.000	1.00	1027
DownStream								

Merge Areas				Diverge Areas			
Estimation of v₁₂				Estimation of v₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
L _{EQ} =	0.402 using Equation (Exhibit 25-5)			L _{EQ} =	using Equation (Exhibit 25-12)		
P _{FM} =	2762 pc/h			P _{FD} =	pc/h		
V ₁₂ =	2051 pc/h (Equation 25-4 or 25-5)			V ₁₂ =	pc/h (Equation 25-15 or 25-16)		
V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, V _{12a} =	pc/h (Equation 25-8)			If Yes, V _{12a} =	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	8732	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	4630	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 31.3 (pc/mi/ln) LOS = D (Exhibit 25-4)		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _s =	0.601 (Exhibit 25-19)	D _s =	(Exhibit 25-19)
S _R =	53.2 mph (Exhibit 25-19)	S _R =	mph (Exhibit 25-19)
S ₀ =	64.4 mph (Exhibit 25-19)	S ₀ =	mph (Exhibit 25-19)
S =	57.9 mph (Exhibit 25-14)	S =	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1360 ft V _D = 1685 veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	9332	0.92	Level	4	0	0.980	1.00	10346
Ramp	945	0.92	Level	4	0	0.980	1.00	1048
UpStream								
DownStream	1685	0.92	Level	4	0	0.980	1.00	1868

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
 (Equation 25-2 or 25-3)
 L_{EQ} =
 P_{FM} = using Equation (Exhibit 25-5)
 V₁₂ = pc/h
 V₃ or V_{av34} pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
 (Equation 25-8 or 25-9)
 L_{EQ} =
 P_{FD} = 0.436 using Equation (Exhibit 25-12)
 V₁₂ = 4200 pc/h
 V₃ or V_{av34} 2038 pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V _F	8277	Exhibit 25-14	9600 No
V _{FO} = V _F - V _R	7229	Exhibit 25-14	9600 No
V _R	1048	Exhibit 25-3	2100 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂	4200	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
 D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
 D_R = 26.9 (pc/mi/ln)
 LOS = C (Exhibit 25-4)

Speed Determination

M_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-14)

Speed Determination

D_S = 0.457 (Exhibit 25-19)
 S_R = 57.2 mph (Exhibit 25-19)
 S₀ = 72.7 mph (Exhibit 25-19)
 S = 63.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off		<input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off
$L_{up} = 1035$ ft		$L_{down} =$ ft
$V_u = 752$ veh/h	$S_{FF} = 70.0$ mph $S_{FR} = 40.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	$V_D =$ veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7809	0.92	Level	4	0	0.980	1.00	8658
Ramp	999	0.92	Level	4	0	0.980	1.00	1108
UpStream	752	0.92	Level	4	0	0.980	1.00	834
DownStream								

Merge Areas				Diverge Areas			
Estimation of v_{12}				Estimation of v_{12}			
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)
$P_{FM} = 0.209$ using Equation (Exhibit 25-5)		$P_{FD} =$	using Equation (Exhibit 25-12)	$P_{FD} =$	using Equation (Exhibit 25-12)	$P_{FD} =$	using Equation (Exhibit 25-12)
$V_{12} = 1287$ pc/h		$V_{12} =$	pc/h	$V_{12} =$	pc/h	$V_{12} =$	pc/h
V_3 or $V_{av34} = 2435$ pc/h (Equation 25-4 or 25-5)		V_3 or $V_{av34} =$	pc/h (Equation 25-15 or 25-16)	V_3 or $V_{av34} =$	pc/h (Equation 25-15 or 25-16)	V_3 or $V_{av34} =$	pc/h (Equation 25-15 or 25-16)
Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No	
If Yes, $V_{12a} = 2463$ pc/h (Equation 25-8)		If Yes, $V_{12a} =$	pc/h (Equation 25-18)	If Yes, $V_{12a} =$	pc/h (Equation 25-18)	If Yes, $V_{12a} =$	pc/h (Equation 25-18)

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}	7266	Exhibit 25-7	No	V_F		Exhibit 25-14	
				$V_{FO} = V_F - V_R$		Exhibit 25-14	
				V_R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}	3571	Exhibit 25-7	4600:All	No	V_{12}	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R = 23.4$ (pc/mi/ln)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$	$D_R =$ (pc/mi/ln)
LOS = C (Exhibit 25-4)		LOS = (Exhibit 25-4)	

Speed Determination		Speed Determination	
$M_S = 0.340$ (Exhibit 25-19)	$S_R = 60.5$ mph (Exhibit 25-19)	$D_S =$ (Exhibit 25-19)	$S_R =$ mph (Exhibit 25-19)
$S_0 = 65.2$ mph (Exhibit 25-19)	$S = 62.8$ mph (Exhibit 25-14)	$S_0 =$ mph (Exhibit 25-19)	$S =$ mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (D)
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1035 ft V _D = 999 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	7196	0.92	Level	4	0	0.980	1.00	7978
Ramp	752	0.92	Level	4	0	0.980	1.00	834
UpStream								
DownStream	999	0.92	Level	4	0	0.980	1.00	1108

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
L _{EQ} =	0.216 using Equation (Exhibit 25-5)			L _{EQ} =	using Equation (Exhibit 25-12)		
P _{FM} =	1231 pc/h			P _{FD} =	pc/h		
V ₁₂ =	2237 pc/h (Equation 25-4 or 25-5)			V ₁₂ =	pc/h (Equation 25-15 or 25-16)		
V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, V _{12a} =	2282 pc/h (Equation 25-8)			If Yes, V _{12a} =	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	6539	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3116	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)				Level of Service Determination (if not F)			
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$				$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$			
D _R =	27.7 (pc/mi/ln)			D _R =	(pc/mi/ln)		
LOS =	C (Exhibit 25-4)			LOS =	(Exhibit 25-4)		

Speed Determination		Speed Determination	
M _s =	0.392 (Exhibit 25-19)	D _s =	(Exhibit 25-19)
S _R =	59.0 mph (Exhibit 25-19)	S _R =	mph (Exhibit 25-19)
S ₀ =	65.6 mph (Exhibit 25-19)	S ₀ =	mph (Exhibit 25-19)
S =	62.3 mph (Exhibit 25-14)	S =	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off L _{up} = 1245 ft V _u = 1421 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	7196	0.92	Level	4	0	0.980	1.00	7978
Ramp	752	0.92	Level	4	0	0.980	1.00	834
UpStream	1421	0.92	Level	4	0	0.980	1.00	1575
DownStream								

Merge Areas				Diverge Areas			
Estimation of v₁₂				Estimation of v₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.216 using Equation (Exhibit 25-5) V ₁₂ = 1231 pc/h V ₃ or V _{av34} = 2237 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2282 pc/h (Equation 25-8)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)			

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	6539	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3116	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 27.7 (pc/mi/ln) LOS = C (Exhibit 25-4)		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	

Speed Determination		Speed Determination	
M _s = 0.392 (Exhibit 25-19)	S _R = 59.0 mph (Exhibit 25-19)	D _s = (Exhibit 25-19)	S _R = mph (Exhibit 25-19)
S ₀ = 65.6 mph (Exhibit 25-19)	S = 62.3 mph (Exhibit 25-14)	S ₀ = mph (Exhibit 25-19)	S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1245 ft V _D = 752 veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8569	0.92	Level	4	0	0.980	1.00	9500
Ramp	1421	0.92	Level	4	0	0.980	1.00	1575
UpStream								
DownStream	752	0.92	Level	0	0	1.000	1.00	817

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.260 using Equation (Exhibit 25-12) V ₁₂ = 3141 pc/h V ₃ or V _{av34} 2229 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	
	V _F	7600	Exhibit 25-14 9600 No
	V _{FO} = V _F - V _R	6025	Exhibit 25-14 9600 No
		V _R	1575 Exhibit 25-3 4100 No

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	
V ₁₂	3141	Exhibit 25-14 4400:All	No

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 19.7 (pc/mi/ln) LOS = B (Exhibit 25-4)
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Speed Determination

Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _S = 0.505 (Exhibit 25-19) S _R = 55.9 mph (Exhibit 25-19) S ₀ = 72.0 mph (Exhibit 25-19) S = 64.3 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bison Av. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs	
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f) Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3408	0.92	Level	2	0	0.990	1.00	3741
Ramp	449	0.92	Level	2	0	0.990	1.00	493
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.237 using Equation (Exhibit 25-5) V ₁₂ = 887 pc/h V ₃ or V _{av34} = 1427 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1496 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4234	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1989	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 18.9 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _S = 0.326 (Exhibit 25-19) S _R = 60.9 mph (Exhibit 25-19) S ₀ = 67.8 mph (Exhibit 25-19) S = 64.3 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Loop Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{up} =$ ft $V_u =$ veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{down} =$ ft $V_D =$ veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3857	0.92	Level	2	0	0.990	1.00	4234
Ramp	480	0.92	Level	2	0	0.990	1.00	527
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

$L_{EQ} =$ (Equation 25-2 or 25-3)

$P_{FM} =$ using Equation (Exhibit 25-5)

$V_{12} =$ pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or $V_{av34} > 2,700$ pc/h? Yes No

Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ Yes No

If Yes, $V_{12a} =$ pc/h (Equation 25-8)

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

$L_{EQ} =$ (Equation 25-8 or 25-9)

$P_{FD} =$ 0.436 using Equation (Exhibit 25-12)

$V_{12} =$ 1959 pc/h

V_3 or V_{av34} 926 pc/h (Equation 25-15 or 25-16)

Is V_3 or $V_{av34} > 2,700$ pc/h? Yes No

Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ Yes No

If Yes, $V_{12a} =$ pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V_{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V_F	3811	Exhibit 25-14	9600 No
$V_{FO} = V_F - V_R$	3284	Exhibit 25-14	9600 No
V_R	527	Exhibit 25-3	2000 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V_{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V_{12}	1959	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

$D_R =$ (pc/mi/ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

$D_R =$ 19.5 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Determination

$M_S =$ (Exhibit 25-19)

$S_R =$ mph (Exhibit 25-19)

$S_0 =$ mph (Exhibit 25-19)

$S =$ mph (Exhibit 25-14)

Speed Determination

$D_s =$ 0.540 (Exhibit 25-19)

$S_R =$ 54.9 mph (Exhibit 25-19)

$S_0 =$ 76.8 mph (Exhibit 25-19)

$S =$ 63.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs	
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)
Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3377	0.92	Level	2	0	0.990	1.00	3707
Ramp	730	0.92	Level	2	0	0.990	1.00	801
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.194 using Equation (Exhibit 25-5) V ₁₂ = 562 pc/h V ₃ or V _{av34} = 1165 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1156 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	3693	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1957	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 18.6 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

M _S = 0.327 (Exhibit 25-19) S _R = 60.9 mph (Exhibit 25-19) S ₀ = 68.7 mph (Exhibit 25-19) S = 64.3 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
--	---

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
--	--	--

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4107	0.92	Level	2	0	0.990	1.00	4509
Ramp	560	0.92	Level	2	0	0.990	1.00	615
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
 P_{FM} = using Equation (Exhibit 25-5)
 V₁₂ = pc/h
 V₃ or V_{av34} pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
 P_{FD} = 0.436 using Equation (Exhibit 25-12)
 V₁₂ = 2313 pc/h
 V₃ or V_{av34} 1098 pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V _F	4509	Exhibit 25-14	9600 No
V _{FO} = V _F - V _R	3894	Exhibit 25-14	9600 No
V _R	615	Exhibit 25-3	2000 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂	2313	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 24.1 (pc/mi/ln)
 LOS = C (Exhibit 25-4)

Speed Determination

M_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-14)

Speed Determination

D_s = 0.548 (Exhibit 25-19)
 S_R = 54.6 mph (Exhibit 25-19)
 S₀ = 76.4 mph (Exhibit 25-19)
 S = 63.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs	
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f) Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3547	0.92	Level	2	0	0.990	1.00	3894
Ramp	350	0.92	Level	2	0	0.990	1.00	384
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.231 using Equation (Exhibit 25-5) V ₁₂ = 900 pc/h V ₃ or V _{av34} = 1497 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1557 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4278	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1941	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 19.4 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

M _S = 0.338 (Exhibit 25-19) S _R = 60.5 mph (Exhibit 25-19) S ₀ = 67.6 mph (Exhibit 25-19) S = 64.2 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bison Av. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	5003	0.92	Level	2	0	0.990	1.00	5492
Ramp	180	0.92	Level	2	0	0.990	1.00	198
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
 P_{FM} = using Equation (Exhibit 25-5)
 V₁₂ = pc/h
 V₃ or V_{av34} pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
 P_{FD} = 0.436 using Equation (Exhibit 25-12)
 V₁₂ = 2267 pc/h
 V₃ or V_{av34} 1338 pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V _F	4943	Exhibit 25-14	9600 No
V _{FO} = V _F - V _R	4745	Exhibit 25-14	9600 No
V _R	198	Exhibit 25-3	2000 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂	2267	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 22.5 (pc/mi/ln)
 LOS = C (Exhibit 25-4)

Speed Determination

M_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-14)

Speed Determination

D_S = 0.511 (Exhibit 25-19)
 S_R = 55.7 mph (Exhibit 25-19)
 S₀ = 75.5 mph (Exhibit 25-19)
 S = 64.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Loop On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4633	0.92	Level	2	0	0.990	1.00	5086
Ramp	370	0.92	Level	2	0	0.990	1.00	406
UpStream								
DownStream								

Merge Areas	Diverge Areas
<h4 style="text-align: left;">Estimation of v₁₂</h4> $V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.235 using Equation (Exhibit 25-5) V ₁₂ = 934 pc/h V ₃ or V _{av34} = 1517 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1587 pc/h (Equation 25-8)	<h4 style="text-align: left;">Estimation of v₁₂</h4> $V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4374	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1993	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 19.3 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _S = 0.330 (Exhibit 25-19) S _R = 60.8 mph (Exhibit 25-19) S ₀ = 67.5 mph (Exhibit 25-19) S = 64.3 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information	Site Information
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Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{up} =$ ft $V_u =$ veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{down} =$ ft $V_D =$ veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4915	0.92	Level	2	0	0.990	1.00	5396
Ramp	282	0.92	Level	2	0	0.990	1.00	310
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v_{12}

$V_{12} = V_F (P_{FM})$ $L_{EQ} =$ (Equation 25-2 or 25-3) $P_{FM} =$ using Equation (Exhibit 25-5) $V_{12} =$ pc/h V_3 or V_{av34} pc/h (Equation 25-4 or 25-5) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ $L_{EQ} =$ (Equation 25-8 or 25-9) $P_{FD} =$ 0.436 using Equation (Exhibit 25-12) $V_{12} =$ 2527 pc/h V_3 or V_{av34} 1434 pc/h (Equation 25-15 or 25-16) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-18)
---	--

Capacity Checks

	Actual	Capacity	LOS F?
V_{FO}		Exhibit 25-7	
	V_F	5396	Exhibit 25-14 9600 No
	$V_{FO} = V_F - V_R$	5086	Exhibit 25-14 9600 No
	V_R	310	Exhibit 25-3 2000 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V_{R12}		Exhibit 25-7	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ $D_R =$ (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ $D_R =$ 14.7 (pc/mi/ln) LOS = B (Exhibit 25-4)
--	--

Speed Determination

$M_S =$ (Exhibit 25-19) $S_R =$ mph (Exhibit 25-19) $S_0 =$ mph (Exhibit 25-19) $S =$ mph (Exhibit 25-14)	$D_s =$ 0.521 (Exhibit 25-19) $S_R =$ 55.4 mph (Exhibit 25-19) $S_0 =$ 75.1 mph (Exhibit 25-19) $S =$ 64.4 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4745	0.92	Level	2	0	0.990	1.00	5209
Ramp	170	0.92	Level	2	0	0.990	1.00	187
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.659 using Equation (Exhibit 25-5) V ₁₂ = 3433 pc/h V ₃ or V _{av34} = 888 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	5396	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3620	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 25.8 (pc/mi/ln) LOS = C (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

M _S = 0.392 (Exhibit 25-19) S _R = 59.0 mph (Exhibit 25-19) S ₀ = 68.6 mph (Exhibit 25-19) S = 61.9 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. Off-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	General Plan LUE Amendment

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	5022	0.92	Level	2	0	0.990	1.00	5513
Ramp	277	0.92	Level	2	0	0.990	1.00	304
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
 P_{FM} = using Equation (Exhibit 25-5)
 V₁₂ = pc/h
 V₃ or V_{av34} = pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-8)

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
 P_{FD} = 0.436 using Equation (Exhibit 25-12)
 V₁₂ = 2575 pc/h
 V₃ or V_{av34} = 1469 pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7		V _F	5513	Exhibit 25-14	9600
				V _{FO} = V _F - V _R	5209	Exhibit 25-14	9600
				V _R	304	Exhibit 25-3	2000

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7		V ₁₂	2575	Exhibit 25-14	4400:All

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 26.4 (pc/mi/ln)
 LOS = C (Exhibit 25-4)

Speed Determination

Speed Determination

M_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-14)

D_s = 0.520 (Exhibit 25-19)
 S_R = 55.4 mph (Exhibit 25-19)
 S₀ = 75.0 mph (Exhibit 25-19)
 S = 64.4 mph (Exhibit 25-15)

APPENDIX 4.6

General Plan LUE Amendment (Proposed Project)
Irvine Cumulative ICU Analysis Worksheets

85 . Red Hill Av. at Barranca Pkwy.

86 . Red Hill Av. at Alton Pkwy.

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	225	.07*	570	.17
NBT	4	6800	391	.06	1707	.25*
NBR	d	1700	78	.05	297	.17
SBL	2	3400	357	.11	296	.09*
SBT	4	6800	956	.14*	479	.07
SBR	d	1700	166	.10	166	.10
EBL	2	3400	189	.06	253	.07*
EBT	4	6800	1214	.22*	946	.15
EBR	0	0	252		101	
WBL	2	3400	404	.12*	177	.05
WBT	4	6800	1011	.15	1578	.23*
WBR	1	1700	288	.17	611	.36
Right Turn Adjustment					WBR	.06*
Clearance Interval				.05*		.05*

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	400	.24*	367	.22
NBT	3	5100	501	.10	1874	.37*
NBR	1	1700	331	.19	228	.13
SBL	1	1700	257	.15	141	.08*
SBT	3	5100	862	.17*	775	.15
SBR	1	1700	312	.18	115	.07
EBL	2	3400	282	.08	267	.08*
EBT	2	3400	1055	.31*	821	.24
EBR	1	1700	346	.20	420	.25
WBL	2	3400	266	.08*	312	.09
WBT	2	3400	753	.22	975	.29*
WBR	f		185		249	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .60 .75

TOTAL CAPACITY UTILIZATION .85 .87

67 . Red Hill Av. at MacArthur Blvd.

68 . MacArthur Bl. at Main St.

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	100	.03	179	.05
NBT	3	5100	1078	.22*	1125	.23*
NBR	0	0	24		35	
SBL	2	3400	416	.12*	561	.17*
SBT	3	5100	694	.14	866	.17
SBR	f		377		955	
EBL	2	3400	874	.26*	611	.18*
EBT	3	5100	735	.14	639	.13
EBR	d	1700	93	.05	62	.04
WBL	1	1700	57	.03	53	.03
WBT	3	5100	509	.10*	1066	.21*
WBR	f		1013		802	
Clearance Interval				.05*		.05*

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	742	.22*	631	.19*
NBT	4	6800	1263	.19	1412	.21
NBR	f		1198		559	
SBL	2	3400	361	.11	412	.12
SBT	4	6800	692	.10*	1089	.16*
SBR	1	1700	76	.04	80	.05
EBL	1	1700	63	.04	85	.05
EBT	3	5100	887	.17*	930	.18*
EBR	1	1700	525	.31	719	.42
WBL	2	3400	328	.10*	772	.23*
WBT	3	5100	621	.12	1076	.21
WBR	f		116		537	
Right Turn Adjustment					EBR	.05*
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .75 .84

TOTAL CAPACITY UTILIZATION .64 .86

Note: Assumes Right-Turn Overlap for EBR

69 . MacArthur Bl. at I-405 NB Ramps

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	4	6800	2124	.31*	2181	.32*
NBR	2	3400	394	.12	1202	.35
SBL	2	3400	157	.05*	483	.14*
SBT	4	6800	1377	.20	2155	.32
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	923	.27*	527	.16*
WBT	0	0	0		0	
WBR	2	3400	1098	.32	430	.13
Right Turn Adjustment			WBR	.01*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .69 .67

71 . MacArthur Bl. at Michelson Dr.

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	274	.16	158	.09
NBT	4	6800	1421	.21*	1859	.27*
NBR	1	1700	312	.18	120	.07
SBL	2	3400	1017	.30*	619	.18*
SBT	4	6800	1628	.24	1629	.24
SBR	0	0	14		12	
EBL	2	3400	355	.10*	368	.11
EBT	1	1700	76	.04	84	.05*
EBR	1	1700	85	.05	141	.08
WBL	2	3400	108	.03	545	.16*
WBT	1	1700	71	.04*	91	.05
WBR	1	1700	269	.16	792	.47
Right Turn Adjustment					WBR	.19*
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for WBR						

TOTAL CAPACITY UTILIZATION .70 .90

70 . MacArthur Bl. at I-405 SB Ramps

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	4	6800	1650	.24*	2994	.44*
NBR	1	1700	456	.27	689	.41
SBL	2	3400	157	.05*	483	.14*
SBT	4	6800	1756	.26	1829	.27
SBR	1	1700	395	.23	391	.23
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3400	985	.29*	537	.16*
WBT	1	1700	150	.09	156	.09
WBR	f		809		367	
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for NBR						

TOTAL CAPACITY UTILIZATION .63 .79

72 . Von Karman Av. at Barranca Pkwy.

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	182	.05*	336	.10
NBT	2	3400	553	.16	1461	.43*
NBR	d	1700	165	.10	383	.23
SBL	2	3400	226	.07	434	.13*
SBT	2	3400	1137	.33*	671	.20
SBR	2	3400	352	.10	380	.11
EBL	2	3400	211	.06*	512	.15
EBT	3	5100	547	.11	1202	.24*
EBR	1	1700	234	.14	191	.11
WBL	2	3400	542	.16	165	.05*
WBT	4	6800	1546	.23*	846	.12
WBR	1	1700	542	.32	383	.23
Clearance Interval				.05*		.05*
Note: Assumes Right-Turn Overlap for SBR						

TOTAL CAPACITY UTILIZATION .72 .90

73 . Von Karman Av. at Alton Pkwy.

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	160	.09*	25	.01
NBT	2	3400	610	.18	1736	.51*
NBR	d	1700	108	.06	290	.17
SBL	1	1700	77	.05	155	.09*
SBT	2	3400	1427	.42*	733	.22
SBR	d	1700	210	.12	144	.08
EBL	1	1700	140	.08	162	.10
EBT	2	3400	721	.21*	1004	.30*
EBR	d	1700	50	.03	142	.08
WBL	1	1700	223	.13*	145	.09*
WBT	2	3400	743	.22	899	.26
WBR	d	1700	134	.08	102	.06
Clearance Interval				.05*	.05*	

TOTAL CAPACITY UTILIZATION .90 1.04

74 . Von Karman Av. at Main St.

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	218	.06*	315	.09
NBT	2	3400	558	.16	1195	.35*
NBR	1	1700	149	.09	399	.23
SBL	1	1700	121	.07	183	.11*
SBT	2	3400	1079	.32*	653	.19
SBR	1	1700	335	.20	236	.14
EBL	2	3400	242	.07*	521	.15*
EBT	3	5100	691	.14	1742	.34
EBR	f		301		287	
WBL	2	3400	386	.11	189	.06
WBT	3	5100	1024	.22*	1270	.28*
WBR	0	0	112		174	
Clearance Interval				.05*	.05*	

TOTAL CAPACITY UTILIZATION .72 .94

76 . Von Karman Av. at Michelson Dr.

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	52	.03	46	.03
NBT	2	3400	890	.26*	1160	.34*
NBR	1	1700	145	.09	133	.08
SBL	1	1700	376	.22*	285	.17*
SBT	2	3400	1148	.42	947	.33
SBR	0	0	278		159	
EBL	1	1700	163	.10*	319	.19*
EBT	2	3400	272	.09	558	.19
EBR	0	0	43		81	
WBL	1	1700	201	.12	199	.12
WBT	2	3400	461	.14*	671	.20*
WBR	f		463		645	
Clearance Interval				.05*	.05*	

TOTAL CAPACITY UTILIZATION .77 .95

77 . Jamboree Rd. at Barranca Pkwy.

