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**CITY OF NEWPORT BEACH
GENERAL PLAN TRANSPORTATION STUDY
NEWPORT BEACH, CALIFORNIA
APPENDICES (PART 2 OF 2)**

March 22, 2006

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APPENDIX Q

PEAK HOUR INTERSECTION COUNT DATA TREND ANALYSIS

NS Roadway	INTERSECTION	EW Roadway	PEAK HOUR	PUBLISHED VOLUME			RECENT TRAFFIC COUNT			DIFFERENCE (RECENT - PUBLISHED)			PERCENT DIFFERENCE		
				2000-2002	2003	2004	2005	2003	2004	2005	2003	2004	2005		
Placentia Av.		Superior Av.	AM	2942	3056	2723		114	-219		3.87%	-7.44%			
			PM	2596	4281	2591		1685	-5		64.91%	-0.19%			
			Total	5538	7337	5314		1799	-224		32.48%	-4.04%			
Balboa Bl/Superior Av.		Coast Hw.	AM	6665	5454	5474		-1111	-1091		-16.92%	-16.62%			
			PM	6566	5273	6312		-1293	-254		-19.69%	-3.87%			
			Total	13131	10727	11786		-2404	-1345		-18.31%	-10.24%			
Newport Bl.		Hospital Rd.	AM	4117	4241	4072		124	-45		3.01%	-1.09%			
			PM	4740	4633	3962		-107	-756		-2.26%	-15.95%			
			Total	8857	8874	8034		17	-803		0.19%	-9.07%			
Newport Bl.		Via Lido	AM	2976	2983	2972	2972	7	-4		0.24%	-0.13%			
			PM	3592	3115	4374	4374	-477	782		-13.28%	21.77%			
			Total	6568	6098	7346	7346	-470	778		-7.16%	11.85%			
Newport Bl.		32nd St.	AM	2482	2443	2213	2213	-39	-269		-1.57%	-10.84%			
			PM	2733	2919	3521	3521	186	788		6.81%	28.83%			
			Total	5215	5362	5734	5734	147	519		2.82%	9.95%			
Riverside Av.		Coast Hw.	AM	4442	4096	3925		-346	-517		-7.79%	-11.64%			
			PM	5659	4563	4742		-1096	-917		-19.37%	-16.20%			
			Total	10101	8659	8667		-1442	-1434		-14.28%	-14.20%			
Tustin Av.		Coast Hw.	AM	3885	3610	3685		-275	-200		-7.08%	-5.15%			
			PM	4442	4109	4290		-333	-152		-7.50%	-3.42%			
			Total	8327	7719	7975		-608	-352		-7.30%	-4.23%			
MacArthur Bl.		Campus Dr.	AM	4796	4263	4263		-533	-533		-11.11%	-11.11%			
			PM	5595	5667	72		72		1.29%	1.29%				
			Total	10391	9930	461		-461		-4.44%	-4.44%				
MacArthur Bl.		Birch St.	AM	3168	2806	3228	3228	-362	-	60	-11.43%	1.89%			
			PM	4099	2997	4059	4059	-1102	-	-40	-26.88%	-0.98%			
			Total	7267	5803	7287	7287	-1464	-	20	-20.15%	0.28%			
Von Karman Av.		Campus Dr.	AM	2496			2526	-	-	30	-	1.20%			
			PM	3431			3157	-	-	-274	-	-7.99%			
			Total	5927			5683	-	-	-244	-	-4.12%			
MacArthur Bl.		Newport Pl/Von Karman Av.	AM	3050	3037			-13	-		-0.43%	-			
			PM	3528	3228			-300	-		-8.50%	-			
			Total	6578	6265			-313	-		-4.76%	-			
Jamboree Rd.		Campus Dr.	AM	5576	5089	5089		-487	-487		-8.73%	-			
			PM	6742	6386	6386		-356	-356		-5.28%	-			
			Total	12318	11475			-843	-		-6.84%	-			
Jamboree Rd.		Birch St.	AM	4337	4067	4067		-270	-270		-6.23%	-			
			PM	4263	446	446		-46	-		10.46%	-			
			Total	8600	8776	176		176			2.05%	-			
Irvine Av./Campus Dr.		Bristol St. (N and S)	AM	7533	9246	7782	9037	1713	249	1504	22.74%	3.31%	19.97%		
			PM	9032	9625	7889	9970	593	-1143	938	6.57%	-12.66%	10.35%		
			Total	16565	18871	15671	19007	2306	-894	2442	13.92%	-5.40%	14.74%		
Birch St.		Bristol St. N	AM	3843	3668	3687	3687	-175	-	-156	-4.55%	-	-4.05%		
			PM	4504	4626	4110	4110	122	-394	122	2.71%	-8.75%	-		
			Total	8347	8294	7797	7797	-53	-550		-0.63%	-6.59%	-		

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NS Roadway	INTERSECTION	EW Roadway	PEAK HOUR	PUBLISHED VOLUME		RECENT TRAFFIC COUNT		DIFFERENCE (RECENT - PUBLISHED)			PERCENT DIFFERENCE		
				2000-2002	2003	2004	2005	2003	2004	2005	2003	2004	2005
Birch St.	Bristol St. S		AM	3127	3216	2958	89	2.85%	-	-	-5.40%		
			PM	3270	3287	3074	17	0.52%	-	-	-5.98%		
			Total	6397	6503	6032	106	1.66%	-	-	-5.71%		
Irvine Av.	Mesa Dr.		AM	3407	2792	2963	-615	-18.05%	-444	-13.03%	-		
			PM	3752	3474	3649	-278	-7.41%	-103	-2.75%	-		
			Total	7159	6266	6612	-893	-12.47%	-547	-7.64%	-		
Irvine Av.	University Dr.		AM	3563	2743	2779	-820	-23.01%	-	-	-22.00%		
			PM	3882	3166	2962	-716	-18.44%	-	-	-23.70%		
			Total	7445	5909	5741	-1536	-20.63%	-	-	-22.89%		
Irvine Av.	Santiago Dr./22nd St.		AM	2799	2596	2700	-203	-7.61%	-	-	-3.54%		
			PM	3364	2954	3073	-410	-12.19%	-	-	-8.65%		
			Total	6163	5540	5773	-623	-10.11%	-	-	-6.33%		
Irvine Av.	Highland Dr./20th St.		AM	2771	2591	2745	-180	-6.50%	-	-	-0.94%		
			PM	2975	2819	2440	-156	-5.24%	-	-	-17.98%		
			Total	5746	5410	5185	-336	-5.85%	-	-	-9.76%		
Irvine Av.	Dover Dr./19th St.		AM	2784	2766	1876	-18	-0.65%	-	-	-32.61%		
			PM	3129	2915	2490	-214	-6.84%	-	-	-20.42%		
			Total	5913	5681	4366	-232	-3.92%	-	-	-26.16%		
Irvine Av.	Westcliff Dr./17th St.		AM	3442	3341	3180	-101	-2.93%	-262	-7.61%	-		
			PM	4287	4243	3798	-44	-1.03%	-489	-11.41%	-		
			Total	7729	7584	6978	-145	-1.88%	-751	-9.72%	-		
Dover Dr.	Westcliff Dr.		AM	1811	1801	2065	-10	-0.55%	-	-	14.03%		
			PM	2814	2555	2348	-259	-9.20%	-	-	-16.56%		
			Total	4625	4356	4413	-269	-5.82%	-	-	-4.58%		
Dover Dr.	16th St./Castaways Ln.		AM	2336	1944	2229	-392	-16.76%	-	-	-4.58%		
			PM	2779	2626	2510	-153	-5.51%	-	-	-9.68%		
			Total	5115	4570	4739	-545	-10.65%	-	-	-7.35%		
Dover Dr.	Coast Hw.		AM	5315	5672	5739	357	6.72%	19	0.36%	7.98%		
			PM	6705	6761	6917	56	0.84%	-285	-4.25%	3.16%		
			Total	12020	12433	12656	413	3.44%	-266	-2.21%	5.29%		
Bayside Dr.	Coast Hw.		AM	5141	5295	5237	154	3.00%	96	1.87%	-		
			PM	6562	6414	6114	-148	-2.26%	-448	-6.83%	-		
			Total	11703	11709	11351	6	0.05%	-352	-3.01%	-		
Jamboree Rd.	MacArthur Bl.		AM	6067	5728	5728	-	-	-	-	-5.59%		
			PM	6658	6290	6290	-	-	-	-	-5.53%		
			Total	12725	12018	12018	-	-	-	-	-5.56%		
Jamboree Rd.	Bristol St. N		AM	4890	4321	4580	-569	-11.64%	-310	-6.34%	-		
			PM	5184	4756	4626	-426	-8.22%	-558	-10.76%	-		
			Total	10074	9079	9206	-995	-9.88%	-868	-8.62%	-		
Bayview Pl.	Bristol St.		AM	3100	2958	2894	-142	-4.58%	-	-	-6.65%		
			PM	3227	2526	3698	471	14.60%	-	-	14.60%		
			Total	6327	5484	6592	265	4.19%	-	-	4.19%		
Jamboree Rd.	Bristol St. S		AM	5581	5413	5661	168	3.01%	80	1.43%	-		
			PM	6841	5868	6128	-973	-14.22%	-713	-10.42%	-		
			Total	12422	11281	11789	-1141	-9.19%	-633	-5.10%	-		

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NS Roadway	INTERSECTION	EW Roadway	PEAK HOUR	PUBLISHED VOLUME		RECENT TRAFFIC COUNT		DIFFERENCE (RECENT - PUBLISHED)			PERCENT DIFFERENCE	
				2000-2002	2004	2003	2004	2005	2003	2004	2005	
Jamboree Rd.	Bayview Wy.		AM	3819	4011	4040	182	221	5.03%	5.79%	5.79%	
			PM	5687	4054	4908	-1013	-159	-19.95%	-3.14%	-3.14%	
			Total	8886	8065	8948	-821	62	-9.24%	0.70%	0.70%	
Jamboree Rd.	Eastbluff Dr. N./University Dr.		AM	4259	4308	4250	49	-9	1.15%	-0.21%	-0.21%	
			PM	5475	4279	5407	-1196	-68	-21.84%	-1.24%	-1.24%	
			Total	9734	8587	9657	-1147	-77	-11.76%	-0.79%	-0.79%	
Jamboree Rd.	Bison St.		AM	3559	3749	3607	190	48	5.34%	1.35%	1.35%	
			PM	4383	3772	4423	-611	40	-13.94%	0.91%	0.91%	
			Total	7942	7521	8030	-421	88	-5.30%	1.11%	1.11%	
Jamboree Rd.	Eastbluff Dr./Ford Rd.		AM	5052	5224	4042	172	-1010	3.40%	-19.99%	-19.99%	
			PM	5405	4460	4815	-945	-590	-17.46%	-10.92%	-10.92%	
			Total	10457	9684	8857	-773	-1600	-7.39%	-15.30%	-15.30%	
Jamboree Rd.	San Joaquin Hills Rd.		AM	4112	4280	4259	168	147	4.09%	3.57%	3.57%	
			PM	5563	4233	4800	-1330	-763	-23.91%	-13.72%	-13.72%	
			Total	9675	8513	9059	-1162	-616	-12.01%	-6.37%	-6.37%	
Jamboree Rd.	Santa Barbara Dr.		AM	3010	3265	3493	255	483	8.47%	16.05%	16.05%	
			PM	4287	3548	3887	-739	-400	-17.24%	-9.33%	-9.33%	
			Total	7297	6813	7380	-484	83	-6.63%	1.14%	1.14%	
Jamboree Rd.	Coast Hw.		AM	6097	5547	6310	-550	213	-9.02%	3.49%	3.49%	
			PM	7876	6838	7578	-1038	-298	-13.18%	-3.78%	-3.78%	
			Total	13973	12385	13888	-1588	-85	-11.36%	-0.61%	-0.61%	
Santa Cruz Dr.	San Joaquin Hills Rd.		AM	1523	1526	1292	3	-231	0.20%	-15.17%	-15.17%	
			PM	1902	1673	1685	-229	-217	-12.04%	-11.41%	-11.41%	
			Total	3425	3199	2977	-226	-448	-6.60%	-13.08%	-13.08%	
Santa Rosa Dr./Big Canyon Dr	San Joaquin Hills Rd.		AM	-	1796	1388	-	-	-	-	-	
			PM	2163	1967	1967	-327	-196	-15.12%	-9.06%	-9.06%	
			Total	-	3632	3355	-	-	-	-	-	
Newport Center Dr.	Coast Hw.		AM	3533	3075	3403	-458	-130	-12.96%	-3.68%	-3.68%	
			PM	4505	4615	4232	110	-273	2.44%	-6.06%	-6.06%	
			Total	8038	7690	7635	-348	-403	-4.33%	-5.01%	-5.01%	
Avocado Av.	San Miguel Dr.		AM	1819	1915	1915	96	-	5.28%	-	-	
			PM	2512	2738	224	224	-	8.92%	-	-	
			Total	4331	4331	0	0	-	0.00%	-	-	
Avocado Av.	Coast Hw.		AM	3804	3131	3151	-673	-653	-17.69%	-17.17%	-17.17%	
			PM	4486	4246	3672	-814	-814	-5.35%	-18.15%	-18.15%	
			Total	8290	7377	6823	-913	-1467	-11.01%	-17.70%	-17.70%	
MacArthur Bl.	Bison St.		AM	7220	6404	7432	-816	212	-11.30%	2.94%	2.94%	
			PM	6432	5663	7364	-869	932	-8.85%	14.49%	14.49%	
			Total	13652	12267	14796	-1385	1144	-10.15%	8.38%	8.38%	
MacArthur Bl.	Ford Rd.		AM	8076	7476	7801	-600	-275	-7.43%	-3.41%	-3.41%	
			PM	7676	7977	7977	301	301	-19.76%	3.82%	3.82%	
			Total	15752	15635	15778	-217	26	-13.44%	0.17%	0.17%	
MacArthur Bl.	San Joaquin Hills Rd.		AM	6482	5895	5952	-587	-530	-9.06%	-8.18%	-8.18%	
			PM	6636	5465	6181	-1171	-455	-17.65%	-6.86%	-6.86%	
			Total	13118	11360	12133	-1758	-985	-13.40%	-7.51%	-7.51%	

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NS Roadway	INTERSECTION	EW Roadway	PEAK HOUR	PUBLISHED VOLUME			RECENT TRAFFIC COUNT			DIFFERENCE (RECENT - PUBLISHED)			PERCENT DIFFERENCE		
				2000-2002	2003	2004	2005	2003	2004	2005	2003	2004	2005		
MacArthur Bl.	San Miguel Dr.		AM	4185	3809		4171	-376	-14	-8.96%	-	-0.33%			
			PM	5155	4157		4405	-998	-750	-14.55%	-	-14.55%			
			Total	9340	7966		8576	-1374	-764	-14.71%	-	-8.18%			
MacArthur Bl.	Coast Hw.		AM	4393	4382	4245	4508	-111	115	-0.25%	-3.37%	2.62%			
			PM	5327	4442	4624	5286	-885	-703	-16.61%	-13.20%	-0.77%			
			Total	9720	8824	8869	9794	-896	-851	-9.22%	-8.76%	0.76%			
SR-73 SB Ramps	Bonita Canyon Dr.		AM	1736	1930		1930	194	-	11.18%	-	-			
			PM	1685	1685		1685	0	-	-5.81%	-	-			
			Total	3525	3615		3615	90	-	2.55%	-	-			
Spyglass Hill Rd.	San Miguel Dr.		AM	1070	1158		1158	88	-	8.22%	-	-			
			PM	1176	1146		1146	-30	-	-2.55%	-	-			
			Total	2246	2304		2304	58	-	2.58%	-	-			
San Joaquin Hills Rd.	San Miguel Dr.		AM	3209	2091		2337	-1118	-672	-34.84%	-	-27.17%			
			PM	2910	2571		2831	-339	-79	-11.65%	-	-2.71%			
			Total	6119	4662		5168	-1457	-951	-23.81%	-	-15.54%			
Goldenrod Av.	Coast Hw.		AM	4021	3745	3473	3473	-276	-548	-6.86%	-13.63%	-			
			PM	3816	3862	3864	3864	46	48	1.21%	1.26%	-			
			Total	7837	7607	7337	7337	-230	-500	-2.93%	-6.38%	-			
Marguerite Av.	San Joaquin Hills Rd.		AM	1656	1845		1845	189	-	11.41%	-	-			
			PM	1862	2092		230	230	12.35%	-	-				
			Total	3518	3937		419	419	11.91%	-	-				
Marguerite Av.	Coast Hw.		AM	3703	3805		3805	102	-	2.75%	-4.56%				
			PM	4072	3772	3534	3973	-300	-99	-7.37%	-2.43%				
			Total	7775	7577	7507	7507	-198	-268	-2.55%	-3.45%				
Spyglass Hill Rd.	San Joaquin Hills Rd.		AM	1653	1352		1352	-301	-	-18.21%	-				
			PM	1420	1341		1341	-79	-	-5.56%	-				
			Total	3073	2693		2693	-380	-	-12.37%	-				
Poppy Av.	Coast Hw.		AM	3040	3102		3175	62	135	2.04%	-	4.44%			
			PM	3408	3574		3723	165	314	4.84%	-	9.21%			
			Total	6449	6676		6898	227	449	3.52%	-	6.96%			
Newport Coast Dr.	San Joaquin Hills Rd.		AM	1926	2322		2322	396	-	20.56%	-				
			PM	1628	2222		2222	594	-	36.49%	-				
			Total	3554	4544		4544	990	-	27.86%	-				
Newport Coast Dr.	Coast Hw.		AM	3310	3251		3251	-59	-	-1.78%	-				
			PM	3579	3719		3719	140	-	3.91%	-				
			Total	6889	6970		6970	81	-	1.18%	-				
TOTAL	Published to 2003		AM	191337	184677		184677	-6660	-	-3.48%	-				
			PM	220773	202095		202095	-18678	-	-8.46%	-				
			Total	412110	386772		386772	-25338	-	-6.15%	-				
TOTAL	Published to 2004		AM	93987	87979		87979	-6008	-	-6.39%	-				
			PM	108543	100158		100158	-8385	-	-7.73%	-				
			Total	202530	188137		188137	-14393	-	-7.11%	-				
TOTAL	Published to 2005		AM	127740	125448		125448	-2292	-	-1.79%	-				
			PM	150365	146462		146462	-3903	-	-2.60%	-				
			Total	278105	271910		271910	-6195	-	-2.23%	-				

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APPENDIX R

**2002 COUNTED INTERSECTION CAPACITY UTILIZATION (ICU)
WORKSHEETS**

2. Superior & Placentia

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	379	.237	255	.159*
NBT	2	3200	1342	.419*	512	.160
NBR	1	1600	13	.008	24	.015
SBL	1	1600	54	.034*	41	.026
SBT	2	3200	223	.070	786	.246*
SBR	d	1600	14	.009	11	.007
EBL	1	1600	13	.008	7	.004
EBT	1	1600	319	.199*	184	.115*
EBR	1	1600	286	.179	396	.248
WBL	0.5		17	{.011}*	27	{.017}*
WBT	1.5	3200	237	.093	254	.119
WBR	0		45		99	
Right Turn Adjustment					EBR	.133*
TOTAL CAPACITY UTILIZATION				.663		.670

3. Superior & Coast Hwy

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1.5		270		404	
NBT	1.5	4800	572	.183*	336	.171*
NBR	0		36		81	
SBL	1.5		164		191	
SBT	1.5	4800	145	.064*	343	.111*
SBR	2	3200	187	.058	725	.227
EBL	2	3200	1319	.412	384	.120*
EBT	3	4800	2708	.564*	1083	.226
EBR	d	1600	280	.175	279	.174
WBL	1	1600	43	.027*	190	.119
WBT	4	6400	659	.103	2433	.380*
WBR	d	1600	182	.114	117	.073
Right Turn Adjustment					SBR	.116*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.838		.898

4. Newport & Hospital

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	125	.078	127	.079*
NBT	3	4800	1520	.317*	1453	.303
NBR	1	1600	87	.054	72	.045
SBL	1	1600	43	.027*	42	.026
SBT	3	4800	1007	.210	1826	.380*
SBR	1	1600	337	.211	186	.116
EBL	2	3200	178	.056	257	.080
EBT	1	1600	197	.123*	143	.089*
EBR	1	1600	239	.149	231	.144
WBL	1	1600	73	.046*	158	.099*
WBT	2	3200	301	.097	214	.077
WBR	0	0	10		31	
Right Turn Adjustment			EBR	.026*	EBR	.055*
TOTAL CAPACITY UTILIZATION				.539		.702

5. Newport & Via Lido

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1515	.316*	1100	.229*
NBR	1	1600	19	.012	45	.028
SBL	2	3200	293	.092*	355	.111*
SBT	3	4800	828	.173	1603	.334
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	9	.006*	26	.016*
WBT	0	0	0		0	
WBR	2	3200	312	.098	463	.145
Right Turn Adjustment					WBR	.018*
Note: Assumes Right-Turn Overlap for WBR						
TOTAL CAPACITY UTILIZATION				.414		.374

6. Newport & 32nd

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	18	.011	73	.046
NBT	2	3200	1025	.320*	842	.263*
NBR	d	1600	14	.009	21	.013
SBL	1	1600	54	.034	68	.043
SBT	2	3200	686	.256*	1118	.435*
SBR	0	0	133		273	
EBL	1.5		361		166	
EBT	0.5	3200	39	.125*	24	.059*
EBR	1	1600	13	.008	12	.008
WBL	0.5		41	.026*	18	
WBT	1.5	3200	33	.021	46	.020*
WBR	f		65		72	
Note: Assumes N/S Split Phasing						
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.727		.777

7. Riverside & Coast Hwy

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0.5		2	{.001}*	24	{.015}*
NBT	0.5	1600	1	.002	8	.020
NBR	d	1600	0	.000	8	.005
SBL	0.5		114		65	
SBT	0.5	1600	10	.078*	9	.046*
SBR	1	1600	330	.206	435	.272
EBL	1	1600	327	.204	286	.179*
EBT	2	3200	2380	.748*	1623	.514
EBR	0	0	13		23	
WBL	1	1600	15	.009*	51	.032
WBT	3	4800	1197	.249	3091	.644*
WBR	1	1600	53	.033	36	.023
Right Turn Adjustment					SBR	.047*
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION				.836		.931

8. Tustin & Coast Hwy

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0.5		1	{.001}*	2	{.001}*
NBT	0.5	1600	1	.002	1	.005
NBR	0		1		5	
SBL	0.5		49		60	
SBT	0.5	1600	2	.045*	1	.068*
SBR	0		21		48	
EBL	1	1600	56	.035	80	.050*
EBT	2	3200	2422	.758*	1525	.478
EBR	0	0	2		6	
WBL	0	0	0		0	
WBT	3	4800	1276	.266	2642	.550*
WBR	1	1600	56	.035	72	.045
TOTAL CAPACITY UTILIZATION				.804		.669

9. MacArthur & Campus

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	41	.026	137	.086
NBT	4	6400	1010	.158*	1209	.189*
NBR	1	1600	83	.052	62	.039
SBL	1	1600	277	.173*	152	.095*
SBT	4	6400	1050	.164	1140	.178
SBR	1	1600	244	.153	701	.438
EBL	2	3200	626	.196*	311	.097*
EBT	3	4800	854	.178	408	.085
EBR	d	1600	65	.041	75	.047
WBL	2	3200	62	.019	129	.040
WBT	3	4800	401	.084*	1075	.224*
WBR	f		83		196	
Right Turn Adjustment					SBR	.240*
TOTAL CAPACITY UTILIZATION				.611		.845

10. MacArthur & Birch

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	31	.019	165	.103*
NBT	3	4800	1001	.209*	872	.182
NBR	1	1600	100	.063	55	.034
SBL	1	1600	147	.092*	66	.041
SBT	4	6400	700	.146	999	.196*
SBR	0	0	299	.187	255	
EBL	1.5		191		362	
EBT	1.5	4800	424	.141*	318	.152*
EBR	0		64		51	
WBL	1	1600	39	.024	126	.079
WBT	2	3200	163	.051*	668	.209*
WBR	f		9		162	
TOTAL CAPACITY UTILIZATION				.493		.660

Note: Assumes E/W Split Phasing

11. Von Karman & Campus

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	16	.010	81	.051*
NBT	2	3200	637	.199*	393	.123
NBR	f		31		20	
SBL	1	1600	40	.025*	192	.120
SBT	2	3200	394	.143	843	.347*
SBR	0	0	65		266	
EBL	1	1600	346	.216*	255	.159*
EBT	2	3200	471	.147	563	.176
EBR	1	1600	64	.040	54	.034
WBL	1	1600	68	.043	35	.022
WBT	2	3200	271	.114*	654	.228*
WBR	0	0	93		75	
TOTAL CAPACITY UTILIZATION				.554		.785

12. MacArthur & Von Karman

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	166	.104	55	.034*
NBT	3	4800	1181	.246*	711	.148
NBR	1	1600	445	.278	73	.046
SBL	1	1600	54	.034*	66	.041
SBT	3	4800	483	.101	1037	.216*
SBR	1	1600	196	.123	107	.067
EBL	1	1600	44	.028*	163	.102
EBT	2	3200	148	.046	259	.081*
EBR	f		40		139	
WBL	2	3200	62	.019	635	.198*
WBT	1	1600	189	.118*	199	.124
WBR	f		42		84	
Right Turn Adjustment			NBR	.032*		
TOTAL CAPACITY UTILIZATION				.458		.529

13. Jamboree & Campus

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	185	.116*	127	.079*
NBT	4	6400	1536	.253	1635	.317
NBR	0	0	82		392	
SBL	2	3200	415	.130	292	.091
SBT	3	4800	1571	.375*	2081	.496*
SBR	0	0	228		300	
EBL	2	3200	117	.037	302	.094
EBT	2	3200	153	.048*	605	.189*
EBR	f		22		189	
WBL	2	3200	513	.160*	198	.062*
WBT	2	3200	446	.139	333	.104
WBR	1	1600	132	.083	288	.180
Right Turn Adjustment					WBR	.023*
TOTAL CAPACITY UTILIZATION				.699		.849

14. Jamboree & Birch

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	324	.203*	88	.055*
NBT	3	4800	1630	.340	1427	.298
NBR	0	0	1		1	
SBL	1	1600	1	.001	2	.001
SBT	3	4800	1646	.343*	1827	.381*
SBR	f		824		228	
EBL	1.5		171		524	
EBT	0.5	3200	2	.054*	1	.164*
EBR	f		5		163	
WBL	0	0	9		1	
WBT	1	1600	4	.008*	1	.001*
WBR	10	16000	8	.001	1	.000
Note: Assumes E/W Split Phasing						
Note: Assumes Right-Turn Overlap for WBR						
TOTAL CAPACITY UTILIZATION				.608	.601	

15. Campus & Bristol (N)

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	531	.166	584	.183*
NBT	3	4800	2434	.507*	1205	.251
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	331	.052	1230	.192*
SBR	2	3200	221	.069	1032	.323
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	219	.137	272	.170
WBT	4	6400	1466	.263*	2614	.430*
WBR	0	0	219		141	
Right Turn Adjustment					SBR	.131*
TOTAL CAPACITY UTILIZATION				.770	.936	