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C	AM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	216	.06*	467	.14
NBT	5	8500	1108	.13	2831	.33*
NBR	1	1700	232	.14	243	.14
SBL	2	3400	471	.14	449	.13*
SBT	4	6800	3208	.47*	1515	.22
SBR	f		1587		441	
EBL	2.5		187	.06	946	
EBT	2.5	8500	545	.11*	954	.22*
EBR	1	1700	123	.07	274	.16
WBL	2	3400	271	.08	225	.07
WBT	3	5100	858	.17*	980	.19*
WBR	f		258		651	
Clearance Interval				.05*	.05*	
Note: Assumes E/W Split Phasing						

TOTAL CAPACITY UTILIZATION .86 .92

78 . Jamboree Rd. at Alton Pkwy.

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C	AM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	159	.05*	278	.08
NBT	4	6800	1284	.19	2813	.41*
NBR	1	1700	238	.14	246	.14
SBL	2	3400	264	.08	323	.10*
SBT	4	6800	2987	.48*	1448	.25
SBR	0	0	272		272	
EBL	2	3400	127	.04	450	.13
EBT	3	5100	531	.15*	894	.23*
EBR	0	0	209		273	
WBL	2	3400	280	.08*	266	.08*
WBT	3	5100	790	.15	670	.13
WBR	d	1700	172	.10	251	.15
Clearance Interval				.05*	.05*	

TOTAL CAPACITY UTILIZATION .81 .87

79 . Jamboree Rd. at Main St.

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C	AM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3400	480	.14*	252	.07
NBT	5	8500	1613	.19	2614	.31*
NBR	1	1700	398	.23	533	.31
SBL	2	3400	346	.10	270	.08*
SBT	5	8500	2605	.31*	1852	.22
SBR	1	1700	423	.25	282	.17
EBL	2	3400	185	.05	628	.18
EBT	3	5100	388	.08*	1224	.24*
EBR	f		278		717	
WBL	2	3400	473	.14*	474	.14*
WBT	3	5100	692	.14	590	.12
WBR	1	1700	138	.08	388	.23
Clearance Interval				.05*	.05*	
Note: Assumes Right-Turn Overlap for SBR						

TOTAL CAPACITY UTILIZATION .72 .82

80 . Jamboree Rd. at I-405 NB Ramps

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	PM PK HOUR V/C	AM PK HOUR VOL	PM PK HOUR V/C
NBL	0	0	0		0	
NBT	3	5100	2042	.40*	3170	.62*
NBR	f		536		742	
SBL	0	0	3		0	
SBT	4	6800	2239	.33	2193	.32
SBR	f		1121		999	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	3	5100	1538	.30*	1030	.20*
WBT	0	0	0		0	
WBR	f		948		409	
Clearance Interval				.05*	.05*	

TOTAL CAPACITY UTILIZATION .75 .87

81 . Jamboree Rd. at I-405 SB Ramps

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	8		0	
NBT	4	6800	1745	.26	2863	.42*
NBR	f		811		1396	
SBL	0	0	0		0	
SBT	4	6800	3460	.51*	2529	.37
SBR	f		303		795	
EBL	1.5		889	{.37}*	913	{.27}*
EBT	0	6800	0	.37	0	{.27}
EBR	2.5		1634		1009	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .93 .74

82 . Jamboree Rd. at Michelson Dr.

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	211	.12	86	.05
NBT	4	6800	1618	.24*	2399	.35*
NBR	f		364		419	
SBL	2	3400	1268	.37*	957	.28*
SBT	4	6800	2452	.36	1883	.28
SBR	f		1141		607	
EBL	2	3400	310	.09*	739	.22*
EBT	2	3400	399	.12	858	.25
EBR	1	1700	90	.05	105	.06
WBL	2	3400	338	.10	358	.11
WBT	2	3400	688	.20*	551	.16*
WBR	f		694		1191	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .95 1.06

83 . Carlson Av. at Michelson Dr.

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3400	427	.13*	175	.05*
NBT	2	3400	211	.06	89	.03
NBR	1	1700	251	.15	382	.22
SBL	2	3400	66	.02	182	.05
SBT	1	1700	42	.02*	261	.15*
SBR	f		300		1198	
EBL	2	3400	1009	.30*	659	.19
EBT	2	3400	839	.25	1243	.37*
EBR	1	1700	95	.06	353	.21
WBL	1	1700	220	.13	471	.28*
WBT	2	3400	938	.28*	953	.28
WBR	f		247		211	
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .78 .90

84 . Carlson Av. at Campus Dr.

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1700	228	.13*	290	.17*
SBT	0	0	0		0	
SBR	1	1700	265	.16	274	.16
EBL	1	1700	190	.11*	319	.19*
EBT	2	3400	930	.27	1300	.38
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3400	1168	.34*	1176	.35*
WBR	d	1700	183	.11	287	.17
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .63 .76

87 . Harvard Av. at Michelson Dr.

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1700	102 .06*	93 .05		
NBT	2	3400	299 .10	1017 .33*		
NBR	0	0	33	89		
SBL	2	3400	177 .05	274 .08*		
SBT	2	3400	834 .25*	652 .19		
SBR	1	1700	532 .31	262 .15		
EBL	2	3400	139 .04*	521 .15		
EBT	2	3400	353 .10	1009 .30*		
EBR	f		64	168		
WBL	1	1700	106 .06	104 .06*		
WBT	2	3400	733 .25*	529 .20		
WBR	0	0	123	155		
Right Turn Adjustment			SBR	.03*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .68 .82

88 . Harvard Av. at University Dr.

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1700	74 .04*	61 .04		
NBT	2	3400	265 .08	837 .25*		
NBR	d	1700	108 .06	215 .13		
SBL	1	1700	39 .02	84 .05*		
SBT	2	3400	595 .18*	587 .17		
SBR	d	1700	309 .18	235 .14		
EBL	1	1700	94 .06*	373 .22		
EBT	3	5100	813 .17	1910 .38*		
EBR	0	0	39	45		
WBL	1	1700	189 .11	168 .10*		
WBT	3	5100	2151 .44*	1029 .21		
WBR	0	0	84	63		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .77 .83

89 . University Dr. at Campus Dr.

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	2	3400	123 .04*	295 .09		
NBT	3	5100	792 .16	1543 .30*		
NBR	1	1700	359 .21	360 .21		
SBL	2	3400	174 .05	101 .03*		
SBT	3	5100	1783 .35*	992 .19		
SBR	1	1700	549 .32	208 .12		
EBL	2	3400	99 .03	608 .18*		
EBT	2	3400	801 .24*	969 .29		
EBR	d	1700	369 .22	130 .08		
WBL	2	3400	203 .06*	430 .13		
WBT	2	3400	682 .20	1046 .31*		
WBR	d	1700	34 .02	183 .11		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .74 .87

90 . MacArthur Blvd. NB at University Dr.

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	1	1700	18 .01*	10 .01*		
NBT	0	0	0	0		
NBR	1	1700	326 .19	256 .15		
SBL	0	0	0	0		
SBT	0	0	0	0		
SBR	0	0	0	0		
EBL	0	0	0	0		
EBT	3	5100	1813 .36*	1482 .29*		
EBR	d	1700	142 .08	110 .06		
WBL	2	3400	582 .17*	1276 .38*		
WBT	3	5100	893 .18	933 .18		
WBR	0	0	0	0		
Right Turn Adjustment			NBR	.05*		
Clearance Interval				.05*		.05*

TOTAL CAPACITY UTILIZATION .64 .73

GP Cumulative Proj (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	304	.18*	813	.48*
NBT	3	5100	431	.08	117	.02
NBR	d	1700	26	.02	124	.07
SBL	1	1700	1	.00	38	.02
SBT	3	5100	11	.00*	285	.06*
SBR	d	1700	0	.00	271	.16
EBL	1	1700	265	.16*	19	.01*
EBT	0	0	70		234	
EBR	1	1700	972	.57	204	.12
WBL	1	1700	99	.06	11	.01
WBT	0	0	270		137	
WBR	1	1700	21	.01	0	.00
Right Turn Adjustment			EBR	.33*	SBR	.09*
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.72		.69

93 . Jamboree Rd. at Fairchild Rd.

GP Cumulative Proj (NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	11	.01	0	.00
NBT	3	4800	1391	.31*	1593	.34*
NBR	0	0	77		19	
SBL	2	3200	398	.12*	338	.11*
SBT	4	6400	1529	.24	1884	.29
SBR	d	1600	8	.01	29	.02
EBL	1	1600	25	.02	37	.02
EBT	1	1600	0	.02*	10	.07*
EBR	0	0	38		97	
WBL	1	1600	11	.01*	42	.03*
WBT	1	1600	0	.00	9	.01
WBR	1	1600	332	.21	368	.23
Right Turn Adjustment			WBR	.20*	WBR	.15*

TOTAL CAPACITY UTILIZATION .66 .70

92 . Fairchild Av. at MacArthur Bl.

GP Cumulative Proj (NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1600	47	.03*	446	.28*
SBT	0	0	0		0	
SBR	1	1600	23	.01	237	.15
EBL	1	1600	266	.17*	49	.03
EBT	3	4800	976	.20	2129	.44*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1911	.51*	1084	.26
WBR	0	0	531		181	

TOTAL CAPACITY UTILIZATION .71 .72

91 . MacArthur Blvd. SB at University Dr.

GP Cumulative Proj (NEWPORT BEACH ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	88	.06*	118	.07*
NBT	0	0	0		0	
NBR	1	1600	659	.41	462	.29
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	4800	1295	.28*	1197	.25*
EBR	0	0	64		20	
WBL	2	3200	103	.03*	282	.09*
WBT	3	4800	989	.21	862	.18
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.35*	NBR	.22*

TOTAL CAPACITY UTILIZATION .72 .63

APPENDIX 4.7

HCM Freeway Intersection Analysis Worksheets

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
Existing Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #46 SR-73 NB Ramps / Bison Av

Cycle (sec): 60 Critical Vol./Cap.(X): 0.172
Loss Time (sec): 6 Average Delay (sec/veh): 12.2
Optimal Cycle: OPTIMIZED Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module:

Table with 12 columns representing different volume and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module:

Table with 12 columns representing saturation flow factors like Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module:

Table with 12 columns representing capacity analysis factors like Vol/Sat, Crit Moves, Green/Cycle, etc.

Note: Queue reported is the number of cars per lane.

 City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 Existing Conditions
 AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #47 SR-73 SB Ramps / Bison Av

Cycle (sec): 75 Critical Vol./Cap.(X): 0.499
 Loss Time (sec): 6 Average Delay (sec/veh): 17.4
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Protected		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	10	0	10	0	25	25	10	25	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	0	2	0	0	0	2	0	2	0	0

Volume Module:

Base Vol:	0	0	0	1073	0	409	0	445	53	16	320	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1073	0	409	0	445	53	16	320	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	1134	0	0	0	470	56	17	338	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1134	0	0	0	470	56	17	338	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	1134	0	0	0	470	56	17	338	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.92	1.00	1.00	1.00	0.95	0.85	0.92	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	2.00	1.00	2.00	2.00	0.00
Final Sat.:	0	0	0	3502	0	1900	0	3610	1615	3502	3610	0

Capacity Analysis Module:

Vol/Sat:	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.13	0.03	0.00	0.09	0.00
Crit Moves:				****				****		****		
Green/Cycle:	0.00	0.00	0.00	0.45	0.00	0.00	0.00	0.33	0.33	0.13	0.47	0.00
Volume/Cap:	0.00	0.00	0.00	0.71	0.00	0.00	0.00	0.39	0.10	0.04	0.20	0.00
Delay/Veh:	0.0	0.0	0.0	18.1	0.0	0.0	0.0	19.4	17.4	28.3	11.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	18.1	0.0	0.0	0.0	19.4	17.4	28.3	11.8	0.0
LOS by Move:	A	A	A	B	A	A	A	B	B	C	B	A
HCM2kAvgQ:	0	0	0	12	0	0	0	5	1	0	2	0

Note: Queue reported is the number of cars per lane.

 City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 Existing Conditions
 AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #53 SR-73 NB Ramps / Bonita Canyon Dr.

Cycle (sec): 60 Critical Vol./Cap.(X): 0.457
 Loss Time (sec): 6 Average Delay (sec/veh): 11.7
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	10	0	0	0	0	25	25	10	25	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	0	0	0	0	0	2	0	2	0	0

Volume Module:

Base Vol:	436	0	58	0	0	0	0	704	56	216	1052	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	436	0	58	0	0	0	0	704	56	216	1052	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	471	0	63	0	0	0	0	760	60	233	1136	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	471	0	63	0	0	0	0	760	60	233	1136	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	471	0	63	0	0	0	0	760	60	233	1136	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	1.00	0.95	0.85	0.92	0.95	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	2.00	2.00	0.00
Final Sat.:	3502	0	1615	0	0	0	0	3610	1615	3502	3610	0

Capacity Analysis Module:

Vol/Sat:	0.13	0.00	0.04	0.00	0.00	0.00	0.00	0.21	0.04	0.07	0.31	0.00
Crit Moves:	****						****			****		
Green/Cycle:	0.29	0.00	0.29	0.00	0.00	0.00	0.00	0.45	0.45	0.17	0.61	0.00
Volume/Cap:	0.47	0.00	0.14	0.00	0.00	0.00	0.00	0.47	0.08	0.40	0.51	0.00
Delay/Veh:	18.0	0.0	16.1	0.0	0.0	0.0	0.0	11.8	9.6	22.8	6.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.0	0.0	16.1	0.0	0.0	0.0	0.0	11.8	9.6	22.8	6.7	0.0
LOS by Move:	B	A	B	A	A	A	A	B	A	C	A	A
HCM2kAvgQ:	4	0	1	0	0	0	0	6	1	2	7	0

Note: Queue reported is the number of cars per lane.

 City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 Existing Conditions
 AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #54 SR-73 SB Ramps / Bonita Canyon Dr.

Cycle (sec): 60 Critical Vol./Cap.(X): 0.240
 Loss Time (sec): 6 Average Delay (sec/veh): 9.0
 Optimal Cycle: OPTIMIZED Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	10	0	0	0	0	25	25	10	25	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	0	0	0	0	1	0	2	2	0	3

Volume Module:

Base Vol:	33	0	106	0	0	0	0	654	126	47	1441	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	33	0	106	0	0	0	0	654	126	47	1441	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	35	0	112	0	0	0	0	694	134	50	1528	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	0	112	0	0	0	0	694	134	50	1528	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	35	0	112	0	0	0	0	694	134	50	1528	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	1.00	0.95	0.85	0.92	0.91	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	1.00	2.00	1.00	2.00	3.00	0.00
Final Sat.:	3502	0	1615	0	0	0	1900	3610	1615	3502	5187	0

Capacity Analysis Module:

Vol/Sat:	0.01	0.00	0.07	0.00	0.00	0.00	0.00	0.19	0.08	0.01	0.29	0.00
Crit Moves:	****						****			****		
Green/Cycle:	0.29	0.00	0.29	0.00	0.00	0.00	0.00	0.44	0.44	0.17	0.61	0.00
Volume/Cap:	0.03	0.00	0.24	0.00	0.00	0.00	0.00	0.43	0.19	0.09	0.48	0.00
Delay/Veh:	15.3	0.0	16.5	0.0	0.0	0.0	0.0	11.7	10.2	21.2	6.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.3	0.0	16.5	0.0	0.0	0.0	0.0	11.7	10.2	21.2	6.6	0.0
LOS by Move:	B	A	B	A	A	A	A	B	B	C	A	A
HCM2kAvgQ:	0	0	2	0	0	0	0	5	2	0	6	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
Existing Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #62 Newport Coast Dr / SR-73 NB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.336
Loss Time (sec): 4 Average Delay (sec/veh): 8.4
Optimal Cycle: OPTIMIZED Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 12 columns for different volume metrics and 12 rows for various adjustment factors like Base Vol, Growth Adj, etc.

Saturation Flow Module: Table with 12 columns for saturation flow metrics and 4 rows for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 12 columns for capacity analysis metrics and 10 rows for Vol/Sat, Crit Moves, Green/Cycle, etc.

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
Existing Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #63 Newport Coast Dr / SR-73 SB Ramps

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Table with 12 columns representing traffic volumes. Rows include Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module:

Table with 12 columns. Rows include Critical Gap and FollowUpTime.

Capacity Module:

Table with 12 columns. Rows include Conflict Vol, Potent Cap., Move Cap., and Volume/Cap.

Level of Service Module:

Table with 12 columns. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
Existing Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #69 MacArthur Blvd / I-405 NB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.664
Loss Time (sec): 6 Average Delay (sec/veh): 14.5
Optimal Cycle: OPTIMIZED Level Of Service: B

Table with 4 main columns: North Bound, South Bound, East Bound, West Bound. Sub-columns: L, T, R. Rows: Approach, Movement, Control, Rights, Min. Green, Y+R, Lanes.

Volume Module: Table with 12 columns for different volume types (Base Vol, Growth Adj, etc.) and 12 rows for different adjustment factors (PHF, Reduct, etc.).

Saturation Flow Module: Table with 12 columns for saturation flow values and 4 rows for adjustment factors (Sat/Lane, Adjustment, Lanes, Final Sat.).

Capacity Analysis Module: Table with 12 columns for capacity analysis metrics and 10 rows for various delay and LOS calculations.

Note: Queue reported is the number of cars per lane.

 City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 Existing Conditions
 AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #70 MacArthur Blvd / I-405 SB Ramps

Cycle (sec): 75 Critical Vol./Cap.(X): 0.669
 Loss Time (sec): 6 Average Delay (sec/veh): 17.6
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Ignore		
Min. Green:	0	25	25	10	25	25	0	0	0	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	4	0	1	1	2	0	4	0	1	0

Volume Module:

Base Vol:	0	1152	332	142	1385	274	0	0	0	1126	134	1053
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1152	332	142	1385	274	0	0	0	1126	134	1053
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.00
PHF Volume:	0	1252	361	154	1505	298	0	0	0	1224	146	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1252	361	154	1505	298	0	0	0	1224	146	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	1252	361	154	1505	298	0	0	0	1224	146	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.85	0.92	0.91	0.85	1.00	1.00	1.00	0.82	1.00	1.00
Lanes:	0.00	4.00	1.00	2.00	4.00	1.00	0.00	0.00	0.00	2.00	1.00	1.00
Final Sat.:	0	6916	1615	3502	6916	1615	0	0	0	3133	1900	1900

Capacity Analysis Module:

Vol/Sat:	0.00	0.18	0.22	0.04	0.22	0.18	0.00	0.00	0.00	0.39	0.08	0.00
Crit Moves:	****			****						****		
Green/Cycle:	0.00	0.33	0.79	0.13	0.47	0.47	0.00	0.00	0.00	0.45	0.45	0.00
Volume/Cap:	0.00	0.54	0.28	0.33	0.47	0.40	0.00	0.00	0.00	0.86	0.17	0.00
Delay/Veh:	0.0	20.6	2.3	29.9	13.7	13.4	0.0	0.0	0.0	24.0	12.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	20.6	2.3	29.9	13.7	13.4	0.0	0.0	0.0	24.0	12.2	0.0
LOS by Move:	A	C	A	C	B	B	A	A	A	C	B	A
HCM2kAvgQ:	0	7	2	2	7	5	0	0	0	16	2	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
Existing Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #80 Jamboree Rd / I-405 NB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.716
Loss Time (sec): 4 Average Delay (sec/veh): 10.8
Optimal Cycle: OPTIMIZED Level Of Service: B

Table with columns for Approach (North Bound, South Bound, East Bound, West Bound) and Movement (L, T, R). Rows include Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module:

Table with columns for Volume Module parameters: Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume.

Saturation Flow Module:

Table with columns for Saturation Flow Module parameters: Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module:

Table with columns for Capacity Analysis Module parameters: Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, HCM2kAvgQ.

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
Existing Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #81 Jamboree Rd / I-405 SB Ramps

Cycle (sec): 65 Critical Vol./Cap.(X): 1.037
Loss Time (sec): 4 Average Delay (sec/veh): 33.1
Optimal Cycle: OPTIMIZED Level Of Service: C

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 12 columns for different volume metrics like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module: Table with 12 columns for saturation flow metrics like Sat/Lane, Adjustment, Lanes, etc.

Capacity Analysis Module: Table with 12 columns for capacity analysis metrics like Vol/Sat, Crit Moves, Green/Cycle, etc.

Note: Queue reported is the number of cars per lane.

 City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 Existing Conditions
 PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #46 SR-73 NB Ramps / Bison Av

Cycle (sec): 105 Critical Vol./Cap.(X): 0.519
 Loss Time (sec): 6 Average Delay (sec/veh): 7.4
 Optimal Cycle: OPTIMIZED Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	10	0	0	0	10	25	0	0	25	25
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	0	0	0	1	0	2	0	0	2

Volume Module:

Base Vol:	98	0	19	0	0	0	30	459	0	0	648	680
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	0	19	0	0	0	30	459	0	0	648	680
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	103	0	20	0	0	0	31	480	0	0	678	711
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	0	20	0	0	0	31	480	0	0	678	711
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	103	0	20	0	0	0	31	480	0	0	678	711

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.94	1.00	0.94	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.85
Lanes:	1.84	0.00	1.16	0.00	0.00	0.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	3271	0	2069	0	0	0	1805	3610	0	0	3610	1615

Capacity Analysis Module:

Vol/Sat:	0.03	0.00	0.01	0.00	0.00	0.00	0.02	0.13	0.00	0.00	0.19	0.44
Crit Moves:	****						****			****		
Green/Cycle:	0.10	0.00	0.10	0.00	0.00	0.00	0.10	0.85	0.00	0.00	0.75	0.75
Volume/Cap:	0.33	0.00	0.10	0.00	0.00	0.00	0.18	0.16	0.00	0.00	0.25	0.59
Delay/Veh:	44.9	0.0	43.4	0.0	0.0	0.0	44.3	1.4	0.0	0.0	4.0	6.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.9	0.0	43.4	0.0	0.0	0.0	44.3	1.4	0.0	0.0	4.0	6.5
LOS by Move:	D	A	D	A	A	A	D	A	A	A	A	A
HCM2kAvgQ:	2	0	1	0	0	0	1	1	0	0	4	11

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
Existing Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #47 SR-73 SB Ramps / Bison Av

Cycle (sec): 60 Critical Vol./Cap.(X): 0.247
Loss Time (sec): 6 Average Delay (sec/veh): 11.6
Optimal Cycle: OPTIMIZED Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 12 columns for different volume metrics like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module: Table with 12 columns for saturation flow metrics like Sat/Lane, Adjustment, Lanes, etc.

Capacity Analysis Module: Table with 12 columns for capacity analysis metrics like Vol/Sat, Crit Moves, Green/Cycle, etc.

Note: Queue reported is the number of cars per lane.

 City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 Existing Conditions
 PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #53 SR-73 NB Ramps / Bonita Canyon Dr.

Cycle (sec): 90 Critical Vol./Cap.(X): 0.549
 Loss Time (sec): 6 Average Delay (sec/veh): 8.3
 Optimal Cycle: OPTIMIZED Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	10	0	0	0	0	25	25	10	25	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	0	0	0	0	0	0	2	0	2	0

Volume Module:

Base Vol:	156	0	35	0	0	0	0	1395	35	74	986	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	156	0	35	0	0	0	0	1395	35	74	986	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	177	0	40	0	0	0	0	1582	40	84	1118	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	177	0	40	0	0	0	0	1582	40	84	1118	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	177	0	40	0	0	0	0	1582	40	84	1118	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	1.00	0.95	0.85	0.92	0.95	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	2.00	2.00	0.00
Final Sat.:	3502	0	1615	0	0	0	0	3610	1615	3502	3610	0

Capacity Analysis Module:

Vol/Sat:	0.05	0.00	0.02	0.00	0.00	0.00	0.00	0.44	0.02	0.02	0.31	0.00
Crit Moves:	****						****			****		
Green/Cycle:	0.11	0.00	0.11	0.00	0.00	0.00	0.00	0.71	0.71	0.11	0.82	0.00
Volume/Cap:	0.45	0.00	0.22	0.00	0.00	0.00	0.00	0.62	0.03	0.22	0.38	0.00
Delay/Veh:	38.3	0.0	37.1	0.0	0.0	0.0	0.0	7.1	3.9	36.7	2.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	38.3	0.0	37.1	0.0	0.0	0.0	0.0	7.1	3.9	36.7	2.1	0.0
LOS by Move:	D	A	D	A	A	A	A	A	A	D	A	A
HCM2kAvgQ:	3	0	1	0	0	0	0	12	0	1	4	0

Note: Queue reported is the number of cars per lane.