16. Birch & Bristol (N)

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	138	.043	176	.055*
NBT	2	3200	1255	.392*	366	.114
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1.5	6400	143	.045	660	.316*
SBR	2.5		145		1362	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		371		523	
WBT	3.5	8000	1372	.270*	1313	.243*
WBR	0		419		104	
TOTAL CAPACITY UTILIZATION				.662		.614

17. Campus/Irvine & Bristol (S)

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	5	8000	1752	.245*	1331	.198*
NBR	0	0	207		254	
SBL	1	1600	101	.063*	209	.131*
SBT	3	4800	449	.094	1293	.269
SBR	0	0	0		0	
EBL	1.5		1213	{.407}*	458	
EBT	2.5	6400	1392	.407	1158	.253*
EBR	2	3200	513	.160	542	.169
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.715		.582

18. Birch & Bristol (S)

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	2.5	6400	524	.123*	254	.079
NBR	1.5		266		319	.100
SBL	2	3200	179	.056*	371	.116
SBT	2	3200	345	.108	812	.254*
SBR	0	0	0		0	
EBL	1.5		882	.276*	238	
EBT	3.5	8000	762	.194	1157	.189*
EBR	0		169		119	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION			.455		.443	

19. Irvine & Mesa

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	83	.052	58	.036*
NBT	2	3200	1331	.416*	610	.191
NBR	d	1600	482	.301	179	.112
SBL	1	1600	11	.007*	11	.007
SBT	2	3200	716	.224	1450	.453*
SBR	d	1600	42	.026	175	.109
EBL	1	1600	176	.110	44	.028
EBT	1	1600	317	.198*	71	.044*
EBR	1	1600	67	.042	173	.108
WBL	1	1600	133	.083*	542	.339*
WBT	2	3200	44	.015	435	.137
WBR	0	0	5		4	
Right Turn Adjustment					EBR	.064*
TOTAL CAPACITY UTILIZATION			.704		.936	

20. Irvine & University

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	202	.126	145	.091*
NBT	2	3200	1813	.567*	807	.252
NBR	1	1600	65	.041	25	.016
SBL	1	1600	82	.051*	33	.021
SBT	2	3200	769	.240	2134	.667*
SBR	1	1600	65	.041	270	.169
EBL	1	1600	284	.178*	117	.073*
EBT	1	1600	107	.067	23	.014
EBR	d	1600	109	.068	187	.117
WBL	1	1600	18	.011	23	.014
WBT	1	1600	30	.019*	72	.045*
WBR	d	1600	19	.012	46	.029
Right Turn Adjustment					EBR	.013*
TOTAL CAPACITY UTILIZATION				.815	.889	

21. Irvine & Santiago

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	71	.044	125	.078*
NBT	2	3200	1416	.444*	890	.284
NBR	0	0	6		19	
SBL	1	1600	48	.030*	72	.045
SBT	2	3200	719	.225	1786	.558*
SBR	d	1600	43	.027	119	.074
EBL	0.5		160	{.100}*	54	{.034}*
EBT	0.5	1600	36	.123	56	.069
EBR	d	1600	82	.051	103	.064
WBL	0.5		21		7	
WBT	0.5	1600	53	.046*	61	.043*
WBR	d	1600	144	.090	72	.045
Right Turn Adjustment			WBR	.044*	WBR	.002*
TOTAL CAPACITY UTILIZATION				.664	.715	

22. Irvine & Highland

Existing (2001/2002) Counts							
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C	
NBL	1	1600	57	.036	95	.059*	
NBT	2	3200	1484	.464*	1001	.313	
NBR	d	1600	14	.009	21	.013	
SBL	1	1600	21	.013*	36	.023	
SBT	2	3200	871	.272	1588	.496*	
SBR	d	1600	23	.014	71	.044	
EBL	0.5		81	{.051}*	23	{.014}*	
EBT	0.5	1600	8	.056	26	.031	
EBR	d	1600	102	.064	37	.023	
WBL	0.5		22		14		
WBT	0.5	1600	26	.030*	31	.028*	
WBR	d	1600	62	.039	32	.020	
Right Turn Adjustment			WBR	.009*			
TOTAL CAPACITY UTILIZATION				.567			.597

23. Irvine & Dover

Existing (2001/2002) Counts							
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C	
NBL	1	1600	36	.023	56	.035*	
NBT	2	3200	1145	.358*	762	.238	
NBR	d	1600	22	.014	20	.013	
SBL	1	1600	162	.101*	193	.121	
SBT	2	3200	676	.211	1362	.426*	
SBR	d	1600	17	.011	60	.038	
EBL	1	1600	97	.061	53	.033*	
EBT	1	1600	153	.114*	106	.084	
EBR	0	0	29		29		
WBL	1	1600	22	.014*	36	.023	
WBT	1	1600	101	.063	225	.141*	
WBR	1	1600	324	.203	227	.142	
Right Turn Adjustment			WBR	.136*	WBR	.001*	
TOTAL CAPACITY UTILIZATION				.723			.636

24. Irvine & Westcliff

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	236	.074	298	.093*
NBT	2	3200	729	.228*	473	.148
NBR	d	1600	26	.016	32	.020
SBL	2	3200	176	.055*	128	.040
SBT	2	3200	573	.179	757	.237*
SBR	d	1600	115	.072	444	.278
EBL	2	3200	393	.123*	304	.095*
EBT	2	3200	524	.202	559	.248
EBR	0	0	123		233	
WBL	1	1600	32	.020	95	.059
WBT	2	3200	460	.161*	891	.301*
WBR	0	0	55		73	
Right Turn Adjustment					SBR	.041*
TOTAL CAPACITY UTILIZATION				.567	.767	

25. Dover & Westcliff

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	333	.104*	860	.269*
NBT	2	3200	377	.118	576	.180
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	397	.248*	251	.157*
SBR	1	1600	51	.032	39	.024
EBL	2	3200	79	.025*	158	.049*
EBT	0	0	0		0	
EBR	f		574		930	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.377	.475	

26. Dover & 16th

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	81	.051*	189	.118
NBT	2	3200	752	.235	1188	.371*
NBR	d	1600	15	.009	64	.040
SBL	1	1600	46	.029	52	.033*
SBT	2	3200	1048	.328*	848	.265
SBR	d	1600	28	.018	50	.031
EBL	0.5		16		18	
EBT	0.5	1600	10	.016*	27	.028*
EBR	d	1600	235	.147	230	.144
WBL	1	1600	39	.024*	40	.025*
WBT	1	1600	14	.009	27	.017
WBR	1	1600	52	.033	46	.029
Right Turn Adjustment			Multi	.134*	EBR	.116*
TOTAL CAPACITY UTILIZATION				.553		.573

27. Dover & Coast Hwy

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	33	.021	17	.011
NBT	1	1600	59	.037*	60	.038*
NBR	1	1600	36	.023	25	.016
SBL	3	4800	728	.152*	921	.192*
SBT	1	1600	38	.024	60	.038
SBR	1	1600	67	.042	141	.088
EBL	2	3200	66	.021	68	.021*
EBT	3	4800	2283	.483*	1683	.354
EBR	0	0	33		18	
WBL	1	1600	46	.029*	80	.050
WBT	3	4800	1306	.272	2367	.493*
WBR	f		620		1265	
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.701		.744

28. Bayside & Coast Hwy

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2.5		380		428	
NBT	0.5	4800	9	.090*	7	.103*
NBR	0		42		57	
SBL	1	1600	19	.012*	34	.021*
SBT	1	1600	8	.005	12	.008
SBR	d	1600	36	.023	57	.036
EBL	1	1600	41	.026	73	.046*
EBT	3	4800	2612	.544*	2030	.423
EBR	1	1600	393	.246	490	.306
WBL	1	1600	47	.029*	79	.049
WBT	4	6400	1536	.243	3256	.515*
WBR	0	0	18		39	
Right Turn Adjustment			SBR	.011*	SBR	.015*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.686		.700

29. MacArthur & Jamboree

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	239	.149	280	.175*
NBT	3	4800	1784	.449*	534	.167
NBR	0	0	373		283	.177
SBL	1	1600	111	.069*	220	.138
SBT	3	4800	300	.063	1414	.295*
SBR	f		107		376	
EBL	2	3200	444	.139	205	.064
EBT	3	4800	1374	.286*	1164	.243*
EBR	f		144		91	
WBL	2	3200	238	.074*	629	.197*
WBT	3	4800	809	.169	1321	.275
WBR	f		148		141	
TOTAL CAPACITY UTILIZATION				.878		.910

30. Jamboree & Bristol (N)

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	1077	.337	857	.268*
NBT	3	4800	2644	.551*	2294	.478
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2.5	6400	589	.182	1287	.317*
SBR	1.5		575		741	
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	
TOTAL CAPACITY UTILIZATION				.551		.585

31. Bayview Place & Bristol (S)

Existing (2001/2002) Counts						
	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	77	.024	361	.113
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*	2851	.445*
EBR	1	1600	123	.077	15	.009
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.024*	NBR	.113*
TOTAL CAPACITY UTILIZATION				.477		.558

32. Jamboree & Bristol (S)

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	5	8000	1992	.255*	2225	.290*
NBR	0	0	48		92	
SBL	0	0	0		0	
SBT	3	4800	560	.117	1310	.273
SBR	0	0	0		0	
EBL	1.5		1569	.490*	928	{.431}*
EBT	1.5	4800	375	.234	1141	.431
EBR	2	3200	1037	.324	1143	.357
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.745	.721	

33. Jamboree & Bayview Way

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	120	.075	57	.036
NBT	4	6400	1884	.303*	2135	.342*
NBR	0	0	56		52	
SBL	1	1600	78	.049*	104	.065*
SBT	4	6400	1381	.216	2285	.357
SBR	1	1600	164	.103	66	.041
EBL	2	3200	41	.013*	87	.027*
EBT	1	1600	9	.006	13	.008
EBR	1	1600	37	.023	136	.085
WBL	1	1600	9	.006	32	.020
WBT	1	1600	1	.001*	7	.004*
WBR	1	1600	40	.025	93	.058
Right Turn Adjustment			Multi	.039*	Multi	.128*
TOTAL CAPACITY UTILIZATION				.405	.566	

34. Jamboree & Eastbluff/Univ.

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	56	.035	47	.029
NBT	3	4800	1441	.300*	1864	.388*
NBR	1	1600	151	.094	302	.189
SBL	2	3200	93	.029*	253	.079*
SBT	3	4800	1057	.220	1837	.383
SBR	1	1600	276	.173	360	.225
EBL	1.5		525		207	
EBT	0.5	3200	105	.197*	98	.095*
EBR	1	1600	4	.003	5	.003
WBL	1.5		237	.074*	245	.077*
WBT	1.5	4800	113	.071	93	.058
WBR	f		201		168	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.600		.639

35. Jamboree & Bison

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1488	.310*	1895	.395*
NBR	d	1600	249	.156	160	.100
SBL	2	3200	82	.026*	122	.038*
SBT	3	4800	1216	.253	1724	.359
SBR	1	1600	46	.029	87	.054
EBL	1	1600	106	.066*	34	.021*
EBT	0	0	0		0	
EBR	1	1600	83	.052	15	.009
WBL	2	3200	127	.040*	187	.058*
WBT	0	0	0		0	
WBR	2	3200	162	.051	159	.050
Right Turn Adjustment			WBR	.011*		
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.453		.512

36. Jamboree & Eastbluff/Ford

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3200	400	.125*	378	.118*
NBT	3	4800	1528	.338	1976	.444
NBR	0	0	95		154	
SBL	1	1600	48	.030	52	.033
SBT	3	4800	1465	.305*	1922	.400*
SBR	1	1600	46	.029	103	.064
EBL	1	1600	176	.110*	49	.031
EBT	1	1600	175	.109	110	.069*
EBR	f		420		333	
WBL	1.5		165	.103	166	
WBT	1.5	4800	468	.146*	139	.064*
WBR	1	1600	66	.041	23	.014
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.686		.651

37. Jamboree & San Joaquin Hills

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	28	.018	74	.046
NBT	3	4800	1149	.239*	1540	.321*
NBR	f		129		93	
SBL	2	3200	669	.209*	507	.158*
SBT	3	4800	1221	.254	1943	.405
SBR	1	1600	41	.026	200	.125
EBL	1.5		276	.086*	91	.028*
EBT	1.5	4800	51	.032	28	.018
EBR	1	1600	50	.031	38	.024
WBL	2	3200	69	.022*	205	.064*
WBT	1	1600	11	.007	54	.034
WBR	f		418		790	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.556		.571

38. Jamboree & Santa Barbara

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	3	.002	13	.008
NBT	3	4800	1338	.279*	1372	.286*
NBR	1	1600	188	.118	75	.047
SBL	2	3200	370	.116*	263	.082*
SBT	3	4800	887	.185	1655	.345
SBR	1	1600	2	.001	27	.017
EBL	1	1600	58	.036*	24	.015*
EBT	1	1600	6	.024	5	.013
EBR	0	0	33		15	
WBL	1.5		65		422	
WBT	0.5	3200	1	.021*	15	.137*
WBR	1	1600	60	.038	401	.251
Right Turn Adjustment			WBR	.017*	WBR	.114*
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.469		.634

39. Jamboree & Coast Hwy

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	29	.018	27	.017
NBT	2	3200	483	.178*	259	.100*
NBR	0	0	88		60	
SBL	1	1600	177	.111*	237	.148*
SBT	2	3200	270	.084	626	.196
SBR	f		640		1855	
EBL	3	4800	1047	.218*	682	.142*
EBT	4	6400	1986	.313	1473	.235
EBR	0	0	14		32	
WBL	2	3200	123	.038	254	.079
WBT	4	6400	1134	.177*	2241	.350*
WBR	f		106		130	
TOTAL CAPACITY UTILIZATION				.684		.740

40. Santa Cruz & San Joaquin H.

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	98	.031*	443	.138*
NBT	1	1600	4	.015	14	.112
NBR	0	0	20		165	
SBL	1	1600	19	.012	9	.006
SBT	1	1600	6	.004*	4	.003*
SBR	1	1600	72	.045	58	.036
EBL	1	1600	61	.038	107	.067*
EBT	3	4800	464	.145*	311	.097
EBR	0	0	247	.154	214	.134
WBL	1	1600	205	.128*	31	.019
WBT	3	4800	300	.068	520	.114*
WBR	0	0	27		26	
Right Turn Adjustment			Multi	.050*	SBR	.033*
TOTAL CAPACITY UTILIZATION				.358		.355

41. Santa Rosa & San Joaquin H.

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	39	.024	194	.121*
NBT	1	1600	16	.010*	27	.017
NBR	1	1600	112	.070	504	.315
SBL	1	1600	98	.061*	89	.056
SBT	1	1600	23	.014	15	.009*
SBR	1	1600	35	.022	59	.037
EBL	1	1600	43	.027	51	.032
EBT	3	4800	275	.082*	497	.121*
EBR	0	0	117		86	
WBL	2	3200	545	.170*	343	.107*
WBT	3	4800	462	.118	208	.062
WBR	0	0	104		90	
Right Turn Adjustment					Multi	.162*
Note: Assumes Right-Turn Overlap for NBR						
TOTAL CAPACITY UTILIZATION				.323		.520

42. Newport Center & Coast Hwy

Existing (2001/2002) Counts						
	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	23	.007*	258	.081*
SBT	0	0	0		0	
SBR	f		67		720	
EBL	2	3200	501	.157*	295	.092*
EBT	3	4800	1639	.341	1437	.299
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1123	.234*	1672	.348*
WBR	f		180		123	
TOTAL CAPACITY UTILIZATION			.398		.521	

44. Avocado & San Miguel

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	121	.076	95	.059
NBT	1	1600	145	.091*	39	.024*
NBR	1	1600	149	.093	566	.354
SBL	1	1600	43	.027*	240	.150*
SBT	1	1600	44	.028	170	.106
SBR	1	1600	19	.012	8	.005
EBL	1	1600	10	.006*	13	.008
EBT	2	3200	121	.048	559	.213*
EBR	0	0	32		124	
WBL	2	3200	478	.149	341	.107*
WBT	2	3200	451	.205*	512	.174
WBR	0	0	206		45	
Right Turn Adjustment					NBR	.223*
Note: Assumes Right-Turn Overlap for SBR NBR						
TOTAL CAPACITY UTILIZATION			.329		.717	

45. Avocado & Coast Hwy

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	107	.067*	133	.083*
NBT	1	1600	100	.063	88	.055
NBR	1	1600	113	.071	127	.079
SBL	1.5		68		355	
SBT	0.5	3200	56	.039*	141	.155*
SBR	1	1600	45	.028	298	.186
EBL	1	1600	303	.189*	142	.089
EBT	3	4800	1340	.279	1499	.312*
EBR	d	1600	55	.034	65	.041
WBL	1	1600	153	.096	121	.076*
WBT	3	4800	1323	.276*	1417	.295
WBR	1	1600	141	.088	100	.063
Right Turn Adjustment			NBR	.004*	SBR	.031*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.575		.657

46. SR-73 NB Ramps & Bison

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1.5		117	{.063}*	92	.029*
NBT	0	4800	0	.063	0	
NBR	1.5		185		29	.018
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1600	12	.008	6	.004*
EBT	2	3200	793	.248*	364	.114
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	89	.028	397	.124*
WBR	1	1600	148	.093	543	.339
Right Turn Adjustment					WBR	.215*
TOTAL CAPACITY UTILIZATION				.311		.372

47. SR-73 SB Ramps & Bison

Existing (2001/2002) Counts						
	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	611	.191*	178	.056*
SBT	0	0	0		0	
SBR	f		24		30	
EBL	0	0	0		0	
EBT	2	3200	195	.061*	157	.049
EBR	1	1600	50	.031	102	.064
WBL	2	3200	21	.007*	145	.045
WBT	2	3200	187	.058	352	.110*
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.259		.166

48. MacArthur & Bison

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	297	.093	216	.068*
NBT	4	6400	3182	.497*	2230	.348
NBR	f		145		101	
SBL	2	3200	35	.011*	28	.009
SBT	4	6400	2309	.361	2704	.423*
SBR	1	1600	286	.179	300	.188
EBL	2	3200	245	.077*	185	.058*
EBT	2	3200	182	.057	120	.038
EBR	f		177		198	
WBL	2	3200	179	.056	168	.053
WBT	2	3200	152	.048*	162	.051*
WBR	1	1600	31	.019	20	.013
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION				.633		.600

49. MacArhtur & Ford/Bonita Cyn

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	140	.044	74	.023
NBT	4	6400	1934	.302*	2074	.324*
NBR	f		105		546	
SBL	2	3200	508	.159*	1232	.385*
SBT	4	6400	2521	.394	2137	.334
SBR	f		12		62	
EBL	2	3200	46	.014	9	.003
EBT	2	3200	221	.069*	289	.090*
EBR	1	1600	84	.053	113	.071
WBL	2	3200	573	.179*	321	.100*
WBT	2	3200	505	.158	275	.086
WBR	f		1427		544	
TOTAL CAPACITY UTILIZATION				.709		.899

50. MacArthur & San Joaquin H.

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	66	.021	25	.008
NBT	3	4800	1466	.305*	1811	.377*
NBR	1	1600	7	.004	19	.012
SBL	2	3200	548	.171*	753	.235*
SBT	3	4800	1600	.333	1774	.370
SBR	f		1034		446	
EBL	2	3200	151	.047*	801	.250*
EBT	3	4800	232	.056	464	.113
EBR	0	0	37		76	
WBL	1	1600	17	.011	17	.011
WBT	2	3200	371	.116*	204	.064*
WBR	f		953		396	
TOTAL CAPACITY UTILIZATION				.639		.926

51. MacArthur & San Miguel

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	104	.033	122	.038*
NBT	3	4800	1368	.285*	985	.205
NBR	1	1600	238	.149	330	.206
SBL	2	3200	4	.001*	10	.003
SBT	3	4800	931	.194	1310	.273*
SBR	1	1600	717	.448	551	.344
EBL	2	3200	158	.049*	876	.274*
EBT	2	3200	98	.049	397	.166
EBR	0	0	59		135	
WBL	2	3200	227	.071	187	.058
WBT	2	3200	265	.083*	222	.069*
WBR	d	1600	15	.009	30	.019
Right Turn Adjustment			SBR	.146*		
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION				.564		.654

52. MacArthur & Coast Hwy

Existing (2001/2002) Counts						
	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	486	.152*	783	.245*
SBT	0	0	0		0	
SBR	f		309		559	
EBL	2	3200	615	.192*	519	.162*
EBT	3	4800	876	.183	1359	.283
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1203	.251*	1459	.304*
WBR	f		904		648	
TOTAL CAPACITY UTILIZATION				.595		.711

53. SR-73 NB Ramps & Bonita Cyn

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	454	.142*	114	.036*
NBT	0	0	0		0	
NBR	1	1600	105	.066	24	.015
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	416	.260	565	.353*
EBR	1	1600	50	.031	40	.025
WBL	1	1600	199	.124	66	.041*
WBT	1	1600	653	.408*	593	.371
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.550		.430

54. SR-73 SB Ramps & Bonita Cyn

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	32	.010*	63	.020*
NBT	0	0	0		0	
NBR	1	1600	82	.051	100	.063
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	1	1600	369	.231*	516	.323*
EBR	1	1600	123	.077	395	.247
WBL	2	3200	46	.014*	66	.021*
WBT	3	4800	1084	.226	648	.135
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.041*	NBR	.043*
TOTAL CAPACITY UTILIZATION				.296		.407

55. Spyglass Hill & San Miguel

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0.5		34		23	{.014}*
NBT	0.5	1600	41	.047*	16	.024
NBR	d	1600	181	.113	153	.096
SBL	0.5		35	{.022}*	19	
SBT	0.5	1600	33	.043	26	.028*
SBR	1	1600	38	.024	32	.020
EBL	1	1600	48	.030	63	.039
EBT	2	3200	228	.071*	348	.109*
EBR	d	1600	30	.019	45	.028
WBL	1	1600	113	.071*	148	.093*
WBT	2	3200	264	.083	273	.085
WBR	d	1600	25	.016	30	.019
Right Turn Adjustment			NBR	.066*	NBR	.066*
TOTAL CAPACITY UTILIZATION				.277	.310	

56. San Miguel & San Joaquin H.

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	10	.006	5	.003
NBT	2	3200	236	.095*	483	.218*
NBR	0	0	68		216	
SBL	1	1600	66	.041*	125	.078*
SBT	2	3200	402	.126	234	.073
SBR	1	1600	340	.213	133	.083
EBL	2	3200	290	.091*	430	.134
EBT	3	4800	490	.105	635	.134*
EBR	0	0	12		9	
WBL	1	1600	266	.166	175	.109*
WBT	3	4800	990	.214*	403	.097
WBR	0	0	39		62	
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION				.441	.539	

57. Goldenrod & Coast Hwy

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	112	.070*	84	.053*
NBT	1	1600	0	.015	0	.013
NBR	0	0	24		21	
SBL	0.5		61		36	
SBT	0.5	1600	0	.076*	0	.039*
SBR	0		60		27	
EBL	1	1600	30	.019*	33	.021
EBT	2	3200	1003	.313	1869	.584*
EBR	d	1600	43	.027	53	.033
WBL	1	1600	42	.026	22	.014*
WBT	2	3200	2633	.823*	1658	.518
WBR	d	1600	13	.008	13	.008
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.988		.690

58. Marguerite & San Joaquin H.

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1.5		296		182	
NBT	0.5	3200	46	.107*	57	.075*
NBR	1	1600	19	.012	44	.028
SBL	1	1600	51	.032	68	.043
SBT	1	1600	41	.046*	52	.061*
SBR	0	0	33		45	
EBL	1	1600	21	.013*	48	.030
EBT	2	3200	262	.082	547	.171*
EBR	1	1600	124	.078	346	.216
WBL	1	1600	23	.014	69	.043*
WBT	3	4800	676	.141*	385	.080
WBR	d	1600	64	.040	19	.012
Note: Assumes N/S Split Phasing						
Note: Assumes Right-Turn Overlap for EBR						
TOTAL CAPACITY UTILIZATION				.307		.350

59. Marguerite & Coast Hwy

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	118	.074*	152	.095*
NBT	1	1600	103	.094	87	.082
NBR	0	0	48		44	
SBL	1	1600	58	.036	93	.058
SBT	1	1600	54	.095*	119	.121*
SBR	0	0	98		75	
EBL	1	1600	87	.054*	101	.063
EBT	2	3200	1114	.348	1788	.559*
EBR	1	1600	57	.036	87	.054
WBL	1	1600	29	.018	76	.048*
WBT	2	3200	1923	.605*	1419	.453
WBR	0	0	14		31	
TOTAL CAPACITY UTILIZATION				.828		.823

60. Spyglass H. & San Joaquin H.

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	60	.038	49	.031
NBT	1	1600	4	.014*	3	.021*
NBR	0	0	19		31	
SBL	1	1600	56	.035*	36	.023*
SBT	1	1600	1	.001	2	.001
SBR	d	1600	191	.119	88	.055
EBL	1	1600	91	.057*	176	.110*
EBT	2	3200	410	.128	581	.182
EBR	1	1600	22	.014	55	.034
WBL	1	1600	10	.006	3	.002
WBT	2	3200	730	.228*	333	.104*
WBR	d	1600	60	.038	63	.039
Right Turn Adjustment			SBR	.108*	SBR	.042*
TOTAL CAPACITY UTILIZATION				.442		.300

61. Poppy & Coast Hwy

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	15	.009*	44	.028*
NBT	1	1600	8	.014	9	.040
NBR	0	0	14		55	
SBL	0	0	41		100	
SBT	1	1600	5	.031*	6	.076*
SBR	0	0	4		15	
EBL	1	1600	3	.002*	23	.014
EBT	2	3200	1098	.347	1654	.526*
EBR	0	0	11		29	
WBL	1	1600	14	.009	26	.016*
WBT	2	3200	1808	.571*	1435	.453
WBR	0	0	19		13	
TOTAL CAPACITY UTILIZATION				.613		.646

62. Newport Coast & SR-73 NB

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	1	1600	601	.376*	432	.270*
NBR	f		504		211	
SBL	0	0	0		0	
SBT	1	1600	295	.184	415	.259
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		165		100	
WBT	0	3200	0	.070*	0	.043*
WBR	0.5		59		38	
TOTAL CAPACITY UTILIZATION				.446		.313

64. Newport Coast & San Joaquin

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	64	.020	95	.030*
NBT	3	4800	867	.181*	424	.088
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	4800	529	.110	687	.143*
SBR	1	1600	63	.039	215	.134
EBL	1	1600	305	.191*	185	.116*
EBT	0	0	0		0	
EBR	2	3200	98	.031	22	.007
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Note: Assumes Right-Turn Overlap for EBR						
TOTAL CAPACITY UTILIZATION			.372		.289	

65. Newport Coast & Coast Hwy

Existing (2001/2002) Counts						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	4	.003*	9	.006*
NBT	1	1600	1	.001	2	.001
NBR	1	1600	3	.002	11	.007
SBL	2	3200	212	.066*	603	.188*
SBT	1	1600	1	.001	3	.002
SBR	f		151		147	
EBL	1	1600	175	.109*	100	.063
EBT	3	4800	767	.160	1429	.298*
EBR	1	1600	6	.004	10	.006
WBL	1	1600	7	.004	7	.004*
WBT	3	4800	1414	.295*	1067	.222
WBR	f		569		191	
Right Turn Adjustment					NBR	.001*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION			.473		.497	