 City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 Existing Conditions
 PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #54 SR-73 SB Ramps / Bonita Canyon Dr.

Cycle (sec): 80 Critical Vol./Cap.(X): 0.608
 Loss Time (sec): 6 Average Delay (sec/veh): 11.2
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	10	0	0	0	0	25	25	10	25	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	0	0	0	0	1	0	2	2	0	3

Volume Module:

Base Vol:	82	0	186	0	0	0	0	1244	477	101	1041	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	82	0	186	0	0	0	0	1244	477	101	1041	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
PHF Volume:	94	0	214	0	0	0	0	1432	549	116	1198	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	94	0	214	0	0	0	0	1432	549	116	1198	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	94	0	214	0	0	0	0	1432	549	116	1198	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	1.00	0.95	0.85	0.92	0.91	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	1.00	2.00	1.00	2.00	3.00	0.00
Final Sat.:	3502	0	1615	0	0	0	1900	3610	1615	3502	5187	0

Capacity Analysis Module:

Vol/Sat:	0.03	0.00	0.13	0.00	0.00	0.00	0.00	0.40	0.34	0.03	0.23	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.20	0.00	0.20	0.00	0.00	0.00	0.00	0.60	0.60	0.13	0.72	0.00
Volume/Cap:	0.13	0.00	0.66	0.00	0.00	0.00	0.00	0.66	0.57	0.27	0.32	0.00
Delay/Veh:	26.4	0.0	34.5	0.0	0.0	0.0	0.0	11.4	10.5	32.0	4.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.4	0.0	34.5	0.0	0.0	0.0	0.0	11.4	10.5	32.0	4.0	0.0
LOS by Move:	C	A	C	A	A	A	A	B	B	C	A	A
HCM2kAvgQ:	1	0	6	0	0	0	0	13	9	2	4	0

Note: Queue reported is the number of cars per lane.

 City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 Existing Conditions
 PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #62 Newport Coast Dr / SR-73 NB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.276
 Loss Time (sec): 4 Average Delay (sec/veh): 5.7
 Optimal Cycle: OPTIMIZED Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	25	25	0	25	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2 0 1	0	0	2 0 0	0	0	0 0 0	1	0	1! 0 0

Volume Module:

Base Vol:	0	692	174	0	603	0	0	0	0	172	0	35
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	692	174	0	603	0	0	0	0	172	0	35
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.00	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	0	718	0	0	626	0	0	0	0	178	0	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	718	0	0	626	0	0	0	0	178	0	36
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	718	0	0	626	0	0	0	0	178	0	36

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.94	1.00	0.94
Lanes:	0.00	2.00	1.00	0.00	2.00	0.00	0.00	0.00	0.00	1.71	0.00	0.29
Final Sat.:	0	3610	1900	0	3610	0	0	0	0	3042	0	514

Capacity Analysis Module:

Vol/Sat:	0.00	0.20	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.06	0.00	0.07
Crit Moves:	****									****		
Green/Cycle:	0.00	0.69	0.00	0.00	0.69	0.00	0.00	0.00	0.00	0.24	0.00	0.24
Volume/Cap:	0.00	0.29	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.24	0.00	0.29
Delay/Veh:	0.0	3.7	0.0	0.0	3.6	0.0	0.0	0.0	0.0	18.3	0.0	18.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	3.7	0.0	0.0	3.6	0.0	0.0	0.0	0.0	18.3	0.0	18.6
LOS by Move:	A	A	A	A	A	A	A	A	A	B	A	B
HCM2kAvgQ:	0	3	0	0	2	0	0	0	0	2	0	2

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
Existing Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #63 Newport Coast Dr / SR-73 SB Ramps

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Critical Gap Module: Critical Gp, FollowUpTim.

Capacity Module: Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level of Service Module: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

 City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 Existing Conditions
 PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #69 MacArthur Blvd / I-405 NB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.665
 Loss Time (sec): 6 Average Delay (sec/veh): 12.2
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	25	25	10	25	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	4	0	2	0	2	0	4	0	0	2

Volume Module:

Base Vol:	0	1915	758	601	1468	0	0	0	0	357	0	349
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1915	758	601	1468	0	0	0	0	357	0	349
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.00
PHF Volume:	0	2082	824	653	1596	0	0	0	0	388	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2082	824	653	1596	0	0	0	0	388	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	2082	824	653	1596	0	0	0	0	388	0	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.75	0.92	0.91	1.00	1.00	1.00	1.00	0.92	1.00	0.88
Lanes:	0.00	4.00	2.00	2.00	4.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
Final Sat.:	0	6916	2842	3502	6916	0	0	0	0	3502	0	3344

Capacity Analysis Module:

Vol/Sat:	0.00	0.30	0.29	0.19	0.23	0.00	0.00	0.00	0.00	0.11	0.00	0.00
Crit Moves:	****			****						****		
Green/Cycle:	0.00	0.45	0.45	0.28	0.73	0.00	0.00	0.00	0.00	0.17	0.00	0.00
Volume/Cap:	0.00	0.66	0.64	0.66	0.31	0.00	0.00	0.00	0.00	0.66	0.00	0.00
Delay/Veh:	0.0	13.4	13.8	20.8	2.8	0.0	0.0	0.0	0.0	26.3	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	13.4	13.8	20.8	2.8	0.0	0.0	0.0	0.0	26.3	0.0	0.0
LOS by Move:	A	B	B	C	A	A	A	A	A	C	A	A
HCM2kAvgQ:	0	9	8	7	3	0	0	0	0	5	0	0

Note: Queue reported is the number of cars per lane.

 City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 Existing Conditions
 PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #70 MacArthur Blvd / I-405 SB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.728
 Loss Time (sec): 6 Average Delay (sec/veh): 12.7
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Ignore		
Min. Green:	0	25	25	10	25	25	0	0	0	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	4	0	1	1	2	0	4	0	1	1

Volume Module:

Base Vol:	0	2132	474	432	1210	183	0	0	0	537	76	541
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2132	474	432	1210	183	0	0	0	537	76	541
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.00
PHF Volume:	0	2317	515	470	1315	199	0	0	0	584	83	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2317	515	470	1315	199	0	0	0	584	83	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	2317	515	470	1315	199	0	0	0	584	83	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.85	0.92	0.91	0.85	1.00	1.00	1.00	0.82	1.00	1.00
Lanes:	0.00	4.00	1.00	2.00	4.00	1.00	0.00	0.00	0.00	2.00	1.00	1.00
Final Sat.:	0	6916	1615	3502	6916	1615	0	0	0	3133	1900	1900

Capacity Analysis Module:

Vol/Sat:	0.00	0.34	0.32	0.13	0.19	0.12	0.00	0.00	0.00	0.19	0.04	0.00
Crit Moves:	****			****						****		
Green/Cycle:	0.00	0.46	0.72	0.18	0.64	0.64	0.00	0.00	0.00	0.26	0.26	0.00
Volume/Cap:	0.00	0.73	0.45	0.73	0.30	0.19	0.00	0.00	0.00	0.73	0.17	0.00
Delay/Veh:	0.0	14.0	3.8	27.3	4.7	4.4	0.0	0.0	0.0	23.8	17.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	14.0	3.8	27.3	4.7	4.4	0.0	0.0	0.0	23.8	17.5	0.0
LOS by Move:	A	B	A	C	A	A	A	A	A	C	B	A
HCM2kAvgQ:	0	11	4	6	3	2	0	0	0	7	1	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
Existing Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #80 Jamboree Rd / I-405 NB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.849
Loss Time (sec): 4 Average Delay (sec/veh): 8.0
Optimal Cycle: OPTIMIZED Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 12 columns for volume and adjustment factors across four directions.

Saturation Flow Module: Table with 12 columns for saturation flow and adjustment factors.

Capacity Analysis Module: Table with 12 columns for capacity analysis metrics.

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
Existing Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #81 Jamboree Rd / I-405 SB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.907
Loss Time (sec): 4 Average Delay (sec/veh): 16.6
Optimal Cycle: OPTIMIZED Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 12 columns representing different volume and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module: Table with 12 columns representing saturation flow and adjustment factors like Sat/Lane, Adjustment, Lanes, etc.

Capacity Analysis Module: Table with 12 columns representing capacity analysis factors like Vol/Sat, Crit Moves, Green/Cycle, etc.

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 2006 General Plan Conditions
 AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #46 SR-73 NB Ramps / Bison Av

Cycle (sec): 60 Critical Vol./Cap.(X): 0.299
 Loss Time (sec): 6 Average Delay (sec/veh): 18.3
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	10	0	0	0	10	25	0	0	25	25
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	0	0	0	1	0	2	0	0	2

Volume Module:

Base Vol:	207	0	472	0	0	0	42	1878	0	0	243	428
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	207	0	472	0	0	0	42	1878	0	0	243	428
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	217	0	495	0	0	0	44	1971	0	0	255	449
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	217	0	495	0	0	0	44	1971	0	0	255	449
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	217	0	495	0	0	0	44	1971	0	0	255	449

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.88	1.00	0.88	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.85
Lanes:	1.30	0.00	1.70	0.00	0.00	0.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	2188	0	2843	0	0	0	1805	3610	0	0	3610	1615

Capacity Analysis Module:

Vol/Sat:	0.10	0.00	0.17	0.00	0.00	0.00	0.02	0.55	0.00	0.00	0.07	0.28
Crit Moves:			****				****				****	
Green/Cycle:	0.32	0.00	0.32	0.00	0.00	0.00	0.17	0.58	0.00	0.00	0.42	0.42
Volume/Cap:	0.31	0.00	0.55	0.00	0.00	0.00	0.15	0.94	0.00	0.00	0.17	0.67
Delay/Veh:	15.6	0.0	17.5	0.0	0.0	0.0	21.6	20.1	0.0	0.0	11.0	16.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.6	0.0	17.5	0.0	0.0	0.0	21.6	20.1	0.0	0.0	11.0	16.7
LOS by Move:	B	A	B	A	A	A	C	C	A	A	B	B
HCM2kAvgQ:	3	0	5	0	0	0	1	24	0	0	2	8

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 2006 General Plan Conditions
 AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #47 SR-73 SB Ramps / Bison Av

Cycle (sec): 80 Critical Vol./Cap.(X): 0.635
 Loss Time (sec): 6 Average Delay (sec/veh): 20.6
 Optimal Cycle: OPTIMIZED Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Protected		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	10	0	10	0	25	25	10	25	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	0	2	0	0	0	0	2	2	0	0

Volume Module:

Base Vol:	0	0	0	1323	0	403	0	607	96	34	417	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1323	0	403	0	607	96	34	417	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	1399	0	0	0	642	101	36	441	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1399	0	0	0	642	101	36	441	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	1399	0	0	0	642	101	36	441	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.92	1.00	1.00	1.00	0.95	0.85	0.92	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	2.00	1.00	2.00	2.00	0.00
Final Sat.:	0	0	0	3502	0	1900	0	3610	1615	3502	3610	0

Capacity Analysis Module:

Vol/Sat:	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.18	0.06	0.01	0.12	0.00
Crit Moves:				****			****			****		
Green/Cycle:	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.31	0.31	0.13	0.44	0.00
Volume/Cap:	0.00	0.00	0.00	0.82	0.00	0.00	0.00	0.57	0.20	0.08	0.28	0.00
Delay/Veh:	0.0	0.0	0.0	20.8	0.0	0.0	0.0	23.7	20.4	31.0	14.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	20.8	0.0	0.0	0.0	23.7	20.4	31.0	14.5	0.0
LOS by Move:	A	A	A	C	A	A	A	C	C	C	B	A
HCM2kAvgQ:	0	0	0	17	0	0	0	8	2	0	4	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 2006 General Plan Conditions
 AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #53 SR-73 NB Ramps / Bonita Canyon Dr.

Cycle (sec): 60 Critical Vol./Cap.(X): 0.771
 Loss Time (sec): 6 Average Delay (sec/veh): 18.0
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	10	0	0	0	0	25	25	10	25	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	0	0	0	0	0	2	0	2	0	0

Volume Module:

Base Vol:	703	0	107	0	0	0	0	953	217	623	927	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	703	0	107	0	0	0	0	953	217	623	927	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	759	0	116	0	0	0	0	1029	234	673	1001	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	759	0	116	0	0	0	0	1029	234	673	1001	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	759	0	116	0	0	0	0	1029	234	673	1001	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	1.00	0.95	0.85	0.92	0.95	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	2.00	2.00	0.00
Final Sat.:	3502	0	1615	0	0	0	0	3610	1615	3502	3610	0

Capacity Analysis Module:

Vol/Sat:	0.22	0.00	0.07	0.00	0.00	0.00	0.00	0.29	0.15	0.19	0.28	0.00
Crit Moves:	****						****			****		
Green/Cycle:	0.26	0.00	0.26	0.00	0.00	0.00	0.00	0.42	0.42	0.23	0.64	0.00
Volume/Cap:	0.85	0.00	0.28	0.00	0.00	0.00	0.00	0.68	0.35	0.85	0.43	0.00
Delay/Veh:	28.7	0.0	18.2	0.0	0.0	0.0	0.0	15.6	12.3	30.5	5.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.7	0.0	18.2	0.0	0.0	0.0	0.0	15.6	12.3	30.5	5.4	0.0
LOS by Move:	C	A	B	A	A	A	A	B	B	C	A	A
HCM2kAvgQ:	10	0	2	0	0	0	0	9	3	9	5	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 2006 General Plan Conditions
 AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #54 SR-73 SB Ramps / Bonita Canyon Dr.

Cycle (sec): 80 Critical Vol./Cap.(X): 0.461
 Loss Time (sec): 6 Average Delay (sec/veh): 10.6
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	10	0	0	0	0	25	25	10	25	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	0	0	0	0	1	0	2	2	0	3

Volume Module:

Base Vol:	114	0	203	0	0	0	0	967	199	31	1636	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	114	0	203	0	0	0	0	967	199	31	1636	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	121	0	215	0	0	0	0	1025	211	33	1735	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	121	0	215	0	0	0	0	1025	211	33	1735	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	121	0	215	0	0	0	0	1025	211	33	1735	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	1.00	0.95	0.85	0.92	0.91	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	1.00	2.00	1.00	2.00	3.00	0.00
Final Sat.:	3502	0	1615	0	0	0	1900	3610	1615	3502	5187	0

Capacity Analysis Module:

Vol/Sat:	0.03	0.00	0.13	0.00	0.00	0.00	0.00	0.28	0.13	0.01	0.33	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.26	0.00	0.26	0.00	0.00	0.00	0.00	0.54	0.54	0.13	0.67	0.00
Volume/Cap:	0.14	0.00	0.52	0.00	0.00	0.00	0.00	0.52	0.24	0.08	0.50	0.00
Delay/Veh:	23.0	0.0	26.8	0.0	0.0	0.0	0.0	11.8	9.7	31.0	6.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.0	0.0	26.8	0.0	0.0	0.0	0.0	11.8	9.7	31.0	6.7	0.0
LOS by Move:	C	A	C	A	A	A	A	B	A	C	A	A
HCM2kAvgQ:	1	0	5	0	0	0	0	9	3	0	8	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 2006 General Plan Conditions
 AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #62 Newport Coast Dr / SR-73 NB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.579
 Loss Time (sec): 4 Average Delay (sec/veh): 9.2
 Optimal Cycle: OPTIMIZED Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	25	25	0	25	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2 0 1	0	0	2 0 0	0	0	0 0 0	1	0	1! 0 0

Volume Module:

Base Vol:	0	1137	520	0	693	0	0	0	0	357	0	143
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1137	520	0	693	0	0	0	0	357	0	143
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.00	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	1233	0	0	752	0	0	0	0	387	0	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1233	0	0	752	0	0	0	0	387	0	155
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1233	0	0	752	0	0	0	0	387	0	155

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.92	1.00	0.92
Lanes:	0.00	2.00	1.00	0.00	2.00	0.00	0.00	0.00	0.00	1.56	0.00	0.44
Final Sat.:	0	3610	1900	0	3610	0	0	0	0	2732	0	781

Capacity Analysis Module:

Vol/Sat:	0.00	0.34	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.14	0.00	0.20
Crit Moves:	****											
Green/Cycle:	0.00	0.59	0.00	0.00	0.59	0.00	0.00	0.00	0.00	0.34	0.00	0.34
Volume/Cap:	0.00	0.58	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.41	0.00	0.58
Delay/Veh:	0.0	8.0	0.0	0.0	6.5	0.0	0.0	0.0	0.0	15.3	0.0	17.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	8.0	0.0	0.0	6.5	0.0	0.0	0.0	0.0	15.3	0.0	17.1
LOS by Move:	A	A	A	A	A	A	A	A	A	B	A	B
HCM2kAvgQ:	0	8	0	0	4	0	0	0	0	4	0	6

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
2006 General Plan Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #63 Newport Coast Dr / SR-73 SB Ramps

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Table with 12 columns representing traffic volumes. Rows include Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Table with 12 columns. Row: Critical Gap Module: Critical Gp:xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxxx xxxxxx xxxxx 6.9 xxxxxx xxxxx xxxxxx

Table with 12 columns. Row: Capacity Module: Cnflct Vol: xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx xxxxx xxxxx 571 xxxxx xxxxx xxxxxx

Table with 12 columns. Row: Level Of Service Module: 2Way95thQ: xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 2006 General Plan Conditions
 AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #69 MacArthur Blvd / I-405 NB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.713
 Loss Time (sec): 6 Average Delay (sec/veh): 15.3
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	25	25	10	25	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	4	0	2	0	2	0	4	0	0	2

Volume Module:

Base Vol:	0	2009	358	162	1431	0	0	0	0	889	0	1091
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2009	358	162	1431	0	0	0	0	889	0	1091
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.00
PHF Volume:	0	2184	389	176	1555	0	0	0	0	966	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2184	389	176	1555	0	0	0	0	966	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	2184	389	176	1555	0	0	0	0	966	0	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.75	0.92	0.91	1.00	1.00	1.00	1.00	0.92	1.00	0.88
Lanes:	0.00	4.00	2.00	2.00	4.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
Final Sat.:	0	6916	2842	3502	6916	0	0	0	0	3502	0	3344

Capacity Analysis Module:

Vol/Sat:	0.00	0.32	0.14	0.05	0.22	0.00	0.00	0.00	0.00	0.28	0.00	0.00
Crit Moves:	****			****						****		
Green/Cycle:	0.00	0.42	0.42	0.17	0.58	0.00	0.00	0.00	0.00	0.32	0.00	0.00
Volume/Cap:	0.00	0.76	0.33	0.30	0.39	0.00	0.00	0.00	0.00	0.87	0.00	0.00
Delay/Veh:	0.0	16.1	12.0	22.2	6.8	0.0	0.0	0.0	0.0	27.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	16.1	12.0	22.2	6.8	0.0	0.0	0.0	0.0	27.0	0.0	0.0
LOS by Move:	A	B	B	C	A	A	A	A	A	C	A	A
HCM2kAvgQ:	0	11	3	2	4	0	0	0	0	12	0	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 2006 General Plan Conditions
 AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #70 MacArthur Blvd / I-405 SB Ramps

Cycle (sec): 65 Critical Vol./Cap.(X): 0.694
 Loss Time (sec): 6 Average Delay (sec/veh): 16.1
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Ignore		
Min. Green:	0	25	25	10	25	25	0	0	0	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	4	0	1	1	2	0	4	0	1	1

Volume Module:

Base Vol:	0	1499	432	160	1692	475	0	0	0	994	138	809
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1499	432	160	1692	475	0	0	0	994	138	809
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.00
PHF Volume:	0	1629	470	174	1839	516	0	0	0	1080	150	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1629	470	174	1839	516	0	0	0	1080	150	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	1629	470	174	1839	516	0	0	0	1080	150	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.85	0.92	0.91	0.85	1.00	1.00	1.00	0.82	1.00	1.00
Lanes:	0.00	4.00	1.00	2.00	4.00	1.00	0.00	0.00	0.00	2.00	1.00	1.00
Final Sat.:	0	6916	1615	3502	6916	1615	0	0	0	3133	1900	1900

Capacity Analysis Module:

Vol/Sat:	0.00	0.24	0.29	0.05	0.27	0.32	0.00	0.00	0.00	0.34	0.08	0.00
Crit Moves:	****			****						****		
Green/Cycle:	0.00	0.38	0.75	0.15	0.54	0.54	0.00	0.00	0.00	0.37	0.37	0.00
Volume/Cap:	0.00	0.61	0.39	0.32	0.49	0.59	0.00	0.00	0.00	0.93	0.21	0.00
Delay/Veh:	0.0	16.5	3.0	24.8	9.5	11.3	0.0	0.0	0.0	33.3	14.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	16.5	3.0	24.8	9.5	11.3	0.0	0.0	0.0	33.3	14.2	0.0
LOS by Move:	A	B	A	C	A	B	A	A	A	C	B	A
HCM2kAvgQ:	0	8	4	2	7	8	0	0	0	16	2	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 2006 General Plan Conditions
 AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #75 Von Karmen Av / I-405 HOV Ramps

Cycle (sec): 130 Critical Vol./Cap.(X): 1.184
 Loss Time (sec): 6 Average Delay (sec/veh): 70.2
 Optimal Cycle: OPTIMIZED Level Of Service: E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	25	25	25	10	10	10	25	25	25	25	25	25
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	3	0	1	0	1	0	1	0	1	0

Volume Module:

Base Vol:	282	369	9	1	8	2	312	62	956	124	276	41
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	282	369	9	1	8	2	312	62	956	124	276	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	307	401	10	1	9	2	339	67	1039	135	300	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	307	401	10	1	9	2	339	67	1039	135	300	45
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	307	401	10	1	9	2	339	67	1039	135	300	45

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	0.91	0.85	0.38	0.91	0.85	0.60	0.60	0.60	0.48	0.48	0.48
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	0.83	0.17	1.00	0.56	1.25	0.19
Final Sat.:	1444	5187	1615	716	5187	1615	946	188	1133	514	1145	170

Capacity Analysis Module:

Vol/Sat:	0.21	0.08	0.01	0.00	0.00	0.00	0.36	0.36	0.92	0.26	0.26	0.26
Crit Moves:	****									****		
Green/Cycle:	0.19	0.19	0.19	0.19	0.19	0.19	0.76	0.76	0.76	0.76	0.76	0.76
Volume/Cap:	1.10	0.40	0.03	0.01	0.01	0.01	0.47	0.47	1.20	0.34	0.34	0.34
Delay/Veh:	137.2	46.2	42.7	42.5	42.5	42.5	5.9	5.9	115.4	5.2	5.2	5.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	137.2	46.2	42.7	42.5	42.5	42.5	5.9	5.9	115.4	5.2	5.2	5.2
LOS by Move:	F	D	D	D	D	D	A	A	F	A	A	A
HCM2kAvgQ:	19	5	0	0	0	0	7	7	68	3	3	3

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 2006 General Plan Conditions
 AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #80 Jamboree Rd / I-405 NB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.787
 Loss Time (sec): 4 Average Delay (sec/veh): 13.2
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ignore			Ignore			Include			Ignore		
Min. Green:	0	25	25	0	25	25	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	3	0	0	4	0	0	0	3	0	0

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Volume Module:

Base Vol:	0	2007	510	0	2265	1140	0	0	0	1515	0	933
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2007	510	0	2265	1140	0	0	0	1515	0	933
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	0.92	0.92	0.00	0.92	0.92	0.00	0.92	0.92	0.92	0.92	0.92	0.00
PHF Volume:	0	2182	0	0	2462	0	0	0	0	1647	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2182	0	0	2462	0	0	0	0	1647	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	2182	0	0	2462	0	0	0	0	1647	0	0

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Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	1.00	1.00	0.91	0.88	1.00	1.00	1.00	0.92	1.00	1.00
Lanes:	0.00	3.00	1.00	0.00	4.00	2.00	0.00	0.00	0.00	3.00	0.00	1.00
Final Sat.:	0	5187	1900	0	6916	3344	0	0	0	5253	0	1900

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Capacity Analysis Module:

Vol/Sat:	0.00	0.42	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.31	0.00	0.00
Crit Moves:	****									****		
Green/Cycle:	0.00	0.53	0.00	0.00	0.53	0.00	0.00	0.00	0.00	0.40	0.00	0.00
Volume/Cap:	0.00	0.79	0.00	0.00	0.67	0.00	0.00	0.00	0.00	0.79	0.00	0.00
Delay/Veh:	0.0	12.8	0.0	0.0	10.6	0.0	0.0	0.0	0.0	17.9	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	12.8	0.0	0.0	10.6	0.0	0.0	0.0	0.0	17.9	0.0	0.0
LOS by Move:	A	B	A	A	B	A	A	A	A	B	A	A
HCM2kAvgQ:	0	14	0	0	10	0	0	0	0	11	0	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 2006 General Plan Conditions
 AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #81 Jamboree Rd / I-405 SB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 1.920
 Loss Time (sec): 4 Average Delay (sec/veh): 215.0
 Optimal Cycle: OPTIMIZED Level Of Service: F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ignore			Ignore			Include			Include		
Min. Green:	0	25	25	0	25	25	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	4	0	0	4	1	0	1	0	0	0

Volume Module:

Base Vol:	0	1680	753	0	3467	299	890	1620	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1680	753	0	3467	299	890	1620	0	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.00	0.92	0.92	0.00	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	1826	0	0	3768	0	967	1761	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1826	0	0	3768	0	967	1761	0	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1826	0	0	3768	0	967	1761	0	0	0	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.88	1.00	0.91	1.00	0.95	0.95	0.88	1.00	1.00	1.00
Lanes:	0.00	4.00	2.00	0.00	4.00	1.00	1.22	0.78	2.00	0.00	0.00	0.00
Final Sat.:	0	6916	3344	0	6916	1900	2187	1412	3344	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.00	0.26	0.00	0.00	0.54	0.00	0.44	1.25	0.00	0.00	0.00	0.00
Crit Moves:				****			****					
Green/Cycle:	0.00	0.42	0.00	0.00	0.42	0.00	0.52	0.52	0.00	0.00	0.00	0.00
Volume/Cap:	0.00	0.63	0.00	0.00	1.31	0.00	0.86	2.41	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	14.3	0.0	0.0	159	0.0	15.1	654	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	14.3	0.0	0.0	159	0.0	15.1	654	0.0	0.0	0.0	0.0
LOS by Move:	A	B	A	A	F	A	B	F	A	A	A	A
HCM2kAvgQ:	0	8	0	0	51	0	16	203	0	0	0	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 2006 General Plan Conditions
 PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #46 SR-73 NB Ramps / Bison Av

Cycle (sec): 105 Critical Vol./Cap.(X): 0.622
 Loss Time (sec): 6 Average Delay (sec/veh): 8.3
 Optimal Cycle: OPTIMIZED Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	10	0	0	0	10	25	0	0	25	25
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	0	0	0	1	0	2	0	0	2

Volume Module:

Base Vol:	143	0	47	0	0	0	26	716	0	0	821	807
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	143	0	47	0	0	0	26	716	0	0	821	807
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	150	0	49	0	0	0	27	749	0	0	859	844
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	150	0	49	0	0	0	27	749	0	0	859	844
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	150	0	49	0	0	0	27	749	0	0	859	844

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	1.00	0.93	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.85
Lanes:	1.75	0.00	1.25	0.00	0.00	0.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	3091	0	2200	0	0	0	1805	3610	0	0	3610	1615

Capacity Analysis Module:

Vol/Sat:	0.05	0.00	0.02	0.00	0.00	0.00	0.02	0.21	0.00	0.00	0.24	0.52
Crit Moves:	****						****			****		
Green/Cycle:	0.10	0.00	0.10	0.00	0.00	0.00	0.10	0.85	0.00	0.00	0.75	0.75
Volume/Cap:	0.51	0.00	0.23	0.00	0.00	0.00	0.16	0.24	0.00	0.00	0.32	0.69
Delay/Veh:	46.3	0.0	44.1	0.0	0.0	0.0	44.1	1.6	0.0	0.0	4.3	8.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.3	0.0	44.1	0.0	0.0	0.0	44.1	1.6	0.0	0.0	4.3	8.5
LOS by Move:	D	A	D	A	A	A	D	A	A	A	A	A
HCM2kAvgQ:	3	0	1	0	0	0	1	3	0	0	5	15

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 2006 General Plan Conditions
 PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #47 SR-73 SB Ramps / Bison Av

Cycle (sec): 60 Critical Vol./Cap.(X): 0.346
 Loss Time (sec): 6 Average Delay (sec/veh): 12.1
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Protected		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	10	0	10	0	25	25	10	25	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	0	2	0	0	0	0	2	2	0	0

Volume Module:

Base Vol:	0	0	0	376	0	264	0	344	156	293	666	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	376	0	264	0	344	156	293	666	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.00	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	0	0	409	0	0	0	374	170	318	724	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	409	0	0	0	374	170	318	724	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	409	0	0	0	374	170	318	724	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.92	1.00	1.00	1.00	0.95	0.85	0.92	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	2.00	1.00	2.00	2.00	0.00
Final Sat.:	0	0	0	3502	0	1900	0	3610	1615	3502	3610	0

Capacity Analysis Module:

Vol/Sat:	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.10	0.10	0.09	0.20	0.00
Crit Moves:				****			****			****		
Green/Cycle:	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.42	0.42	0.21	0.63	0.00
Volume/Cap:	0.00	0.00	0.00	0.43	0.00	0.00	0.00	0.25	0.25	0.43	0.32	0.00
Delay/Veh:	0.0	0.0	0.0	18.3	0.0	0.0	0.0	11.5	11.6	20.9	5.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	18.3	0.0	0.0	0.0	11.5	11.6	20.9	5.3	0.0
LOS by Move:	A	A	A	B	A	A	A	B	B	C	A	A
HCM2kAvgQ:	0	0	0	4	0	0	0	2	2	3	3	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 2006 General Plan Conditions
 PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #53 SR-73 NB Ramps / Bonita Canyon Dr.

Cycle (sec): 60 Critical Vol./Cap.(X): 0.675
 Loss Time (sec): 6 Average Delay (sec/veh): 11.3
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	10	0	0	0	0	25	25	10	25	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	0	0	0	0	0	2	0	2	0	0

Volume Module:

Base Vol:	240	0	70	0	0	0	0	1390	122	368	1070	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	240	0	70	0	0	0	0	1390	122	368	1070	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	261	0	76	0	0	0	0	1511	133	400	1163	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	261	0	76	0	0	0	0	1511	133	400	1163	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	261	0	76	0	0	0	0	1511	133	400	1163	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	1.00	0.95	0.85	0.92	0.95	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	2.00	2.00	0.00
Final Sat.:	3502	0	1615	0	0	0	0	3610	1615	3502	3610	0

Capacity Analysis Module:

Vol/Sat:	0.07	0.00	0.05	0.00	0.00	0.00	0.00	0.42	0.08	0.11	0.32	0.00
Crit Moves:	****						****			****		
Green/Cycle:	0.17	0.00	0.17	0.00	0.00	0.00	0.00	0.57	0.57	0.17	0.73	0.00
Volume/Cap:	0.45	0.00	0.28	0.00	0.00	0.00	0.00	0.74	0.14	0.69	0.44	0.00
Delay/Veh:	23.1	0.0	22.4	0.0	0.0	0.0	0.0	11.1	6.2	26.9	3.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.1	0.0	22.4	0.0	0.0	0.0	0.0	11.1	6.2	26.9	3.3	0.0
LOS by Move:	C	A	C	A	A	A	A	B	A	C	A	A
HCM2kAvgQ:	3	0	1	0	0	0	0	13	1	5	5	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 2006 General Plan Conditions
 PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #54 SR-73 SB Ramps / Bonita Canyon Dr.

Cycle (sec): 70 Critical Vol./Cap.(X): 0.765
 Loss Time (sec): 6 Average Delay (sec/veh): 15.9
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	10	0	0	0	0	25	25	10	25	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	0	0	0	0	1	0	2	2	0	3

Volume Module:

Base Vol:	227	0	314	0	0	0	0	1190	676	106	1217	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	227	0	314	0	0	0	0	1190	676	106	1217	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	247	0	341	0	0	0	0	1293	735	115	1323	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	247	0	341	0	0	0	0	1293	735	115	1323	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	247	0	341	0	0	0	0	1293	735	115	1323	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	1.00	0.95	0.85	0.92	0.91	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	1.00	2.00	1.00	2.00	3.00	0.00
Final Sat.:	3502	0	1615	0	0	0	1900	3610	1615	3502	5187	0

Capacity Analysis Module:

Vol/Sat:	0.07	0.00	0.21	0.00	0.00	0.00	0.00	0.36	0.45	0.03	0.26	0.00
Crit Moves:			****						****	****		
Green/Cycle:	0.24	0.00	0.24	0.00	0.00	0.00	0.00	0.53	0.53	0.14	0.67	0.00
Volume/Cap:	0.29	0.00	0.86	0.00	0.00	0.00	0.00	0.68	0.86	0.23	0.38	0.00
Delay/Veh:	21.7	0.0	42.9	0.0	0.0	0.0	0.0	13.2	23.5	26.8	5.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.7	0.0	42.9	0.0	0.0	0.0	0.0	13.2	23.5	26.8	5.2	0.0
LOS by Move:	C	A	D	A	A	A	A	B	C	C	A	A
HCM2kAvgQ:	2	0	10	0	0	0	0	12	17	1	5	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 2006 General Plan Conditions
 PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #62 Newport Coast Dr / SR-73 NB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.394
 Loss Time (sec): 4 Average Delay (sec/veh): 5.3
 Optimal Cycle: OPTIMIZED Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Include		
Min. Green:	0	25	25	0	25	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	2 0 1	0	0	2 0 0	0	0	0 0 0	1	0	1! 0 0

Volume Module:

Base Vol:	0	1026	170	0	869	0	0	0	0	221	0	34
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1026	170	0	869	0	0	0	0	221	0	34
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.00	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	0	1064	0	0	901	0	0	0	0	229	0	35
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1064	0	0	901	0	0	0	0	229	0	35
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1064	0	0	901	0	0	0	0	229	0	35

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.94	1.00	0.94
Lanes:	0.00	2.00	1.00	0.00	2.00	0.00	0.00	0.00	0.00	1.76	0.00	0.24
Final Sat.:	0	3610	1900	0	3610	0	0	0	0	3148	0	420

Capacity Analysis Module:

Vol/Sat:	0.00	0.29	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.07	0.00	0.08
Crit Moves:	****									****		
Green/Cycle:	0.00	0.73	0.00	0.00	0.73	0.00	0.00	0.00	0.00	0.21	0.00	0.21
Volume/Cap:	0.00	0.41	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.35	0.00	0.41
Delay/Veh:	0.0	3.3	0.0	0.0	3.1	0.0	0.0	0.0	0.0	20.6	0.0	21.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	3.3	0.0	0.0	3.1	0.0	0.0	0.0	0.0	20.6	0.0	21.0
LOS by Move:	A	A	A	A	A	A	A	A	A	C	A	C
HCM2kAvgQ:	0	4	0	0	3	0	0	0	0	2	0	3

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
2006 General Plan Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #63 Newport Coast Dr / SR-73 SB Ramps

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module table with 12 columns representing traffic volumes and adjustment factors for each bound.

Critical Gap Module table with 12 columns showing critical gap and follow-up time values.

Capacity Module table with 12 columns showing conflict volume, potential capacity, and volume/capacity ratios.

Level of Service Module table with 12 columns showing 2Way95thQ, control delay, LOS by movement, shared capacity, and shared queue data.

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 2006 General Plan Conditions
 PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #69 MacArthur Blvd / I-405 NB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.823
 Loss Time (sec): 6 Average Delay (sec/veh): 12.9
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	25	25	10	25	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	4	0	2	2	0	0	0	0	0	2

Volume Module:

Base Vol:	0	2177	1115	495	2042	0	0	0	0	518	0	423
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2177	1115	495	2042	0	0	0	0	518	0	423
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.00
PHF Volume:	0	2366	1212	538	2220	0	0	0	0	563	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2366	1212	538	2220	0	0	0	0	563	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	2366	1212	538	2220	0	0	0	0	563	0	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.75	0.92	0.91	1.00	1.00	1.00	1.00	0.92	1.00	0.88
Lanes:	0.00	4.00	2.00	2.00	4.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
Final Sat.:	0	6916	2842	3502	6916	0	0	0	0	3502	0	3344

Capacity Analysis Module:

Vol/Sat:	0.00	0.34	0.43	0.15	0.32	0.00	0.00	0.00	0.00	0.16	0.00	0.00
Crit Moves:			****	****						****		
Green/Cycle:	0.00	0.52	0.52	0.19	0.70	0.00	0.00	0.00	0.00	0.20	0.00	0.00
Volume/Cap:	0.00	0.66	0.82	0.82	0.46	0.00	0.00	0.00	0.00	0.82	0.00	0.00
Delay/Veh:	0.0	11.1	16.0	31.8	3.9	0.0	0.0	0.0	0.0	31.1	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	11.1	16.0	31.8	3.9	0.0	0.0	0.0	0.0	31.1	0.0	0.0
LOS by Move:	A	B	B	C	A	A	A	A	A	C	A	A
HCM2kAvgQ:	0	10	13	8	5	0	0	0	0	8	0	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 2006 General Plan Conditions
 PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #70 MacArthur Blvd / I-405 SB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.865
 Loss Time (sec): 6 Average Delay (sec/veh): 13.6
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Ignore		
Min. Green:	0	25	25	10	25	25	0	0	0	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	4	0	1	2	0	0	4	0	0	1

Volume Module:

Base Vol:	0	2890	676	477	1719	384	0	0	0	507	157	369
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2890	676	477	1719	384	0	0	0	507	157	369
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.00
PHF Volume:	0	3141	735	518	1868	417	0	0	0	551	171	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3141	735	518	1868	417	0	0	0	551	171	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	3141	735	518	1868	417	0	0	0	551	171	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.85	0.92	0.91	0.85	1.00	1.00	1.00	0.82	1.00	1.00
Lanes:	0.00	4.00	1.00	2.00	4.00	1.00	0.00	0.00	0.00	2.00	1.00	1.00
Final Sat.:	0	6916	1615	3502	6916	1615	0	0	0	3133	1900	1900

Capacity Analysis Module:

Vol/Sat:	0.00	0.45	0.45	0.15	0.27	0.26	0.00	0.00	0.00	0.18	0.09	0.00
Crit Moves:	****			****						****		
Green/Cycle:	0.00	0.53	0.73	0.17	0.70	0.70	0.00	0.00	0.00	0.20	0.20	0.00
Volume/Cap:	0.00	0.86	0.62	0.86	0.39	0.37	0.00	0.00	0.00	0.86	0.44	0.00
Delay/Veh:	0.0	14.8	5.1	36.7	3.8	3.9	0.0	0.0	0.0	34.9	21.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	14.8	5.1	36.7	3.8	3.9	0.0	0.0	0.0	34.9	21.7	0.0
LOS by Move:	A	B	A	D	A	A	A	A	A	C	C	A
HCM2kAvgQ:	0	17	8	8	4	3	0	0	0	8	3	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 2006 General Plan Conditions
 PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #75 Von Karmen Av / I-405 HOV Ramps

Cycle (sec): 130 Critical Vol./Cap.(X): 0.977
 Loss Time (sec): 6 Average Delay (sec/veh): 35.9
 Optimal Cycle: OPTIMIZED Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	25	25	25	10	10	10	25	25	25	25	25	25
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	3	0	1	0	1	0	1	0	1	0

Volume Module:

Base Vol:	793	100	97	35	234	291	28	238	174	12	136	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	793	100	97	35	234	291	28	238	174	12	136	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	862	109	105	38	254	316	30	259	189	13	148	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	862	109	105	38	254	316	30	259	189	13	148	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	862	109	105	38	254	316	30	259	189	13	148	2

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.58	0.91	0.85	0.68	0.91	0.85	0.83	0.83	0.83	0.81	0.81	0.81
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	0.13	1.08	0.79	0.16	1.81	0.03
Final Sat.:	1106	5187	1615	1284	5187	1615	200	1698	1241	248	2806	41

Capacity Analysis Module:

Vol/Sat:	0.78	0.02	0.07	0.03	0.05	0.20	0.15	0.15	0.15	0.05	0.05	0.05
Crit Moves:	****						****					
Green/Cycle:	0.76	0.76	0.76	0.76	0.76	0.76	0.19	0.19	0.19	0.19	0.19	0.19
Volume/Cap:	1.02	0.03	0.09	0.04	0.06	0.26	0.79	0.79	0.79	0.27	0.27	0.27
Delay/Veh:	52.6	3.8	4.0	3.8	3.9	4.7	57.1	57.1	57.1	45.0	45.0	45.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.6	3.8	4.0	3.8	3.9	4.7	57.1	57.1	57.1	45.0	45.0	45.0
LOS by Move:	D	A	A	A	A	A	E	E	E	D	D	D
HCM2kAvgQ:	43	0	1	0	1	4	11	11	11	3	3	3

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 2006 General Plan Conditions
 PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #80 Jamboree Rd / I-405 NB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.926
 Loss Time (sec): 4 Average Delay (sec/veh): 12.8
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ignore			Ignore			Include			Ignore		
Min. Green:	0	25	25	0	25	25	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	3	0	0	4	0	0	0	0	0	1

Volume Module:

Base Vol:	0	3151	740	0	2203	1000	0	0	0	987	0	409
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3151	740	0	2203	1000	0	0	0	987	0	409
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	0.92	0.92	0.00	0.92	0.92	0.00	0.92	0.92	0.92	0.92	0.92	0.00
PHF Volume:	0	3425	0	0	2395	0	0	0	0	1073	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3425	0	0	2395	0	0	0	0	1073	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	3425	0	0	2395	0	0	0	0	1073	0	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	1.00	1.00	0.91	0.88	1.00	1.00	1.00	0.92	1.00	1.00
Lanes:	0.00	3.00	1.00	0.00	4.00	2.00	0.00	0.00	0.00	3.00	0.00	1.00
Final Sat.:	0	5187	1900	0	6916	3344	0	0	0	5253	0	1900

Capacity Analysis Module:

Vol/Sat:	0.00	0.66	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.20	0.00	0.00
Crit Moves:	****									****		
Green/Cycle:	0.00	0.71	0.00	0.00	0.71	0.00	0.00	0.00	0.00	0.22	0.00	0.00
Volume/Cap:	0.00	0.93	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.93	0.00	0.00
Delay/Veh:	0.0	12.0	0.0	0.0	3.9	0.0	0.0	0.0	0.0	35.4	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	12.0	0.0	0.0	3.9	0.0	0.0	0.0	0.0	35.4	0.0	0.0
LOS by Move:	A	B	A	A	A	A	A	A	A	D	A	A
HCM2kAvgQ:	0	25	0	0	6	0	0	0	0	11	0	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 2006 General Plan Conditions
 PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #81 Jamboree Rd / I-405 SB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.882
 Loss Time (sec): 4 Average Delay (sec/veh): 15.5
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ignore			Ignore			Include			Include		
Min. Green:	0	25	25	0	25	25	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	4	0	0	4	1	0	1	0	0	0

Volume Module:

Base Vol:	0	2817	1330	0	2487	800	933	0	983	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2817	1330	0	2487	800	933	0	983	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.00	0.92	0.92	0.00	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	3062	0	0	2703	0	1014	0	1068	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3062	0	0	2703	0	1014	0	1068	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	3062	0	0	2703	0	1014	0	1068	0	0	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.88	1.00	0.91	1.00	0.90	1.00	0.79	1.00	1.00	1.00
Lanes:	0.00	4.00	2.00	0.00	4.00	1.00	1.56	0.00	2.44	0.00	0.00	0.00
Final Sat.:	0	6916	3344	0	6916	1900	2663	0	3681	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.00	0.44	0.00	0.00	0.39	0.00	0.38	0.00	0.29	0.00	0.00	0.00
Crit Moves:	****			****			****			****		
Green/Cycle:	0.00	0.50	0.00	0.00	0.50	0.00	0.43	0.00	0.43	0.00	0.00	0.00
Volume/Cap:	0.00	0.88	0.00	0.00	0.78	0.00	0.88	0.00	0.67	0.00	0.00	0.00
Delay/Veh:	0.0	16.4	0.0	0.0	13.4	0.0	19.9	0.0	14.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	16.4	0.0	0.0	13.4	0.0	19.9	0.0	14.2	0.0	0.0	0.0
LOS by Move:	A	B	A	A	B	A	B	A	B	A	A	A
HCM2kAvgQ:	0	18	0	0	13	0	15	0	9	0	0	0

Note: Queue reported is the number of cars per lane.

 City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 General Plan LUE Amendment (Proposed Project) Conditions
 AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #46 SR-73 NB Ramps / Bison Av

Cycle (sec): 60 Critical Vol./Cap.(X): 0.299
 Loss Time (sec): 6 Average Delay (sec/veh): 17.6
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	10	0	0	0	10	25	0	0	25	25
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	0	0	0	1	0	2	0	0	2

Volume Module:

Base Vol:	207	0	465	0	0	0	40	1855	0	0	253	430
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	207	0	465	0	0	0	40	1855	0	0	253	430
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	217	0	488	0	0	0	42	1946	0	0	265	451
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	217	0	488	0	0	0	42	1946	0	0	265	451
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	217	0	488	0	0	0	42	1946	0	0	265	451

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.88	1.00	0.88	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.85
Lanes:	1.31	0.00	1.69	0.00	0.00	0.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	2193	0	2837	0	0	0	1805	3610	0	0	3610	1615

Capacity Analysis Module:

Vol/Sat:	0.10	0.00	0.17	0.00	0.00	0.00	0.02	0.54	0.00	0.00	0.07	0.28
Crit Moves:			****				****				****	
Green/Cycle:	0.32	0.00	0.32	0.00	0.00	0.00	0.17	0.58	0.00	0.00	0.42	0.42
Volume/Cap:	0.31	0.00	0.54	0.00	0.00	0.00	0.14	0.92	0.00	0.00	0.18	0.67
Delay/Veh:	15.6	0.0	17.4	0.0	0.0	0.0	21.5	18.8	0.0	0.0	11.1	16.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.6	0.0	17.4	0.0	0.0	0.0	21.5	18.8	0.0	0.0	11.1	16.8
LOS by Move:	B	A	B	A	A	A	C	B	A	A	B	B
HCM2kAvgQ:	3	0	5	0	0	0	1	23	0	0	2	8

Note: Queue reported is the number of cars per lane.

 City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 General Plan LUE Amendment (Proposed Project) Conditions
 AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #47 SR-73 SB Ramps / Bison Av

Cycle (sec): 80 Critical Vol./Cap.(X): 0.626
 Loss Time (sec): 6 Average Delay (sec/veh): 20.2
 Optimal Cycle: OPTIMIZED Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Protected		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	10	0	10	0	25	25	10	25	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	0	2	0	0	0	0	2	2	0	0

Volume Module:

Base Vol:	0	0	0	1305	0	405	0	595	95	35	425	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1305	0	405	0	595	95	35	425	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.00	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	1379	0	0	0	629	100	37	449	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1379	0	0	0	629	100	37	449	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	1379	0	0	0	629	100	37	449	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.92	1.00	1.00	1.00	0.95	0.85	0.92	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	2.00	1.00	2.00	2.00	0.00
Final Sat.:	0	0	0	3502	0	1900	0	3610	1615	3502	3610	0

Capacity Analysis Module:

Vol/Sat:	0.00	0.00	0.00	0.39	0.00	0.00	0.00	0.17	0.06	0.01	0.12	0.00
Crit Moves:				****			****			****		
Green/Cycle:	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.31	0.31	0.13	0.44	0.00
Volume/Cap:	0.00	0.00	0.00	0.81	0.00	0.00	0.00	0.56	0.20	0.08	0.28	0.00
Delay/Veh:	0.0	0.0	0.0	20.3	0.0	0.0	0.0	23.5	20.4	31.0	14.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	20.3	0.0	0.0	0.0	23.5	20.4	31.0	14.6	0.0
LOS by Move:	A	A	A	C	A	A	A	C	C	C	B	A
HCM2kAvgQ:	0	0	0	17	0	0	0	7	2	0	4	0

Note: Queue reported is the number of cars per lane.