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APPENDIX S

EXISTING FREEWAY MAINLINE ANALYSIS

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	8733	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2373	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	3401	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	3401	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	4600	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1250	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1792	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1792	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.0	mi/h
Number of lanes, N	3	
Density, D	28.0	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	2817	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	765	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1097	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1097	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	16.9	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	7445	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2023	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fhv	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2900	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2900	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	9368	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2546	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	3649	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	3649	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	4935	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1341	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1922	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1922	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	62.6	mi/h
Number of lanes, N	3	
Density, D	30.7	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3022	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	821	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1177	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1177	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	18.1	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	7986	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2170	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	3110	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	3110	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	11909	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	3236	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fhv	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	4638	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	4638	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	6273	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1705	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2443	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2443	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3841	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1044	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1496	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1496	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	23.0	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10152	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2759	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	3954	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	3954	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Jamboree to Bonita Canyon
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5002	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1359	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1948	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1948	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	62.3	mi/h
Number of lanes, N	3	
Density, D	31.3	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Jamboree to Bonita Canyon
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	2635	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	716	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1026	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1026	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	15.8	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Jamboree to Bonita Canyon
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	1613	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	438	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	628	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	628	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	9.7	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Jamboree to Bonita Canyon
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	4264	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1159	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1661	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1661	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.7	mi/h
Number of lanes, N	3	
Density, D	25.7	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5319	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1445	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1554	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1554	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	4	
Density, D	23.9	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	2802	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	761	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	819	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	819	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	4	
Density, D	12.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	1716	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	466	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	501	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	501	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	4	
Density, D	7.7	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V 4535 veh/h
 Peak-hour factor, PHF 0.92
 Peak 15-min volume, v15 1232 v
 Trucks and buses 5 %
 Recreational vehicles 0 %
 Terrain type: Rolling
 Grade 0.00 %
 Segment length 0.00 mi
 Trucks and buses PCE, ET 2.5
 Recreational vehicle PCE, ER 2.0
 Heavy vehicle adjustment, fHV 0.930
 Driver population factor, fp 1.00
 Flow rate, vp 1325 pc/h/ln

Speed Inputs and Adjustments

Lane width 12.0 ft
 Right-shoulder lateral clearance 6.0 ft
 Interchange density 0.50 interchange/mi
 Number of lanes, N 4
 Free-flow speed: Measured
 FFS or BFFS 65.0 mi/h
 Lane width adjustment, fLW 0.0 mi/h
 Lateral clearance adjustment, fLC 0.0 mi/h
 Interchange density adjustment, fID 0.0 mi/h
 Number of lanes adjustment, fN 1.5 mi/h
 Free-flow speed, FFS 65.0 mi/h
 Urban Freeway

LOS and Performance Measures

Flow rate, vp 1325 pc/h/ln
 Free-flow speed, FFS 65.0 mi/h
 Average passenger-car speed, S 65.0 mi/h
 Number of lanes, N 4
 Density, D 20.4 pc/mi/ln
 Level of service, LOS C

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5240	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1424	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2041	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2041	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	60.7	mi/h
Number of lanes, N	3	
Density, D	33.6	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	2760	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	750	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1075	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1075	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	16.5	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	1690	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	459	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fhV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	658	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	658	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	10.1	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
Agency or Company: Urban Crossroads
Date Performed: 12/20/2005
Analysis Time Period: PM
Freeway/Direction: SR-73/Southbound
From/To: Newport Coast to Toll Plaza
Jurisdiction:
Analysis Year: Existing
Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	4467	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1214	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1740	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1740	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.3	mi/h
Number of lanes, N	3	
Density, D	27.0	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

APPENDIX T

EXISTING FREEWAY RAMP ANALYSIS

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bristol St.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	11909	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	45.0	mph
Volume on ramp	1096	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	559	vph
Position of adjacent ramp	Upstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1720	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	11909	1096	559 vph

T3

Peak-hour factor, PHF	0.92	0.92	0.92	
Peak 15-min volume, v ₁₅	3236	298	152	v
Trucks and buses	5	5	5	%
Recreational vehicles	0	0	0	%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	2.5	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	0.930	
Driver population factor, f _P	1.00	1.00	1.00	
Flow rate, v _p	13915	1281	653	pcph

Estimation of V12 Diverge Areas

L = 1337.02 (Equation 25-8 or 25-9)

EQ

P = 0.353 Using Equation 5

FD

$v = v + (v - v)P = 5743$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	13915	7050	Yes
Fi F			
v	5743	4400	Yes
12			
v = v - v	12634	7050	Yes
FO F R			
v	1281	2100	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 53.6$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, $D = 0.413$

S

Space mean speed in ramp influence area, $S = 55$ mph

R

Space mean speed in outer lanes, $S = 43.3$ mph

0

Space mean speed for all vehicles, $S = 47.6$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/13/2005
Analysis time period: PM
Freeway/dir or travel: SR-73/Northbound
Junction: Bristol St.
Jurisdiction:
Analysis Year: Existing
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	6273	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	45.0	mph
Volume on ramp	544	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	597	vph
Position of adjacent ramp	Upstream	
Type of adjacent ramp	On	
Distance to adjacent ramp	1720	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	6273	544	597

75

Peak-hour factor, PHF	0.92	0.92	0.92	
Peak 15-min volume, v ₁₅	1705	148	162	v
Trucks and buses	5	5	5	%
Recreational vehicles	0	0	0	%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	2.5	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	2.0	
Heavy vehicle adjustment, fHV	0.930	0.930	0.930	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, v _p	7330	636	698	pcph

Estimation of V12 Diverge Areas

L = 2424.23 (Equation 25-8 or 25-9)

EQ

P = 0.676 Using Equation 6

FD

$v = v + (v - v) P = 5163$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	7330	7050	Yes
F _i F			
v	5163	4400	Yes
12			
v = v - v	6694	7050	No
F _O F R			
v	636	2100	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 48.7$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, $D = 0.355$

S

Space mean speed in ramp influence area, $S = 57$ mph

R

Space mean speed in outer lanes, $S = 66.8$ mph

O

Space mean speed for all vehicles, $S = 59.4$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 E-mail: _____

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Bristol St.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	3841	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-Flow speed on ramp	45.0	mph
Volume on ramp	1632	vph
Length of first accel/decel lane	2725	ft
Length of second accel/decel lane	0	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	3841	1632	vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1044	443		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, vp	4488	1907		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.450 Using Equation 0

FD

$v = v + (v - v) P = 3068$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	4488	7050	No
Fi F			
v	3068	4400	No
12			
v = v - v	2581	7050	No
FO F R			
v	1907	4100	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = -18.4$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable, $D = 0.470$

S

Space mean speed in ramp influence area, $S = 54$ mph

R

Space mean speed in outer lanes, $S = 69.7$ mph

0

Space mean speed for all vehicles, $S = 58.3$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Bristol St.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	10152	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-Flow speed on ramp	45.0	mph
Volume on ramp	941	vph
Length of first accel/decel lane	2725	ft
Length of second accel/decel lane	0	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	10152	941	vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	2759	256		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	11862	1100		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)
 EQ
 P = 0.450 Using Equation 0
 FD
 $v = v + (v - v) P = 5943$ pc/h
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v F _i F	11862	7050	Yes
v 12	5943	4400	Yes
v = v - v F _O F R	10762	7050	Yes
v R	1100	4100	No

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 6.3$ pc/mi/ln
 R 12 D

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, $D = 0.397$
 S
 Space mean speed in ramp influence area, $S = 56$ mph
 R
 Space mean speed in outer lanes, $S = 52.1$ mph
 0
 Space mean speed for all vehicles, $S = 53.9$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Jamboree Rd.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	5002	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	15.0	mph
Volume on ramp	559	vph
Length of first accel/decel lane	120	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	1096	vph
Position of adjacent Ramp	Downstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1720	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	5002	559	1096 vph

T //

Peak-hour factor, PHF	0.92	0.92	0.92	
Peak 15-min volume, v ₁₅	1359	152	298	v
Trucks and buses	5	5	5	%
Recreational vehicles	0	0	0	%
Terrain type:	Rolling	Rolling	Rolling	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	2.5	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	0.930	
Driver population factor, f _P	1.00	1.00	1.00	
Flow rate, v _p	5845	653	1281	pcph

Estimation of V12 Merge Areas

L = 10462.27 Equation 25-2 or 25-3)
 EQ
 P = 0.744 Using Equation 3
 FM
 $v = v(P) = 4351$ pc/h
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	6498	7050	No
FO			
v	5004	4600	Yes
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 43.5$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, $M = 0.899$
 S
 Space mean speed in ramp influence area, $S = 44.3$ mph
 R
 Space mean speed in outer lanes, $S = 61.4$ mph
 0
 Space mean speed for all vehicles, $S = 47.4$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Jamboree Rd.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2635	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	15.0	mph
Volume on ramp	597	vph
Length of first accel/decel lane	120	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	544	vph
Position of adjacent Ramp	Downstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1720	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2635	597	544

713

Peak-hour factor, PHF	0.92	0.92	0.92	
Peak 15-min volume, v ₁₅	716	162	148	v
Trucks and buses	5	5	5	%
Recreational vehicles	0	0	0	%
Terrain type:	Rolling	Rolling	Rolling	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	2.5	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	2.0	
Heavy vehicle adjustment, fHV	0.930	0.930	0.930	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, v _p	3079	698	636	pcph

Estimation of V12 Merge Areas

L = 5194.38 (Equation 25-2 or 25-3)

EQ

P = 0.646 Using Equation 3

FM

v = v (P) = 1989 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	3777	7050	No
FO			
v	2687	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 25.4$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, M = 0.375

S

Space mean speed in ramp influence area, S = 56.4 mph

R

Space mean speed in outer lanes, S = 62.9 mph

0

Space mean speed for all vehicles, S = 58.1 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Jamboree Rd.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	3841	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	40.0	mph
Volume on ramp	578	vph
Length of first accel/decel lane	1700	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	2026	vph
Position of adjacent Ramp	Downstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1700	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	3841	578	2026

T 15

Peak-hour factor, PHF	0.92	0.92	0.92	
Peak 15-min volume, v ₁₅	1044	157	551	v
Trucks and buses	5	5	5	%
Recreational vehicles	0	0	0	%
Terrain type:	Rolling	Rolling	Rolling	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	2.5	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	0.930	
Driver population factor, f _P	1.00	1.00	1.00	
Flow rate, v _p	4488	675	2367	pcph

Estimation of V12 Merge Areas

$L = 8120.07$ (Equation 25-2 or 25-3)
 EQ
 $P = 0.915$ Using Equation 3
 FM
 $v = v(P) = 4105$ pc/h
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	5163	7050	No
v _{R12}	4780	4600	Yes

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 31.8$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable,	$M = 0.650$
Space mean speed in ramp influence area,	$S = 50.1$ mph
Space mean speed in outer lanes,	$S = 65.0$ mph
Space mean speed for all vehicles,	$S = 50.9$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: PM
Freeway/dir or travel: SR-73/Southbound
Junction: Jamboree Rd.
Jurisdiction:
Analysis Year: Existing
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	10152	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	40.0	mph
Volume on ramp	1203	vph
Length of first accel/decel lane	1700	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent Ramp	1882	vph
Position of adjacent Ramp	Downstream	
Type of adjacent Ramp	Off	
Distance to adjacent Ramp	1700	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	10152	1203	1882 vph

T 17

Peak-hour factor, PHF	0.92	0.92	0.92	
Peak 15-min volume, v ₁₅	2759	327	511	v
Trucks and buses	5	5	5	%
Recreational vehicles	0	0	0	%
Terrain type:	Rolling	Rolling	Rolling	
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	2.5	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	2.0	
Heavy vehicle adjustment, fHV	0.930	0.930	0.930	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, v _p	11862	1406	2199	pcph

Estimation of V12 Merge Areas

L = 7543.74 (Equation 25-2 or 25-3)

EQ

P = 0.889 Using Equation 3

FM

$v = v(P) = 10541$ pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	13268	7050	Yes
FO			
v	11947	4600	Yes
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 87.4$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, $M = 602.163$

S

Space mean speed in ramp influence area, $S =$ mph

R

Space mean speed in outer lanes, $S = 62.0$ mph

0

Space mean speed for all vehicles, $S = 623.2$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 E-mail: _____

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: MacArthur Bl.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	5002	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	1598	vph
Length of first accel/decel lane	1480	ft
Length of second accel/decel lane	0	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	5002	1598	vph

T19

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1359	434		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	5845	1867		pcph

Estimation of V₁₂ Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.450 Using Equation 0

FD

$v = v + (v - v)P = 3657$ pc/h
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	5845	7050	No
F _i F			
v	3657	4400	No
12			
v = v - v	3978	7050	No
F _O F R			
v	1867	3800	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 9.1$ pc/mi/ln
 R 12 D

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable, $D = 0.661$

S

Space mean speed in ramp influence area, $S = 50$ mph

R

Space mean speed in outer lanes, $S = 66.7$ mph

O

Space mean speed for all vehicles, $S = 55.0$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: MacArthur Bl.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2635	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	176	vph
Length of first accel/decel lane	1480	ft
Length of second accel/decel lane	0	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2635	176	vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	716	48		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	0.00		%
Length	0.00	0.00		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	3079	206		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.450 Using Equation 0

FD

$v = v + (v - v)P = 1499$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	3079	7050	No
Fi F			
v	1499	4400	No
12			
v = v - v	2873	7050	No
FO F R			
v	206	3800	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = -9.5$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable, $D = 0.512$

S

Space mean speed in ramp influence area, $S = 53$ mph

R

Space mean speed in outer lanes, $S = 69.0$ mph

0

Space mean speed for all vehicles, $S = 60.3$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: MacArthur Bl.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	5002	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	50.0	mph	
Volume on ramp	1636	vph	
Length of first accel/decel lane	340	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
	Ramp		
Volume, V (vph)	5002	1636	vph

T23

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1359	445	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	5845	1912	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.587 Using Equation 1

FM

v = v₁₂ (P) = 3431 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	7757	7050	Yes
v _{R12}	5343	4600	Yes

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 44.1$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, M = 1.103

S

Space mean speed in ramp influence area, S = 39.6 mph

R

Space mean speed in outer lanes, S = 57.8 mph

0

Space mean speed for all vehicles, S = 43.9 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: MacArthur Bl.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2635	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	50.0	mph
Volume on ramp	1883	vph
Length of first accel/decel lane	340	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2635	1883	vph

T25

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	716	512	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, fHV	0.930	0.930	
Driver population factor, fP	1.00	1.00	
Flow rate, v _p	3079	2200	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.587 Using Equation 1

FM

$v_{12} = v_{15} (P) = 1807$ pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	5279	7050	No
v _{R12}	4007	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 33.6$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, M = 0.501

S

Space mean speed in ramp influence area, S = 53.5 mph

R

Space mean speed in outer lanes, S = 62.2 mph

0

Space mean speed for all vehicles, S = 55.3 mph

T26

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: MacArthur Bl.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	1613	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	2026	vph	
Length of first accel/decel lane	1340	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes		
Volume on adjacent ramp	745	vph	
Position of adjacent ramp	Downstream		
Type of adjacent ramp	Off		
Distance to adjacent ramp	1740	ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	1613	2026	745 vph

T27

Peak-hour factor, PHF	0.92	0.92	0.92	
Peak 15-min volume, v ₁₅	438	551	202	v
Trucks and buses	5	5	5	%
Recreational vehicles	0	0	0	%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	2.5	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	0.930	
Driver population factor, f _P	1.00	1.00	1.00	
Flow rate, v _p	1885	2367	871	pcph

Estimation of V12 Diverge Areas

L = 4031.48 (Equation 25-8 or 25-9)

EQ

P = 0.639 Using Equation 7

FD

$v = v + (v - v) P = 2059$ pc/h
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v F _i F	1885	7050	No
v 12	2059	4400	No
v = v - v F _O F R	-482	7050	No
v R	2367	2000	Yes

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 9.9$ pc/mi/ln
 R 12 D

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, S	D = 0.706
Space mean speed in ramp influence area, R	S = 49 mph
Space mean speed in outer lanes, 0	S = 71.3 mph
Space mean speed for all vehicles,	S = 47.4 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/13/2005
Analysis time period: PM
Freeway/dir or travel: SR-73/Southbound
Junction: MacArthur Bl.
Jurisdiction:
Analysis Year: Existing
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4264	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	1882	vph
Length of first accel/decel lane	1340	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	434	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	Off	
Distance to adjacent ramp	1740	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4264	1882	434 vph

T29

Peak-hour factor, PHF	0.92	0.92	0.92	
Peak 15-min volume, v ₁₅	1159	511	118	v
Trucks and buses	5	5	5	%
Recreational vehicles	0	0	0	%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	2.5	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	0.930	
Driver population factor, f _P	1.00	1.00	1.00	
Flow rate, v _p	4982	2199	507	pcph

Estimation of V12 Diverge Areas

L = 2838.79 (Equation 25-8 or 25-9)

EQ

P = 0.548 Using Equation 7

FD

$v = v + (v - v) P = 3723$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	4982	7050	No
F _i F			
v	3723	4400	No
12			
v = v - v	2783	7050	No
F _O F R			
v	2199	2000	Yes
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 24.2$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, $D = 0.691$

S

Space mean speed in ramp influence area, $S = 49$ mph

R

Space mean speed in outer lanes, $S = 70.3$ mph

O

Space mean speed for all vehicles, $S = 53.2$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: University Dr.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	5002	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	20.0	mph
Volume on ramp	281	vph
Length of first accel/decel lane	200	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	5002	281	vph

731

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1359	76	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	5845	328	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.583 Using Equation 1

FM

v = v(P) = 3408 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	6173	7050	No
FO			
v	3736	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 33.2$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, M = 0.477

S

Space mean speed in ramp influence area, S = 54.0 mph

R

Space mean speed in outer lanes, S = 57.6 mph

0

Space mean speed for all vehicles, S = 55.4 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: University Dr.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	3		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	2635	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	20.0	mph	
Volume on ramp	533	vph	
Length of first accel/decel lane	200	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
	Ramp		
Volume, V (vph)	2635	533	vph

T33

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	716	145	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	3079	623	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.583 Using Equation 1

FM

v = v(P) = 1795 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	3702	7050	No
FO			
v	2418	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 22.8$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, M = 0.357

S

Space mean speed in ramp influence area, S = 56.8 mph

R

Space mean speed in outer lanes, S = 62.2 mph

O

Space mean speed for all vehicles, S = 58.6 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: University Dr.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	1613	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	35.0	mph	
Volume on ramp	466	vph	
Length of first accel/decel lane	1400	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	1613	466	vph
		735	

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	438	127		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	0.00		%
Length	0.00	0.00		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	1885	545		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)
EQ
P = 0.688 Using Equation 5
FD
 $v = v + (v - v) P = 1467$ pc/h
12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v F _i F	1885	7050	No
v 12	1467	4400	No
v = v - v FO F R	1340	7050	No
v R	545	2000	No

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 4.3$ pc/mi/ln
R 12 D

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable, S	D = 0.477
Space mean speed in ramp influence area, R	S = 54 mph
Space mean speed in outer lanes, 0	S = 71.3 mph
Space mean speed for all vehicles,	S = 57.1 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: University Dr.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	3		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	4264	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	35.0	mph	
Volume on ramp	503	vph	
Length of first accel/decel lane	1400	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4264	503	vph
		<i>T37</i>	

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1159	137		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	0.00		%
Length	0.00	0.00		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	4982	588		pcph

Estimation of V12 Diverge Areas

$L = 0.00$ (Equation 25-8 or 25-9)
 EQ
 $P = 0.608$ Using Equation 5
 FD
 $v = v + (v - v)P = 3261$ pc/h
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	4982	7050	No
Fi F			
v	3261	4400	No
12			
v = v - v	4394	7050	No
FO F R			
v	588	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 19.7$ pc/mi/ln
 R 12 D

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable,	D = 0.481
S	
Space mean speed in ramp influence area,	S = 54 mph
R	
Space mean speed in outer lanes,	S = 68.5 mph
0	
Space mean speed for all vehicles,	S = 58.2 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bison Av.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	5002	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	481	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	1598	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	Off	
Distance to adjacent ramp	1480	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	5002	481	1598

T39

Peak-hour factor, PHF	0.92	0.92	0.92	
Peak 15-min volume, v ₁₅	1359	131	434	v
Trucks and buses	5	5	0	%
Recreational vehicles	0	0	0	%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	2.5	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	2.0	
Heavy vehicle adjustment, fHV	0.930	0.930	1.000	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, v _p	5845	562	1737	pcph

Estimation of V12 Diverge Areas

L = 2300.85 (Equation 25-8 or 25-9)

EQ

P = 0.640 Using Equation 7

FD

$v = v + (v - v)P = 3942$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	5845	7050	No
Fi F			
v	3942	4400	No
12			
v = v - v	5283	7050	No
FO F R			
v	562	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 38.2$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable, $D = 0.544$

S

Space mean speed in ramp influence area, $S = 52$ mph

R

Space mean speed in outer lanes, $S = 67.8$ mph

0

Space mean speed for all vehicles, $S = 56.7$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bison Av.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2635	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	119	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	Yes	
Volume on adjacent ramp	176	vph
Position of adjacent ramp	Downstream	
Type of adjacent ramp	Off	
Distance to adjacent ramp	1480	ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2635	119	176

T41

Peak-hour factor, PHF	0.92	0.92	0.92	
Peak 15-min volume, v ₁₅	716	32	48	v
Trucks and buses	5	5	5	%
Recreational vehicles	0	0	0	%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %	0.00 %	
Length	0.00 mi	0.00 mi	0.00 mi	
Trucks and buses PCE, ET	2.5	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	2.0	
Heavy vehicle adjustment, fHV	0.930	0.930	0.930	
Driver population factor, fP	1.00	1.00	1.00	
Flow rate, vp	3079	139	206	pcph

Estimation of V12 Diverge Areas

L = 206.03 (Equation 25-8 or 25-9)

EQ

P = 0.677 Using Equation 5

FD

$v = v + (v - v)P = 2128$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	3079	7050	No
Fi F			
v	2128	4400	No
12			
v = v - v	2940	7050	No
FO F R			
v	139	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 22.6$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, $D = 0.506$

S

Space mean speed in ramp influence area, $S = 53$ mph

R

Space mean speed in outer lanes, $S = 71.3$ mph

O

Space mean speed for all vehicles, $S = 57.9$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bison Av.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	5002	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	40.0	mph
Volume on ramp	160	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	5002	160	vph

T 43

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1359	43	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	5845	187	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.585 Using Equation 1

FM

v = v₁₂ (P) = 3416 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	6032	7050	No
v _{R12}	3603	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 31.9$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, M = 0.444

S

Space mean speed in ramp influence area, S = 54.8 mph

R

Space mean speed in outer lanes, S = 57.7 mph

0

Space mean speed for all vehicles, S = 55.9 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bison Av.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2635	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	40.0	mph
Volume on ramp	549	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
	Ramp		
Volume, V (vph)	2635	549	vph

745

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	716	149	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	3079	641	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.585 Using Equation 1

FM

v = v (P) = 1800 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	3720	7050	No
FO			
v	2441	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 22.7$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, M = 0.346

S

Space mean speed in ramp influence area, S = 57.0 mph

R

Space mean speed in outer lanes, S = 62.2 mph

0

Space mean speed for all vehicles, S = 58.7 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/13/2005
Analysis time period: AM
Freeway/dir or travel: SR-73/Southbound
Junction: Bison Av.
Jurisdiction:
Analysis Year: Existing
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1613	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	745	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	1613	745	vph

747

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	438	202		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	1885	871		pcph

Estimation of V12 Diverge Areas

$L = 0.00$ (Equation 25-8 or 25-9)
 EQ
 $P = 0.673$ Using Equation 5
 FD
 $v = v + (v - v) P = 1553$ pc/h
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
$v = v$	1885	7050	No
Fi F			
v	1553	4400	No
12			
$v = v - v$	1014	7050	No
FO F R			
v	871	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 17.6$ pc/mi/ln
 R 12 D

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable,	D = 0.571
S	
Space mean speed in ramp influence area,	S = 52 mph
R	
Space mean speed in outer lanes,	S = 71.3 mph
0	
Space mean speed for all vehicles,	S = 54.5 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Bison Av.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4264	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	434	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4264	434	vph

T49

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1159	118		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	4982	507		pcph

Estimation of V₁₂ Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)
EQ
P = 0.612 Using Equation 5
FD
 $v = v + (v - v) P = 3246$ pc/h
12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	4982	7050	No
F _i F			
v	3246	4400	No
12			
v = v - v	4475	7050	No
F _O F R			
v	507	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 32.2$ pc/mi/ln
R 12 D

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, $D = 0.539$
S
Space mean speed in ramp influence area, $S = 53$ mph
R
Space mean speed in outer lanes, $S = 68.4$ mph
0
Space mean speed for all vehicles, $S = 57.2$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: AM
Freeway/dir or travel: SR-73/Southbound
Junction: Bison Av.
Jurisdiction:
Analysis Year: Existing
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1613	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	71	vph
Length of first accel/decel lane	740	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	1613	71	751 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	438	19	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, fHV	0.930	0.930	
Driver population factor, fP	1.00	1.00	
Flow rate, v _p	1885	83	pcph

Estimation of V12 Merge Areas

L = 704.52 (Equation 25-2 or 25-3)

EQ

P = 0.598 Using Equation 1

FM

v = v_p (P) = 1128 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	1968	7050	No
v _{R12}	1211	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 10.2$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M = 0.282

S

Space mean speed in ramp influence area, S = 58.5 mph

R

Space mean speed in outer lanes, S = 64.1 mph

0

Space mean speed for all vehicles, S = 60.5 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Bison Av.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4264	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	247	vph
Length of first accel/decel lane	740	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4264	247	vph

753

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1159	67	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	4982	289	pcph

Estimation of V12 Merge Areas

L = 1006.46 (Equation 25-2 or 25-3)

EQ

P = 0.598 Using Equation 1

FM

v = v (P) = 2980 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	5271	7050	No
FO			
v	3269	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 \frac{v}{R} + 0.0078 \frac{v}{12} - 0.00627 \frac{L}{A} = 26.2$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, M = 0.372

S

Space mean speed in ramp influence area, S = 56.5 mph

R

Space mean speed in outer lanes, S = 59.6 mph

0

Space mean speed for all vehicles, S = 57.6 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bonita Canyon Dr.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	4	
Free-flow speed on freeway	65.0	mph
Volume on freeway	5319	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	305	vph
Length of first accel/decel lane	1250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	5319	305	vph
		<i>755</i>	

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1445	83		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	6215	356		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v)P = 2911$ pc/h
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	6215	9400	No
Fi F			
v	2911	4400	No
12			
v = v - v	5859	9400	No
FO F R			
v	356	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 18.0$ pc/mi/ln
 R 12 D

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable,	D = 0.525
S	
Space mean speed in ramp influence area,	S = 53 mph
R	
Space mean speed in outer lanes,	S = 68.8 mph
0	
Space mean speed for all vehicles,	S = 60.3 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/13/2005
Analysis time period: PM
Freeway/dir or travel: SR-73/Northbound
Junction: Bonita Canyon Dr.
Jurisdiction:
Analysis Year: Existing
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	4	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2802	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	189	vph
Length of first accel/decel lane	1250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2802	189	vph
		<i>757</i>	