 City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 General Plan LUE Amendment (Proposed Project) Conditions
 AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #53 SR-73 NB Ramps / Bonita Canyon Dr.

Cycle (sec): 60 Critical Vol./Cap.(X): 0.712
 Loss Time (sec): 6 Average Delay (sec/veh): 15.6
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	10	0	0	0	0	25	25	10	25	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	0	0	0	0	0	2	0	2	0	0

Volume Module:

Base Vol:	584	0	124	0	0	0	0	959	139	563	931	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	584	0	124	0	0	0	0	959	139	563	931	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	631	0	134	0	0	0	0	1036	150	608	1005	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	631	0	134	0	0	0	0	1036	150	608	1005	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	631	0	134	0	0	0	0	1036	150	608	1005	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	1.00	0.95	0.85	0.92	0.95	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	0.00	2.00	1.00	2.00	2.00	0.00
Final Sat.:	3502	0	1615	0	0	0	0	3610	1615	3502	3610	0

Capacity Analysis Module:

Vol/Sat:	0.18	0.00	0.08	0.00	0.00	0.00	0.00	0.29	0.09	0.17	0.28	0.00
Crit Moves:	****						****			****		
Green/Cycle:	0.25	0.00	0.25	0.00	0.00	0.00	0.00	0.42	0.42	0.24	0.65	0.00
Volume/Cap:	0.73	0.00	0.34	0.00	0.00	0.00	0.00	0.69	0.22	0.73	0.43	0.00
Delay/Veh:	24.0	0.0	19.1	0.0	0.0	0.0	0.0	15.7	11.4	24.5	5.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.0	0.0	19.1	0.0	0.0	0.0	0.0	15.7	11.4	24.5	5.1	0.0
LOS by Move:	C	A	B	A	A	A	A	B	B	C	A	A
HCM2kAvgQ:	7	0	2	0	0	0	0	10	2	7	5	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
General Plan LUE Amendment (Proposed Project) Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #54 SR-73 SB Ramps / Bonita Canyon Dr.

Cycle (sec): 75 Critical Vol./Cap.(X): 0.441
Loss Time (sec): 6 Average Delay (sec/veh): 10.6
Optimal Cycle: OPTIMIZED Level Of Service: B

Table with columns: Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control, Rights, Min. Green, Y+R, Lanes. Includes data for Split Phase, Permitted, and Protected movements.

Volume Module:

Table with columns: Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume. Shows volume adjustments for each approach.

Saturation Flow Module:

Table with columns: Sat/Lane, Adjustment, Lanes, Final Sat. Shows saturation flow values for each approach.

Capacity Analysis Module:

Table with columns: Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, HCM2kAvgQ. Shows capacity analysis metrics.

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
General Plan LUE Amendment (Proposed Project) Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #62 Newport Coast Dr / SR-73 NB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.524
Loss Time (sec): 4 Average Delay (sec/veh): 9.0
Optimal Cycle: OPTIMIZED Level Of Service: A

Table with columns: Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control, Rights, Min. Green, Y+R, Lanes. Includes values for permitted, split phase, and include rights.

Volume Module: Table with columns for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume. Includes values for each approach.

Saturation Flow Module: Table with columns for Sat/Lane, Adjustment, Lanes, Final Sat. Includes values for each approach.

Capacity Analysis Module: Table with columns for Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, HCM2kAvgQ. Includes values for each approach.

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
General Plan LUE Amendment (Proposed Project) Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #63 Newport Coast Dr / SR-73 SB Ramps

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Table with 12 columns representing traffic volumes. Rows include Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Table with 12 columns. Row: Critical Gap Module: Critical Gp:xxxxxx xxxxx xxxxxx xxxxxx xxxxx xxxxxx xxxxxx xxxxx 6.9 xxxxxx xxxxx xxxxxx

Table with 12 columns. Row: Capacity Module: Cnflct Vol: xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx xxxxx xxxxx 572 xxxxx xxxxx xxxxxx

Table with 12 columns. Row: Level Of Service Module: 2Way95thQ: xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx xxxxx xxxxx xxxxxx

Note: Queue reported is the number of cars per lane.

 City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 General Plan LUE Amendment (Proposed Project) Conditions
 AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #69 MacArthur Blvd / I-405 NB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.738
 Loss Time (sec): 6 Average Delay (sec/veh): 16.1
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	25	25	10	25	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	4	0	2	0	2	0	4	0	0	2

Volume Module:

Base Vol:	0	2105	392	159	1386	0	0	0	0	914	0	1087
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2105	392	159	1386	0	0	0	0	914	0	1087
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.00
PHF Volume:	0	2288	426	173	1507	0	0	0	0	993	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2288	426	173	1507	0	0	0	0	993	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	2288	426	173	1507	0	0	0	0	993	0	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.75	0.92	0.91	1.00	1.00	1.00	1.00	0.92	1.00	0.88
Lanes:	0.00	4.00	2.00	2.00	4.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
Final Sat.:	0	6916	2842	3502	6916	0	0	0	0	3502	0	3344

Capacity Analysis Module:

Vol/Sat:	0.00	0.33	0.15	0.05	0.22	0.00	0.00	0.00	0.00	0.28	0.00	0.00
Crit Moves:	****			****						****		
Green/Cycle:	0.00	0.42	0.42	0.17	0.58	0.00	0.00	0.00	0.00	0.32	0.00	0.00
Volume/Cap:	0.00	0.79	0.36	0.30	0.37	0.00	0.00	0.00	0.00	0.90	0.00	0.00
Delay/Veh:	0.0	16.8	12.2	22.2	6.7	0.0	0.0	0.0	0.0	29.2	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	16.8	12.2	22.2	6.7	0.0	0.0	0.0	0.0	29.2	0.0	0.0
LOS by Move:	A	B	B	C	A	A	A	A	A	C	A	A
HCM2kAvgQ:	0	12	3	2	4	0	0	0	0	13	0	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
General Plan LUE Amendment (Proposed Project) Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #70 MacArthur Blvd / I-405 SB Ramps

Cycle (sec): 65 Critical Vol./Cap.(X): 0.712
Loss Time (sec): 6 Average Delay (sec/veh): 16.0
Optimal Cycle: OPTIMIZED Level Of Service: B

Table with columns for Approach (North, South, East, West Bound) and Movement (L, T, R). Rows include Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module table with columns for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module table with columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module table with columns for Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, and HCM2kAvgQ.

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
General Plan LUE Amendment (Proposed Project) Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #75 Von Karmen Av / I-405 HOV Ramps

Cycle (sec): 125 Critical Vol./Cap.(X): 1.174
Loss Time (sec): 6 Average Delay (sec/veh): 69.6
Optimal Cycle: OPTIMIZED Level Of Service: E

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound) and 3 sub-columns (L, T, R) for Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module:

Table with 12 columns representing various volume and adjustment factors like Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and Final Volume.

Saturation Flow Module:

Table with 12 columns representing saturation flow parameters like Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module:

Table with 12 columns representing capacity analysis parameters like Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, and HCM2kAvgQ.

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
General Plan LUE Amendment (Proposed Project) Conditions
AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #80 Jamboree Rd / I-405 NB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.789
Loss Time (sec): 4 Average Delay (sec/veh): 13.1
Optimal Cycle: OPTIMIZED Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 12 columns representing different volume and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module: Table with 12 columns representing saturation flow and adjustment factors like Sat/Lane, Adjustment, Lanes, etc.

Capacity Analysis Module: Table with 12 columns representing capacity analysis factors like Vol/Sat, Crit Moves, Green/Cycle, etc.

Note: Queue reported is the number of cars per lane.

 City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 General Plan LUE Amendment (Proposed Project) Conditions
 AM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #81 Jamboree Rd / I-405 SB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 1.925
 Loss Time (sec): 4 Average Delay (sec/veh): 214.7
 Optimal Cycle: OPTIMIZED Level Of Service: F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ignore			Ignore			Include			Include		
Min. Green:	0	25	25	0	25	25	10	0	10	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	4	0	0	4	1	0	1	0	0	0

Volume Module:

Base Vol:	0	1737	798	0	3431	291	878	1645	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1737	798	0	3431	291	878	1645	0	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.00	0.92	0.92	0.00	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	0	1888	0	0	3729	0	954	1788	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1888	0	0	3729	0	954	1788	0	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1888	0	0	3729	0	954	1788	0	0	0	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.88	1.00	0.91	1.00	0.95	0.95	0.88	1.00	1.00	1.00
Lanes:	0.00	4.00	2.00	0.00	4.00	1.00	1.21	0.79	2.00	0.00	0.00	0.00
Final Sat.:	0	6916	3344	0	6916	1900	2181	1422	3344	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.00	0.27	0.00	0.00	0.54	0.00	0.44	1.26	0.00	0.00	0.00	0.00
Crit Moves:				****			****					
Green/Cycle:	0.00	0.42	0.00	0.00	0.42	0.00	0.52	0.52	0.00	0.00	0.00	0.00
Volume/Cap:	0.00	0.66	0.00	0.00	1.29	0.00	0.85	2.43	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	14.6	0.0	0.0	153	0.0	14.7	663	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	14.6	0.0	0.0	153	0.0	14.7	663	0.0	0.0	0.0	0.0
LOS by Move:	A	B	A	A	F	A	B	F	A	A	A	A
HCM2kAvgQ:	0	9	0	0	50	0	16	206	0	0	0	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
General Plan LUE Amendment (Proposed Project) Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #46 SR-73 NB Ramps / Bison Av

Cycle (sec): 110 Critical Vol./Cap.(X): 0.617
Loss Time (sec): 6 Average Delay (sec/veh): 8.1
Optimal Cycle: OPTIMIZED Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 12 columns for different volume and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module: Table with 12 columns for saturation flow factors like Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module: Table with 12 columns for capacity analysis factors like Vol/Sat, Crit Moves, Green/Cycle, etc.

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
General Plan LUE Amendment (Proposed Project) Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #47 SR-73 SB Ramps / Bison Av

Cycle (sec): 60 Critical Vol./Cap.(X): 0.348
Loss Time (sec): 6 Average Delay (sec/veh): 12.2
Optimal Cycle: OPTIMIZED Level Of Service: B

Table with columns: Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control, Rights, Min. Green, Y+R, Lanes. Rows include Split Phase, Permitted, and Protected controls.

Volume Module table with columns: Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume. Rows show various adjustment factors and resulting volumes.

Saturation Flow Module table with columns: Sat/Lane, Adjustment, Lanes, Final Sat. Rows show saturation flow rates and adjustments.

Capacity Analysis Module table with columns: Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, HCM2kAvgQ. Rows show capacity analysis metrics.

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
General Plan LUE Amendment (Proposed Project) Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #53 SR-73 NB Ramps / Bonita Canyon Dr.

Cycle (sec): 65 Critical Vol./Cap.(X): 0.624
Loss Time (sec): 6 Average Delay (sec/veh): 10.1
Optimal Cycle: OPTIMIZED Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 12 columns representing different volume and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module: Table with 12 columns for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 12 columns for Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, etc.

Note: Queue reported is the number of cars per lane.

 City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 General Plan LUE Amendment (Proposed Project) Conditions
 PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #54 SR-73 SB Ramps / Bonita Canyon Dr.

Cycle (sec): 65 Critical Vol./Cap.(X): 0.712
 Loss Time (sec): 6 Average Delay (sec/veh): 13.9
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	0	10	0	0	0	0	25	25	10	25	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	0	0	0	0	1	0	2	2	0	3

Volume Module:

Base Vol:	196	0	284	0	0	0	0	1226	629	101	1214	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	196	0	284	0	0	0	0	1226	629	101	1214	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	213	0	309	0	0	0	0	1333	684	110	1320	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	213	0	309	0	0	0	0	1333	684	110	1320	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	213	0	309	0	0	0	0	1333	684	110	1320	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	1.00	0.95	0.85	0.92	0.91	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	1.00	2.00	1.00	2.00	3.00	0.00
Final Sat.:	3502	0	1615	0	0	0	1900	3610	1615	3502	5187	0

Capacity Analysis Module:

Vol/Sat:	0.06	0.00	0.19	0.00	0.00	0.00	0.00	0.37	0.42	0.03	0.25	0.00
Crit Moves:			****						****	****		
Green/Cycle:	0.23	0.00	0.23	0.00	0.00	0.00	0.00	0.52	0.52	0.15	0.67	0.00
Volume/Cap:	0.26	0.00	0.82	0.00	0.00	0.00	0.00	0.71	0.82	0.20	0.38	0.00
Delay/Veh:	20.4	0.0	36.3	0.0	0.0	0.0	0.0	13.2	19.2	24.2	4.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.4	0.0	36.3	0.0	0.0	0.0	0.0	13.2	19.2	24.2	4.7	0.0
LOS by Move:	C	A	D	A	A	A	A	B	B	C	A	A
HCM2kAvgQ:	2	0	8	0	0	0	0	12	14	1	4	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
General Plan LUE Amendment (Proposed Project) Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #62 Newport Coast Dr / SR-73 NB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.325
Loss Time (sec): 4 Average Delay (sec/veh): 6.5
Optimal Cycle: OPTIMIZED Level Of Service: A

Table with columns: Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control, Rights, Min. Green, Y+R, Lanes.

Volume Module: Table with columns: Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume.

Saturation Flow Module: Table with columns: Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module: Table with columns: Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, HCM2kAvgQ.

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
General Plan LUE Amendment (Proposed Project) Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #63 Newport Coast Dr / SR-73 SB Ramps

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module table with 12 columns representing traffic volumes and adjustment factors for each bound.

Critical Gap Module table with 12 columns showing critical gap and follow-up time values.

Capacity Module table with 12 columns showing conflict volume, potential capacity, and volume/capacity ratios.

Level of Service Module table with 12 columns showing 2Way95thQ, control delay, LOS by movement, shared capacity, and shared queue data.

Note: Queue reported is the number of cars per lane.

 City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 General Plan LUE Amendment (Proposed Project) Conditions
 PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #69 MacArthur Blvd / I-405 NB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.856
 Loss Time (sec): 6 Average Delay (sec/veh): 13.1
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	25	25	10	25	0	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	4	0	2	2	0	0	0	0	0	2

Volume Module:

Base Vol:	0	2183	1206	479	2105	0	0	0	0	517	0	428
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2183	1206	479	2105	0	0	0	0	517	0	428
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.00
PHF Volume:	0	2373	1311	521	2288	0	0	0	0	562	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2373	1311	521	2288	0	0	0	0	562	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	2373	1311	521	2288	0	0	0	0	562	0	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.75	0.92	0.91	1.00	1.00	1.00	1.00	0.92	1.00	0.88
Lanes:	0.00	4.00	2.00	2.00	4.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
Final Sat.:	0	6916	2842	3502	6916	0	0	0	0	3502	0	3344

Capacity Analysis Module:

Vol/Sat:	0.00	0.34	0.46	0.15	0.33	0.00	0.00	0.00	0.00	0.16	0.00	0.00
Crit Moves:			****	****						****		
Green/Cycle:	0.00	0.54	0.54	0.17	0.71	0.00	0.00	0.00	0.00	0.19	0.00	0.00
Volume/Cap:	0.00	0.64	0.86	0.86	0.46	0.00	0.00	0.00	0.00	0.86	0.00	0.00
Delay/Veh:	0.0	10.1	16.8	35.6	3.8	0.0	0.0	0.0	0.0	34.3	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	10.1	16.8	35.6	3.8	0.0	0.0	0.0	0.0	34.3	0.0	0.0
LOS by Move:	A	B	B	D	A	A	A	A	A	C	A	A
HCM2kAvgQ:	0	9	15	8	5	0	0	0	0	8	0	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
General Plan LUE Amendment (Proposed Project) Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #70 MacArthur Blvd / I-405 SB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.890
Loss Time (sec): 6 Average Delay (sec/veh): 14.5
Optimal Cycle: OPTIMIZED Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module:

Table with 12 columns representing different volume and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module:

Table with 12 columns representing saturation flow factors like Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module:

Table with 12 columns representing capacity analysis factors like Vol/Sat, Crit Moves, Green/Cycle, etc.

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
General Plan LUE Amendment (Proposed Project) Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #75 Von Karmen Av / I-405 HOV Ramps

Cycle (sec): 130 Critical Vol./Cap.(X): 1.047
Loss Time (sec): 6 Average Delay (sec/veh): 45.8
Optimal Cycle: OPTIMIZED Level Of Service: D

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, Y+R, and Lanes.

Volume Module: Table with 12 columns representing different volume and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module: Table with 12 columns representing saturation flow factors like Sat/Lane, Adjustment, Lanes, Final Sat.

Capacity Analysis Module: Table with 12 columns representing capacity analysis factors like Vol/Sat, Crit Moves, Green/Cycle, etc.

Note: Queue reported is the number of cars per lane.

 City of Newport Beach Land Use Element Amendment TIA (JN:08911)
 General Plan LUE Amendment (Proposed Project) Conditions
 PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #80 Jamboree Rd / I-405 NB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.934
 Loss Time (sec): 4 Average Delay (sec/veh): 13.5
 Optimal Cycle: OPTIMIZED Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Ignore			Ignore			Include			Ignore		
Min. Green:	0	25	25	0	25	25	0	0	0	10	0	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	3	0	0	4	0	0	0	3	0	0

Volume Module:

Base Vol:	0	3155	752	0	2196	999	0	0	0	1017	0	404
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3155	752	0	2196	999	0	0	0	1017	0	404
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	0.92	0.92	0.00	0.92	0.92	0.00	0.92	0.92	0.92	0.92	0.92	0.00
PHF Volume:	0	3429	0	0	2387	0	0	0	0	1105	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3429	0	0	2387	0	0	0	0	1105	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	3429	0	0	2387	0	0	0	0	1105	0	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	1.00	1.00	0.91	0.88	1.00	1.00	1.00	0.92	1.00	1.00
Lanes:	0.00	3.00	1.00	0.00	4.00	2.00	0.00	0.00	0.00	3.00	0.00	1.00
Final Sat.:	0	5187	1900	0	6916	3344	0	0	0	5253	0	1900

Capacity Analysis Module:

Vol/Sat:	0.00	0.66	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.21	0.00	0.00
Crit Moves:	****									****		
Green/Cycle:	0.00	0.71	0.00	0.00	0.71	0.00	0.00	0.00	0.00	0.23	0.00	0.00
Volume/Cap:	0.00	0.93	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.93	0.00	0.00
Delay/Veh:	0.0	12.8	0.0	0.0	4.0	0.0	0.0	0.0	0.0	36.1	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	12.8	0.0	0.0	4.0	0.0	0.0	0.0	0.0	36.1	0.0	0.0
LOS by Move:	A	B	A	A	A	A	A	A	A	D	A	A
HCM2kAvgQ:	0	26	0	0	6	0	0	0	0	12	0	0

Note: Queue reported is the number of cars per lane.

City of Newport Beach Land Use Element Amendment TIA (JN:08911)
General Plan LUE Amendment (Proposed Project) Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #81 Jamboree Rd / I-405 SB Ramps

Cycle (sec): 60 Critical Vol./Cap.(X): 0.885
Loss Time (sec): 4 Average Delay (sec/veh): 15.6
Optimal Cycle: OPTIMIZED Level Of Service: B

Table with columns: Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control, Rights, Min. Green, Y+R, Lanes. Includes data for Permitted, Split Phase, and Ignored movements.

Volume Module: Table showing Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, Final Volume for each approach.

Saturation Flow Module: Table showing Sat/Lane, Adjustment, Lanes, Final Sat. for each approach.

Capacity Analysis Module: Table showing Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, HCM2kAvgQ for each approach.

Note: Queue reported is the number of cars per lane.

APPENDIX 5.1

General Plan LUE Amendment (Alternative Project)
ICU Analysis Worksheets

98 . Von Karman Av. at Alton Pkwy.

GP Proj Alt (IRVINE ISEC)						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1700	120	.07*	0	.00
NBT	2	3400	606	.18	1701	.50*
NBR	d	1700	114	.07	344	.20
SBL	1	1700	81	.05	130	.08*
SBT	2	3400	1391	.41*	763	.22
SBR	d	1700	186	.11	151	.09
EBL	1	1700	136	.08*	178	.10*
EBT	2	3400	717	.21	925	.27
EBR	d	1700	88	.05	153	.09
WBL	1	1700	154	.09	93	.05
WBT	2	3400	770	.23*	951	.28*
WBR	d	1700	171	.10	96	.06
Clearance Interval				.05*		.05*
TOTAL CAPACITY UTILIZATION				.84		1.01

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APPENDIX 5.2

General Plan LUE Amendment (Alternative Project)
Freeway Mainline Analysis Worksheets

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	10358	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2297 pc/h/ln	Design LOS	
S	57.1 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	40.2 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-55 to MacArthur Blvd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs				
Volume, V	13257	veh/h	Peak-Hour Factor, PHF	0.92
AAADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AAADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AAADT x K x D		veh/h	Grade % Length	mi
Driver type adjustment	1.00		Up/Down %	

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	75.0 mi/h	FFS	75.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2450 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs				
Volume, V	12362	veh/h	Peak-Hour Factor, PHF	0.92
AAADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AAADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AAADT x K x D		veh/h	Grade % Length	mi
Driver type adjustment	1.00		Up/Down %	

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	7	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1958 pc/h/ln	Design LOS	
S	65.6 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	29.8 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs				
Volume, V	10604	veh/h	Peak-Hour Factor, PHF	0.92
AAADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AAADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AAADT x K x D		veh/h	Grade % Length	mi
Driver type adjustment	1.00		Up/Down %	

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	7	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1680 pc/h/ln	Design LOS	
S	68.9 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	24.4 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	8819	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1956 pc/h/ln	Design LOS	
S	65.7 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	29.8 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-55 to MacArthur Blvd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	11854	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2190 pc/h/ln	Design LOS	
S	60.4 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	36.3 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	12688	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2345 pc/h/ln	Design LOS	
S	55.4 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	42.3 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs				
Volume, V	13107	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade % Length	mi
Driver type adjustment	1.00		Up/Down %	

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2422 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	6722	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1845 pc/h/ln	Design LOS	
S	67.3 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	27.4 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	8389	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2302 pc/h/ln	Design LOS	
S	56.9 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	40.4 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/24/2011	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	7276	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1997 pc/h/ln	Design LOS	
S	64.9 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	30.8 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Bonita Canyon Dr.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4276	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Rolling
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

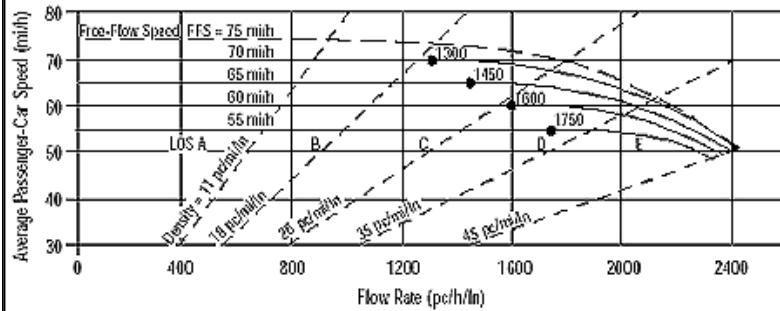
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	939 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	13.4 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



General Information

Analyst: IA
 Agency or Company: Urban Crossroads, Inc.
 Date Performed: 02/24/2014
 Analysis Time Period: AM Peak Hour

Site Information

Highway/Direction of Travel: SR-73 SB
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction: Caltrans
 Analysis Year: GP LUE Amendment Alternative

Project Description: City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS) Des.(N) Planning Data

Flow Inputs

Volume, V: 4178 veh/h Peak-Hour Factor, PHF: 0.92
 AADT: %Trucks and Buses, P_T : 2
 Peak-Hr Prop. of AADT, K: %RVs, P_R : 0
 Peak-Hr Direction Prop, D: General Terrain: Level
 DDHV = AADT x K x D: Grade % Length: mi
 Driver type adjustment: 1.00 Up/Down %:

Calculate Flow Adjustments

f_p : 1.00 E_R : 1.2
 E_T : 1.5 $f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$: 0.990

Speed Inputs

Lane Width: 12.0 ft
 Rt-Shoulder Lat. Clearance: 6.0 ft
 Interchange Density: 0.50 l/mi
 Number of Lanes, N: 4
 FFS (measured): 70.0 mi/h
 Base free-flow Speed, BFFS: mi/h

Calc Speed Adj and FFS

f_{LW} : mi/h
 f_{LC} : mi/h
 f_{ID} : mi/h
 f_N : mi/h
 FFS: 70.0 mi/h

LOS and Performance Measures

Operational (LOS)
 $v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$: 1147 pc/h/ln
 S: 70.0 mi/h
 $D = v_p / S$: 16.4 pc/mi/ln
 LOS: B

Design (N)

Design (N)
 Design LOS
 $v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$: pc/h
 S: mi/h
 $D = v_p / S$: pc/mi/ln
 Required Number of Lanes, N

Glossary

N - Number of lanes S - Speed
 V - Hourly volume D - Density
 v_p - Flow rate FFS - Free-flow speed
 LOS - Level of service BFFS - Base free-flow speed
 DDHV - Directional design hour volume

Factor Location

E_R - Exhibits 23-8, 23-10 f_{LW} - Exhibit 23-4
 E_T - Exhibits 23-8, 23-10, 23-11 f_{LC} - Exhibit 23-5
 f_p - Page 23-12 f_N - Exhibit 23-6
 LOS, S, FFS, v_p - Exhibits 23-2, 23-3 f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	5878	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1613 pc/h/ln	Design LOS	
S	69.4 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	23.3 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	8636	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2370 pc/h/ln	Design LOS	
S	54.5 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	43.5 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	7427	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2038 pc/h/ln	Design LOS	
S	64.1 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	31.8 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Bonita Canyon Dr.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	4417	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

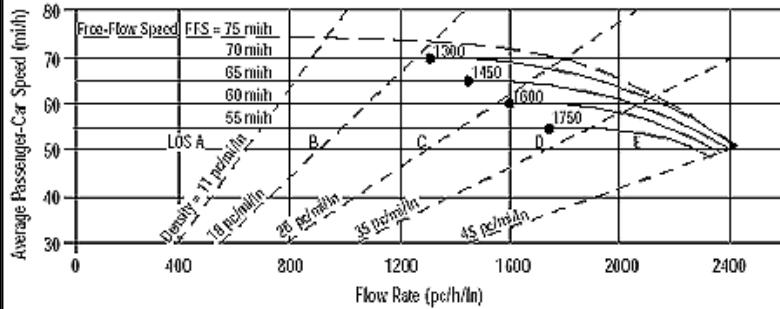
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	970 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	13.9 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads	From/To	Bonita Canyon to Newport Coast
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4453	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1222 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	17.5 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	Dyer Rd. to MacArthur Blvd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	6381	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1179 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	16.8 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	MacArthur Blvd. to I-405
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	5298	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	979 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	14.0 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	I-405 to SR-73
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	3392	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

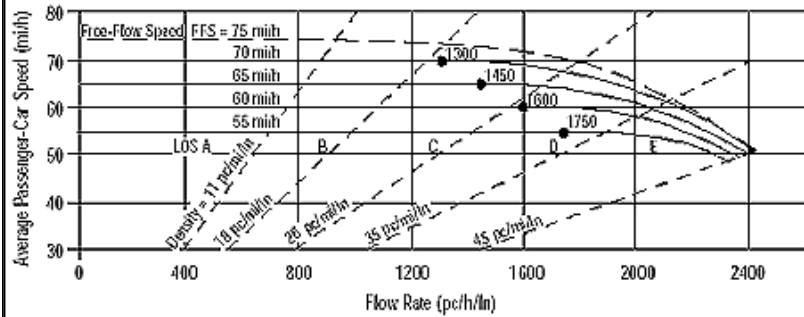
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	940 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	13.4 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-73 to Mesa Dr.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	3716	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1030 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	14.7 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	Mesa Dr. to 22nd/Victoria Av.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	3343	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	927 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	13.2 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	22nd St./Victoria Av. to End
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	2551	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	3	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	943 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	13.5 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	Dyer Rd. to MacArthur Blvd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	13995	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

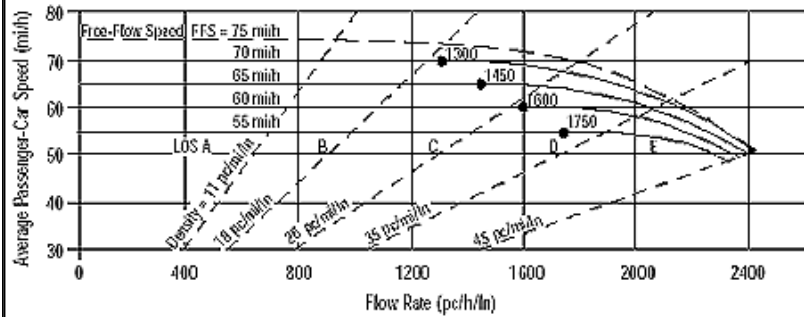
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	3103 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	MacArthur Blvd. to I-405
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	13802	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

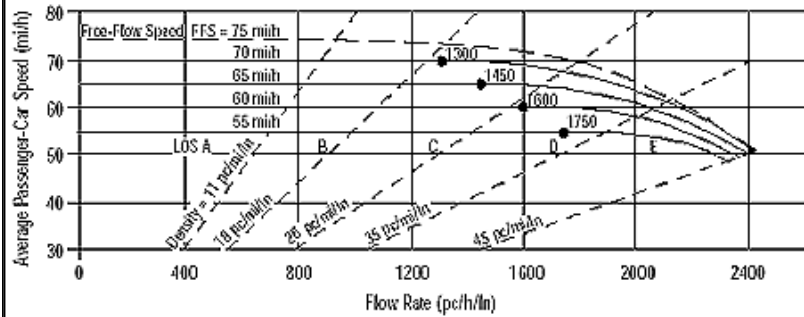
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2550 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	I-405 to SR-73
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	9608	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2663 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-73 to Mesa Dr.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	9397	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2605 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	Mesa Dr. to 22nd/Victoria Av.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	8322	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2307 pc/h/ln	Design LOS	
S	56.8 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	40.6 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	22nd St./Victoria Av. to End
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	6273	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

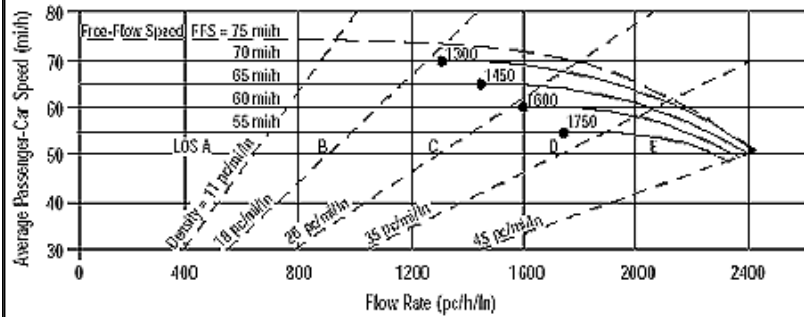
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	3	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2318 pc/h/ln	Design LOS	
S	56.4 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	41.1 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	10962	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2431 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-55 to MacArthur Blvd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	11131	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

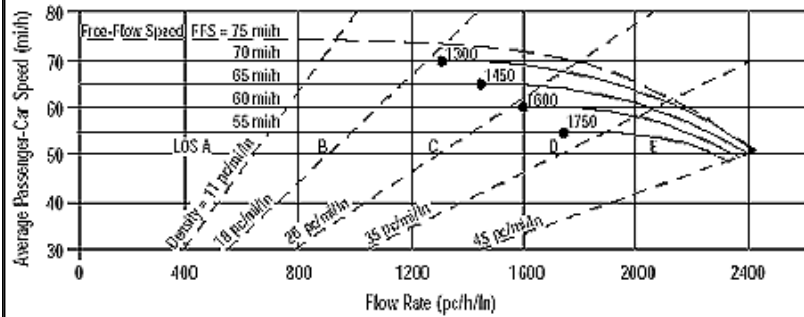
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	75.0 mi/h	FFS	75.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2057 pc/h/ln	Design LOS	
S	65.6 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	31.4 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information	Site Information
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Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs

Volume, V	11494	veh/h	Peak-Hour Factor, PHF	0.92
AAADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AAADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AAADT x K x D		veh/h	Grade %	mi
Driver type adjustment	1.00		Up/Down %	

Calculate Flow Adjustments

f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs	Calc Speed Adj and FFS
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Lane Width	12.0	ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0	ft	f_{LC}	mi/h
Interchange Density	0.50	l/mi	f_{ID}	mi/h
Number of Lanes, N	7		f_N	mi/h
FFS (measured)	70.0	mi/h	FFS	70.0
Base free-flow Speed, BFFS		mi/h		

LOS and Performance Measures	Design (N)
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Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1820	Design LOS	
S	67.6	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	26.9	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary	Factor Location
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N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	11429	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	7	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1810 pc/h/ln	Design LOS	
S	67.7 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	26.7 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	6617	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1467 pc/h/ln	Design LOS	
S	69.9 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	21.0 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-55 to MacArthur Blvd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs				
Volume, V	12044	veh/h	Peak-Hour Factor, PHF	0.92
AAADT		veh/day	%Trucks and Buses, P_T	4
Peak-Hr Prop. of AAADT, K			%RVs, P_R	0
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AAADT x K x D		veh/h	Grade % Length	mi
Driver type adjustment	1.00		Up/Down %	

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2226 pc/h/ln	Design LOS	
S	59.3 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	37.5 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	11427	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

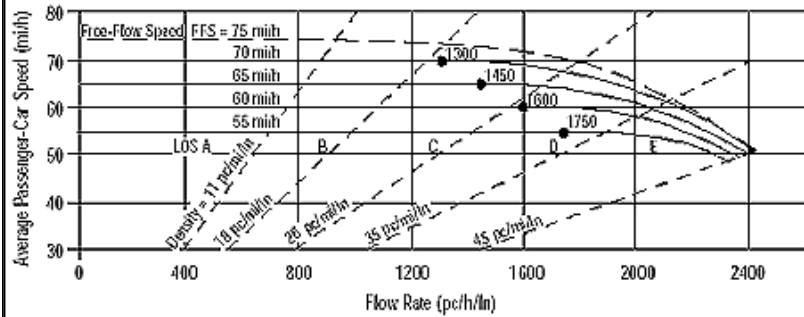
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2112 pc/h/ln	Design LOS	
S	62.4 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	33.8 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	10404	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1922 pc/h/ln	Design LOS	
S	66.2 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	29.0 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	5622	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

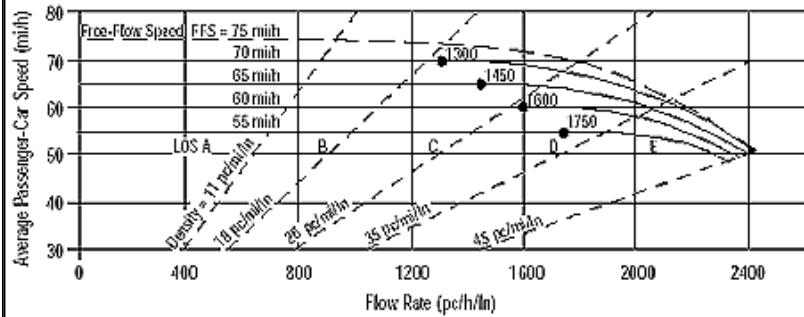
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1543 pc/h/ln	Design LOS	
S	69.7 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	22.1 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	7801	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2141 pc/h/ln	Design LOS	
S	61.7 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	34.7 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	6716	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

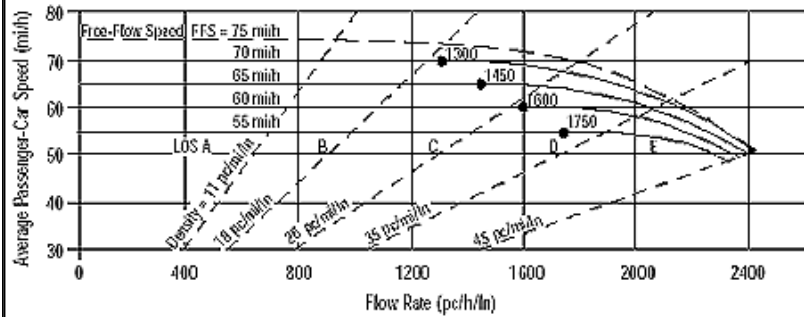
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1843 pc/h/ln	Design LOS	
S	67.3 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	27.4 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Bonita Canyon Dr.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	3869	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

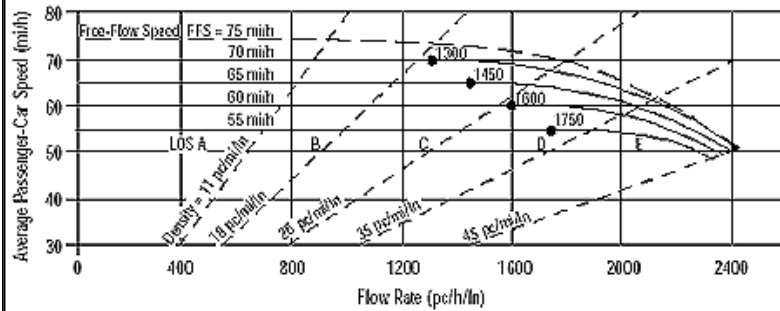
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	849 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	12.1 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	From/To	Bonita Canyon to Newport Coast
Date Performed	20/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4109	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

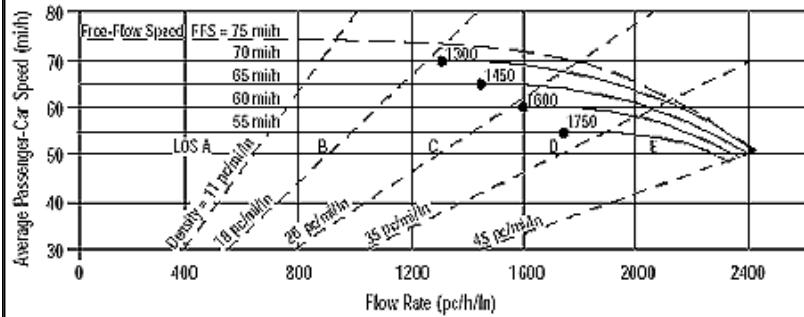
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1128 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	16.1 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o SR-55
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	7699	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2113 pc/h/ln	Design LOS	
S	62.4 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	33.9 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Jamboree Rd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	10356	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2842 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	s/o Jamboree Rd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	8242	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

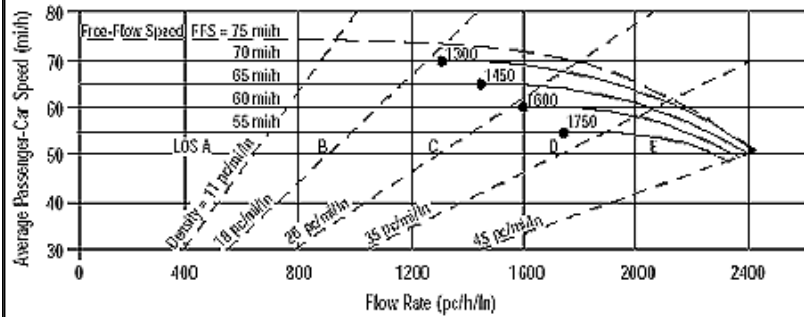
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2262 pc/h/ln	Design LOS	
S	58.2 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	38.8 pc/mi/ln	S	mi/h
LOS	E	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	From/To	n/o Bonita Canyon Dr.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4997	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

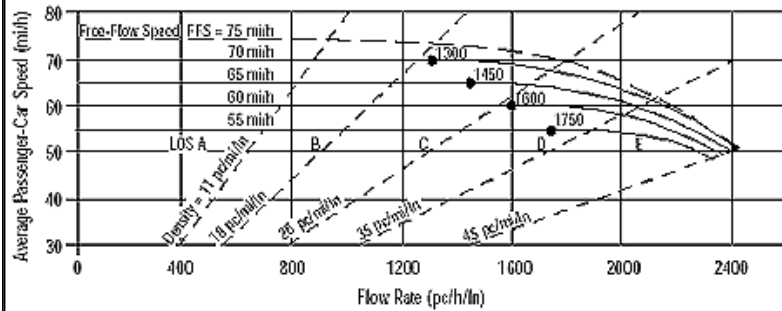
Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1097 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	15.7 pc/mi/ln	S	mi/h
LOS	B	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-73 NB
Agency or Company	Urban Crossroads	From/To	Bonita Canyon to Newport Coast
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4909	veh/h	Peak-Hour Factor, PHF 0.92
AA DT		veh/day	%Trucks and Buses, P_T 2
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.990

Speed Inputs	Calc Speed Adj and FFS
Lane Width 12.0 ft	f_{LW} mi/h
Rt-Shoulder Lat. Clearance 6.0 ft	f_{LC} mi/h
Interchange Density 0.50 l/mi	f_{ID} mi/h
Number of Lanes, N 4	f_N mi/h
FFS (measured) 70.0 mi/h	FFS 70.0 mi/h
Base free-flow Speed, BFFS mi/h	

LOS and Performance Measures	Design (N)
Operational (LOS)	Design (N)
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$ 1347 pc/h/ln	Design LOS
S 70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$ pc/h
$D = v_p / S$ 19.2 pc/mi/ln	S mi/h
LOS C	$D = v_p / S$ pc/mi/ln
	Required Number of Lanes, N

Glossary	Factor Location
N - Number of lanes	E_R - Exhibits 23-8, 23-10
V - Hourly volume	E_T - Exhibits 23-8, 23-10, 23-11
v_p - Flow rate	f_p - Page 23-12
LOS - Level of service	LOS, S, FFS, v_p - Exhibits 23-2, 23-3
DDHV - Directional design hour volume	f_{LW} - Exhibit 23-4
S - Speed	f_{LC} - Exhibit 23-5
D - Density	f_N - Exhibit 23-6
FFS - Free-flow speed	f_{ID} - Exhibit 23-7
BFFS - Base free-flow speed	

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	Dyer Rd. to MacArthur Blvd.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	8385	veh/h	Peak-Hour Factor, PHF
AAADT		veh/day	%Trucks and Buses, P_T
Peak-Hr Prop. of AAADT, K			%RVs, P_R
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AAADT x K x D		veh/h	Grade % Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1549 pc/h/ln	Design LOS	
S	69.6 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	22.2 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	MacArthur Blvd. to I-405
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	8242	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1523 pc/h/ln	Design LOS	
S	69.7 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	21.8 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	I-405 to SR-73
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	5323	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1475 pc/h/ln	Design LOS	
S	69.9 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	21.1 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-73 to Mesa Dr.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	5502	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1525 pc/h/ln	Design LOS	
S	69.7 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	21.9 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	Mesa Dr. to 22nd/Victoria Av.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4858	veh/h	Peak-Hour Factor, PHF 0.92
AADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1347 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	19.2 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 SB
Agency or Company	Urban Crossroads, Inc.	From/To	22nd St./Victoria Av. to End
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	3663	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	3	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1354 pc/h/ln	Design LOS	
S	70.0 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	19.3 pc/mi/ln	S	mi/h
LOS	C	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	Dyer Rd. to MacArthur Blvd.
Date Performed	02/24/2014	Jurisdiction	Caltransq
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	11619	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	5	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2576 pc/h/ln	Design LOS	
S	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	pc/mi/ln	S	mi/h
LOS	F	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	MacArthur Blvd. to I-405
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	11102	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	6	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2051 pc/h/ln	Design LOS	
S	63.8 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	32.1 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	I-405 to SR-73
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	7379	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2045 pc/h/ln	Design LOS	
S	63.9 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	32.0 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	SR-73 to Mesa Dr.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	7659	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	2123 pc/h/ln	Design LOS	
S	62.2 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	34.2 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	Mesa Dr. to 22nd/Victoria Av.
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper. (LOS)
 Des. (N)
 Planning Data

Flow Inputs			
Volume, V	6765	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	4	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1875 pc/h/ln	Design LOS	
S	66.9 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	28.0 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p , S, D

General Information		Site Information	
Analyst	IA	Highway/Direction of Travel	SR-55 NB
Agency or Company	Urban Crossroads, Inc.	From/To	22nd St./Victoria Av. to End
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Oper.(LOS)
 Des.(N)
 Planning Data

Flow Inputs			
Volume, V	4937	veh/h	Peak-Hour Factor, PHF 0.92
AAADT		veh/day	%Trucks and Buses, P_T 4
Peak-Hr Prop. of AAADT, K			%RVs, P_R 0
Peak-Hr Direction Prop, D			General Terrain: Level
DDHV = AAADT x K x D		veh/h	Grade % Length mi
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f_p	1.00	E_R	1.2
E_T	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.980

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f_{LW}	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f_{LC}	mi/h
Interchange Density	0.50 l/mi	f_{ID}	mi/h
Number of Lanes, N	3	f_N	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
Operational (LOS)		Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1825 pc/h/ln	Design LOS	
S	67.6 mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	27.0 pc/mi/ln	S	mi/h
LOS	D	$D = v_p / S$	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E_R - Exhibits 23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

APPENDIX 5.3

General Plan LUE Amendment (Alternative Project)
Freeway Ramp Analysis Worksheets

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Off-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	10801	0.92	Level	4	0	0.980	1.00	11975
Ramp	1922	0.92	Level	4	0	0.980	1.00	2131
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.260 using Equation (Exhibit 25-12) V ₁₂ = 4068 pc/h V ₃ or V _{av34} 2756 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = 4180 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	
	V _F	9580	Exhibit 25-14 9600 No
	V _{FO} = V _F - V _R	7449	Exhibit 25-14 9600 No
	V _R	2131	Exhibit 25-3 4100 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 8.7 (pc/mi/ln) LOS = A (Exhibit 25-4)
---	--

Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _s = 0.555 (Exhibit 25-19) S _R = 54.5 mph (Exhibit 25-19) S ₀ = 70.2 mph (Exhibit 25-19) S = 62.3 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. On-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	9523	0.92	Level	4	0	0.980	1.00	10558
Ramp	594	0.92	Level	4	0	0.980	1.00	659
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.209 using Equation (Exhibit 25-5) V ₁₂ = 1684 pc/h V ₃ or V _{av34} = 3187 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2658 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	8717	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3317	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 10.4 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

M _S = 0.165 (Exhibit 25-19) S _R = 65.4 mph (Exhibit 25-19) S ₀ = 61.1 mph (Exhibit 25-19) S = 62.6 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Off-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 50.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1250 ft V _D = 294 veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8444	0.92	Level	4	0	0.980	1.00	9362
Ramp	2528	0.92	Level	4	0	0.980	1.00	2803
UpStream								
DownStream	294	0.92	Level	4	0	0.980	1.00	326

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
 (Equation 25-2 or 25-3)
 L_{EQ} =
 P_{FM} = using Equation (Exhibit 25-5)
 V₁₂ = pc/h
 V₃ or V_{av34} pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
 (Equation 25-8 or 25-9)
 L_{EQ} =
 P_{FD} = 0.260 using Equation (Exhibit 25-12)
 V₁₂ = 4022 pc/h
 V₃ or V_{av34} 1734 pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V _F	7490	Exhibit 25-14	9600 No
V _{FO} = V _F - V _R	4687	Exhibit 25-14	9600 No
V _R	2803	Exhibit 25-3	4100 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂	4022	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
 D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
 D_R = 9.9 (pc/mi/ln)
 LOS = A (Exhibit 25-4)

Speed Determination

M_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-14)

Speed Determination

D_S = 0.485 (Exhibit 25-19)
 S_R = 56.4 mph (Exhibit 25-19)
 S₀ = 73.9 mph (Exhibit 25-19)
 S = 63.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{up} = 1250 ft V _u = 2528 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	6883	0.92	Level	4	0	0.980	1.00	7631
Ramp	294	0.92	Level	4	0	0.980	1.00	326
UpStream	2528	0.92	Level	0	0	1.000	1.00	2748
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.274 using Equation (Exhibit 25-5) V ₁₂ = 1493 pc/h V ₃ or V _{av34} = 1982 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2182 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	5783	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2508	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 23.3 (pc/mi/ln) LOS = C (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

M _s = 0.353 (Exhibit 25-19) S _R = 60.1 mph (Exhibit 25-19) S ₀ = 65.9 mph (Exhibit 25-19) S = 63.3 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (D)
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1115 ft V _D = 766 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	6883	0.92	Level	4	0	0.980	1.00	7631
Ramp	294	0.92	Level	4	0	0.980	1.00	326
UpStream								
DownStream	766	0.92	Level	0	0	1.000	1.00	833