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	761	51		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, vp	3274	221		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 1552$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
$v = v$	3274	9400	No
Fi F			
v	1552	4400	No
12			
$v = v - v$	3053	9400	No
FO F R			
v	221	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 6.3$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable, $D = 0.513$

S

Space mean speed in ramp influence area, $S = 53$ mph

R

Space mean speed in outer lanes, $S = 71.3$ mph

O

Space mean speed for all vehicles, $S = 61.4$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bonita Canyon Dr.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	5002	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	25.0	mph
Volume on ramp	249	vph
Length of first accel/decel lane	2440	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	5002	249	vph

759

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1359	68	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	5845	291	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.646 Using Equation 1

FM

v = v (P) = 3775 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	6136	7050	No
FO			
v	4066	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 \frac{v}{R} + 0.0078 \frac{v}{12} - 0.00627 \frac{L}{A} = 21.8$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, M = 0.426

S

Space mean speed in ramp influence area, S = 55.2 mph

R

Space mean speed in outer lanes, S = 59.3 mph

0

Space mean speed for all vehicles, S = 56.5 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: PM
Freeway/dir or travel: SR-73/Northbound
Junction: Bonita Canyon Dr.
Jurisdiction:
Analysis Year: Existing
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2635	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	25.0	mph
Volume on ramp	106	vph
Length of first accel/decel lane	2440	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2635	106	vph
		<i>T61</i>	

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	716	29	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	3079	124	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.646 Using Equation 1

FM

v = v_F (P) = 1988 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	3203	7050	No
v _{R12}	2112	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 6.6$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable, M = 0.231

S

Space mean speed in ramp influence area, S = 59.7 mph

R

Space mean speed in outer lanes, S = 62.9 mph

0

Space mean speed for all vehicles, S = 60.7 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Bonita Canyon Dr.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	4	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1613	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	114	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	1613	114	763 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	438	31		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	1885	133		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 897$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	1885	9400	No
F _i F			
v	897	4400	No
12			
v = v - v	1752	9400	No
F _O F R			
v	133	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 12.0$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, $D = 0.505$

S

Space mean speed in ramp influence area, $S = 53$ mph

R

Space mean speed in outer lanes, $S = 71.3$ mph

O

Space mean speed for all vehicles, $S = 61.5$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 Email: _____

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Location: Bonita Canyon Dr.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	4		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	4264	vph	

Off Ramp Data

Type of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	163	vph	
Length of first accel/decel lane	0	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Location Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4264	163	<i>T65</i> vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1159	44		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	4982	190		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v)P = 2279$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	4982	9400	No
F _i F			
v	2279	4400	No
12			
v = v - v	4792	9400	No
F _O F R			
v	190	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 23.9$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, $D = 0.510$

S

Space mean speed in ramp influence area, $S = 53$ mph

R

Space mean speed in outer lanes, $S = 69.9$ mph

O

Space mean speed for all vehicles, $S = 61.2$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Bonita Canyon Dr.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	4	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1613	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	514	vph
Length of first accel/decel lane	400	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	1613	514	767 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	438	140	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	1885	601	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
 EQ
 P = 0.270 Using Equation 4
 FM
 $v = v(P) = 509$ pc/h
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	2486	9400	No
FO			
v	1110	4600	No
R12			

Level of Service Determination (if not F)

$$\text{Density, } D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 11.3 \text{ pc/mi/ln}$$

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, $M = 0.305$
 S
 Space mean speed in ramp influence area, $S = 58.0$ mph
 R
 Space mean speed in outer lanes, $S = 64.3$ mph
 0
 Space mean speed for all vehicles, $S = 61.3$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: PM
Freeway/dir or travel: SR-73/Southbound
Junction: Bonita Canyon Dr.
Jurisdiction:
Analysis Year: Existing
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	4	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4264	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	143	vph
Length of first accel/decel lane	400	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4264	143	769 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1159	39	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	4982	167	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.324 Using Equation 4

FM

v = v_F (P) = 1616 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	5149	9400	No
FO			
v	1783	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 16.8$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M = 0.316

S

Space mean speed in ramp influence area, S = 57.7 mph

R

Space mean speed in outer lanes, S = 60.7 mph

0

Space mean speed for all vehicles, S = 59.7 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	5240	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	298	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	5240	298	vph

771

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1424	81		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	0.00		%
Length	0.00	0.00		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, f _{HV}		0.930	0.930	
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	6123	348		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)
EQ
P = 0.591 Using Equation 5
FD
 $v = v + (v - v) P = 3761$ pc/h
12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	6123	7050	No
F _i F			
v	3761	4400	No
12			
v = v - v	5775	7050	No
F _O F R			
v	348	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 \frac{v}{12} - 0.009 \frac{L}{D} = 36.6$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable,	D = 0.524
Space mean speed in ramp influence area,	S = 53 mph
Space mean speed in outer lanes,	S = 66.0 mph
Space mean speed for all vehicles,	S = 57.3 mph

Net Internal Trips for Multi-Use Development (RESIDENTIAL vs. NON-RESIDENTIAL)									
	AM			PM			DAILY		
	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
RESIDENTIAL									
- Retail	12	13	25	114	79	193	1088	890	1978
- Business Park (Office)	2	18	20	3	0	3	19	97	116
- Elementary & High School	11	70	81	30	22	52	105	105	210
- Parks	5	8	13	5	4	9	55	55	110
Total	30	109	139	152	105	257	1267	1147	2414

Net Internal Trips for Multi-Use Development (NON-RESIDENTIAL vs. RESIDENTIAL)									
	AM			PM			DAILY		
	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
Retail, Office, High School, Parks									
- Residential	109	30	139	105	152	257	1147	1267	2414

TOTAL INTERNAL CAPTURE (RESIDENTIAL vs. NON-RESIDENTIAL)	139	139	278	257	257	514	2414	2414	4828
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Net Internal Trips for Multi-Use Development (RETAIL vs. OFFICE)									
	AM			PM			DAILY		
	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
Retail									
- Business Park (Office)	7	5	12	18	5	23	213	145	358

Net Internal Trips for Multi-Use Development (OFFICE vs. RETAIL)									
	AM			PM			DAILY		
	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
Business Park (Office)									
- Retail	5	7	12	5	18	23	145	213	358

TOTAL INTERNAL CAPTURE (OFFICE vs. RETAIL)	12	12	24	23	23	46	358	358	716
---	-----------	-----------	-----------	-----------	-----------	-----------	------------	------------	------------

GROSS TOTAL INTERNAL CAPTURE	151	151	302	280	280	560	2,772	2,772	5,544
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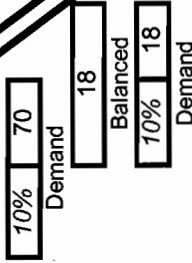
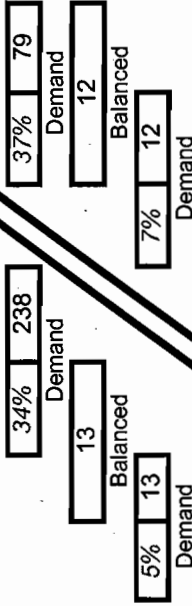
**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY**

Name of Development [enava (JN# 01389
Time Period AM Peak

Analyst PN
Date 02.02.06

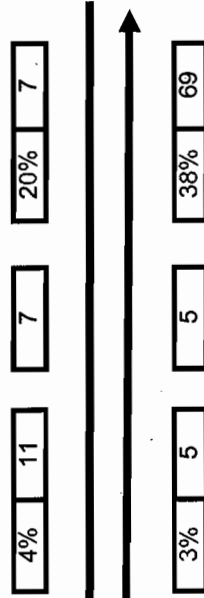
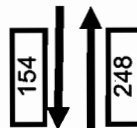
LAND USE A Residential

ITE LU Code	210 /230	
Size	970 / 422 DU's	
Enter	214	14
Exit	699	31
Total	913	45
%	5%	95%



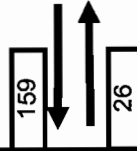
LAND USE B Retail

ITE LU Code	820	
Size	117 / 247 TSF	
Enter	268	20
Exit	171	17
Total	439	37
%	8%	92%



LAND USE C Office (Bus. Park)

ITE LU Code	770	
Size	151 TSF	
Enter	182	23
Exit	35	9
Total	217	32
%	15%	85%



Net External Trips from Multi-Use Development

	LAND USE A	LAND USE B	LAND USE C	TOTAL
Enter	200	248	159	607
Exit	668	154	26	848
Total	868	402	185	1455
Single-Use Trip Gen. Est.	913	439	217	1569
INTERNAL CAPTURE				7%

Changes you need to make, see Table 7.1 and 7.2 for rates.

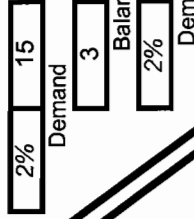
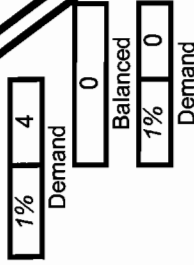
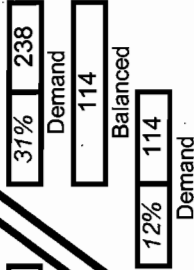
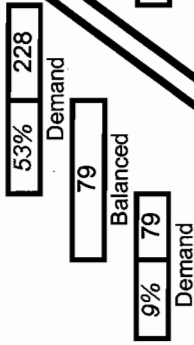
**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY**

Name of Development: enaya (JN# 01389)
Time Period: PM Peak

Analyst: PN
Date: 02.02.06

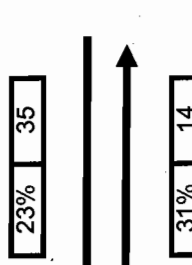
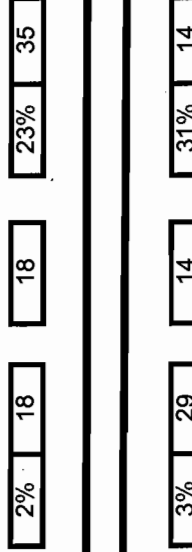
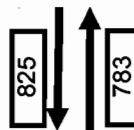
LAND USE A Residential

ITE LU Code	210 / 230	
	970 / 422 DU's	
Size	Internal	External
Enter	769	117
Exit	431	79
Total	1200	196
%	16%	84%



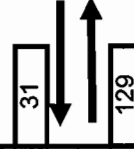
LAND USE B Retail

ITE LU Code	820	
	117 / 247 TSF	
Size	Internal	External
Enter	880	97
Exit	953	128
Total	1833	225
%	12%	88%



LAND USE C Office (Bus. Park)

ITE LU Code	770	
	151 TSF	
Size	Internal	External
Enter	45	14
Exit	150	21
Total	195	35
%	18%	82%



Net External Trips from Multi-Use Development

	LAND USE A	LAND USE B	LAND USE C	TOTAL
Enter	652	783	31	1466
Exit	352	825	129	1306
Total	1004	1608	160	2772
Single-Use Trip Gen. Est.	1200	1833	195	3228
				INTERNAL CAPTURE
				14%

Changes you need to make, see Table 7.1 and 7.2 for rates.

**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY**

Name of Development enaya (JN# 01389)
Time Period DAILY

Analyst PN
Date 02.02.06

LAND USE A Residential

ITE LU Code	Size	210 / 230	970 / 422 DU's
Enter	5878	1107	4771
Exit	5878	987	4891
Total	11756	2094	9662
%		18%	82%

4891	←	→	4771
------	---	---	------

38%	2234	Demand
890	Balanced	
9%	890	Demand

33%	1940	Demand
1088	Balanced	
11%	1088	Demand

2%	118	Demand
97	Balanced	
10%	97	Demand

3%	176	Demand
19	Balanced	
2%	19	Demand

LAND USE B Retail

ITE LU Code	Size	117 / 247 TSF	820
Enter	9887	1103	8784
Exit	9888	1233	8655
Total	19775	2336	17439
%		12%	88%

8655	←	→	8784
------	---	---	------

4%	395	213	22%	213
3%	297	145	15%	145

LAND USE C Office (Bus. Park)

ITE LU Code	Size	770
Enter	966	242
Exit	966	232
Total	1932	474
%		25%

724	←	→	734
-----	---	---	-----

Net External Trips from Multi-Use Development

	LAND USE A	LAND USE B	LAND USE C	TOTAL
Enter	4771	8784	724	14279
Exit	4891	8655	734	14280
Total	9662	17439	1458	28559
Single-Use Trip Gen. Est.	11756	19775	1932	33463
				INTERNAL CAPTURE
				15%

Changes you need to make, see Table 7.1 and 7.2 for rates.

**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY**

Name of Development [enava (JN# 01389)
Time Period AM Peak

Analyst PN
Date 02.06.06

LAND USE A Residential

ITE LU Code	Size	210 / 230	970 / 422 DU's
Enter	274	16	198
Exit	699	78	621
Total	913	94	819
%		10%	90%

621	↔	198
-----	---	-----

11%	77	Demand
70	Balanced	
10%	70	Demand

5%	11	Demand
11	Balanced	
6%	22	Demand

2%	14	Demand
8	Balanced	
10%	8	Demand

4%	9	Demand
5	Balanced	
6%	5	Demand

LAND USE B Elementary / High

ITE LU Code	Size	520 / 530	600 / 2000 STU
Enter	698	70	628
Exit	374	11	363
Total	1072	81	991
%		8%	92%

363	↔	628
-----	---	-----

0%	0	0	0	0%	0
0%	0	0	0	0%	0

LAND USE C Parks

ITE LU Code	Size	SANDAG	25.9 AC
Enter	84	8	76
Exit	84	5	79
Total	168	13	155
%		8%	92%

76	↔	79
----	---	----

Net External Trips from Multi-Use Development

	LAND USE A	LAND USE B	LAND USE C	TOTAL
Enter	198	628	76	902
Exit	621	363	79	1063
Total	819	991	155	1965
Single-Use Trip Gen. Est.	913	1072	168	2153
				INTERNAL CAPTURE 9%

Changes you need to make, see Table 7.1 and 7.2 for rates.

**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY**

Name of Development enava (JN# 01389)
Time Period PM Peak

Analyst PN
Date 02.06.06

LAND USE A Residential

ITE LU Code	210 / 230	
Size	970 / 422 DU's	
Enter	769	35
Exit	431	26
Total	1200	61
%	5%	95%

405	↔	734
-----	---	-----

5%	22	Demand
15%	24	Demand
22	Balanced	
10%	77	Demand
17%	30	Demand
30	Balanced	

2%	9	Demand
7%	4	Demand
4	Balanced	
1%	8	Demand
9%	5	Balanced
5	Demand	

LAND USE B Elementary / High

ITE LU Code	520 / 530	
Size	600 / 2000 STU	
Enter	158	22
Exit	176	30
Total	334	52
%	16%	84%

146	↔	136
-----	---	-----

0%	0	0	0	0
0%	0	0	0	0

LAND USE C Parks

ITE LU Code	SANDAG	
Size	25.9 AC	
Enter	58	4
Exit	58	5
Total	116	9
%	8%	92%

54	↔	53
----	---	----

Net External Trips for Multi-Use Development

	LAND USE A	LAND USE B	LAND USE C	TOTAL
Enter	734	136	54	924
Exit	405	146	53	604
Total	1139	282	107	1528
Single-Use Trip Gen. Est.	1200	334	116	1650
INTERNAL CAPTURE				7%

Changes you need to make, see Table 7.1 and 7.2 for rates.

**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY**

Name of Development enava (JN# 01389)
Time Period DAILY

Analyst PN
Date 02.06.06

LAND USE A		Residential	
ITE LU Code	Size	210 / 230	970 / 422 DU's
Enter	5878	160	5718
Exit	5878	160	5718
Total	11756	320	11436
%		3%	97%

5718	↔	5718
------	---	------

7%	411	Demand
105	Balanced	
5%	105	Demand

6%	353	Demand
55	Balanced	
5%	55	Demand

LAND USE B		Elementary / High	
ITE LU Code	Size	520 / 530	600 / 2000 STU
Enter	2097	105	1992
Exit	2097	105	1992
Total	4194	210	3984
%		5%	95%

1992	↔	1992
------	---	------

0%	0	0%	0
0%	0	0%	0

LAND USE C		Parks	
ITE LU Code	Size	SANDAG	25.9 AC
Enter	1705	55	1050
Exit	1705	55	1050
Total	2210	110	2100
%		5%	95%

1050	↔	1050
------	---	------

Net External Trips for Multi-Use Development			
	LAND USE A	LAND USE B	LAND USE C
Enter	5718	1992	1050
Exit	5718	1992	1050
Total	11436	3984	2100
Single-Use Trip Gen. Est.	11756	4194	2210
TOTAL			8760
			8760
			17520
			18160
			INTERNAL CAPTURE
			4%

Changes you need to make, see Table 7.1 and 7.2 for rates.

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2760	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	220	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2760	220	vph
		773	

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	750	60		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	0.00		%
Length	0.00	0.00		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, f _{HV}		0.930	0.930	
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	3225	257		pcph

Estimation of V12 Diverge Areas

$L = 0.00$ (Equation 25-8 or 25-9)
 EQ
 $P = 0.668$ Using Equation 5
 FD
 $v = v + (v - v) P = 2238$ pc/h
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
$v = v$	3225	7050	No
$F_i F$			
v	2238	4400	No
12			
$v = v - v$	2968	7050	No
$F_O F R$			
v	257	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 23.5$ pc/mi/ln
 R 12 D

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, $D = 0.516$
 S
 Space mean speed in ramp influence area, $S = 53$ mph
 R
 Space mean speed in outer lanes, $S = 71.3$ mph
 0
 Space mean speed for all vehicles, $S = 57.6$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: AM
Freeway/dir or travel: SR-73/Northbound
Junction: Newport Coast Dr.
Jurisdiction:
Analysis Year: Existing
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	4	
Free-flow speed on freeway	65.0	mph
Volume on freeway	5240	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	25.0	mph
Volume on ramp	598	vph
Length of first accel/decel lane	1250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	5240	598	vph

T 75

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1424	162	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	6123	699	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
 EQ
 P = 0.688 Using Equation 4
 FM
 $v = v(P) = 4212$ pc/h
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	6822	9400	No
v _{R12}	4911	4600	Yes

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 35.6$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, M = 0.788
 S
 Space mean speed in ramp influence area, S = 46.9 mph
 R
 Space mean speed in outer lanes, S = 63.4 mph
 0
 Space mean speed for all vehicles, S = 50.6 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	4	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2760	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	25.0	mph
Volume on ramp	286	vph
Length of first accel/decel lane	1250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2760	286	777 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	750	78	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	3225	334	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.734 Using Equation 4

FM

v = v_F (P) = 2366 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	3559	9400	No
FO			
v	2700	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 18.5$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M = 0.317

S

Space mean speed in ramp influence area, S = 57.7 mph

R

Space mean speed in outer lanes, S = 65.0 mph

0

Space mean speed for all vehicles, S = 59.3 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	4	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1716	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	222	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	1716	222	vph
		779	

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	466	60		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Level	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, fHV		0.930	0.930	
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	2005	259		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 1020$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	2005	9400	No
Fi F			
v	1020	4400	No
12			
v = v - v	1746	9400	No
FO F R			
v	259	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 13.0$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, D = 0.516

S

Space mean speed in ramp influence area, S = 53 mph

R

Space mean speed in outer lanes, S = 71.3 mph

O

Space mean speed for all vehicles, S = 60.7 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	4	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4535	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	119	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4535	119	vph
		<i>T81</i>	

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1232	32		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Level	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	5299	139		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 2389$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	5299	9400	No
Fi F			
v	2389	4400	No
12			
v = v - v	5160	9400	No
FO F R			
v	139	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 24.8$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, $D = 0.506$

S

Space mean speed in ramp influence area, $S = 53$ mph

R

Space mean speed in outer lanes, $S = 69.5$ mph

0

Space mean speed for all vehicles, $S = 61.2$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	1716	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	30.0	mph
Volume on ramp	156	vph
Length of first accel/decel lane	360	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	1716	156	vph
		<i>783</i>	

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	466	42	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Level
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	2005	182	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
EQ
P = 0.588 Using Equation 1
FM
 $v = v(P) = 1178$ pc/h
12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	2187	7050	No
v _{R12}	1360	4600	No

Level of Service Determination (if not F)

$$\text{Density, } D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 13.7 \text{ pc/mi/ln}$$

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M = 0.315
S
Space mean speed in ramp influence area, S = 57.8 mph
R
Space mean speed in outer lanes, S = 63.8 mph
0
Space mean speed for all vehicles, S = 59.9 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: Existing
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4535	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	30.0	mph
Volume on ramp	219	vph
Length of first accel/decel lane	360	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4535	219	vph
		<i>785</i>	

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1232	60	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Level
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	5299	256	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.588 Using Equation 1

FM

v = v (P) = 3114 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	5555	7050	No
FO			
v	3370	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 \frac{v}{R} + 0.0078 \frac{v}{12} - 0.00627 \frac{L}{A} = 29.4$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, M = 0.413

S

Space mean speed in ramp influence area, S = 55.5 mph

R

Space mean speed in outer lanes, S = 58.9 mph

0

Space mean speed for all vehicles, S = 56.8 mph

APPENDIX U

MIXED USE TRIP GENERATION INFORMATION

TRIP GENERATION

•
An Informational Report

•
5th Edition



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VIII. Multi-Use Developments/ Quantifying Capture Rates

Background

A trip generation rate or equation is often used to forecast trips at a proposed development. This rate or equation is generally based on the trip-making characteristics observed at similar stand-alone existing developments. Often a forecast of trips for a development consisting of several different types of land uses, or a multi-use development, must be made. A common method of developing this forecast is to apply the trip rate or equation for each individual land use in the proposed development and then add the forecasts together. This method does not take into consideration the fact that some of the trips counted at stand-alone sites are now being made within the multi-use development, either by vehicle or an alternate mode such as walking or transit. Probably the most common example of this trip-making occurs at multi-use developments containing residential and shopping areas. Some of the resident's work trips and shopping trips are made to the on-site shopping area. Another example is the development containing offices and a shopping/service area. Some of the trips made from the offices to shops, to restaurants, or to banks may be made on-site. These types of trips thus become internal to the multi-use site; they are "captured" on-site.

Definitions

A capture rate can therefore be generally defined as a percentage reduction in traditionally developed trip forecasts to account for trips internal to the site. Depending on the methodology being used, the reduction may be applied to the total trips forecast or to individual land uses or components of the multi-use development.

It is important to note that these "reduced" trips are applied externally to the site—at entrances, at adjacent intersections, and

on adjacent roadways. The reductions to internal site traffic volumes would be appropriate if the internal trips are made by modes other than private vehicles. The trip reduction for captured or internal trips is separate from the reduction for pass-by trips described earlier. These are two distinct phenomena, and both could be applicable for a proposed development.

Multi-use developments can be classified into two categories. The first consists of a combination of residential and non-residential land uses, and the second consists of a combination of non-residential land uses only. Category I will typically consist of one or more types of residences and a shopping and/or office component. Category II will typically consist of offices and a shopping/retail component, with possibly a hotel or motel.

A central business district (downtown) is the ultimate case of a multi-use development. Downtown areas have a mixture of very diverse employment, retail, residential, and commercial recreation/hotel uses. Extensive pedestrian interaction occurs because of the scale of the downtown area, the ease of access, and the proximity of the uses. Some downtowns have excellent transit service. Auto occupancy, particularly during peak commuting hours, is usually higher in the CBD than in the outlying areas. For these reasons, trip generation characteristics in a downtown environment are different from those found in outlying or suburban areas. *Accordingly, trip generation characteristics in this text, and specifically in the case of capture rates at multi-use developments, are applicable to sites outside the downtown.*

A shopping center is also an example of a multi-use development. However, it has historically been considered as an individual or single land use, and the associated trip generation rates and equations already reflect the "multi-use" nature of the development because of the way shopping center data in this report have been collected. *Accordingly, capture rates are not*

applicable and should not be utilized in the forecasting of trips for shopping centers. Likewise, a subdivision or planned unit development containing general office buildings and support services such as banks, savings and loan institutions, restaurants, and service stations arranged in a park- or campus-like atmosphere should be considered as an office park, not as a multi-use development. Similarly, office buildings with support retail or restaurant facilities contained inside the building should be treated as general office buildings because the trip generation rates and equations already reflect this situation.

Finally, it should be noted that the database for Land Use 270, residential planned unit development (PUD), contains sites that are generally only a combination of residential land uses. Accordingly, these trip rates and equations are generally not applicable to a Category I multi-use development. The PUD data may possibly be used if the non-residential component is an extremely small part of the overall site.

Available Data

Very little information is available on quantifying capture rates. The information generally

consists of interview data where people are asked about their trip-making, actual vehicle trip counts, or a combination of both. Following is a brief summary of the known database. The Permanent Trip Generation Committee would be very appreciative of receiving any data not reported here.

1. Trip Generation at Special Sites, Virginia Transportation Research Council, Charlottesville, Virginia, VHTRC 84-R23, January 1984.

Driveway vehicle counts are available from one multi-use site. The site is located in a densely developed area located in the Northern Virginia suburbs of Washington, D.C., and is served by transit. It contains 606 rental units, 555 of which are located in a high-rise, the remainder being multilevel townhouse units. There are approximately 64,000 square feet of retail/office area, including a delicatessen, a commercial cleaning company office, two building contractor offices, a restaurant, a bank, a hospital consulting firm, a direct-mail advertising firm, a real estate firm, a management consulting firm, and a dentist. Based on applying trip generation equations, the following comparisons were made:

Trip Ends

	A.M. Peak Hour (7 - 9 A.M.)	P.M. Peak Hour (4 - 6 P.M.)	Daily
ITE Calculated	337	764	8,222
Field Counted	440	559	6,803
Captured	0	205 (27%)	1,419 (17%)

Accordingly, 17% of the daily trips and 27% of the P.M. peak trips were internal to or captured on the site. During the A.M. peak hour the calculated trips were less than the measured trips, which implies there were no internal trips. This finding points out a problem inherent in this method of calculating a capture rate. That is, it is assumed in the calculation that the ITE equation is valid for this site. In fact, the ITE equation represents an average of several sites, and appears to understate the A.M. trips at this site. This further suggests that the P.M. and

daily ITE calculated trips are understated, which would mean that the aforementioned capture rates are low.

2. The Brandermill PUD Traffic Generation Study, Technical Report, JHK & Associates, Alexandria, Virginia, June 1984.

Brandermill is a large, planned residential development located approximately 10 miles southwest of Richmond, Virginia. At the time of the study there were approximately 2,300

occupied dwelling units, with 180 townhouse-style condominiums and 2,120 single-family detached units. Commercial development consisted of a 82,600-square foot shopping center, a 63,000-square foot business park, a 14,000-square foot medical center, and a 4,400-square foot restaurant. There were also recreational facilities, including a golf course, tennis courts, swimming facilities, and several lakeside recreation facilities. Finally, there was a day-care center, a church, an elementary school, and a middle school.