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)				$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)			
L _{EQ} =	0.274 using Equation (Exhibit 25-5)			L _{EQ} =	using Equation (Exhibit 25-12)		
P _{FM} =	1493 pc/h			P _{FD} =	pc/h (Equation 25-15 or 25-16)		
V ₁₂ =	1982 pc/h (Equation 25-4 or 25-5)			V ₁₂ =	pc/h (Equation 25-15 or 25-16)		
V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			V ₃ or V _{av34}	Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No		
	Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, V _{12a} =	2182 pc/h (Equation 25-8)			If Yes, V _{12a} =	pc/h (Equation 25-18)		

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	5783	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2508	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$	
D _R =	23.3 (pc/mi/ln)	D _R =	(pc/mi/ln)
LOS =	C (Exhibit 25-4)	LOS =	(Exhibit 25-4)

Speed Determination		Speed Determination	
M _s =	0.353 (Exhibit 25-19)	D _s =	(Exhibit 25-19)
S _R =	60.1 mph (Exhibit 25-19)	S _R =	mph (Exhibit 25-19)
S ₀ =	65.9 mph (Exhibit 25-19)	S ₀ =	mph (Exhibit 25-19)
S =	63.3 mph (Exhibit 25-14)	S =	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. On-Ramp
Date Performed	02/20/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	General Plan LUE Amendment
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off		<input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off
$L_{up} = 1115$ ft	$S_{FF} = 70.0$ mph $S_{FR} = 40.0$ mph	$L_{down} =$ ft
$V_u = 294$ veh/h	Sketch (show lanes, L_A, L_D, V_R, V_f)	$V_D =$ veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7085	0.92	Level	4	0	0.980	1.00	7855
Ramp	766	0.92	Level	4	0	0.980	1.00	849
UpStream	294	0.92	Level	0	0	1.000	1.00	320
DownStream								

Merge Areas				Diverge Areas			
Estimation of v_{12}				Estimation of v_{12}			
$L_{EQ} =$	$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)	$L_{EQ} =$	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9)
$P_{FM} = 0.209$ using Equation (Exhibit 25-5)		$P_{FD} =$	using Equation (Exhibit 25-12)	$P_{FD} =$	using Equation (Exhibit 25-12)	$P_{FD} =$	using Equation (Exhibit 25-12)
$V_{12} = 1174$ pc/h		$V_{12} =$	pc/h	$V_{12} =$	pc/h	$V_{12} =$	pc/h
V_3 or $V_{av34} = 2221$ pc/h (Equation 25-4 or 25-5)		V_3 or $V_{av34} =$	pc/h (Equation 25-15 or 25-16)	V_3 or $V_{av34} =$	pc/h (Equation 25-15 or 25-16)	V_3 or $V_{av34} =$	pc/h (Equation 25-15 or 25-16)
Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If Yes, $V_{12a} = 2246$ pc/h (Equation 25-8)		If Yes, $V_{12a} =$	pc/h (Equation 25-18)	If Yes, $V_{12a} =$	pc/h (Equation 25-18)	If Yes, $V_{12a} =$	pc/h (Equation 25-18)

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}	6466	Exhibit 25-7	No	V_F		Exhibit 25-14	
				$V_{FO} = V_F - V_R$		Exhibit 25-14	
				V_R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}	3095	Exhibit 25-7	4600:All	No	V_{12}	Exhibit 25-14	

Level of Service Determination (if not F)				Level of Service Determination (if not F)			
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$		$D_R =$	(pc/mi/ln)	$D_R =$	(pc/mi/ln)
$D_R = 23.8$ (pc/mi/ln)		$D_R =$	(pc/mi/ln)	$D_R =$	(pc/mi/ln)	$D_R =$	(pc/mi/ln)
LOS = C (Exhibit 25-4)		LOS =	(Exhibit 25-4)	LOS =	(Exhibit 25-4)	LOS =	(Exhibit 25-4)

Speed Determination				Speed Determination			
$M_s = 0.338$ (Exhibit 25-19)		$D_s =$	(Exhibit 25-19)	$D_s =$	(Exhibit 25-19)	$D_s =$	(Exhibit 25-19)
$S_R = 60.5$ mph (Exhibit 25-19)		$S_R =$	mph (Exhibit 25-19)	$S_R =$	mph (Exhibit 25-19)	$S_R =$	mph (Exhibit 25-19)
$S_0 = 65.7$ mph (Exhibit 25-19)		$S_0 =$	mph (Exhibit 25-19)	$S_0 =$	mph (Exhibit 25-19)	$S_0 =$	mph (Exhibit 25-19)
$S = 63.1$ mph (Exhibit 25-14)		$S =$	mph (Exhibit 25-15)	$S =$	mph (Exhibit 25-15)	$S =$	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Loop On-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off L _{up} = 1360 ft V _u = 1995 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8946	0.92	Level	4	0	0.980	1.00	9918
Ramp	528	0.92	Level	4	0	0.980	1.00	585
UpStream	1995	0.92	Level	0	0	1.000	1.00	2168
DownStream								

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
L _{EQ} =	$V_{12} = V_F (P_{FM})$	(Equation 25-2 or 25-3)		L _{EQ} =	$V_{12} = V_R + (V_F - V_R)P_{FD}$	(Equation 25-8 or 25-9)	
P _{FM} =	0.563	using Equation (Exhibit 25-5)		P _{FD} =		using Equation (Exhibit 25-12)	
V ₁₂ =	4175	pc/h		V ₁₂ =		pc/h	
V ₃ or V _{av34}	1621	pc/h (Equation 25-4 or 25-5)		V ₃ or V _{av34}		pc/h (Equation 25-15 or 25-16)	
Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
If Yes, V _{12a} =		pc/h (Equation 25-8)		If Yes, V _{12a} =		pc/h (Equation 25-18)	

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	8003	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	4760	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$		
D _R = 32.9 (pc/mi/ln)	D _R = (pc/mi/ln)		
LOS = D (Exhibit 25-4)	LOS = (Exhibit 25-4)		

Speed Determination		Speed Determination	
M _S = 0.656 (Exhibit 25-19)	D _S = (Exhibit 25-19)		
S _R = 51.6 mph (Exhibit 25-19)	S _R = mph (Exhibit 25-19)		
S ₀ = 66.0 mph (Exhibit 25-19)	S ₀ = mph (Exhibit 25-19)		
S = 56.6 mph (Exhibit 25-14)	S = mph (Exhibit 25-15)		

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Off-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1360 ft V _D = 528 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	10336	0.92	Level	4	0	0.980	1.00	11459
Ramp	1995	0.92	Level	4	0	0.980	1.00	2212
UpStream								
DownStream	528	0.92	Level	4	0	0.980	1.00	585

Merge Areas	Diverge Areas
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Estimation of v₁₂	Estimation of v₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 5245 pc/h V ₃ or V _{av34} 1961 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	
	V _F	9168	Exhibit 25-14 9600 No
	V _{FO} = V _F - V _R	6956	Exhibit 25-14 9600 No
	V _R	2212	Exhibit 25-3 2100 Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	
V ₁₂	5245	Exhibit 25-14 4400:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 35.9 (pc/mi/ln) LOS = F (Exhibit 25-4)
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Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _S = 0.562 (Exhibit 25-19) S _R = 54.3 mph (Exhibit 25-19) S ₀ = 73.0 mph (Exhibit 25-19) S = 61.0 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. On-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{up} = 1035 ft V _u = 520 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8946	0.92	Level	4	0	0.980	1.00	9918
Ramp	1133	0.92	Level	4	0	0.980	1.00	1256
UpStream	520	0.92	Level	4	0	0.980	1.00	577
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.209 using Equation (Exhibit 25-5) V ₁₂ = 1550 pc/h V ₃ or V _{av34} = 2934 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2018 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	8674	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3274	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 21.0 (pc/mi/ln) LOS = C (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _s = 0.304 (Exhibit 25-19) S _R = 61.5 mph (Exhibit 25-19) S ₀ = 61.1 mph (Exhibit 25-19) S = 61.2 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (D)
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1035 ft V _D = 1133 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8525	0.92	Level	4	0	0.980	1.00	9452
Ramp	520	0.92	Level	4	0	0.980	1.00	577
UpStream								
DownStream	1133	0.92	Level	4	0	0.980	1.00	1256

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
L _{EQ} =	$V_{12} = V_F (P_{FM})$	(Equation 25-2 or 25-3)		L _{EQ} =	$V_{12} = V_R + (V_F - V_R)P_{FD}$	(Equation 25-8 or 25-9)	
P _{FM} =	0.248	using Equation (Exhibit 25-5)		P _{FD} =		using Equation (Exhibit 25-12)	
V ₁₂ =	1723	pc/h		V ₁₂ =		pc/h	
V ₃ or V _{av34}	2614	pc/h (Equation 25-4 or 25-5)		V ₃ or V _{av34}		pc/h (Equation 25-15 or 25-16)	
Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
If Yes, V _{12a} =	2780	pc/h (Equation 25-8)		If Yes, V _{12a} =		pc/h (Equation 25-18)	

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	7529	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3357	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)				Level of Service Determination (if not F)			
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$				$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$			
D _R = 29.7 (pc/mi/ln)				D _R = (pc/mi/ln)			
LOS = D (Exhibit 25-4)				LOS = (Exhibit 25-4)			

Speed Determination		Speed Determination	
M _s =	0.416 (Exhibit 25-19)	D _s =	(Exhibit 25-19)
S _R =	58.3 mph (Exhibit 25-19)	S _R =	mph (Exhibit 25-19)
S ₀ =	64.3 mph (Exhibit 25-19)	S ₀ =	mph (Exhibit 25-19)
S =	61.5 mph (Exhibit 25-14)	S =	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off L _{up} = 1245 ft V _u = 2467 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8525	0.92	Level	4	0	0.980	1.00	9452
Ramp	520	0.92	Level	4	0	0.980	1.00	577
UpStream	2467	0.92	Level	4	0	0.980	1.00	2735
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.248 using Equation (Exhibit 25-5) V ₁₂ = 1723 pc/h V ₃ or V _{av34} = 2614 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2780 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	7529	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3357	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 29.7 (pc/mi/ln) LOS = D (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _s = 0.416 (Exhibit 25-19) S _R = 58.3 mph (Exhibit 25-19) S ₀ = 64.3 mph (Exhibit 25-19) S = 61.5 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Off-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1245 ft V _D = 520 veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	10699	0.92	Level	4	0	0.980	1.00	11862
Ramp	2467	0.92	Level	4	0	0.980	1.00	2735
UpStream								
DownStream	520	0.92	Level	0	0	1.000	1.00	565

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
 (Equation 25-2 or 25-3)
 L_{EQ} =
 P_{FM} = using Equation (Exhibit 25-5)
 V₁₂ = pc/h
 V₃ or V_{av34} pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
 (Equation 25-8 or 25-9)
 L_{EQ} =
 P_{FD} = 0.260 using Equation (Exhibit 25-12)
 V₁₂ = 4491 pc/h
 V₃ or V_{av34} 2499 pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V _F	9490	Exhibit 25-14	9600 No
V _{FO} = V _F - V _R	6755	Exhibit 25-14	9600 No
V _R	2735	Exhibit 25-3	4100 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂	4491	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
 D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
 D_R = 31.4 (pc/mi/ln)
 LOS = D (Exhibit 25-4)

Speed Determination

M_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-14)

Speed Determination

D_S = 0.609 (Exhibit 25-19)
 S_R = 52.9 mph (Exhibit 25-19)
 S₀ = 70.9 mph (Exhibit 25-19)
 S = 61.1 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bison Av. On-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4146	0.92	Level	2	0	0.990	1.00	4552
Ramp	130	0.92	Level	2	0	0.990	1.00	143
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.281 using Equation (Exhibit 25-5) V ₁₂ = 1278 pc/h V ₃ or V _{av34} = 1637 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1820 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4695	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1963	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 18.9 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _S = 0.326 (Exhibit 25-19) S _R = 60.9 mph (Exhibit 25-19) S ₀ = 66.9 mph (Exhibit 25-19) S = 64.2 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Loop Off-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4276	0.92	Level	2	0	0.990	1.00	4694
Ramp	318	0.92	Level	2	0	0.990	1.00	349
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 2039 pc/h V ₃ or V _{av34} 1093 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7		V _F	4225	Exhibit 25-14	9600
				V _{FO} = V _F - V _R	3876	Exhibit 25-14	9600
				V _R	349	Exhibit 25-3	2000

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7		V ₁₂	2039	Exhibit 25-14	4400:All

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 20.2 (pc/mi/ln) LOS = C (Exhibit 25-4)
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Speed Determination

Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _S = 0.524 (Exhibit 25-19) S _R = 55.3 mph (Exhibit 25-19) S ₀ = 76.4 mph (Exhibit 25-19) S = 64.5 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. On-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs	
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3958	0.92	Level	2	0	0.990	1.00	4345
Ramp	220	0.92	Level	2	0	0.990	1.00	242
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.264 using Equation (Exhibit 25-5) V ₁₂ = 896 pc/h V ₃ or V _{av34} = 1247 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1356 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	3632	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area	Flow Entering Merge Influence Area
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	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1598	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)	Level of Service Determination (if not F)
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$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 16.1 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination	Speed Determination
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M _S = 0.318 (Exhibit 25-19) S _R = 61.1 mph (Exhibit 25-19) S ₀ = 68.1 mph (Exhibit 25-19) S = 64.8 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. Off-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{up} =$ ft $V_u =$ veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{down} =$ ft $V_D =$ veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4178	0.92	Level	2	0	0.990	1.00	4587
Ramp	279	0.92	Level	2	0	0.990	1.00	306
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v_{12}

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$ $L_{EQ} =$ (Equation 25-2 or 25-3) $P_{FM} =$ using Equation (Exhibit 25-5) $V_{12} =$ pc/h V_3 or V_{av34} pc/h (Equation 25-4 or 25-5) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ $L_{EQ} =$ (Equation 25-8 or 25-9) $P_{FD} =$ 0.436 using Equation (Exhibit 25-12) $V_{12} =$ 2173 pc/h V_3 or V_{av34} 1207 pc/h (Equation 25-15 or 25-16) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}		Exhibit 25-7		V_F	4587	Exhibit 25-14	9600
				$V_{FO} = V_F - V_R$	4281	Exhibit 25-14	9600
				V_R	306	Exhibit 25-3	2000

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}		Exhibit 25-7		V_{12}	2173	Exhibit 25-14	4400:All

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ $D_R =$ (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ $D_R =$ 22.9 (pc/mi/ln) LOS = C (Exhibit 25-4)
--	--

Speed Determination

Speed Determination

$M_S =$ (Exhibit 25-19) $S_R =$ mph (Exhibit 25-19) $S_0 =$ mph (Exhibit 25-19) $S =$ mph (Exhibit 25-14)	$D_s =$ 0.521 (Exhibit 25-19) $S_R =$ 55.4 mph (Exhibit 25-19) $S_0 =$ 76.0 mph (Exhibit 25-19) $S =$ 64.6 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. On-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs	
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3899	0.92	Level	2	0	0.990	1.00	4280
Ramp	231	0.92	Level	2	0	0.990	1.00	254
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.247 using Equation (Exhibit 25-5) V ₁₂ = 1059 pc/h V ₃ or V _{av34} = 1610 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1712 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4534	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1966	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 19.7 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

M _S = 0.339 (Exhibit 25-19) S _R = 60.5 mph (Exhibit 25-19) S ₀ = 67.2 mph (Exhibit 25-19) S = 64.1 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bison Av. Off-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4417	0.92	Level	2	0	0.990	1.00	4849
Ramp	672	0.92	Level	2	0	0.990	1.00	738
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
 P_{FM} = using Equation (Exhibit 25-5)
 V₁₂ = pc/h
 V₃ or V_{av34} pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
 P_{FD} = 0.436 using Equation (Exhibit 25-12)
 V₁₂ = 2319 pc/h
 V₃ or V_{av34} 1023 pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V _F	4365	Exhibit 25-14	9600 No
V _{FO} = V _F - V _R	3627	Exhibit 25-14	9600 No
V _R	738	Exhibit 25-3	2000 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂	2319	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

D_R = 5.475 + 0.00734 v_R + 0.0078 V₁₂ - 0.00627 L_A
 D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

D_R = 4.252 + 0.0086 V₁₂ - 0.0009 L_D
 D_R = 22.9 (pc/mi/ln)
 LOS = C (Exhibit 25-4)

Speed Determination

M_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-14)

Speed Determination

D_S = 0.559 (Exhibit 25-19)
 S_R = 54.3 mph (Exhibit 25-19)
 S₀ = 76.7 mph (Exhibit 25-19)
 S = 62.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Loop On-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs	
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3715	0.92	Level	2	0	0.990	1.00	4078
Ramp	702	0.92	Level	2	0	0.990	1.00	771
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.190 using Equation (Exhibit 25-5) V ₁₂ = 603 pc/h V ₃ or V _{av34} = 1289 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1272 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	3952	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2043	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 19.5 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

M _S = 0.331 (Exhibit 25-19) S _R = 60.7 mph (Exhibit 25-19) S ₀ = 68.4 mph (Exhibit 25-19) S = 64.2 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Off-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4453	0.92	Level	2	0	0.990	1.00	4889
Ramp	738	0.92	Level	2	0	0.990	1.00	810
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 2588 pc/h V ₃ or V _{av34} 1150 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)
---	--

Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7		V _F	4889	Exhibit 25-14	9600
				V _{FO} = V _F - V _R	4079	Exhibit 25-14	9600
				V _R	810	Exhibit 25-3	2000

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7		V ₁₂	2588	Exhibit 25-14	4400:All

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 15.3 (pc/mi/ln) LOS = B (Exhibit 25-4)
---	---

Speed Determination

Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _s = 0.566 (Exhibit 25-19) S _R = 54.2 mph (Exhibit 25-19) S ₀ = 76.2 mph (Exhibit 25-19) S = 62.7 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. On-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3933	0.92	Level	2	0	0.990	1.00	4318
Ramp	520	0.92	Level	2	0	0.990	1.00	571
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.611 using Equation (Exhibit 25-5) V ₁₂ = 2638 pc/h V ₃ or V _{av34} = 840 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4889	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3209	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 22.4 (pc/mi/ln) LOS = C (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

Speed Determination

M _S = 0.343 (Exhibit 25-19) S _R = 60.4 mph (Exhibit 25-19) S ₀ = 68.8 mph (Exhibit 25-19) S = 63.0 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. Off-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4401	0.92	Level	2	0	0.990	1.00	4832
Ramp	468	0.92	Level	2	0	0.990	1.00	514
UpStream								
DownStream								

Merge Areas	Diverge Areas
Estimation of v₁₂ $V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 25-2 or 25-3) P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	Estimation of v₁₂ $V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 25-8 or 25-9) P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 2397 pc/h V ₃ or V _{av34} 1217 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks				
	Actual	Capacity	LOS F?	
V _{FO}		Exhibit 25-7		
	V _F	4832	Exhibit 25-14	9600 No
	V _{FO} = V _F - V _R	4318	Exhibit 25-14	9600 No
	V _R	514	Exhibit 25-3	2000 No

Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Level of Service Determination (if not F)			
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)		$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 24.9 (pc/mi/ln) LOS = C (Exhibit 25-4)	

Speed Determination	
M _S = (Exhibit 25-19)	D _S = 0.539 (Exhibit 25-19)
S _R = mph (Exhibit 25-19)	S _R = 54.9 mph (Exhibit 25-19)
S ₀ = mph (Exhibit 25-19)	S ₀ = 75.9 mph (Exhibit 25-19)
S = mph (Exhibit 25-14)	S = 63.8 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Off-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	9054	0.92	Level	4	0	0.980	1.00	10038
Ramp	1029	0.92	Level	4	0	0.980	1.00	1141
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.260 using Equation (Exhibit 25-12) V ₁₂ = 2932 pc/h V ₃ or V _{av34} 2549 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 3212 pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V _{FO}		Exhibit 25-7		V _F	8031	Exhibit 25-14	9600	No
				V _{FO} = V _F - V _R	6890	Exhibit 25-14	9600	No
				V _R	1141	Exhibit 25-3	4100	No

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 25-7		V ₁₂	2932	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 0.4 (pc/mi/ln) LOS = A (Exhibit 25-4)
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Speed Determination

Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _s = 0.466 (Exhibit 25-19) S _R = 57.0 mph (Exhibit 25-19) S ₀ = 71.3 mph (Exhibit 25-19) S = 64.8 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. On-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8359	0.92	Level	4	0	0.980	1.00	9268
Ramp	1137	0.92	Level	4	0	0.980	1.00	1261
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
 (Equation 25-2 or 25-3)
 L_{EQ} =
 P_{FM} = 0.209 using Equation (Exhibit 25-5)
 V₁₂ = 1415 pc/h
 V₃ or V_{av34} = 2676 pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = 2707 pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
 (Equation 25-8 or 25-9)
 L_{EQ} =
 P_{FD} = using Equation (Exhibit 25-12)
 V₁₂ = pc/h
 V₃ or V_{av34} = pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}	8029	Exhibit 25-7	No

Capacity Checks

	Actual	Capacity	LOS F?
V _F		Exhibit 25-14	
V _{FO} = V _F - V _R		Exhibit 25-14	
V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}	3968	Exhibit 25-7 4600:All	No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂		Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
 D_R = 15.2 (pc/mi/ln)
 LOS = B (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
 D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Speed Determination

M_S = 0.263 (Exhibit 25-19)
 S_R = 62.6 mph (Exhibit 25-19)
 S₀ = 64.5 mph (Exhibit 25-19)
 S = 63.6 mph (Exhibit 25-14)

Speed Determination

D_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Off-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{up} =$ ft $V_u =$ veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 50.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off $L_{down} =$ 1250 ft $V_D =$ 787 veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7848	0.92	Level	4	0	0.980	1.00	8701
Ramp	1915	0.92	Level	4	0	0.980	1.00	2123
UpStream								
DownStream	787	0.92	Level	4	0	0.980	1.00	873

Merge Areas

Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
 $L_{EQ} =$ (Equation 25-2 or 25-3)
 $P_{FM} =$ using Equation (Exhibit 25-5)
 $V_{12} =$ pc/h
 V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
 Is V_3 or $V_{av34} > 2,700$ pc/h? Yes No
 Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ Yes No
 If Yes, $V_{12a} =$ pc/h (Equation 25-8)

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
 $L_{EQ} =$ (Equation 25-8 or 25-9)
 $P_{FD} =$ 0.260 using Equation (Exhibit 25-12)
 $V_{12} =$ 3381 pc/h
 V_3 or V_{av34} 1790 pc/h (Equation 25-15 or 25-16)
 Is V_3 or $V_{av34} > 2,700$ pc/h? Yes No
 Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ Yes No
 If Yes, $V_{12a} =$ pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V_{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V_F	6961	Exhibit 25-14	9600 No
$V_{FO} = V_F - V_R$	4838	Exhibit 25-14	9600 No
V_R	2123	Exhibit 25-3	4100 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V_{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V_{12}	3381	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
 $D_R =$ (pc/mi/ln)
 LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
 $D_R =$ 4.4 (pc/mi/ln)
 LOS = A (Exhibit 25-4)

Speed Determination

$M_S =$ (Exhibit 25-19)
 $S_R =$ mph (Exhibit 25-19)
 $S_0 =$ mph (Exhibit 25-19)
 $S =$ mph (Exhibit 25-14)

Speed Determination

$D_s =$ 0.424 (Exhibit 25-19)
 $S_R =$ 58.1 mph (Exhibit 25-19)
 $S_0 =$ 73.7 mph (Exhibit 25-19)
 $S =$ 65.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{up} = 1250 ft V _u = 1915 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	6519	0.92	Level	4	0	0.980	1.00	7228
Ramp	787	0.92	Level	4	0	0.980	1.00	873
UpStream	1915	0.92	Level	0	0	1.000	1.00	2082
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.205 using Equation (Exhibit 25-5) V ₁₂ = 1083 pc/h V ₃ or V _{av34} = 2097 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2110 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	6150	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2983	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 26.7 (pc/mi/ln) LOS = C (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _s = 0.382 (Exhibit 25-19) S _R = 59.3 mph (Exhibit 25-19) S ₀ = 66.1 mph (Exhibit 25-19) S = 62.6 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (D)
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1115 ft V _D = 1329 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	6519	0.92	Level	4	0	0.980	1.00	7228
Ramp	787	0.92	Level	4	0	0.980	1.00	873
UpStream								
DownStream	1329	0.92	Level	0	0	1.000	1.00	1445

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.205 using Equation (Exhibit 25-5) V ₁₂ = 1083 pc/h V ₃ or V _{av34} = 2097 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2110 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	6150	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	2983	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 26.7 (pc/mi/ln) LOS = C (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _s = 0.382 (Exhibit 25-19) S _R = 59.3 mph (Exhibit 25-19) S ₀ = 66.1 mph (Exhibit 25-19) S = 62.6 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. On-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{up} = 1115 ft V _u = 787 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	7054	0.92	Level	4	0	0.980	1.00	7821
Ramp	1329	0.92	Level	4	0	0.980	1.00	1473
UpStream	787	0.92	Level	0	0	1.000	1.00	855
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.209 using Equation (Exhibit 25-5) V ₁₂ = 1169 pc/h V ₃ or V _{av34} = 2212 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2237 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	7066	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3710	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 28.3 (pc/mi/ln) LOS = D (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

M _s = 0.411 (Exhibit 25-19) S _R = 58.5 mph (Exhibit 25-19) S ₀ = 65.8 mph (Exhibit 25-19) S = 61.7 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Loop On-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off $L_{up} = 1360$ ft $V_u = 948$ veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 40.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{down} =$ ft $V_D =$ veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	8453	0.92	Level	4	0	0.980	1.00	9372
Ramp	1657	0.92	Level	4	0	0.980	1.00	1837
UpStream	948	0.92	Level	0	0	1.000	1.00	1030
DownStream								

Merge Areas

Diverge Areas

Estimation of v_{12}

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) $L_{EQ} =$ $P_{FM} = 0.406$ using Equation (Exhibit 25-5) $V_{12} = 2792$ pc/h V_3 or $V_{av34} = 2040$ pc/h (Equation 25-4 or 25-5) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) $L_{EQ} =$ $P_{FD} =$ using Equation (Exhibit 25-12) $V_{12} =$ pc/h V_3 or $V_{av34} =$ pc/h (Equation 25-15 or 25-16) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}	8709	Exhibit 25-7	No	V_F		Exhibit 25-14	
				$V_{FO} = V_F - V_R$		Exhibit 25-14	
				V_R		Exhibit 25-3	

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}	4629	Exhibit 25-7	4600:All	No	V_{12}	Exhibit 25-14	

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ $D_R = 31.3$ (pc/mi/ln) LOS = D (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ $D_R =$ (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

Speed Determination

$M_S = 0.600$ (Exhibit 25-19) $S_R = 53.2$ mph (Exhibit 25-19) $S_0 = 64.5$ mph (Exhibit 25-19) $S = 57.9$ mph (Exhibit 25-14)	$D_S =$ (Exhibit 25-19) $S_R =$ mph (Exhibit 25-19) $S_0 =$ mph (Exhibit 25-19) $S =$ mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	MacArthur Blvd. Off-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1360 ft V _D = 1657 veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	9312	0.92	Level	4	0	0.980	1.00	10324
Ramp	948	0.92	Level	4	0	0.980	1.00	1051
UpStream								
DownStream	1657	0.92	Level	4	0	0.980	1.00	1837

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
 (Equation 25-2 or 25-3)
 L_{EQ} =
 P_{FM} = using Equation (Exhibit 25-5)
 V₁₂ = pc/h
 V₃ or V_{av34} pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
 (Equation 25-8 or 25-9)
 L_{EQ} =
 P_{FD} = 0.436 using Equation (Exhibit 25-12)
 V₁₂ = 4194 pc/h
 V₃ or V_{av34} 2033 pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V _F	8260	Exhibit 25-14	9600 No
V _{FO} = V _F - V _R	7209	Exhibit 25-14	9600 No
V _R	1051	Exhibit 25-3	2100 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂	4194	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
 D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
 D_R = 26.8 (pc/mi/ln)
 LOS = C (Exhibit 25-4)

Speed Determination

M_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-14)

Speed Determination

D_s = 0.458 (Exhibit 25-19)
 S_R = 57.2 mph (Exhibit 25-19)
 S₀ = 72.8 mph (Exhibit 25-19)
 S = 63.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. On-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{up} = 1035 ft V _u = 745 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	7789	0.92	Level	4	0	0.980	1.00	8636
Ramp	1000	0.92	Level	4	0	0.980	1.00	1109
UpStream	745	0.92	Level	4	0	0.980	1.00	826
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.209 using Equation (Exhibit 25-5) V ₁₂ = 1282 pc/h V ₃ or V _{av34} = 2427 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2454 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	7245	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3563	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 23.4 (pc/mi/ln) LOS = C (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _s = 0.339 (Exhibit 25-19) S _R = 60.5 mph (Exhibit 25-19) S ₀ = 65.2 mph (Exhibit 25-19) S = 62.8 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (D)
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative
Project Description City of Newport Beach LUE Amendment TIA (JN08911)			

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1035 ft V _D = 1000 veh/h

Conversion to pc/h Under Base Conditions								
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	7183	0.92	Level	4	0	0.980	1.00	7964
Ramp	745	0.92	Level	4	0	0.980	1.00	826
UpStream								
DownStream	1000	0.92	Level	4	0	0.980	1.00	1109

Merge Areas				Diverge Areas			
Estimation of v ₁₂				Estimation of v ₁₂			
L _{EQ} =	$V_{12} = V_F (P_{FM})$	(Equation 25-2 or 25-3)		L _{EQ} =	$V_{12} = V_R + (V_F - V_R)P_{FD}$	(Equation 25-8 or 25-9)	
P _{FM} =	0.217	using Equation (Exhibit 25-5)		P _{FD} =		using Equation (Exhibit 25-12)	
V ₁₂ =	1234	pc/h		V ₁₂ =		pc/h	
V ₃ or V _{av34}	2230	pc/h (Equation 25-4 or 25-5)		V ₃ or V _{av34}		pc/h (Equation 25-15 or 25-16)	
Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		Is V ₃ or V _{av34} > 2,700 pc/h?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
If Yes, V _{12a} =	2278	pc/h (Equation 25-8)		If Yes, V _{12a} =		pc/h (Equation 25-18)	

Capacity Checks				Capacity Checks			
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	6521	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area			
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3104	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)		Level of Service Determination (if not F)	
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$	D _R =	(pc/mi/ln)
D _R = 27.6 (pc/mi/ln)		D _R =	(pc/mi/ln)
LOS = C (Exhibit 25-4)		LOS =	(Exhibit 25-4)

Speed Determination		Speed Determination	
M _s = 0.391 (Exhibit 25-19)	D _s =	(Exhibit 25-19)	mph (Exhibit 25-19)
S _R = 59.0 mph (Exhibit 25-19)	S _R =	mph (Exhibit 25-19)	mph (Exhibit 25-19)
S ₀ = 65.7 mph (Exhibit 25-19)	S ₀ =	mph (Exhibit 25-19)	mph (Exhibit 25-19)
S = 62.3 mph (Exhibit 25-14)	S =	mph (Exhibit 25-15)	mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Loop On-Ramp (U)
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input checked="" type="checkbox"/> Yes <input type="checkbox"/> On <input type="checkbox"/> No <input checked="" type="checkbox"/> Off L _{up} = 1245 ft V _u = 1404 veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	7183	0.92	Level	4	0	0.980	1.00	7964
Ramp	745	0.92	Level	4	0	0.980	1.00	826
UpStream	1404	0.92	Level	4	0	0.980	1.00	1557
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.217 using Equation (Exhibit 25-5) V ₁₂ = 1234 pc/h V ₃ or V _{av34} = 2230 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 2278 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	6521	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	3104	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 27.6 (pc/mi/ln) LOS = C (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _s = 0.391 (Exhibit 25-19) S _R = 59.0 mph (Exhibit 25-19) S ₀ = 65.7 mph (Exhibit 25-19) S = 62.3 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	I-405 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Jamboree Rd. Off-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> On <input type="checkbox"/> No <input type="checkbox"/> Off L _{down} = 1245 ft V _D = 745 veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	8462	0.92	Level	4	0	0.980	1.00	9382
Ramp	1404	0.92	Level	4	0	0.980	1.00	1557
UpStream								
DownStream	745	0.92	Level	0	0	1.000	1.00	810

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
 (Equation 25-2 or 25-3)
 L_{EQ} =
 P_{FM} = using Equation (Exhibit 25-5)
 V₁₂ = pc/h
 V₃ or V_{av34} pc/h (Equation 25-4 or 25-5)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
 (Equation 25-8 or 25-9)
 L_{EQ} =
 P_{FD} = 0.260 using Equation (Exhibit 25-12)
 V₁₂ = 3104 pc/h
 V₃ or V_{av34} 2201 pc/h (Equation 25-15 or 25-16)
 Is V₃ or V_{av34} > 2,700 pc/h? Yes No
 Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No
 If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	

Capacity Checks

	Actual	Capacity	LOS F?
V _F	7506	Exhibit 25-14	9600 No
V _{FO} = V _F - V _R	5949	Exhibit 25-14	9600 No
V _R	1557	Exhibit 25-3	4100 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂	3104	Exhibit 25-14	4400:All No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
 D_R = (pc/mi/ln)
 LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
 D_R = 19.4 (pc/mi/ln)
 LOS = B (Exhibit 25-4)

Speed Determination

M_S = (Exhibit 25-19)
 S_R = mph (Exhibit 25-19)
 S₀ = mph (Exhibit 25-19)
 S = mph (Exhibit 25-14)

Speed Determination

D_S = 0.503 (Exhibit 25-19)
 S_R = 55.9 mph (Exhibit 25-19)
 S₀ = 72.1 mph (Exhibit 25-19)
 S = 64.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bison Av. On-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs	
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3419	0.92	Level	2	0	0.990	1.00	3753
Ramp	450	0.92	Level	2	0	0.990	1.00	494
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.237 using Equation (Exhibit 25-5) V ₁₂ = 889 pc/h V ₃ or V _{av34} = 1432 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1501 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4247	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1995	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 19.0 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _S = 0.326 (Exhibit 25-19) S _R = 60.9 mph (Exhibit 25-19) S ₀ = 67.7 mph (Exhibit 25-19) S = 64.3 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Loop Off-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{up} =$ ft $V_u =$ veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{down} =$ ft $V_D =$ veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3869	0.92	Level	2	0	0.990	1.00	4247
Ramp	500	0.92	Level	2	0	0.990	1.00	549
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v_{12}

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$ $L_{EQ} =$ (Equation 25-2 or 25-3) $P_{FM} =$ using Equation (Exhibit 25-5) $V_{12} =$ pc/h V_3 or V_{av34} pc/h (Equation 25-4 or 25-5) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ $L_{EQ} =$ (Equation 25-8 or 25-9) $P_{FD} =$ 0.436 using Equation (Exhibit 25-12) $V_{12} =$ 1976 pc/h V_3 or V_{av34} 923 pc/h (Equation 25-15 or 25-16) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}		Exhibit 25-7		V_F	3823	Exhibit 25-14	9600
				$V_{FO} = V_F - V_R$	3274	Exhibit 25-14	9600
				V_R	549	Exhibit 25-3	2000

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}		Exhibit 25-7		V_{12}	1976	Exhibit 25-14	4400:All

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ $D_R =$ (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ $D_R =$ 19.7 (pc/mi/ln) LOS = B (Exhibit 25-4)
--	--

Speed Determination

Speed Determination

$M_S =$ (Exhibit 25-19) $S_R =$ mph (Exhibit 25-19) $S_0 =$ mph (Exhibit 25-19) $S =$ mph (Exhibit 25-14)	$D_s =$ 0.542 (Exhibit 25-19) $S_R =$ 54.8 mph (Exhibit 25-19) $S_0 =$ 76.8 mph (Exhibit 25-19) $S =$ 63.6 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. On-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 40.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3369	0.92	Level	2	0	0.990	1.00	3699
Ramp	740	0.92	Level	2	0	0.990	1.00	812
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.193 using Equation (Exhibit 25-5) V ₁₂ = 557 pc/h V ₃ or V _{av34} = 1164 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1154 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	3698	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1966	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 18.7 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
--	--

Speed Determination

M _S = 0.327 (Exhibit 25-19) S _R = 60.8 mph (Exhibit 25-19) S ₀ = 68.7 mph (Exhibit 25-19) S = 64.3 mph (Exhibit 25-14)	D _s = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET									
General Information					Site Information				
Analyst	IA	Freeway/Dir of Travel	SR-73 SB		Junction	Newport Coast Dr. Off-Ramp			
Agency or Company	Urban Crossroads, Inc.	Jurisdiction	Caltrans		Analysis Year	GP LUE Amendment Alternative			
Date Performed	02/24/2014	Project Description City of Newport Beach LUE Amendment TIA (JN08911)							
Analysis Time Period	PM Peak Hour	Inputs							
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off		Terrain: Level			Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off				
$L_{up} =$	ft	$S_{FF} = 70.0$ mph			$S_{FR} = 30.0$ mph		$L_{down} =$ ft		
$V_u =$	veh/h	Sketch (show lanes, L_A, L_D, V_R, V_f)							
Conversion to pc/h Under Base Conditions									
(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$	
Freeway	4109	0.92	Level	2	0	0.990	1.00	4511	
Ramp	562	0.92	Level	2	0	0.990	1.00	617	
UpStream									
DownStream									
Merge Areas					Diverge Areas				
Estimation of v_{12}					Estimation of v_{12}				
$V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 25-2 or 25-3) P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)					$V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 25-8 or 25-9) P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 2315 pc/h V ₃ or V _{av34} = 1098 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)				
Capacity Checks					Capacity Checks				
	Actual	Capacity		LOS F?		Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7			V_F	4511	Exhibit 25-14	9600	No
					$V_{FO} = V_F - V_R$	3894	Exhibit 25-14	9600	No
					V_R	617	Exhibit 25-3	2000	No
Flow Entering Merge Influence Area					Flow Entering Merge Influence Area				
	Actual	Max Desirable		Violation?		Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7			V_{12}	2315	Exhibit 25-14	4400:All	No
Level of Service Determination (if not F)					Level of Service Determination (if not F)				
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)					$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 24.2 (pc/mi/ln) LOS = C (Exhibit 25-4)				
Speed Determination					Speed Determination				
M _S = (Exhibit 25-19)	S _R = mph (Exhibit 25-19)	S ₀ = mph (Exhibit 25-19)	S = mph (Exhibit 25-14)		D _S = 0.549 (Exhibit 25-19)	S _R = 54.6 mph (Exhibit 25-19)	S ₀ = 76.4 mph (Exhibit 25-19)	S = 63.4 mph (Exhibit 25-15)	

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 SB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. On-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="display: flex; justify-content: space-around;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph </div> Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	3547	0.92	Level	2	0	0.990	1.00	3894
Ramp	341	0.92	Level	2	0	0.990	1.00	374
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.232 using Equation (Exhibit 25-5) V ₁₂ = 905 pc/h V ₃ or V _{av34} = 1494 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1557 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4268	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1931	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 19.3 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _S = 0.338 (Exhibit 25-19) S _R = 60.5 mph (Exhibit 25-19) S ₀ = 67.6 mph (Exhibit 25-19) S = 64.2 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bison Av. Off-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{up} =$ ft $V_u =$ veh/h	Terrain: Level $S_{FF} = 70.0$ mph $S_{FR} = 30.0$ mph Sketch (show lanes, L_A, L_D, V_R, V_f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off $L_{down} =$ ft $V_D =$ veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4997	0.92	Level	2	0	0.990	1.00	5486
Ramp	180	0.92	Level	2	0	0.990	1.00	198
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v_{12}

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$ $L_{EQ} =$ (Equation 25-2 or 25-3) $P_{FM} =$ using Equation (Exhibit 25-5) $V_{12} =$ pc/h V_3 or V_{av34} pc/h (Equation 25-4 or 25-5) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ $L_{EQ} =$ (Equation 25-8 or 25-9) $P_{FD} =$ 0.436 using Equation (Exhibit 25-12) $V_{12} =$ 2265 pc/h V_3 or V_{av34} 1336 pc/h (Equation 25-15 or 25-16) Is V_3 or $V_{av34} > 2,700$ pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V_3 or $V_{av34} > 1.5 * V_{12}/2$ <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, $V_{12a} =$ pc/h (Equation 25-18)
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Capacity Checks

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V_{FO}		Exhibit 25-7		V_F	4938	Exhibit 25-14	9600
				$V_{FO} = V_F - V_R$	4740	Exhibit 25-14	9600
				V_R	198	Exhibit 25-3	2000

Flow Entering Merge Influence Area

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V_{R12}		Exhibit 25-7		V_{12}	2265	Exhibit 25-14	4400:All

Level of Service Determination (if not F)

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ $D_R =$ (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ $D_R =$ 22.5 (pc/mi/ln) LOS = C (Exhibit 25-4)
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Speed Determination

Speed Determination

$M_S =$ (Exhibit 25-19) $S_R =$ mph (Exhibit 25-19) $S_0 =$ mph (Exhibit 25-19) $S =$ mph (Exhibit 25-14)	$D_s =$ 0.511 (Exhibit 25-19) $S_R =$ 55.7 mph (Exhibit 25-19) $S_0 =$ 75.5 mph (Exhibit 25-19) $S =$ 64.9 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Loop On-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 40.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4627	0.92	Level	2	0	0.990	1.00	5080
Ramp	370	0.92	Level	2	0	0.990	1.00	406
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v ₁₂	Estimation of v ₁₂
$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = 0.235 using Equation (Exhibit 25-5) V ₁₂ = 933 pc/h V ₃ or V _{av34} = 1515 pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = 1585 pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = using Equation (Exhibit 25-12) V ₁₂ = pc/h V ₃ or V _{av34} = pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?
V _{FO}	4369	Exhibit 25-7	No	V _F		Exhibit 25-14	
				V _{FO} = V _F - V _R		Exhibit 25-14	
				V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?
V _{R12}	1991	Exhibit 25-7	4600:All	No	V ₁₂	Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = 19.3 (pc/mi/ln) LOS = B (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)
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Speed Determination

M _S = 0.330 (Exhibit 25-19) S _R = 60.8 mph (Exhibit 25-19) S ₀ = 67.5 mph (Exhibit 25-19) S = 64.3 mph (Exhibit 25-14)	D _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
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Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Bonita Cyn. Dr. Off-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level <div style="text-align: center;"> S_{FF} = 70.0 mph S_{FR} = 30.0 mph Sketch (show lanes, L_A, L_D, V_R, V_f) </div>	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4909	0.92	Level	2	0	0.990	1.00	5389
Ramp	282	0.92	Level	2	0	0.990	1.00	310
UpStream								
DownStream								

Merge Areas	Diverge Areas
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Estimation of v₁₂

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3) L _{EQ} = P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	$V_{12} = V_R + (V_F - V_R)P_{FD}$ (Equation 25-8 or 25-9) L _{EQ} = P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 2524 pc/h V ₃ or V _{av34} 1432 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)
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Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}		Exhibit 25-7	
	V _F	5389	Exhibit 25-14 9600 No
	V _{FO} = V _F - V _R	5079	Exhibit 25-14 9600 No
	V _R	310	Exhibit 25-3 2000 No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}		Exhibit 25-7	
V ₁₂	2524	Exhibit 25-14 4400:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 14.7 (pc/mi/ln) LOS = B (Exhibit 25-4)
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Speed Determination

M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _s = 0.521 (Exhibit 25-19) S _R = 55.4 mph (Exhibit 25-19) S ₀ = 75.1 mph (Exhibit 25-19) S = 64.4 mph (Exhibit 25-15)
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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. On-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs

Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h
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Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	4739	0.92	Level	2	0	0.990	1.00	5203
Ramp	170	0.92	Level	2	0	0.990	1.00	187
UpStream								
DownStream								

Merge Areas

Diverge Areas

Estimation of v₁₂

$V_{12} = V_F (P_{FM})$
(Equation 25-2 or 25-3)

L_{EQ} =

P_{FM} = 0.659 using Equation (Exhibit 25-5)

V₁₂ = 3429 pc/h

V₃ or V_{av34} = 887 pc/h (Equation 25-4 or 25-5)

Is V₃ or V_{av34} > 2,700 pc/h? Yes No

Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No

If Yes, V_{12a} = pc/h (Equation 25-8)

Estimation of v₁₂

$V_{12} = V_R + (V_F - V_R)P_{FD}$
(Equation 25-8 or 25-9)

L_{EQ} =

P_{FD} = using Equation (Exhibit 25-12)

V₁₂ = pc/h

V₃ or V_{av34} = pc/h (Equation 25-15 or 25-16)

Is V₃ or V_{av34} > 2,700 pc/h? Yes No

Is V₃ or V_{av34} > 1.5 * V₁₂/2 Yes No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity	LOS F?
V _{FO}	5390	Exhibit 25-7	No

Capacity Checks

	Actual	Capacity	LOS F?
V _F		Exhibit 25-14	
V _{FO} = V _F - V _R		Exhibit 25-14	
V _R		Exhibit 25-3	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V _{R12}	3616	Exhibit 25-7 4600:All	No

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
V ₁₂		Exhibit 25-14	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 25.8 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = 0.391 (Exhibit 25-19)

S_R = 59.1 mph (Exhibit 25-19)

S₀ = 68.6 mph (Exhibit 25-19)

S = 61.9 mph (Exhibit 25-14)

Speed Determination

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S₀ = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	IA	Freeway/Dir of Travel	SR-73 NB
Agency or Company	Urban Crossroads, Inc.	Junction	Newport Coast Dr. Off-Ramp
Date Performed	02/24/2014	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	GP LUE Amendment Alternative

Project Description City of Newport Beach LUE Amendment TIA (JN08911)

Inputs		
Upstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{up} = ft V _u = veh/h	Terrain: Level S _{FF} = 70.0 mph S _{FR} = 30.0 mph Sketch (show lanes, L _A , L _D , V _R , V _f)	Downstream Adj Ramp <input type="checkbox"/> Yes <input type="checkbox"/> On <input checked="" type="checkbox"/> No <input type="checkbox"/> Off L _{down} = ft V _D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f _{HV}	f _p	v = V/PHF x f _{HV} x f _p
Freeway	5014	0.92	Level	2	0	0.990	1.00	5504
Ramp	275	0.92	Level	2	0	0.990	1.00	302
UpStream								
DownStream								

Merge Areas	Diverge Areas
Estimation of v₁₂ $V_{12} = V_F (P_{FM})$ L _{EQ} = (Equation 25-2 or 25-3) P _{FM} = using Equation (Exhibit 25-5) V ₁₂ = pc/h V ₃ or V _{av34} pc/h (Equation 25-4 or 25-5) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-8)	Estimation of v₁₂ $V_{12} = V_R + (V_F - V_R)P_{FD}$ L _{EQ} = (Equation 25-8 or 25-9) P _{FD} = 0.436 using Equation (Exhibit 25-12) V ₁₂ = 2570 pc/h V ₃ or V _{av34} 1467 pc/h (Equation 25-15 or 25-16) Is V ₃ or V _{av34} > 2,700 pc/h? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is V ₃ or V _{av34} > 1.5 * V ₁₂ /2 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, V _{12a} = pc/h (Equation 25-18)

Capacity Checks				Capacity Checks				
	Actual	Capacity	LOS F?		Actual	Capacity	LOS F?	
V _{FO}		Exhibit 25-7		V _F	5504	Exhibit 25-14	9600	No
				V _{FO} = V _F - V _R	5202	Exhibit 25-14	9600	No
				V _R	302	Exhibit 25-3	2000	No

Flow Entering Merge Influence Area				Flow Entering Merge Influence Area				
	Actual	Max Desirable	Violation?		Actual	Max Desirable	Violation?	
V _{R12}		Exhibit 25-7		V ₁₂	2570	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)	Level of Service Determination (if not F)
$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$ D _R = (pc/mi/ln) LOS = (Exhibit 25-4)	$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$ D _R = 26.4 (pc/mi/ln) LOS = C (Exhibit 25-4)

Speed Determination	Speed Determination
M _S = (Exhibit 25-19) S _R = mph (Exhibit 25-19) S ₀ = mph (Exhibit 25-19) S = mph (Exhibit 25-14)	D _S = 0.520 (Exhibit 25-19) S _R = 55.4 mph (Exhibit 25-19) S ₀ = 75.0 mph (Exhibit 25-19) S = 64.4 mph (Exhibit 25-15)