- Manual driveway counts to supplement the machine counts,
- Land use inventory,
- Travel questionnaire distributed to residences,
- Travel questionnaires administered to patrons and employees of non-residential land uses,
- Turning movement counts at selected locations.

The study had the overall goal of determining the on-site (internal) and off-site (external) traffic generation at Brandermill. Data collected included the following:

Based on the various data collected, the following comparisons were made:

- Automatic machine counts at selected roadways or driveways serving specific land uses,

Trip Ends

	<i>A.M. Peak Hour (7 - 9 A.M.)</i>	<i>P.M. Peak Hour (4 - 6 P.M.)</i>	<i>Daily</i>
Total Generated	2,570	2,935	33,540
External	1,420	1,325	16,280
Captured	1,150 (45%)	1,610 (55%)	17,260 (51%)

Thus, 51% of the daily trips, 55% of the P.M. peak hour trips, and 45% of the A.M. peak hour trips were internal to or captured on the site. Additionally, 46% of persons employed in Brandermill also reside in Brandermill. Since the generated trips were actually measured,

rather than calculated based on ITE rates or equations, this method eliminates the problem described in the first study.

The travel questionnaires provided the following information:

<i>Hours</i>	<i>Home-Based Trips with Destinations within Brandermill</i>	<i>Home-Based Trips with Origins within Brandermill</i>
7 A.M. to 9 A.M.	18.1%	50.9%
9 A.M. to 4 P.M.	44.4%	50.2%
4 P.M. to 6 P.M.	55.2%	34.4%
6 P.M. to 7 A.M.	40.6%	33.6%
Daily	35.2%	39.1%

<i>Hours</i>	<i>Shopping Center Trips with Origins within Brandermill</i>	<i>Shopping Center Trips with Destinations within Brandermill</i>
11 A.M. to 1 P.M.	65%	66%
4 P.M. to 6 P.M.	52%	66%

3. Trip Generation for Mixed Use Developments, Technical Committee Report, Colorado-Wyoming Section, Institute of Transportation Engineers, January 1986.

This study was undertaken to determine how trip generation estimates using ITE rates compared to actual driveway counts at multi-use

developments in Colorado and Wyoming. Also included were interviews that were aimed at determining whether persons entering and leaving multi-use sites came there for multiple purposes. The nine sites included in the study had the following sizes and land uses:

Site	Size (Square Feet)	Land Uses
1	154,536	Retail, Office, Government Office, Restaurants, Health Club
2	86,381	Retail, Bank, Restaurants
3	731,846	Retail, Hotel, Restaurants, Office
4	500,000	Retail, Office, Restaurants, Motel, Theaters
5	61,198	Retail, Office
6	115,000	Retail, Restaurants, Hardware Store, Supermarket
7	1,773,500	Restaurants, Bank, Hotel, Medical Office, Office, Training Center
8	177,277	Savings & Loan, Office, Hardware Store, Supermarket, Medical Office, Bank, Health Club, Theater, Retail, Restaurants
9	95,104	Supermarket, Restaurants, Bank, Medical Office, Savings and Loan, Retail

It is noted that some of the sites would be considered a shopping center for trip generation purposes. The results of the study are shown in Tables VIII-1 through VIII-3. The following conclusions were drawn from the results of the driveway count comparison:

- a. Total daily trip generation for a multi-use site can be accurately estimated using ITE generation rates applied to individual uses within a multi-use development. The 8% difference observed in the study is not statistically significant. (Note: Based on the method of calculating capture rates in the first study, overall 7% of the daily trips were captured.)
- b. Peak hour trip generation for a multi-use site using ITE generation rates applied to individual uses within a multi-use development may result in an overestimation of an average 2.5%. (Note: This means that for multi-use sites, peak hour trips as a percentage of daily trips is 2.5% lower than that calculated from ITE data. Based on the method in the first study, overall 28% of the A.M. peak hour and

24% of the P.M. peak hour trips are captured.)

The following conclusions were drawn from the results of the interviews.

- a. The percent breakdown by number of purposes for persons entering a multi-use site based on data contained in Tables VIII-1 and VIII-2 were determined to be:

Number of Purposes (Stops)	Percent
1	77
2	16
3 or more	7

**Table VIII-1
Number and Percentage of Persons Entering Multi-Use Sites
by Number of Purposes (Stops) and Primary Destination**

Primary Destination	Number of Purposes/Stops Stated by Interviewee (Percent)			Total
	1	2	3 or more	
Bank/Savings and Loan	27 (90.0)	2 (6.6)	1 (3.4)	30 (100.0)
Hardware Store	20 (66.7)	9 (30.0)	1 (3.3)	30 (100.0)
Supermarket	189 (79.1)	40 (16.7)	10 (4.2)	239 (100.0)
Theater	27 (93.1)	2 (6.9)	0 (0.0)	29 (100.0)
Office/Work Location	48 (67.6)	22 (31.0)	1 (1.4)	71 (100.0)
Small Retail Shop, etc.	120 (72.7)	21 (12.7)	24 (14.6)	165 (100.0)
Restaurant	105 (80.8)	18 (13.8)	7 (5.4)	130 (100.0)
Health Club	7 (100.0)	0 (0.0)	0 (0.0)	7 (100.0)
Post Office	19 (51.4)	12 (32.4)	6 (16.2)	37 (100.0)
Other	4 (100.0)	0 (0.0)	0 (0.0)	4 (100.0)
Total (Average)	566 (76.3)	126 (17.0)	50 (6.7)	742 (100.0)

Source: Colorado-Wyoming Section, ITE.

b. Using the interview data obtained in the study, it was determined that multi-use developments could reduce trip generation of individual uses within the development by 24% (if all of these uses are present in the proportion noted). Because the 8% difference in driveway volumes in the first part of the study was not statistically significant, it has been concluded that most of the secondary trip purposes indicated by interviewees occur because of the availability of multiple retail outlets in close

proximity to major primary destinations, such as work locations, supermarkets, banks, restaurants, hotels, and theaters in multi-use developments. If the secondary destinations were not in close proximity to the primary destinations, trips to the secondary destinations would not occur or would occur at a much lower level. Trip generation for multi-use sites is largely a function of the square footage of primary destination uses cited above.

**Table VIII-2
Number and Percentage of Persons Exiting Multi-Use Sites
by Number of Purposes (Stops) and Primary Destination**

Primary Destination	Number of Purposes/Stops Stated by Interviewee (Percent)			Total
	1	2	3+	
Bank/Savings and Loan	17 (73.9)	2 (8.7)	4 (17.4)	23 (100.0)
Hardware Store	22 (88.0)	3 (12.0)	0 (0.0)	25 (100.0)
Supermarket	39 (67.3)	10 (17.2)	9 (15.5)	58 (100.0)
Hotel	4 (100.0)	0 (0.0)	0 (0.0)	4 (100.0)
Office/Work Location	15 (71.4)	6 (28.6)	0 (0.0)	21 (100.0)
Small Retail Shop, etc.	82 (73.2)	18 (16.1)	12 (10.7)	112 (100.0)
Restaurant	100 (89.2)	11 (9.8)	1 (1.0)	112 (100.0)
Health Club	3 (42.8)	4 (57.2)	0 (0.0)	7 (100.0)
Post Office	20 (80.0)	3 (12.0)	2 (8.0)	25 (100.0)
Other	2 (100.0)	0 (0.0)	0 (0.0)	2 (100.0)
Total (Average)	304 (78.2)	57 (14.6)	28 (7.2)	389 (100.0)

Source: Colorado-Wyoming Section, ITE.

**Table VIII-3
Comparison of ITE Trip Generation with Driveway Counts**

Site	ITE Daily Trips (VPD)	Counted Daily Trips (VPD)	ITE A.M. Pk. Hr. of Generator (VPD)	Counted A.M. Pk. Hr. of Generator (VPH)	ITE A.M. Pk. Hr. of Adj. Street (VPH)	Counted A.M. Pk. Hr. of Adj. Street (VPH)	ITE P.M. Pk. Hr. of Generator (VPD)	Counted P.M. Pk. Hr. of Generator (VPH)	ITE P.M. Pk. Hr. of Adj. Street (VPH)	Counted P.M. Pk. Hr. of Adj. Street (VPH)
1	7,015	7,910	712	682 (11-12)	374 (7-9)	365 (7-9)	920	700 (12-1)	866 (4-6)	700 (4-6)
2	10,578	6,830	952	565	248	247	1,368	586	1,076	513
3	13,561	11,706	1,734	1,012 (11-12)	1,391 (7-9)	855 (7-9)	1,806	1,038 (12-1)	1,701 (4-6)	821 (4-6)
4	14,815	13,718	1,339	1,334 (11-12)	1,136	640 (7-9)	1,984	1,576 (12-1)	1,460	1,138 (4-6)
5	5,388	5,179	445	389 (11-12)	164 (7-9)	184 (7-9)	682	503 (12-1)	624 (4-6)	504 (4-6)
6	12,182	13,695	1,219	1,043 (11-12)	549	625 (7-9)	1,455	1,254 (4-5)	1,185	1,254 (4-5)
7	27,004 ¹	24,462	3,603 ¹	2,448 (7-8)	3,639 ¹	2,448 (7-8)	3,827 ¹	2,891 (4-5)	3,765 ¹	2,891 (4-5)
8	14,481	18,303	1,575	1,160 (11-12)	343	551 (7-9)	1,810	1,556 (4-5)	1,334	1,556 (4-5)
9	11,873	7,372	1,162	527 (11-12)	676	247 (7-9)	1,479	697 (4-5)	1,200	697 (4-5)
Total	116,997	109,175	12,741	9,160	8,520	6,162	15,331	10,801	13,211	10,074

Source: Colorado-Wyoming Section, ITE.

¹ These numbers reflect a 25% office vacancy rate estimated by Grubb & Ellis, March 31, 1985, for the Denver office market.

The data base in the study was used to develop the information in Table VIII-4. This table was derived by applying Fourth Edition *Trip Generation* equations or rates to those sites in the

Colorado-Wyoming study that are not shopping centers. The site numbers in Table VIII-4 correspond to the previous site numbers.

**Table VIII-4
Comparison of ITE Trip Generation with Driveway Counts
Using 4th Edition Trip Generation and Excluding Shopping Centers**

Site No.	A.M. Peak Hour (7-9)			P.M. Peak Hour (4-6)			Daily		
	ITE	Counted	Captured	ITE	Counted	Captured	ITE	Counted	Captured
1	323	365	0	640	700	0	6,178	7,910	0
3	1,217	855	362 (30%)	1,491	821	670 (45%)	12,838	11,706	1,132 (9%)
4	922	640	282 (31%)	1,337	1,138	199 (15%)	15,119	13,718	1,401 (9%)
5	148	184	0	461	504	0	4,899	5,179	0
7	3,878	2,448	1,430 (37%)	4,019	2,891	1,128 (28%)	30,408	24,462	5,946 (20%)

The following observations were made from the Table VIII-4 comparisons.

- a. Internal trips at multi-use sites can be significant; however, the capture rate varies considerably. During the A.M. peak the capture rate at the three sites

having internal trips ranged from 30% to 37%, with an average of 33%. The average rate was 29% during the P.M. peak, ranging from 15% to 45%. Finally, on a daily basis the average capture rate was 13%, with a range of 9% to 20%.

- b. It is important to again note the problem inherent in calculating a capture rate by this method. However, the two sites that have basically retail and office land uses did not appear to have internal trips. All three sites having internal trips had a hotel or motel.

4. *Travel Characteristics at Large-Scale Suburban Activity Centers*, JHK & Associates, NCHRP Project 3-38(2), Report 323, October 1989.

The findings of this study are known to be applicable only in major activity centers. The objective of the project was to develop a comprehensive database on travel characteristics for various types of large-scale, multi-use suburban activity centers. Data were collected at six sites having the characteristics shown in Table VIII-5. Data collection activities are shown in Table VIII-6.

Following is a summary of findings pertinent to internal trips for each of the land uses listed. It is noted that "larger centers" refers to the three centers having at least 15 million square feet each, whereas "smaller centers" refers to the remaining three having less than 8 million square feet.

Office

- a. The proportion of employees who made intermediate stops within the activity center on their way to work ranged from 7% to 15%, with an average of 10%. The proportion on the way home from work ranged from 6% to 16%, with an average of 11%. The percentages were higher at the sites having relatively little retail activity immediately outside their boundaries, and vice-versa.
- b. The proportion of employees making midday trips internal to the center ranged between 29% and 33% at sites with at least 60% of the work force in professional, technical, managerial, or administrative positions. If the proportion in these positions was less than 60%, the midday trips internal to the center ranged between 20% and 23%.
- c. The proportion of employees who used on-site facilities ranged as follows for the listed land use:
- | | |
|-----------------|-----------|
| Restaurant | 6% to 65% |
| Bank | 0% to 43% |
| Health Club | 1% to 8% |
| Travel Services | 1% to 12% |
| Medical Office | 1% to 5% |

Table VIII-5
Characteristics of NCHRP 323 Study Sites

Site No.	Office		Retail		Hotel	Residential	
	GFA (million)	Employees	GLA (million)	Employees	Rooms	DUs ¹	DUs ²
1	4.7	12,880	3	6,150	1,000	556	N/A
2	3.5	10,465	4	6,865	1,800	1,201	(2,300) ²
3	17.0	35,020	7	13,355	3,100	823	(15,000) ²
4	13.0	39,000	2	3,430	1,800	206	(206) ²
5	13.0	32,500	3	5,150	910 ³	1,745	(2,000) ²
6	4.0	13,700	3	6,155	2,200	2,017	(3,000) ²

¹ Number of dwelling units surveyed.

² Estimated total dwelling units on site.

³ Number of rooms at surveyed sites.

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**Table VIII-6
Data Collection Activities at NCHRP 323 Study Sites**

Activity	Land Use			
	Office	Retail	Hotel	Residential
Workplace Survey	X			
Residential Survey				X
Vehicle Counts	X	X	X	X
Pedestrian Counts	X	X	X	X
Pedestrian Interviews	X	X	X	

- d. The proportion of office visitors coming from within the center ranged from 15% to 59% in the A.M. peak period and from 15% to 68% in the P.M. peak. Averages at the smaller centers were 30% in the A.M. and 33% in the P.M. For the larger centers these averages were 54% in the A.M. and 58% in the P.M.

Retail

- a. The proportion of trips generated by the retail sites that were internal to the activity centers ranged from 7% to 68%, with an average of 37%, during the midday peak and from 7% to 57%, with an average of 24%, during the P.M. peak.
- b. For the larger centers these percentages were 47% during midday and 31% during the P.M. peak. The smaller centers exhibited percentages of 23% and 14% midday and evening, respectively.

Note: These percentages were derived from surveys at seven regional malls ranging in size from 970,000 square feet to 2.2 million square feet.

Residential

- a. The proportion of employed residents who work within the activity center ranged between 13% and 50%. This percentage averaged 31% for owner-occupied units and 28% for rental units.
- b. For the larger centers 33% of the employed residents worked within the center. This percentage was 27% for the smaller centers.
- c. The impact of this relatively high internal trip-making on overall center travel patterns was minimal for two reasons. First, the number of units (and therefore the number of potential employees) is rela-

tively small compared to the total number of jobs. Second, many of the residential developments attract senior citizens and therefore have lower proportions of employed residents.

Hotel

- a. The proportion of trips with origins or destinations within the activity center ranged from 13% to 53% in the A.M. peak period and from 15% to 46% in the P.M. peak period.
- b. For the larger centers the average percentages were 37% in the A.M. and 36% in the P.M. In the morning peak period 29% of the trips entering the hotels originated within the center and 44% of the trips leaving the hotels were destined to locations within the center. In the evening peak period 35% originated from and 36% were destined to locations within the center.
- c. For the smaller centers the average percentages were 19% in the A.M. and 27% in the P.M. In the morning peak period 14% of the trips entering the hotels originated within the center and 27% of the trips leaving the hotels were destined to locations within the center. In the evening peak period 33% originated from and 18% were destined to locations within the center.

5. Shared Parking, Barton-Aschman Associates and The Urban Land Institute, 1983.

This report contains data on the effect of the captive market. Table VIII-7 summarizes Exhibit 23 from that report, indicating the percentage of employees who were patrons in the same nearby developments. This study reports sharing for parking, not trips.

**Table VIII-7
Effects of Captive Market**

<i>Percentage of Employees Who Are Also Patrons in Same or Nearby Development</i>				
<i>Type of Development</i>	<i>CBD Site</i>		<i>Non-CBD Site</i>	
	<i>Average</i>	<i>Range</i>	<i>Average</i>	<i>Range</i>
Single-Use Site	29	0-76	19	0-78
Mixed-Use Site	61	22-85	28	0-83
All Sites	43	0-85	24	0-83

The ULI report also indicated a strong linkage between hotel guests and nearby restaurants or retail uses. In one survey of eight hotels, 73% to 100% of the guests indicated that they were also patrons at nearby retail establishments and/or restaurants. Another survey of six hotels indicated a range of 80% to 90%. It further stated that these results appeared to be consistent for both downtown and suburban hotels.

6. State DOT Capture Rate Guidelines

Florida has formal guidelines describing factors such as location of the site, market area, and specific combination and amount of land use types.

Florida DOT's capture rate guidelines are as follows¹:

Internal capture describes trips that are satisfied entirely on-site by using an internal circulation system. Internal trips that must use the external roadway network cannot be considered internally captured trips.

1. Use caution when allowing large numbers of internal capture for a mixed-use development. A study by the Colorado/Wyoming Section of ITE, Trip Generation Technical Committee, showed a lack of proof that large mixed-use developments have a significant internal capture rate.²
2. Things to consider when looking at internal capture are as follows:

- a. How remote is this project?
- b. What is the timing for construction of commercial facilities as compared to the timing for residential construction?
- c. Can those who work on-site afford to live on-site?
- d. Office uses may not attract on-site home-based work immediately.
- e. The commercial land use intended for drug and grocery stores will have larger internal capture percentages than large regional malls.
- f. What types of establishments off-site are there that will compete with on-site development?
- g. Is there an internal circulation system that enhances or discourages internal trips?
- h. Is there an internal shuttle system proposed and financially committed to?

Conclusions

Internal or captured trips can be a significant factor in the travel patterns at multi-use developments; however, very few studies have been conducted to quantify this phenomenon. Because of the very limited data base, it is not reasonable to draw conclusions regarding the specific value of capture rates or allowable reductions in trips to account for internal trips. Based on the studies reported in this chapter, however, several general conclusions can be stated:

1. Internal trip making varies according to the combination of land uses.
 - a. Sites having both residential and non-residential components have the most

¹ Excerpted from "Minimum Guidelines for the Review of Developments of Regional Impact (DRI)," Draft, November 1989.

² "Trip Generation for Mixed Use Developments," *ITE Journal*, February 1987.

potential for internal trips, especially during peak periods.

b. Sites having only non-residential components have the least potential for internal peak hour trips; however, the presence of a hotel or motel increases the potential.

2. Internal trip making varies by time of day; i.e., the capture rate can be expected to be different during the morning peak, evening peak, midday, and on a daily basis. The variation can be expected to follow logical trip-making patterns. For example, there is little trip making between residences and shopping/retail areas during the morning peak hour. On the other hand, there is considerable trip-making between residences and offices during both morning and evening peaks. As a final example, there are considerable internal trips made between offices and shopping/retail during the midday, particularly for lunch.
3. Use of existing ITE trip rates or equations to calculate the base on which to derive capture rates is inherently incorrect. The assumption is made that the individual land uses within the site being studied are "average," and thus the ITE rates or equations accurately calculate the individual land use trips. The correct way to develop a capture rate is to actually count the individual land use trips and compare them with a count of external trips at the site.
4. The specific results reported in NCHRP 323 should probably not be universally applied to all sizes and configurations of multi-use sites. There are relatively few sites being developed and/or reviewed that have the size and configuration characteristics of suburban activity centers (as defined in NCHRP 323). It is not clear whether the findings from such large sites are transferable to the much smaller sites that are much more common.

Data Request for Multi-Use Developments

The Institute is very much interested in increasing the data base on multi-use developments and would be most appreciative of receiving additional data. Submittal of multi-use development data is described in this chapter. The remainder of this chapter presents information on conducting a study of multi-use developments.

Data Collection for Multi-Use Developments

A trip generation study of a multi-use site requires careful selection and gathering of driveway volumes for the site, interviews of the users and residents of the site, and the comparison to anticipated trip generation as if the site were a series of discrete, individual, isolated land uses.

In selecting a site for a multi-use study, the following criteria should be adhered to:

1. The site should be fully developed. Sites new and only partially developed may not have reached a mature state and would not necessarily generate trips at the rate that a fully developed site would.
2. The driveway serving the site must not serve any other adjacent property. If driveways are shared with another site, it is not possible to separate that traffic destined for the multi-use site.
3. Multi-use developments must meet the criteria described earlier.

A great deal of data must be collected to conduct a multi-use trip generation study. A list of these data follows, adapted from the ITE Colorado-Wyoming Section report.

Driveway volumes should be gathered for as long a period as possible. Some previous studies have gathered only 24 to 48 hours of data. If these are all that can be obtained, the time period should be during mid-week (Tuesday through Thursday) to avoid daily variations that may occur on Fridays and Mondays. Ideally, seven consecutive days of data should be gathered, from which daily variations can be computed, and a weekday average and weekend average can also be calculated. Minimally, driveway counts should be made during

APPENDIX V

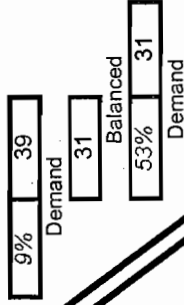
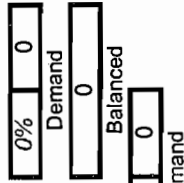
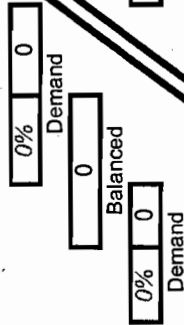
MIXED USE INTERNAL CAPTURE EXAMPLE

**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY**

Name of Development: Balboa Village
Time Period: PM Peak Hour

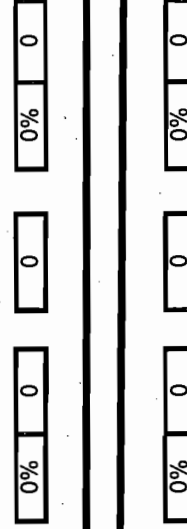
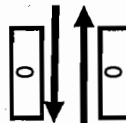
Analyst: MW
Date: 1/3/2006

LAND USE A		Retail	
ITE LU Code	Size	820	174,693 sf GLA
Enter	435	31	404
Exit	470	33	437
Total	905	64	841
%		7%	93%



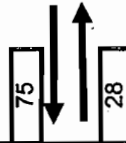
LAND USE B Office

ITE LU Code	Size	710	0
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
%		#DIV/0!	#DIV/0!



LAND USE C Residential

ITE LU Code	Size	220	270 DU
Enter	108	33	75
Exit	59	31	28
Total	167	64	103
%		38%	62%



Net External Trips for Multi-Use Development

	LAND USE A	LAND USE B	LAND USE C	TOTAL
Enter	404	0	75	479
Exit	437	0	28	465
Total	841	0	103	944
Single-Use Trip Gen. Est.	905	0	167	1072
				INTERNAL CAPTURE 12%

Changes you need to make, see Table 7.1 and 7.2 for rates.

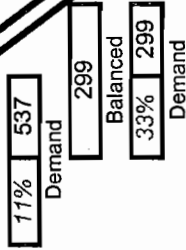
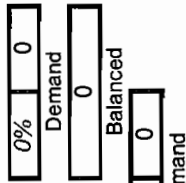
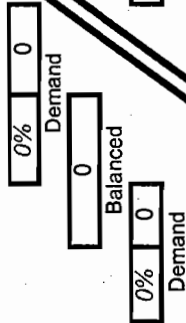
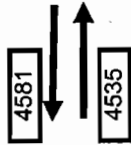
V3

**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY**

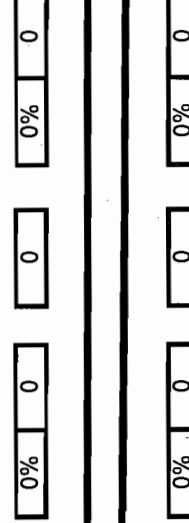
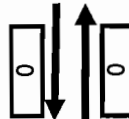
Name of Development: Balboa Village
Time Period: Daily Volumes

Analyst: MW
Date: 1/3/2006

LAND USE A		Retail	
ITE LU Code	Size	820	174,693 sf GLA
Enter	4880	345	4535
Exit	4880	299	4581
Total	9760	644	9116
%		7%	93%



LAND USE B		Office	
ITE LU Code	Size	710	0
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
%		#DIV/0!	#DIV/0!



LAND USE C		Residential	
ITE LU Code	Size	220	270 DU
Enter	907	299	608
Exit	907	345	562
Total	1814	644	1170
%		36%	64%



Net External Trips for Multi-Use Development

	LAND USE A	LAND USE B	LAND USE C	TOTAL
Enter	4535	0	608	5143
Exit	4581	0	562	5143
Total	9116	0	1170	10286
Single-Use Trip Gen. Est.	9760	0	1814	11574
				INTERNAL CAPTURE 11%

Changes you need to make, see Table 7.1 and 7.2 for rates.

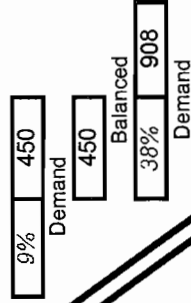
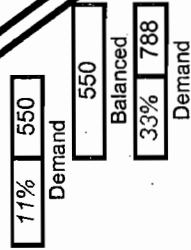
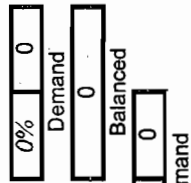
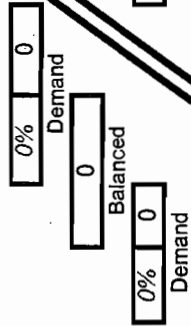
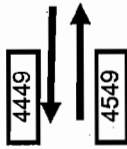
V4

**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY**

Name of Development: Airport Area
Time Period: Daily Volumes

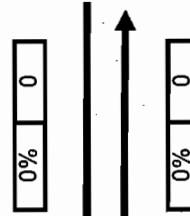
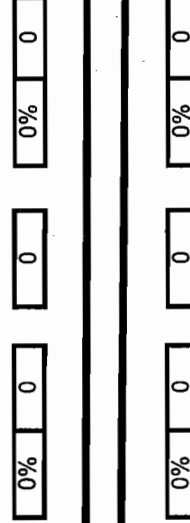
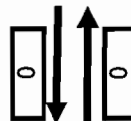
Analyst: MW
Date: 1/3/2006

LAND USE A		Retail	
ITE LU Code	Size	820	181,275 sf GLA
Enter	4999	Internal	4549
Exit	4999	External	4449
Total	9998	1000	8998
%		10%	90%



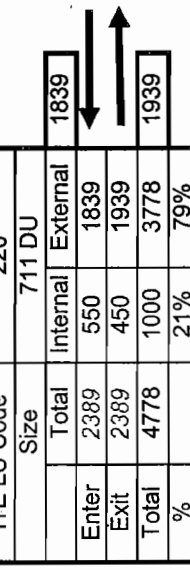
LAND USE B Office

ITE LU Code	Size	710	0
Enter	0	Internal	0
Exit	0	External	0
Total	0	0	0
%		#DIV/0!	#DIV/0!



LAND USE C Residential

ITE LU Code	Size	220	711 DU
Enter	2389	Internal	1839
Exit	2389	External	1939
Total	4778	1000	3778
%		21%	79%



Net External Trips for Multi-Use Development

	LAND USE A	LAND USE B	LAND USE C	TOTAL
Enter	4549	0	1839	6388
Exit	4449	0	1939	6388
Total	8998	0	3778	12776
Single-Use Trip Gen. Est.	9998	0	4778	14776
				INTERNAL CAPTURE 14%

Changes you need to make, see Table 7.1 and 7.2 for rates.

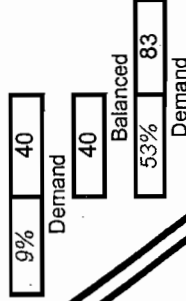
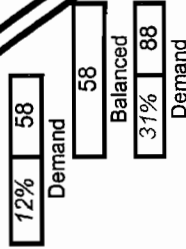
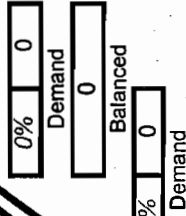
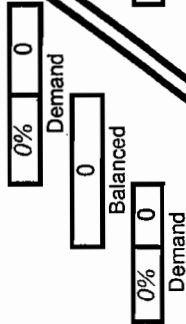
15

**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY**

Name of Development Airport Area
Time Period PM Peak Hour

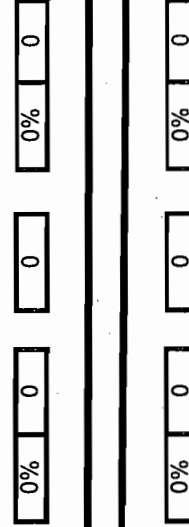
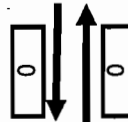
Analyst MW
Date 1/3/2006

LAND USE A		Retail	
ITE LU Code	Size	820	181,275 sf GLA
Total	444	40	404
Enter	482	58	424
Exit	926	98	828
%		11%	89%



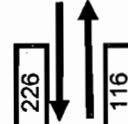
LAND USE B Office

ITE LU Code	Size	710	0
Total	0	0	0
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
%		#DIV/0!	#DIV/0!



LAND USE C Residential

ITE LU Code	Size	220	711 DU
Total	284	58	226
Enter	156	40	116
Exit	440	98	342
%		22%	78%



Net External Trips for Multi-Use Development

	LAND USE A	LAND USE B	LAND USE C	TOTAL
Enter	404	0	226	630
Exit	424	0	116	540
Total	828	0	342	1170
Single-Use Trip Gen. Est.	926	0	440	1366
				INTERNAL CAPTURE
				14%

Changes you need to make, see Table 7.1 and 7.2 for rates.

✓6

Table 7.1 Unconstrained Internal Capture Rates for Trip Origins
Within a Multi-Use Development

		Weekday		
		Midday Peak Hour	p.m. Peak hour of adjacent Street traffic	Daily
from OFFICE	to Office	2%	1%	2%
	to Retail	20%	23%	22%
	to Residential	0%	2%	2%
from Retail	to Office	3%	3%	3%
	to Retail	29%	20%	30%
	to Residential	7%	12%	11%
from Residential	to Office	N/A	N/A	N/A
	to Retail	34%	53%	38%
	to Residential	N/A	N/A	N/A

Table 7.2 Unconstrained Internal Capture Rates for Trip Destinations Within a Multi-Use Development

		Weekday		
		Midday Peak Hour	p.m. Peak hour of adjacent Street traffic	Daily
to OFFICE	from Office	6%	6%	2%
	from Retail	38%	31%	15%
	from Residential	0%	0%	N/A
to Retail	from Office	4%	22%	4%
	from Retail	31%	20%	28%
	from Residential	5%	9%	9%
to Residential	from Office	0%	2%	3%
	from Retail	37%	31%	33%
	from Residential	N/A	N/A	N/A

V8

APPENDIX W

GENERAL PLAN BUILDOUT WITHOUT PROJECT LAND USE

Study Area Land Use By NBTM Taz

Analysis Year: 2040
 RunId: BO10
 Land Use: bo10
 Network: Pref04

Reference Number: 01232
 Build Date: 11/10/2005
 Build Time: 8:00:00 PM
 Modeler: Archie Tan

NBTM TAZ	Land Use Code	Units	Description	Quantity
1373	10	TSF	General Commercial	35.080
1373	23	TSF	General Office	78.130
1373	24	TSF	Medical Office	0.000
1373	25	TSF	R & D	0.000
1373	26	TSF	Industrial	12.190
1374	10	TSF	General Commercial	35.080
1374	23	TSF	General Office	78.130
1374	24	TSF	Medical Office	0.000
1374	25	TSF	R & D	0.000
1374	26	TSF	Industrial	12.190
1375	10	TSF	General Commercial	54.460
1375	13	TSF	Restaurant	0.000
1375	23	TSF	General Office	117.200
1375	24	TSF	Medical Office	0.000
1375	25	TSF	R & D	0.000
1375	26	TSF	Industrial	18.290
1376	10	TSF	General Commercial	56.130
1376	23	TSF	General Office	125.010
1376	24	TSF	Medical Office	0.000
1376	25	TSF	R & D	0.000
1376	26	TSF	Industrial	19.510
1377	10	TSF	General Commercial	80.680
1377	23	TSF	General Office	179.700
1377	24	TSF	Medical Office	0.000
1377	25	TSF	R & D	0.000
1377	26	TSF	Industrial	28.050
1378	10	TSF	General Commercial	91.210
1378	23	TSF	General Office	203.140
1378	24	TSF	Medical Office	0.000
1378	25	TSF	R & D	0.000
1378	26	TSF	Industrial	31.700
1379	23	TSF	General Office	468.349
1380	23	TSF	General Office	152.776
1381	23	TSF	General Office	213.637
1382	23	TSF	General Office	321.530
1383	10	TSF	General Commercial	15.011
1383	23	TSF	General Office	275.267

Analysis Year: 2040
RunId: BO10
Land Use: bo10
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 8:00:00 PM
Modeler: Archie Tan

NBTM TAZ	Land Use Code	Units	Description	Quantity
1384	10	TSF	General Commercial	7.870
1384	23	TSF	General Office	91.756
1385	7	ROOM	Hotel	349.000
1386	23	TSF	General Office	228.210
1387	23	TSF	General Office	184.320
1388	10	TSF	General Commercial	106.110
1388	13	TSF	Restaurant	0.000
1388	16	TSF	Auto Dealer/Sales	130.000
1389	10	TSF	General Commercial	46.300
1389	23	TSF	General Office	201.780
1390	23	TSF	General Office	146.480
1391	23	TSF	General Office	97.420
1392	10	TSF	General Commercial	17.780
1392	23	TSF	General Office	160.590
1393	10	TSF	General Commercial	79.906
1395	7	ROOM	Hotel	164.000
1395	10	TSF	General Commercial	120.000
1395	13	TSF	Restaurant	0.000
1396	23	TSF	General Office	630.221
1397	23	TSF	General Office	104.420
1398	23	TSF	General Office	40.000
1399	23	TSF	General Office	161.490
1400	23	TSF	General Office	48.500
1401	24	TSF	Medical Office	86.096
1402	23	TSF	General Office	45.794
1403	7	ROOM	Hotel	471.000
1403	10	TSF	General Commercial	16.000
1403	18	TSF	Health Club	0.000
1403	23	TSF	General Office	393.050
1403	37	TSF	Youth Ctr/Service	10.900
1404	23	TSF	General Office	434.953
1405	10	TSF	General Commercial	129.300
1405	13	TSF	Restaurant	0.000
1405	15	TSF	Fast Food Restaurant	0.000
1405	23	TSF	General Office	688.160
1406	25	TSF	R & D	0.000
1406	26	TSF	Industrial	430.000
1407	10	TSF	General Commercial	31.720
1407	15	TSF	Fast Food Restaurant	1.560
1407	23	TSF	General Office	124.990

Analysis Year: 2040
RunId: BO10
Land Use: bo10
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 8:00:00 PM
Modeler: Archie Tan

NBTM TAZ	Land Use Code	Units	Description	Quantity
1407	24	TSF	Medical Office	3.770
1408	1	DU	Res-Low (SFD)	145.000
1409	7	ROOM	Hotel	300.000
1409	10	TSF	General Commercial	35.000
1409	13	TSF	Restaurant	8.000
1409	23	TSF	General Office	660.000
1409	38	ACRE	Park	3.330
1410	2	DU	Res-Medium (SFA)	88.000
1411	10	TSF	General Commercial	1.380
1411	40	ACRE	Golf Course	15.690
1412	1	DU	Res-Low (SFD)	60.000
1413	2	DU	Res-Medium (SFA)	33.000
1413	18	TSF	Health Club	60.330
1413	23	TSF	General Office	67.950
1413	39	ACRE	Regional Park	45.910
1415	1	DU	Res-Low (SFD)	153.000
1415	36	TSF	Church	8.730
1416	1	DU	Res-Low (SFD)	198.000
1417	1	DU	Res-Low (SFD)	56.000
1418	1	DU	Res-Low (SFD)	59.000
1419	1	DU	Res-Low (SFD)	173.000
1420	1	DU	Res-Low (SFD)	465.000
1421	1	DU	Res-Low (SFD)	116.000
1421	2	DU	Res-Medium (SFA)	60.000
1421	3	DU	Apartment	352.000
1421	10	TSF	General Commercial	174.800
1421	13	TSF	Restaurant	4.400
1421	15	TSF	Fast Food Restaurant	3.000
1421	23	TSF	General Office	214.700
1421	24	TSF	Medical Office	43.200
1421	29	STU	Elementary/Private School	636.000
1421	32	TSF	Library	5.200
1422	1	DU	Res-Low (SFD)	490.000
1423	1	DU	Res-Low (SFD)	266.000
1423	37	TSF	Youth Ctr/Service	18.230
1423	38	ACRE	Park	4.000
1424	3	DU	Apartment	1,445.000
1425	10	TSF	General Commercial	1.700
1425	23	TSF	General Office	128.800
1425	36	TSF	Church	24.100

Analysis Year: 2040
 RunId: BO10
 Land Use: bo10
 Network: Pref04

Reference Number: 01232
 Build Date: 11/10/2005
 Build Time: 8:00:00 PM
 Modeler: Archie Tan

NBTM TAZ	Land Use Code	Units	Description	Quantity
1426	1	DU	Res-Low (SFD)	151.000
1426	36	TSF	Church	40.000
1427	1	DU	Res-Low (SFD)	315.000
1427	2	DU	Res-Medium (SFA)	235.000
1427	10	TSF	General Commercial	8.400
1427	15	TSF	Fast Food Restaurant	1.700
1427	16	TSF	Auto Dealer/Sales	11.400
1427	23	TSF	General Office	17.600
1427	24	TSF	Medical Office	12.000
1427	30	STU	Junior/High School	2,184.000
1427	35	BEDS	Nursing/Conv. Home	68.000
1427	36	TSF	Church	59.700
1427	37	TSF	Youth Ctr/Service	13.400
1427	38	ACRE	Park	0.400
1428	1	DU	Res-Low (SFD)	257.000
1428	3	DU	Apartment	152.000
1428	7	ROOM	Hotel	140.000
1428	10	TSF	General Commercial	332.520
1428	13	TSF	Restaurant	0.000
1428	15	TSF	Fast Food Restaurant	0.000
1428	16	TSF	Auto Dealer/Sales	0.000
1428	19	CRT	Tennis Club	0.000
1428	20	SLIP	Marina	130.000
1428	23	TSF	General Office	75.090
1428	24	TSF	Medical Office	0.000
1428	37	TSF	Youth Ctr/Service	22.310
1429	1	DU	Res-Low (SFD)	656.000
1429	2	DU	Res-Medium (SFA)	13.000
1429	3	DU	Apartment	59.000
1429	21	SEAT	Theater	90.000
1429	29	STU	Elementary/Private School	436.000
1429	37	TSF	Youth Ctr/Service	0.900
1429	38	ACRE	Park	3.030
1430	1	DU	Res-Low (SFD)	30.000
1430	6	ROOM	Motel	0.000
1430	7	ROOM	Hotel	64.000
1430	10	TSF	General Commercial	275.980
1430	13	TSF	Restaurant	0.000
1430	15	TSF	Fast Food Restaurant	0.000
1430	16	TSF	Auto Dealer/Sales	0.000

Analysis Year: 2040
RunId: BO10
Land Use: bo10
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 8:00:00 PM
Modeler: Archie Tan

NBTM TAZ	Land Use Code	Units	Description	Quantity
1430	18	TSF	Health Club	0.000
1430	23	TSF	General Office	283.820
1430	33	TSF	Post Office	9.900
1431	3	DU	Apartment	36.000
1431	10	TSF	General Commercial	149.910
1431	13	TSF	Restaurant	0.000
1431	17	TSF	Yacht Club	0.000
1431	23	TSF	General Office	77.650
1432	1	DU	Res-Low (SFD)	205.000
1432	2	DU	Res-Medium (SFA)	379.000
1432	3	DU	Apartment	8.000
1432	6	ROOM	Motel	0.000
1432	7	ROOM	Hotel	53.000
1432	10	TSF	General Commercial	66.380
1432	13	TSF	Restaurant	0.000
1432	23	TSF	General Office	135.730
1432	24	TSF	Medical Office	11.290
1433	1	DU	Res-Low (SFD)	98.000
1433	2	DU	Res-Medium (SFA)	0.000
1433	3	DU	Apartment	142.000
1433	23	TSF	General Office	67.160
1433	24	TSF	Medical Office	24.460
1433	26	TSF	Industrial	298.120
1433	35	BEDS	Nursing/Conv. Home	270.000
1434	34	BED	Hospital	1,167.000
1435	1	DU	Res-Low (SFD)	68.000
1435	2	DU	Res-Medium (SFA)	28.000
1435	10	TSF	General Commercial	10.800
1435	13	TSF	Restaurant	8.400
1435	15	TSF	Fast Food Restaurant	2.700
1436	2	DU	Res-Medium (SFA)	0.000
1436	3	DU	Apartment	1,370.000
1436	4	DU	Elderly Residential	0.000
1436	10	TSF	General Commercial	3.500
1436	24	TSF	Medical Office	39.600
1436	26	TSF	Industrial	48.002
1436	35	BEDS	Nursing/Conv. Home	169.000
1436	38	ACRE	Park	0.170
1437	26	TSF	Industrial	5.000
1438	23	TSF	General Office	57.400

Analysis Year: 2040
RunId: BO10
Land Use: bo10
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 8:00:00 PM
Modeler: Archie Tan

NBTM TAZ	Land Use Code	Units	Description	Quantity
1438	26	TSF	Industrial	8.330
1438	27	TSF	Mini-Storage/Warehouse	0.000
1438	29	STU	Elementary/Private School	622.000
1439	2	DU	Res-Medium (SFA)	0.000
1439	3	DU	Apartment	464.000
1439	5	DU	Mobile Home	0.000
1439	10	TSF	General Commercial	50.910
1439	23	TSF	General Office	239.510
1439	24	TSF	Medical Office	61.630
1439	25	TSF	R & D	0.000
1439	26	TSF	Industrial	837.270
1439	35	BEDS	Nursing/Conv. Home	59.000
1440	2	DU	Res-Medium (SFA)	281.000
1441	1	DU	Res-Low (SFD)	462.000
1441	2	DU	Res-Medium (SFA)	0.000
1441	3	DU	Apartment	293.000
1441	6	ROOM	Motel	90.000
1441	10	TSF	General Commercial	50.030
1441	13	TSF	Restaurant	0.000
1441	15	TSF	Fast Food Restaurant	0.000
1442	1	DU	Res-Low (SFD)	43.000
1442	2	DU	Res-Medium (SFA)	214.000
1442	38	ACRE	Park	6.790
1443	1	DU	Res-Low (SFD)	125.000
1443	2	DU	Res-Medium (SFA)	350.000
1443	3	DU	Apartment	54.000
1443	38	ACRE	Park	6.500
1444	1	DU	Res-Low (SFD)	94.000
1444	2	DU	Res-Medium (SFA)	498.500
1445	1	DU	Res-Low (SFD)	139.000
1445	2	DU	Res-Medium (SFA)	509.000
1446	1	DU	Res-Low (SFD)	124.000
1446	2	DU	Res-Medium (SFA)	239.000
1446	38	ACRE	Park	2.690
1447	1	DU	Res-Low (SFD)	88.000
1447	2	DU	Res-Medium (SFA)	415.000
1448	1	DU	Res-Low (SFD)	87.000
1448	2	DU	Res-Medium (SFA)	103.000
1448	10	TSF	General Commercial	26.170
1448	13	TSF	Restaurant	2.240

Analysis Year: 2040
RunId: BO10
Land Use: bo10
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 8:00:00 PM
Modeler: Archie Tan

NBTM TAZ	Land Use Code	Units	Description	Quantity
1448	23	TSF	General Office	12.190
1448	24	TSF	Medical Office	0.990
1449	2	DU	Res-Medium (SFA)	95.000
1449	10	TSF	General Commercial	74.900
1449	13	TSF	Restaurant	0.000
1449	15	TSF	Fast Food Restaurant	0.000
1449	23	TSF	General Office	20.020
1450	2	DU	Res-Medium (SFA)	159.000
1450	3	DU	Apartment	3.000
1450	6	ROOM	Motel	16.000
1450	10	TSF	General Commercial	67.590
1450	13	TSF	Restaurant	0.000
1450	23	TSF	General Office	35.750
1451	1	DU	Res-Low (SFD)	22.000
1451	2	DU	Res-Medium (SFA)	110.000
1451	3	DU	Apartment	5.000
1451	6	ROOM	Motel	3.000
1451	7	ROOM	Hotel	22.000
1451	10	TSF	General Commercial	82.750
1451	13	TSF	Restaurant	0.000
1451	15	TSF	Fast Food Restaurant	0.000
1451	23	TSF	General Office	8.000
1452	2	DU	Res-Medium (SFA)	12.000
1452	10	TSF	General Commercial	130.510
1452	13	TSF	Restaurant	0.000
1452	15	TSF	Fast Food Restaurant	0.000
1452	23	TSF	General Office	90.220
1452	37	TSF	Youth Ctr/Service	6.000
1453	10	TSF	General Commercial	111.580
1453	13	TSF	Restaurant	0.000
1453	21	SEAT	Theater	685.000
1453	23	TSF	General Office	119.900
1453	24	TSF	Medical Office	90.710
1453	36	TSF	Church	26.010
1454	1	DU	Res-Low (SFD)	41.000
1454	2	DU	Res-Medium (SFA)	172.000
1454	10	TSF	General Commercial	201.780
1454	11	ACRE	Comm./Recreation	0.850
1454	13	TSF	Restaurant	0.000
1454	15	TSF	Fast Food Restaurant	0.000

Analysis Year: 2040
RunId: BO10
Land Use: bo10
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 8:00:00 PM
Modeler: Archie Tan

NBTM TAZ	Land Use Code	Units	Description	Quantity
1454	23	TSF	General Office	101.500
1454	37	TSF	Youth Ctr/Service	4.650
1455	1	DU	Res-Low (SFD)	3.000
1455	2	DU	Res-Medium (SFA)	403.000
1455	10	TSF	General Commercial	108.220
1455	13	TSF	Restaurant	9.200
1455	23	TSF	General Office	1.000
1455	26	TSF	Industrial	38.000
1456	1	DU	Res-Low (SFD)	1,040.000
1456	2	DU	Res-Medium (SFA)	102.000
1456	3	DU	Apartment	26.000
1457	1	DU	Res-Low (SFD)	218.000
1457	2	DU	Res-Medium (SFA)	476.000
1457	3	DU	Apartment	103.000
1457	5	DU	Mobile Home	58.000
1457	6	ROOM	Motel	26.000
1457	10	TSF	General Commercial	12.540
1457	15	TSF	Fast Food Restaurant	1.250
1457	20	SLIP	Marina	58.000
1457	28	TSF	Pre-school/Day Care	13.440
1457	29	STU	Elementary/Private School	389.000
1457	36	TSF	Church	10.050
1457	37	TSF	Youth Ctr/Service	17.400
1457	38	ACRE	Park	1.200
1458	1	DU	Res-Low (SFD)	366.000
1458	2	DU	Res-Medium (SFA)	684.000
1458	3	DU	Apartment	173.000
1458	10	TSF	General Commercial	20.810
1458	15	TSF	Fast Food Restaurant	0.000
1458	20	SLIP	Marina	14.000
1458	23	TSF	General Office	29.260
1458	24	TSF	Medical Office	0.000
1458	32	TSF	Library	4.800
1458	36	TSF	Church	2.000
1459	1	DU	Res-Low (SFD)	9.000
1459	2	DU	Res-Medium (SFA)	131.000
1459	3	DU	Apartment	69.000
1459	7	ROOM	Hotel	34.000
1459	10	TSF	General Commercial	196.530
1459	11	ACRE	Comm./Recreation	4.250

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1459	13	TSF	Restaurant	0.000
1459	15	TSF	Fast Food Restaurant	0.000
1459	17	TSF	Yacht Club	0.000
1459	21	SEAT	Theater	350.000
1459	23	TSF	General Office	60.000
1459	33	TSF	Post Office	1.700
1459	37	TSF	Youth Ctr/Service	4.970
1460	1	DU	Res-Low (SFD)	677.000
1460	2	DU	Res-Medium (SFA)	194.000
1460	3	DU	Apartment	51.000
1460	19	CRT	Tennis Club	2.000
1460	38	ACRE	Park	0.830
1461	1	DU	Res-Low (SFD)	194.000
1461	2	DU	Res-Medium (SFA)	271.000
1461	10	TSF	General Commercial	4.990
1461	13	TSF	Restaurant	20.000
1461	17	TSF	Yacht Club	8.290
1461	20	SLIP	Marina	352.000
1461	23	TSF	General Office	12.000
1461	26	TSF	Industrial	5.040
1461	38	ACRE	Park	0.780
1462	1	DU	Res-Low (SFD)	32.000
1463	3	DU	Apartment	520.000
1463	10	TSF	General Commercial	112.450
1463	13	TSF	Restaurant	21.550
1463	16	TSF	Auto Dealer/Sales	34.900
1464	1	DU	Res-Low (SFD)	43.000
1464	2	DU	Res-Medium (SFA)	3,119.000
1464	6	ROOM	Motel	4.000
1464	10	TSF	General Commercial	73.070
1464	13	TSF	Restaurant	16.550
1464	15	TSF	Fast Food Restaurant	5.430
1464	23	TSF	General Office	18.370
1464	24	TSF	Medical Office	2.750
1464	33	TSF	Post Office	1.900
1464	36	TSF	Church	3.000
1464	38	ACRE	Park	1.620
1465	5	DU	Mobile Home	397.000
1465	10	TSF	General Commercial	60.630
1465	13	TSF	Restaurant	18.190

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1465	20	SLIP	Marina	218.000
1465	23	TSF	General Office	30.310
1466	2	DU	Res-Medium (SFA)	149.000
1466	7	ROOM	Hotel	754.000
1466	13	TSF	Restaurant	83.930
1466	19	CRT	Tennis Club	16.000
1466	22	ACRE	Newport Dunes	64.000
1466	23	TSF	General Office	6.000
1466	37	TSF	Youth Ctr/Service	2.690
1466	40	ACRE	Golf Course	2.000
1467	3	DU	Apartment	1,185.000
1468	29	STU	Elementary/Private School	320.000
1469	2	DU	Res-Medium (SFA)	808.000
1469	3	DU	Apartment	225.000
1469	28	TSF	Pre-school/Day Care	6.450
1469	29	STU	Elementary/Private School	294.000
1469	30	STU	Junior/High School	1,801.000
1469	36	TSF	Church	34.960
1469	37	TSF	Youth Ctr/Service	34.970
1469	38	ACRE	Park	8.000
1470	2	DU	Res-Medium (SFA)	511.000
1470	10	TSF	General Commercial	89.777
1470	19	CRT	Tennis Club	19.000
1470	23	TSF	General Office	11.660
1471	1	DU	Res-Low (SFD)	460.000
1471	38	ACRE	Park	2.000
1472	16	TSF	Auto Dealer/Sales	209.750
1473	3	DU	Apartment	300.000
1474	1	DU	Res-Low (SFD)	168.000
1474	2	DU	Res-Medium (SFA)	208.000
1474	3	DU	Apartment	736.000
1474	10	TSF	General Commercial	50.000
1474	13	TSF	Restaurant	6.400
1474	38	ACRE	Park	14.200
1475	25	TSF	R & D	81.730
1475	27	TSF	Mini-Storage/Warehouse	196.420
1475	29	STU	Elementary/Private School	52.000
1475	33	TSF	Post Office	55.200
1475	36	TSF	Church	100.280
1476	2	DU	Res-Medium (SFA)	227.000

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1477	1	DU	Res-Low (SFD)	500.000
1478	2	DU	Res-Medium (SFA)	50.000
1479	1	DU	Res-Low (SFD)	101.000
1479	2	DU	Res-Medium (SFA)	54.000
1480	2	DU	Res-Medium (SFA)	144.000
1480	3	DU	Apartment	80.000
1481	1	DU	Res-Low (SFD)	101.000
1481	2	DU	Res-Medium (SFA)	182.000
1481	10	TSF	General Commercial	2.300
1482	1	DU	Res-Low (SFD)	142.000
1482	2	DU	Res-Medium (SFA)	43.000
1482	3	DU	Apartment	73.000
1482	40	ACRE	Golf Course	181.200
1483	1	DU	Res-Low (SFD)	21.000
1484	7	ROOM	Hotel	425.000
1484	10	TSF	General Commercial	21.700
1484	13	TSF	Restaurant	0.000
1484	23	TSF	General Office	955.030
1485	9	TSF	Regional Commercial	1,559.000
1485	10	TSF	General Commercial	0.000
1485	21	SEAT	Theater	1,700.000
1486	2	DU	Res-Medium (SFA)	0.000
1486	3	DU	Apartment	245.000
1486	10	TSF	General Commercial	144.330
1486	13	TSF	Restaurant	0.000
1486	16	TSF	Auto Dealer/Sales	0.000
1486	23	TSF	General Office	881.000
1486	31	TSF	Cultural/Learning Center	40.000
1487	2	DU	Res-Medium (SFA)	69.000
1487	7	ROOM	Hotel	611.000
1487	10	TSF	General Commercial	7.500
1487	19	CRT	Tennis Club	22.000
1487	23	TSF	General Office	11.630
1487	40	ACRE	Golf Course	99.400
1488	2	DU	Res-Medium (SFA)	122.000
1489	2	DU	Res-Medium (SFA)	228.000
1489	10	TSF	General Commercial	5.000
1490	23	TSF	General Office	115.800
1491	23	TSF	General Office	468.640
1491	24	TSF	Medical Office	351.950

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1492	10	TSF	General Commercial	38.100
1492	13	TSF	Restaurant	0.000
1492	18	TSF	Health Club	0.000
1492	21	SEAT	Theater	2,150.000
1492	23	TSF	General Office	442.110
1493	23	TSF	General Office	484.300
1494	10	TSF	General Commercial	105.000
1494	32	TSF	Library	65.000
1495	1	DU	Res-Low (SFD)	423.000
1495	2	DU	Res-Medium (SFA)	81.000
1495	10	TSF	General Commercial	2.380
1495	17	TSF	Yacht Club	62.020
1495	20	SLIP	Marina	283.000
1495	23	TSF	General Office	186.530
1495	38	ACRE	Park	6.530
1496	1	DU	Res-Low (SFD)	73.000
1496	2	DU	Res-Medium (SFA)	256.000
1496	3	DU	Apartment	152.000
1496	29	STU	Elementary/Private School	12.030
1497	1	DU	Res-Low (SFD)	143.000
1497	2	DU	Res-Medium (SFA)	214.000
1497	3	DU	Apartment	48.000
1498	1	DU	Res-Low (SFD)	234.000
1498	2	DU	Res-Medium (SFA)	0.000
1498	3	DU	Apartment	48.000
1498	10	TSF	General Commercial	92.440
1498	13	TSF	Restaurant	0.000
1498	23	TSF	General Office	23.980
1498	38	ACRE	Park	3.600
1499	1	DU	Res-Low (SFD)	198.000
1500	1	DU	Res-Low (SFD)	178.000
1500	38	ACRE	Park	1.030
1501	1	DU	Res-Low (SFD)	849.000
1501	2	DU	Res-Medium (SFA)	0.000
1501	10	TSF	General Commercial	106.840
1501	13	TSF	Restaurant	0.000
1501	15	TSF	Fast Food Restaurant	0.000
1501	21	SEAT	Theater	500.000
1501	23	TSF	General Office	36.050
1501	24	TSF	Medical Office	0.000

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1501	38	ACRE	Park	2.500
1502	1	DU	Res-Low (SFD)	186.000
1502	2	DU	Res-Medium (SFA)	0.000
1502	10	TSF	General Commercial	104.410
1502	13	TSF	Restaurant	0.000
1502	15	TSF	Fast Food Restaurant	0.000
1502	23	TSF	General Office	33.090
1502	24	TSF	Medical Office	0.000
1503	1	DU	Res-Low (SFD)	52.000
1503	2	DU	Res-Medium (SFA)	0.000
1503	10	TSF	General Commercial	88.020
1503	13	TSF	Restaurant	0.000
1503	15	TSF	Fast Food Restaurant	0.000
1503	18	TSF	Health Club	0.000
1503	23	TSF	General Office	9.970
1503	24	TSF	Medical Office	0.000
1504	1	DU	Res-Low (SFD)	542.000
1504	2	DU	Res-Medium (SFA)	0.000
1504	10	TSF	General Commercial	88.020
1504	13	TSF	Restaurant	0.000
1504	15	TSF	Fast Food Restaurant	0.000
1504	18	TSF	Health Club	0.000
1504	23	TSF	General Office	9.970
1504	24	TSF	Medical Office	0.000
1504	36	TSF	Church	12.340
1505	1	DU	Res-Low (SFD)	843.000
1505	2	DU	Res-Medium (SFA)	0.000
1505	10	TSF	General Commercial	58.900
1505	13	TSF	Restaurant	0.000
1505	15	TSF	Fast Food Restaurant	0.000
1505	23	TSF	General Office	35.000
1505	32	TSF	Library	3.800
1505	33	TSF	Post Office	5.000
1506	1	DU	Res-Low (SFD)	363.000
1506	2	DU	Res-Medium (SFA)	0.000
1506	3	DU	Apartment	6.000
1507	1	DU	Res-Low (SFD)	142.000
1507	38	ACRE	Park	0.780
1508	1	DU	Res-Low (SFD)	193.000
1508	2	DU	Res-Medium (SFA)	137.000

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1508	29	STU	Elementary/Private School	790.000
1508	37	TSF	Youth Ctr/Service	5.850
1510	1	DU	Res-Low (SFD)	200.000
1511	1	DU	Res-Low (SFD)	20.000
1511	10	TSF	General Commercial	70.790
1512	2	DU	Res-Medium (SFA)	246.000
1513	1	DU	Res-Low (SFD)	348.000
1513	4	DU	Elderly Residential	100.000
1513	18	TSF	Health Club	1.000
1513	37	TSF	Youth Ctr/Service	24.070
1514	1	DU	Res-Low (SFD)	41.000
1515	3	DU	Apartment	388.000
1515	28	TSF	Pre-school/Day Care	8.400
1516	2	DU	Res-Medium (SFA)	67.000
1516	4	DU	Elderly Residential	100.000
1516	36	TSF	Church	88.700
1517	3	DU	Apartment	160.000
1517	10	TSF	General Commercial	79.453
1517	23	TSF	General Office	9.750
1517	28	TSF	Pre-school/Day Care	13.390
1517	29	STU	Elementary/Private School	406.000
1517	30	STU	Junior/High School	780.000
1517	36	TSF	Church	31.380
1518	1	DU	Res-Low (SFD)	441.000
1518	2	DU	Res-Medium (SFA)	67.000
1518	38	ACRE	Park	0.950
1519	1	DU	Res-Low (SFD)	471.000
1519	38	ACRE	Park	14.230
1520	1	DU	Res-Low (SFD)	207.000
1521	1	DU	Res-Low (SFD)	580.000
1521	29	STU	Elementary/Private School	498.000
1521	38	ACRE	Park	9.730
1522	1	DU	Res-Low (SFD)	119.000
1522	2	DU	Res-Medium (SFA)	120.000
1522	10	TSF	General Commercial	106.217
1522	23	TSF	General Office	12.900
1523	1	DU	Res-Low (SFD)	212.000
1523	10	TSF	General Commercial	55.000
1525	3	DU	Apartment	1,148.000
1526	1	DU	Res-Low (SFD)	410.000

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1526	36	TSF	Church	44.444
1527	2	DU	Res-Medium (SFA)	0.000
1527	38	ACRE	Park	18.500
1528	28	TSF	Pre-school/Day Care	7.320
1528	36	TSF	Church	26.010
1529	1	DU	Res-Low (SFD)	154.000
1530	1	DU	Res-Low (SFD)	22.000
1530	3	DU	Apartment	284.000
1530	32	TSF	Library	5.800
1530	37	TSF	Youth Ctr/Service	16.869
1530	38	ACRE	Park	14.390
1532	30	STU	Junior/High School	450.000
1534	1	DU	Res-Low (SFD)	147.000
1534	29	STU	Elementary/Private School	600.000
1535	1	DU	Res-Low (SFD)	200.000
1535	2	DU	Res-Medium (SFA)	559.000
1535	3	DU	Apartment	841.000
1536	2	DU	Res-Medium (SFA)	48.000
1536	10	TSF	General Commercial	114.173
1537	1	DU	Res-Low (SFD)	98.000
1537	2	DU	Res-Medium (SFA)	108.000
1538	1	DU	Res-Low (SFD)	144.000
1539	1	DU	Res-Low (SFD)	158.000
1539	7	ROOM	Hotel	250.000
1540	7	ROOM	Hotel	540.000
1541	1	DU	Res-Low (SFD)	55.000
1543	7	ROOM	Hotel	1,210.000
1544	1	DU	Res-Low (SFD)	178.000
1545	1	DU	Res-Low (SFD)	311.000
1547	1	DU	Res-Low (SFD)	212.000
1548	1	DU	Res-Low (SFD)	112.000
1548	2	DU	Res-Medium (SFA)	529.000
1549	1	DU	Res-Low (SFD)	61.000
1550	1	DU	Res-Low (SFD)	179.000
1550	2	DU	Res-Medium (SFA)	322.000
1553	1	DU	Res-Low (SFD)	66.000
1553	2	DU	Res-Medium (SFA)	70.000
1554	1	DU	Res-Low (SFD)	207.000
1554	2	DU	Res-Medium (SFA)	84.000
1555	7	ROOM	Hotel	150.000

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1555	10	TSF	General Commercial	137.500
1556	3	DU	Apartment	1,220.000
1558	3	DU	Apartment	1,052.000
1558	23	TSF	General Office	117.800
1558	26	TSF	Industrial	82.200
1559	1	DU	Res-Low (SFD)	225.000
1559	3	DU	Apartment	238.000
1559	10	TSF	General Commercial	50.000
1559	23	TSF	General Office	117.800
1559	26	TSF	Industrial	82.200
1563	23	TSF	General Office	396.869
1618	1	DU	Res-Low (SFD)	6.000
1671	1	DU	Res-Low (SFD)	138.000
1671	23	TSF	General Office	178.781
1672	1	DU	Res-Low (SFD)	12.000
1673	10	TSF	General Commercial	7.877
1673	23	TSF	General Office	280.212
1674	10	TSF	General Commercial	126.748
1674	23	TSF	General Office	87.077
1675	1	DU	Res-Low (SFD)	156.000
1675	23	TSF	General Office	21.472
1713	34	BED	Hospital	834.000
1714	3	DU	Apartment	673.000
1715	10	TSF	General Commercial	0.000
1715	24	TSF	Medical Office	136.050
1716	24	TSF	Medical Office	220.080
1716	35	BEDS	Nursing/Conv. Home	0.000

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OCTAM TAZ	Land Use Code	Description	Units	Quantity
2327	10	General Commercial	TSF	33.100
2327	15	Fast Food Restaurant	TSF	1.560
2327	23	General Office	TSF	521.859
2327	24	Medical Office	TSF	3.770
2327	40	Golf Course	ACRE	15.690
2328	1	Res-Low (SFD)	DU	306.000
2328	10	General Commercial	TSF	134.625
2328	23	General Office	TSF	567.542
2336	7	Hotel	ROOM	349.000
2336	10	General Commercial	TSF	272.977
2336	13	Restaurant	TSF	0.000
2336	16	Auto Dealer/Sales	TSF	130.000
2336	23	General Office	TSF	2,542.115
2337	10	General Commercial	TSF	352.640
2337	13	Restaurant	TSF	0.000
2337	23	General Office	TSF	781.310
2337	24	Medical Office	TSF	0.000
2337	25	R & D	TSF	0.000
2337	26	Industrial	TSF	121.930
2338	10	General Commercial	TSF	129.300
2338	13	Restaurant	TSF	0.000
2338	15	Fast Food Restaurant	TSF	0.000
2338	23	General Office	TSF	1,123.113
2338	25	R & D	TSF	0.000
2338	26	Industrial	TSF	430.000
2339	23	General Office	TSF	295.784
2339	24	Medical Office	TSF	86.096
2340	7	Hotel	ROOM	164.000
2340	10	General Commercial	TSF	120.000
2340	13	Restaurant	TSF	0.000
2340	23	General Office	TSF	734.641
2341	7	Hotel	ROOM	471.000
2341	10	General Commercial	TSF	16.000
2341	18	Health Club	TSF	0.000
2341	23	General Office	TSF	393.050
2341	37	Youth Ctr/Service	TSF	10.900
2375	1	Res-Low (SFD)	DU	22.000

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OCTAM TAZ	Land Use Code	Description	Units	Quantity
2375	3	Apartment	DU	284.000
2375	32	Library	TSF	5.800
2375	37	Youth Ctr/Service	TSF	16.869
2375	38	Park	ACRE	14.390
2377	30	Junior/High School	STU	450.000
2378	1	Res-Low (SFD)	DU	179.000
2378	2	Res-Medium (SFA)	DU	322.000
2381	2	Res-Medium (SFA)	DU	281.000
2393	1	Res-Low (SFD)	DU	198.000
2399	1	Res-Low (SFD)	DU	225.000
2399	3	Apartment	DU	1,290.000
2399	10	General Commercial	TSF	50.000
2399	23	General Office	TSF	235.600
2399	26	Industrial	TSF	169.400
2400	3	Apartment	DU	1,220.000
2401	1	Res-Low (SFD)	DU	462.000
2401	2	Res-Medium (SFA)	DU	0.000
2401	3	Apartment	DU	293.000
2401	6	Motel	ROOM	90.000
2401	10	General Commercial	TSF	50.030
2401	13	Restaurant	TSF	0.000
2401	15	Fast Food Restaurant	TSF	0.000
2402	2	Res-Medium (SFA)	DU	0.000
2402	3	Apartment	DU	1,834.000
2402	4	Elderly Residential	DU	0.000
2402	5	Mobile Home	DU	0.000
2402	10	General Commercial	TSF	54.410
2402	23	General Office	TSF	296.910
2402	24	Medical Office	TSF	101.230
2402	25	R & D	TSF	0.000
2402	26	Industrial	TSF	893.602
2402	27	Mini-Storage/Warehouse	TSF	0.000
2402	29	Elementary/Private School	STU	622.000
2402	35	Nursing/Conv. Home	BEDS	228.000
2402	38	Park	ACRE	0.170
2403	1	Res-Low (SFD)	DU	98.000
2403	2	Res-Medium (SFA)	DU	0.000
2403	3	Apartment	DU	815.000
2403	10	General Commercial	TSF	0.000
2403	23	General Office	TSF	67.160

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Reference Number: 01232
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Build Time: 8:00:00 PM
Modeler: Archie Tan

OCTAM TAZ	Land Use Code	Description	Units	Quantity
2403	24	Medical Office	TSF	380.590
2403	26	Industrial	TSF	298.120
2403	34	Hospital	BED	2,001.000
2403	35	Nursing/Conv. Home	BEDS	270.000
2404	1	Res-Low (SFD)	DU	454.000
2404	2	Res-Medium (SFA)	DU	1,329.500
2404	3	Apartment	DU	54.000
2404	10	General Commercial	TSF	10.800
2404	13	Restaurant	TSF	8.400
2404	15	Fast Food Restaurant	TSF	2.700
2404	38	Park	ACRE	15.980
2405	1	Res-Low (SFD)	DU	380.000
2405	2	Res-Medium (SFA)	DU	1,978.000
2405	3	Apartment	DU	8.000
2405	6	Motel	ROOM	19.000
2405	7	Hotel	ROOM	22.000
2405	10	General Commercial	TSF	803.500
2405	11	Comm./Recreation	ACRE	0.850
2405	13	Restaurant	TSF	11.440
2405	15	Fast Food Restaurant	TSF	0.000
2405	21	Theater	SEAT	685.000
2405	23	General Office	TSF	388.580
2405	24	Medical Office	TSF	91.700
2405	26	Industrial	TSF	38.000
2405	36	Church	TSF	26.010
2405	37	Youth Ctr/Service	TSF	10.650
2406	1	Res-Low (SFD)	DU	1,040.000
2406	2	Res-Medium (SFA)	DU	102.000
2406	3	Apartment	DU	26.000
2407	1	Res-Low (SFD)	DU	891.000
2407	2	Res-Medium (SFA)	DU	392.000
2407	3	Apartment	DU	67.000
2407	6	Motel	ROOM	0.000
2407	7	Hotel	ROOM	117.000
2407	10	General Commercial	TSF	342.360
2407	13	Restaurant	TSF	0.000
2407	15	Fast Food Restaurant	TSF	0.000
2407	16	Auto Dealer/Sales	TSF	0.000
2407	18	Health Club	TSF	0.000
2407	21	Theater	SEAT	90.000

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Reference Number: 01232
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DCTAM TAZ	Land Use Code	Description	Units	Quantity
2407	23	General Office	TSF	419.550
2407	24	Medical Office	TSF	11.290
2407	29	Elementary/Private School	STU	436.000
2407	33	Post Office	TSF	9.900
2407	37	Youth Ctr/Service	TSF	0.900
2407	38	Park	ACRE	3.030
2408	1	Res-Low (SFD)	DU	315.000
2408	2	Res-Medium (SFA)	DU	235.000
2408	10	General Commercial	TSF	8.400
2408	15	Fast Food Restaurant	TSF	1.700
2408	16	Auto Dealer/Sales	TSF	11.400
2408	23	General Office	TSF	17.600
2408	24	Medical Office	TSF	12.000
2408	30	Junior/High School	STU	2,184.000
2408	35	Nursing/Conv. Home	BEDS	68.000
2408	36	Church	TSF	59.700
2408	37	Youth Ctr/Service	TSF	13.400
2408	38	Park	ACRE	0.400
2409	1	Res-Low (SFD)	DU	257.000
2409	3	Apartment	DU	188.000
2409	7	Hotel	ROOM	140.000
2409	10	General Commercial	TSF	482.430
2409	13	Restaurant	TSF	0.000
2409	15	Fast Food Restaurant	TSF	0.000
2409	16	Auto Dealer/Sales	TSF	0.000
2409	17	Yacht Club	TSF	0.000
2409	19	Tennis Club	CRT	0.000
2409	20	Marina	SLIP	130.000
2409	23	General Office	TSF	152.740
2409	24	Medical Office	TSF	0.000
2409	37	Youth Ctr/Service	TSF	22.310
2410	1	Res-Low (SFD)	DU	1,270.000
2410	2	Res-Medium (SFA)	DU	1,485.000
2410	3	Apartment	DU	396.000
2410	5	Mobile Home	DU	58.000
2410	6	Motel	ROOM	26.000
2410	7	Hotel	ROOM	34.000
2410	10	General Commercial	TSF	229.880
2410	11	Comm./Recreation	ACRE	4.250
2410	13	Restaurant	TSF	0.000

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Reference Number: 01232
Build Date: 11/10/2005
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Modeler: Archie Tan

DCTAM TAZ	Land Use Code	Description	Units	Quantity
2410	15	Fast Food Restaurant	TSF	1.250
2410	17	Yacht Club	TSF	0.000
2410	19	Tennis Club	CRT	2.000
2410	20	Marina	SLIP	72.000
2410	21	Theater	SEAT	350.000
2410	23	General Office	TSF	89.260
2410	24	Medical Office	TSF	0.000
2410	28	Pre-school/Day Care	TSF	13.440
2410	29	Elementary/Private School	STU	389.000
2410	32	Library	TSF	4.800
2410	33	Post Office	TSF	1.700
2410	36	Church	TSF	12.050
2410	37	Youth Ctr/Service	TSF	22.370
2410	38	Park	ACRE	2.030
2411	1	Res-Low (SFD)	DU	226.000
2411	2	Res-Medium (SFA)	DU	271.000
2411	3	Apartment	DU	520.000
2411	10	General Commercial	TSF	117.440
2411	13	Restaurant	TSF	41.550
2411	16	Auto Dealer/Sales	TSF	34.900
2411	17	Yacht Club	TSF	8.290
2411	20	Marina	SLIP	352.000
2411	23	General Office	TSF	12.000
2411	26	Industrial	TSF	5.040
2411	38	Park	ACRE	0.780
2412	1	Res-Low (SFD)	DU	43.000
2412	2	Res-Medium (SFA)	DU	3,119.000
2412	6	Motel	ROOM	4.000
2412	10	General Commercial	TSF	73.070
2412	13	Restaurant	TSF	16.550
2412	15	Fast Food Restaurant	TSF	5.430
2412	23	General Office	TSF	18.370
2412	24	Medical Office	TSF	2.750
2412	33	Post Office	TSF	1.900
2412	36	Church	TSF	3.000
2412	38	Park	ACRE	1.620
2413	1	Res-Low (SFD)	DU	1,397.000
2413	2	Res-Medium (SFA)	DU	337.000
2413	3	Apartment	DU	152.000
2413	10	General Commercial	TSF	197.240

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Land Use: bo10
Network: Pref04

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OCTAM TAZ	Land Use Code	Description	Units	Quantity
2413	13	Restaurant	TSF	0.000
2413	15	Fast Food Restaurant	TSF	0.000
2413	17	Yacht Club	TSF	62.020
2413	18	Health Club	TSF	0.000
2413	20	Marina	SLIP	283.000
2413	21	Theater	SEAT	500.000
2413	23	General Office	TSF	232.550
2413	24	Medical Office	TSF	0.000
2413	29	Elementary/Private School	STU	12.030
2413	38	Park	ACRE	9.030
2414	1	Res-Low (SFD)	DU	1,748.000
2414	2	Res-Medium (SFA)	DU	0.000
2414	3	Apartment	DU	6.000
2414	10	General Commercial	TSF	146.920
2414	13	Restaurant	TSF	0.000
2414	15	Fast Food Restaurant	TSF	0.000
2414	18	Health Club	TSF	0.000
2414	23	General Office	TSF	44.970
2414	24	Medical Office	TSF	0.000
2414	32	Library	TSF	3.800
2414	33	Post Office	TSF	5.000
2414	36	Church	TSF	12.340
2415	1	Res-Low (SFD)	DU	761.000
2415	2	Res-Medium (SFA)	DU	214.000
2415	3	Apartment	DU	96.000
2415	10	General Commercial	TSF	196.850
2415	13	Restaurant	TSF	0.000
2415	15	Fast Food Restaurant	TSF	0.000
2415	23	General Office	TSF	57.070
2415	24	Medical Office	TSF	0.000
2415	38	Park	ACRE	3.600
2416	1	Res-Low (SFD)	DU	413.000
2416	2	Res-Medium (SFA)	DU	383.000
2416	10	General Commercial	TSF	70.790
2416	29	Elementary/Private School	STU	790.000
2416	37	Youth Ctr/Service	TSF	5.850
2417	1	Res-Low (SFD)	DU	389.000
2417	4	Elderly Residential	DU	100.000
2417	18	Health Club	TSF	1.000
2417	37	Youth Ctr/Service	TSF	24.070

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OCTAM TAZ	Land Use Code	Description	Units	Quantity
2418	1	Res-Low (SFD)	DU	1,547.000
2418	2	Res-Medium (SFA)	DU	60.000
2418	3	Apartment	DU	1,797.000
2418	10	General Commercial	TSF	176.500
2418	13	Restaurant	TSF	4.400
2418	15	Fast Food Restaurant	TSF	3.000
2418	23	General Office	TSF	343.500
2418	24	Medical Office	TSF	43.200
2418	29	Elementary/Private School	STU	636.000
2418	32	Library	TSF	5.200
2418	36	Church	TSF	64.100
2418	37	Youth Ctr/Service	TSF	18.230
2418	38	Park	ACRE	4.000
2419	1	Res-Low (SFD)	DU	442.000
2419	2	Res-Medium (SFA)	DU	33.000
2419	18	Health Club	TSF	60.330
2419	23	General Office	TSF	67.950
2419	36	Church	TSF	8.730
2419	39	Regional Park	ACRE	45.910
2420	1	Res-Low (SFD)	DU	145.000
2420	2	Res-Medium (SFA)	DU	88.000
2420	7	Hotel	ROOM	300.000
2420	10	General Commercial	TSF	35.000
2420	13	Restaurant	TSF	8.000
2420	23	General Office	TSF	660.000
2420	38	Park	ACRE	3.330
2421	2	Res-Medium (SFA)	DU	511.000
2421	10	General Commercial	TSF	89.777
2421	19	Tennis Club	CRT	19.000
2421	23	General Office	TSF	11.660
2421	29	Elementary/Private School	STU	320.000
2422	2	Res-Medium (SFA)	DU	808.000
2422	3	Apartment	DU	1,410.000
2422	28	Pre-school/Day Care	TSF	6.450
2422	29	Elementary/Private School	STU	294.000
2422	30	Junior/High School	STU	1,801.000
2422	36	Church	TSF	34.960
2422	37	Youth Ctr/Service	TSF	34.970
2422	38	Park	ACRE	8.000
2423	2	Res-Medium (SFA)	DU	149.000

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OCTAM TAZ	Land Use Code	Description	Units	Quantity
2423	5	Mobile Home	DU	397.000
2423	7	Hotel	ROOM	754.000
2423	10	General Commercial	TSF	60.630
2423	13	Restaurant	TSF	102.120
2423	19	Tennis Club	CRT	16.000
2423	20	Marina	SLIP	218.000
2423	22	Newport Dunes	ACRE	64.000
2423	23	General Office	TSF	36.310
2423	37	Youth Ctr/Service	TSF	2.690
2423	40	Golf Course	ACRE	2.000
2424	2	Res-Medium (SFA)	DU	419.000
2424	3	Apartment	DU	245.000
2424	7	Hotel	ROOM	611.000
2424	10	General Commercial	TSF	156.830
2424	13	Restaurant	TSF	0.000
2424	16	Auto Dealer/Sales	TSF	0.000
2424	19	Tennis Club	CRT	22.000
2424	23	General Office	TSF	1,008.430
2424	31	Cultural/Learning Center	TSF	40.000
2424	40	Golf Course	ACRE	99.400
2425	7	Hotel	ROOM	425.000
2425	9	Regional Commercial	TSF	1,559.000
2425	10	General Commercial	TSF	21.700
2425	13	Restaurant	TSF	0.000
2425	21	Theater	SEAT	1,700.000
2425	23	General Office	TSF	955.030
2426	10	General Commercial	TSF	143.100
2426	13	Restaurant	TSF	0.000
2426	18	Health Club	TSF	0.000
2426	21	Theater	SEAT	2,150.000
2426	23	General Office	TSF	926.410
2426	32	Library	TSF	65.000
2427	23	General Office	TSF	468.640
2427	24	Medical Office	TSF	351.950
2428	1	Res-Low (SFD)	DU	168.000
2428	2	Res-Medium (SFA)	DU	208.000
2428	3	Apartment	DU	736.000
2428	10	General Commercial	TSF	50.000
2428	13	Restaurant	TSF	6.400
2428	25	R & D	TSF	81.730

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DCTAM TAZ	Land Use Code	Description	Units	Quantity
2428	27	Mini-Storage/Warehouse	TSF	196.420
2428	29	Elementary/Private School	STU	52.000
2428	33	Post Office	TSF	55.200
2428	36	Church	TSF	100.280
2428	38	Park	ACRE	14.200
2429	3	Apartment	DU	300.000
2429	16	Auto Dealer/Sales	TSF	209.750
2430	1	Res-Low (SFD)	DU	601.000
2430	2	Res-Medium (SFA)	DU	331.000
2431	1	Res-Low (SFD)	DU	460.000
2431	38	Park	ACRE	2.000
2432	1	Res-Low (SFD)	DU	264.000
2432	2	Res-Medium (SFA)	DU	369.000
2432	3	Apartment	DU	153.000
2432	10	General Commercial	TSF	2.300
2432	40	Golf Course	ACRE	181.200
2433	1	Res-Low (SFD)	DU	416.000
2433	2	Res-Medium (SFA)	DU	0.000
2433	3	Apartment	DU	1,148.000
2433	28	Pre-school/Day Care	TSF	7.320
2433	36	Church	TSF	70.454
2433	38	Park	ACRE	18.500
2434	1	Res-Low (SFD)	DU	212.000
2434	10	General Commercial	TSF	55.000
2435	1	Res-Low (SFD)	DU	1,051.000
2435	3	Apartment	DU	388.000
2435	28	Pre-school/Day Care	TSF	8.400
2435	29	Elementary/Private School	STU	498.000
2435	38	Park	ACRE	23.960
2436	1	Res-Low (SFD)	DU	560.000
2436	2	Res-Medium (SFA)	DU	187.000
2436	10	General Commercial	TSF	106.217
2436	23	General Office	TSF	12.900
2436	38	Park	ACRE	0.950
2437	1	Res-Low (SFD)	DU	207.000
2437	2	Res-Medium (SFA)	DU	67.000
2437	3	Apartment	DU	160.000
2437	4	Elderly Residential	DU	100.000
2437	10	General Commercial	TSF	79.453
2437	23	General Office	TSF	9.750

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Modeler: Archie Tan

OCTAM TAZ	Land Use Code	Description	Units	Quantity
2437	28	Pre-school/Day Care	TSF	13.390
2437	29	Elementary/Private School	STU	406.000
2437	30	Junior/High School	STU	780.000
2437	36	Church	TSF	120.080
2438	1	Res-Low (SFD)	DU	354.000
2438	2	Res-Medium (SFA)	DU	559.000
2438	3	Apartment	DU	841.000
2439	1	Res-Low (SFD)	DU	164.000
2439	2	Res-Medium (SFA)	DU	226.000
2439	10	General Commercial	TSF	114.173
2440	1	Res-Low (SFD)	DU	532.000
2440	2	Res-Medium (SFA)	DU	529.000
2440	29	Elementary/Private School	STU	600.000
2441	7	Hotel	ROOM	540.000
2442	1	Res-Low (SFD)	DU	144.000
2443	1	Res-Low (SFD)	DU	158.000
2443	7	Hotel	ROOM	250.000
2444	1	Res-Low (SFD)	DU	142.000
2444	38	Park	ACRE	0.780
2445	1	Res-Low (SFD)	DU	233.000
2445	38	Park	ACRE	1.030
2447	7	Hotel	ROOM	1,210.000
2782	1	Res-Low (SFD)	DU	311.000
2785	1	Res-Low (SFD)	DU	207.000
2785	2	Res-Medium (SFA)	DU	84.000
2785	7	Hotel	ROOM	150.000
2785	10	General Commercial	TSF	137.500
2786	1	Res-Low (SFD)	DU	178.000

Study Area Land Use for City of Newport Beach

Analysis Year: 2040
 RunId: BO10
 Land Use: bo10
 Network: Pref04

Reference Number: 01232
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 Build Time: 8:00:00 PM
 Modeler: Archie Tan

Land Use Code	Description	Units	Quantity
1	Res-Low (SFD)	DU	19,570.000
2	Res-Medium (SFA)	DU	15,076.500
3	Apartment	DU	14,427.000
4	Elderly Residential	DU	200.000
5	Mobile Home	DU	455.000
6	Motel	ROOM	139.000
7	Hotel	ROOM	5,537.000
9	Regional Commercial	TSF	1,559.000
10	General Commercial	TSF	5,120.942
11	Comm./Recreation	ACRE	5.100
13	Restaurant	TSF	198.860
15	Fast Food Restaurant	TSF	15.640
16	Auto Dealer/Sales	TSF	386.050
17	Yacht Club	TSF	70.310
18	Health Club	TSF	61.330
19	Tennis Club	CRT	59.000
20	Marina	SLIP	1,055.000
21	Theater	SEAT	5,475.000
22	Newport Dunes	ACRE	64.000
23	General Office	TSF	13,492.354
24	Medical Office	TSF	1,084.576
25	R & D	TSF	81.730
26	Industrial	TSF	1,956.092
27	Mini-Storage/Warehouse	TSF	196.420
28	Pre-school/Day Care	TSF	49.000
29	Elementary/Private School	STU	5,055.030
30	Junior/High School	STU	5,215.000
31	Cultural/Learning Center	TSF	40.000
32	Library	TSF	84.600
33	Post Office	TSF	73.700
34	Hospital	BED	2,001.000
35	Nursing/Conv. Home	BEDS	566.000
36	Church	TSF	511.704
37	Youth Ctr/Service	TSF	183.209
38	Park	ACRE	127.780
39	Regional Park	ACRE	45.910
40	Golf Course	ACRE	298.290

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APPENDIX X

**GENERAL PLAN BUILDOUT WITHOUT PROJECT
SOCIOECONOMIC DATA (SED)**

SED From Land Use by NBTM Taz

Analysis Year: 2040
 RunId: Bo10
 Land Use: Bo10
 Network: Pref04

Reference Number: 01232
 Build Date: 11/10/2005
 Build Time: 2:00:00 PM
 Modeler: Archie Tan

NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment
1373						72	41	222		
1374						72	41	222		
1375						112	63	334		
1376						116	66	356		
1377						166	95	512		
1378						188	108	578		
1379						55	211	1,151		
1380						18	69	375		
1381						25	96	525		
1382						38	145	790		
1383						59	127	679		
1384						25	43	227		
1385						31	377	157		
1386						27	103	561		
1387						22	83	453		
1388						386	58	149		
1389						116	100	505		
1390						17	66	360		
1391						11	44	239		
1392						54	76	398		
1393						144	14	14		
1395						231	199	95		
1396						74	284	1,548		
1397						12	47	257		
1398						5	18	98		
1399						19	73	397		
1400						6	22	119		
1401						23	194	77		
1402						5	21	113		
1403						117	757	1,181		
1404						51	196	1,069		
1405						313	333	1,714		

Analysis Year: 2040
RunId: Bo10
Land Use: Bo10
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment
1406							0	851		
1407						77	70	317		
1408	138			344	220	3	21	4		
1409						187	629	1,767		
1410		84		201	125		2	1		
1411						4	10	0		
1412	57			143	91	1	9	2		
1413		31		75	47	44	210	167		
1415	145			363	233	3	29	13		
1416	188			470	301	4	28	6		
1417	53			133	85	1	8	2		
1418	56			140	90	1	8	2		
1419	164			411	263	3	25	5		
1420	442			1,104	707	9	66	13		
1421	110	391		981	697	373	265	710	636	
1422	466			1,164	745	9	70	14		
1423	253			632	404	5	168	8		
1424		1,373		2,334	1,785		27	14		
1425						18	78	341		
1426	143			359	230	3	54	44		
1427	299	223	68	1,352	814	49	251	473	2,184	
1428	244	144		856	578	638	441	332		
1429	623	68		1,683	1,089	13	105	87	436	
1430	29			71	46	537	291	787		
1431		34		58	44	279	63	218		
1432	195	368		1,364	862	147	192	389		
1433	93	135	270	732	324	16	183	808		
1434							1,634	3,268		
1435	65	27		225	143	49	12	10		
1436		1,302	169	2,382	1,692	17	167	161		
1437								10		
1438						7	26	251	622	
1439		441	59	808	573	136	282	2,321		
1440		267		641	400		5	3		

Analysis Year: 2040
RunId: Bo10
Land Use: Bo10
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment
1441	439	278		1,570	1,064	107	161	41		
1442	41	203		590	370	1	14	3		
1443	119	384		1,182	755	2	29	7		
1444	89	474		1,360	853	2	23	7		
1445	125	458		1,237	537	3	28	8		
1446	118	227		839	529	2	24	6		
1447	79	374		959	415	2	19	6		
1448	78	93		367	162	56	26	40		
1449		86		180	77	137	24	64		
1450		146		305	131	127	46	104		
1451	20	104		259	113	153	50	47		
1452		11		23	10	245	106	245		
1453						246	313	436		
1454	37	155		406	176	377	127	288		
1455	3	363		768	329	217	28	105		
1456	936	115		2,292	1,037	19	143	29		
1457	196	573		1,578	687	38	290	94	389	
1458	329	771		2,282	1,008	49	98	102		
1459	8	180		371	164	372	170	209		
1460	609	221		1,785	803	14	96	24		
1461	175	244		896	394	103	59	99		
1462	29			63	29	1	4	1		
1463		468		796	374	307	40	70		
1464	39	2,807		5,980	2,565	192	104	106		
1465		377		830	377	179	25	120		
1466		142		340	212	346	853	436		
1467		1,126		1,914	1,463		23	11		
1468								48	320	
1469		981		2,206	1,429		342	359	2,095	
1470		485		1,165	728	182	31	82		
1471	437			1,093	699	9	67	13		
1472						315	63	210		
1473		285		485	371		6	3		
1474	160	897		2,062	1,461	109	59	26		

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NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment
1475						6	388	574	52	
1476		216		518	323		4	2		
1477	475			1,188	760	10	71	14		
1478		48		114	71		1	0		
1479	96	51		363	230	2	15	3		
1480		213		458	304		4	2		
1481	96	173		655	413	6	18	5		
1482	135	110		553	367	21	131	5		
1483	20			50	32	0	3	1		
1484						189	893	2,542		
1485						1,638	458	583		
1486		233		396	303	363	547	2,233		
1487		66		157	98	102	727	343		
1488		116		278	174		2	1		
1489		217		520	325	9	5	3		
1490						14	52	285		
1491						150	1,003	1,468		
1492						142	249	1,136		
1493						57	218	1,190		
1494						189	214	84		
1495	381	73		991	446	99	302	505		
1496	66	367		861	383	1	17	7	12	
1497	129	236		761	337	3	24	6		
1498	211	43		537	245	173	62	82		
1499	178			392	178	4	27	5		
1500	169			423	271	3	26	5		
1501	764	0		1,681	764	217	162	141		
1502	167	0		368	167	195	59	105		
1503	47	0		103	47	161	27	42		
1504	515	0		1,287	824	170	107	68		
1505	801	0		2,002	1,281	127	178	129		
1506	345	6		872	559	7	52	10		
1507	135			337	216	3	21	4		
1508	183	130		771	489	4	71	125	790	

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NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment
1510	190			475	304	4	29	6		
1511	19			48	30	128	16	13		
1512		234		561	351		5	2		
1513	331	100		967	554	7	221	10		
1514	39			97	62	1	6	1		
1515		369		627	479		66	4		
1516		164		293	120		72	89		
1517		152		258	198	144	141	249	1,186	
1518	419	64		1,200	766	8	65	13		
1519	447			1,119	716	9	76	13		
1520	197			492	315	4	29	6		
1521	551			1,378	882	11	88	91	498	
1522	113	114		556	352	195	44	55		
1523	201			504	322	103	40	16		
1525		1,091		1,854	1,418		22	11		
1526	390			974	623	8	94	56		
1527		0		0	0		11	0		
1528							72	26		
1529	146			366	234	3	22	4		
1530	21	270		511	384	0	153	9		
1532								68	450	
1534	140			349	223	3	21	94	600	
1535	190	1,330		3,108	2,139	4	55	19		
1536		46		109	68	206	21	21		
1537	93	103		479	303	2	16	4		
1538	137			342	219	3	21	4		
1539	150			375	240	26	293	117		
1540						49	583	243		
1541	52			131	84	1	8	2		
1543						109	1,307	545		
1544	169			423	271	3	25	5		
1545	295			739	473	6	44	9		
1547	201			504	322	4	30	6		
1548	106	503		1,472	924	2	26	8		

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NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment
1549	58			145	93	1	9	2		
1550	170	306		1,159	731	3	32	8		
1553	63	67		316	200	1	11	3		
1554	197	80		683	434	4	31	7		
1555						261	187	92		
1556		1,098		1,867	1,427		22	11		
1558		947		1,610	1,231	14	72	462		
1559	203	214		870	602	108	97	469		
1563						46	179	975		
1618	6			14	9	0	1	0		
1671	131			328	210	24	100	443		
1672	11			29	18	0	2	0		
1673						47	128	690		
1674						238	62	237		
1675	148			371	237	5	32	57		
1713							1,168	2,335		
1714		639		1,087	831		13	6		
1715						37	306	122		
1716			0	0		59	495	198		

SED From Land Use by OCTAM Taz

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 Modeler: Archie Tan

OCTAM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non-Resident Univ/College Enrollment
2327						128	259	1,293		
2328	291			727	465	315	323	1,427		
2336						1,028	1,610	6,583		
2337						726	415	2,225		
2338						364	529	3,634		
2339						58	327	804		
2340						317	529	1,900		
2341						117	757	1,181		
2375	21	270		511	384	0	153	9		
2377								68	450	
2378	170	306		1,159	731	3	32	8		
2381		267		641	400		5	3		
2393	188			470	301	4	28	6		
2399	203	1,161		2,480	1,833	122	169	941		
2400		1,098		1,867	1,427		22	11		
2401	439	278		1,570	1,064	107	161	41		
2402		1,742	228	3,190	2,265	160	475	2,733	622	
2403	93	774	270	1,819	1,155	112	3,798	6,738		
2404	431	1,314		4,197	2,651	56	103	34		
2405	342	1,787		4,503	1,950	1,563	766	1,343		
2406	936	115		2,292	1,037	19	143	29		
2407	846	436		3,118	1,996	698	588	1,262	436	
2408	299	223	68	1,352	814	49	251	473	2,184	
2409	244	179		914	623	917	503	550		
2410	1,143	1,745		6,016	2,662	473	654	429	389	
2411	203	712		1,755	797	410	103	170		
2412	39	2,807		5,980	2,565	192	104	106		
2413	1,257	440		3,636	1,640	478	508	695	12	
2414	1,661	6		4,161	2,664	303	337	208		
2415	685	279		2,058	927	375	172	199		
2416	392	364		1,854	1,174	135	120	147	790	
2417	370	100		1,064	616	8	226	11		

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OCTAM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment
2418	1,470	1,764		6,713	4,656	419	736	1,145	636	
2419	420	31		1,125	719	53	280	189		
2420	138	84		545	346	189	652	1,771		
2421		485		1,165	728	182	31	130	320	
2422		2,107		4,119	2,893		365	370	2,095	
2423		519		1,169	589	525	877	556		
2424		631		1,351	900	487	1,334	2,865		
2425						1,827	1,351	3,124		
2426						387	681	2,410		
2427						150	1,003	1,468		
2428	160	897		2,062	1,461	114	447	600	52	
2429		285		485	371	315	69	213		
2430	571	314		2,182	1,385	11	92	20		
2431	437			1,093	699	9	67	13		
2432	251	496		1,715	1,116	27	157	13		
2433	395	1,091		2,842	2,050	8	200	93		
2434	201			504	322	103	40	16		
2435	998	369		3,123	2,077	20	230	108	498	
2436	532	178		1,756	1,118	203	109	69		
2437	197	316		1,043	633	148	242	344	1,186	
2438	336	1,330		3,473	2,373	7	77	23		
2439	156	215		905	571	209	48	27		
2440	505	503		2,470	1,562	10	86	110	600	
2441						49	583	243		
2442	137			342	219	3	21	4		
2443	150			375	240	26	293	117		
2444	135			337	216	3	21	4		
2445	221			553	354	4	34	7		
2447						109	1,307	545		
2782	295			739	473	6	44	9		
2785	197	80		683	434	265	218	99		
2786	169			423	271	3	25	5		

SED From Land Use for City of Newport Beach

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Modeler: Archie Tan

Occupied Single Family Dwelling Units	Occupied Multi - Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment
18,324	28,097	566	100,625	60,919	15,108	25,887	51,971	10,270	

Supplemental SED by NBTM Taz

Analysis Year: 2040
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Modeler: Archie Tan

NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment
1414	80	0	0	237	113	2	57	53	4	0
1531	202	237	2	791	559	89	61	43	0	0
1532	21	0	0	66	35	0	0	0	0	0

Supplemental SED by OCTAM Taz

Analysis Year: 2040
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Land Use: Bo10
Network: Pref04

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OCTAM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non-Resident Univ/College Enrollment
2377	21	0	0	66	35	0	0	0	0	0
2414	202	237	2	791	559	89	61	43	0	0
2419	80	0	0	237	113	2	57	53	4	0

Supplemental SED for City of Newport Beach

Analysis Year: 2040
RunId: Bo10
Land Use: Bo10
Network: Pref04

Reference Number: 01232
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Modeler: Archie Tan

Occupied Single Family Dwelling Units	Occupied Multi - Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment
303	237	2	1,093	706	91	118	95	4	0

Final SED by NBTM Taz

Analysis Year: 2040
 RunId: Bo10
 Land Use: Bo10
 Network: Pref04

Reference Number: 01232
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NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non-Resident Univ/College Enrollment	Median Income
1373					72	41	222			0
1374					72	41	222			0
1375					112	63	334			0
1376					116	66	356			0
1377					166	95	512			0
1378					188	108	578			0
1379					55	211	1,151			100,096
1380					18	69	375			100,096
1381					25	96	525			100,096
1382					38	145	790			100,096
1383					59	127	679			100,096
1384					25	43	227			100,096
1385					31	377	157			100,096
1386					27	103	561			100,096
1387					22	83	453			100,096
1388					386	58	149			100,096
1389					116	100	505			100,096
1390					17	66	360			100,096
1391					11	44	239			100,096
1392					54	76	398			100,096
1393					144	14	14			100,096
1394										100,096
1395					231	199	95			0
1396					74	284	1,548			0
1397					12	47	257			0
1398					5	18	98			0
1399					19	73	397			0
1400					6	22	119			0
1401					23	194	77			0
1402					5	21	113			0
1403					117	757	1,181			0
1404					51	196	1,069			0
1405					313	333	1,714			0
1406						0	851			0
1407					77	70	317			27,500

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NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment	Median Income
1408	138			344	220	3	21	4			119,951
1409						187	629	1,767			119,951
1410		84		201	125		2	1			119,951
1411						4	10	0			27,500
1412	57			143	91	1	9	2			119,697
1413		31		75	47	44	210	167			119,697
1414	80	0	0	237	113	2	57	53	4	0	119,697
1415	145			363	233	3	29	13			119,697
1416	188			470	301	4	28	6			93,006
1417	53			133	85	1	8	2			119,697
1418	56			140	90	1	8	2			104,110
1419	164			411	263	3	25	5			119,697
1420	442			1,104	707	9	66	13			104,110
1421	110	391		981	697	373	265	710	636		104,110
1422	466			1,164	745	9	70	14			104,110
1423	253			632	404	5	168	8			104,110
1424		1,373		2,334	1,785		27	14			104,110
1425						18	78	341			104,110
1426	143			359	230	3	54	44			104,110
1427	299	223	68	1,352	814	49	251	473	2,184		100,260
1428	244	144		856	578	638	441	332			115,496
1429	623	68		1,683	1,089	13	105	87	436		107,136
1430	29			71	46	537	291	787			107,136
1431		34		58	44	279	63	218			115,496
1432	195	368		1,364	862	147	192	389			107,136
1433	93	135	270	732	324	16	183	808			76,372
1434							1,634	3,268			76,372
1435	65	27		225	143	49	12	10			91,787
1436		1,302	169	2,382	1,692	17	167	161			69,767
1437								10			77,503
1438						7	26	251	622		69,767
1439		441	59	808	573	136	282	2,321			69,767
1440		267		641	400		5	3			71,467
1441	439	278		1,570	1,064	107	161	41			101,940
1442	41	203		590	370	1	14	3			91,787
1443	119	384		1,182	755	2	29	7			91,787
1444	89	474		1,360	853	2	23	7			91,787

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NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment	Median Income
1445	125	458		1,237	537	3	28	8			88,082
1446	118	227		839	529	2	24	6			91,787
1447	79	374		959	415	2	19	6			88,082
1448	78	93		367	162	56	26	40			88,082
1449		86		180	77	137	24	64			88,082
1450		146		305	131	127	46	104			88,082
1451	20	104		259	113	153	50	47			88,082
1452		11		23	10	245	106	245			88,082
1453						246	313	436			88,082
1454	37	155		406	176	377	127	288			88,082
1455	3	363		768	329	217	28	105			88,082
1456	936	115		2,292	1,037	19	143	29			129,233
1457	196	573		1,578	687	38	290	94	389		90,227
1458	329	771		2,282	1,008	49	98	102			90,227
1459	8	180		371	164	372	170	209			90,227
1460	609	221		1,785	803	14	96	24			90,227
1461	175	244		896	394	103	59	99			131,252
1462	29			63	29	1	4	1			131,252
1463		468		796	374	307	40	70			131,252
1464	39	2,807		5,980	2,565	192	104	106			98,125
1465		377		830	377	179	25	120			94,839
1466		142		340	212	346	853	436			94,839
1467		1,126		1,914	1,463		23	11			81,284
1468								48	320		118,212
1469		981		2,206	1,429		342	359	2,095		81,284
1470		485		1,165	728	182	31	82			118,212
1471	437			1,093	699	9	67	13			122,550
1472						315	63	210			101,634
1473		285		485	371		6	3			101,634
1474	160	897		2,062	1,461	109	59	26			100,935
1475						6	388	574	52		100,935
1476		216		518	323		4	2			141,139
1477	475			1,188	760	10	71	14			141,139
1478		48		114	71		1	0			141,139
1479	96	51		363	230	2	15	3			141,139
1480		213		458	304		4	2			160,575
1481	96	173		655	413	6	18	5			160,575

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NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment	Median Income
1482	135	110		553	367	21	131	5			160,575
1483	20			50	32	0	3	1			160,575
1484						189	893	2,542			110,553
1485						1,638	458	583			110,553
1486		233		396	303	363	547	2,233			109,129
1487		66		157	98	102	727	343			109,129
1488		116		278	174		2	1			109,129
1489		217		520	325	9	5	3			109,129
1490						14	52	285			109,129
1491						150	1,003	1,468			0
1492						142	249	1,136			0
1493						57	218	1,190			0
1494						189	214	84			0
1495	381	73		991	446	99	302	505			124,795
1496	66	367		861	383	1	17	7	12		124,795
1497	129	236		761	337	3	24	6			137,480
1498	211	43		537	245	173	62	82			137,480
1499	178			392	178	4	27	5			137,480
1500	169			423	271	3	26	5			91,364
1501	764	0		1,681	764	217	162	141			124,795
1502	167	0		368	167	195	59	105			137,480
1503	47	0		103	47	161	27	42			124,795
1504	515	0		1,287	824	170	107	68			107,624
1505	801	0		2,002	1,281	127	178	129			107,624
1506	345	6		872	559	7	52	10			107,624
1507	135			337	216	3	21	4			147,455
1508	183	130		771	489	4	71	125	790		101,649
1510	190			475	304	4	29	6			101,649
1511	19			48	30	128	16	13			101,649
1512		234		561	351		5	2			101,649
1513	331	100		967	554	7	221	10			119,988
1514	39			97	62	1	6	1			119,988
1515		369		627	479		66	4			135,548
1516		164		293	120		72	89			119,658
1517		152		258	198	144	141	249	1,186		119,658
1518	419	64		1,200	766	8	65	13			162,729
1519	447			1,119	716	9	76	13			135,548

Analysis Year: 2040
RunId: Bo10
Land Use: Bo10
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment	Median Income
1520	197			492	315	4	29	6			119,658
1521	551			1,378	882	11	88	91	498		135,548
1522	113	114		556	352	195	44	55			162,729
1523	201			504	322	103	40	16			72,075
1524											72,075
1525		1,091		1,854	1,418		22	11			121,084
1526	390			974	623	8	94	56			121,084
1527		0		0	0		11	0			121,084
1528							72	26			121,084
1529	146			366	234	3	22	4			87,262
1530	21	270		511	384	0	153	9			153,980
1531	202	237	2	791	559	89	61	43	0	0	107,624
1532	21	0	0	66	35	0	0	68	450	0	192,222
1533											192,222
1534	140			349	223	3	21	94	600		159,078
1535	190	1,330		3,108	2,139	4	55	19			87,262
1536		46		109	68	206	21	21			117,606
1537	93	103		479	303	2	16	4			117,606
1538	137			342	219	3	21	4			90,029
1539	150			375	240	26	293	117			94,713
1540						49	583	243			161,000
1541	52			131	84	1	8	2			91,364
1542											181,991
1543						109	1,307	545			147,455
1544	169			423	271	3	25	5			102,361
1545	295			739	473	6	44	9			97,151
1546											159,078
1547	201			504	322	4	30	6			159,078
1548	106	503		1,472	924	2	26	8			159,078
1549	58			145	93	1	9	2			159,078
1550	170	306		1,159	731	3	32	8			88,257
1551											80,785
1552											0
1553	63	67		316	200	1	11	3			117,606
1554	197	80		683	434	4	31	7			74,470
1555						261	187	92			74,470
1556		1,098		1,867	1,427		22	11			45,384

Analysis Year: 2040
RunId: Bo10
Land Use: Bo10
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment	Median Income
1557											45,384
1558		947		1,610	1,231	14	72	462			77,503
1559	203	214		870	602	108	97	469			77,503
1563						46	179	975			27,500
1618	6			14	9	0	1	0			121,084
1671	131			328	210	24	100	443			62,521
1672	11			29	18	0	2	0			62,521
1673						47	128	690			62,521
1674						238	62	237			62,521
1675	148			371	237	5	32	57			62,521
1676											0
1713							1,168	2,335			76,372
1714		639		1,087	831		13	6			76,372
1715						37	306	122			76,372
1716			0	0		59	495	198			76,372

Final SED by OCTAM Taz

Analysis Year: 2040 **Reference Number:** 01232
RunId: Bo10 **Build Date:** 11/10/2005
Land Use: Bo10 **Build Time:** 2:00:00 PM
Network: Pref04 **Modeler:** Archie Tan

OCTAM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Employed Population	Retail Residents	Service Employees	Other Employees	Elem/High School Students	Non-Resident Univ/College Enrollment	Median Income
2327						384	776	3,878		82,500
2328	1,454			3,634	2,326	1,573	1,616	7,137		312,606
2331										0
2336						16,448	25,765	105,335		1,601,541
2337						4,357	2,490	13,347		0
2338						1,092	1,586	10,902		0
2339						289	1,634	4,021		0
2340						950	1,588	5,701		0
2341						117	757	1,181		0
2375	21	270		511	384	0	153	9		153,980
2377	42	0	0	131	69	0	0	135	900	384,444
2378	170	306		1,159	731	3	32	8		88,257
2381	710	814	20	4,347	2,567	289	116	778	429	71,467
2393	517	241	31	1,935	1,114	10	60	204	1,464	93,006
2399	608	3,483		7,440	5,500	365	506	2,823		232,509
2400		2,196		3,733	2,855		44	22		90,767
2401	439	278		1,570	1,064	107	161	41		101,940
2402		5,227	684	9,570	6,795	480	1,424	8,200	1,866	209,300
2403	559	4,646	1,620	10,914	6,933	675	22,790	40,429		458,235
2404	2,157	6,572		20,984	13,257	282	513	168		458,936
2405	3,420	17,874		45,031	19,499	15,626	7,662	13,435		880,820
2406	936	115		2,292	1,037	19	143	29		129,233
2407	2,539	1,308		9,354	5,987	2,093	1,764	3,786	1,308	321,409
2408	299	223	68	1,352	814	49	251	473	2,184	100,260
2409	488	357		1,828	1,246	1,833	1,006	1,100		230,992
2410	4,572	6,980		24,063	10,649	1,893	2,615	1,714	1,556	360,907
2411	610	2,136		5,266	2,392	1,231	309	509		393,755
2412	39	2,807		5,980	2,565	192	104	106		98,125
2413	5,029	1,760		14,542	6,559	1,912	2,032	2,779	48	499,180
2414	7,448	969	6	19,807	12,891	1,570	1,595	1,003	0	430,495
2415	2,740	1,116		8,232	3,709	1,499	686	796		549,919
2416	1,569	1,455		7,416	4,694	541	479	587	3,160	406,597
2417	739	200		2,128	1,233	16	453	22		239,975
2418	11,757	14,113		53,705	37,250	3,348	5,889	9,159	5,088	832,882
2419	2,999	188	0	8,173	4,992	327	2,016	1,448	21	718,180

Analysis Year: 2040
RunId: Bo10
Land Use: Bo10
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

OCTAM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment	Median Income
2420	413	251		1,635	1,037	568	1,955	5,314			359,852
2421		971		2,330	1,456	364	62	260	640		236,423
2422		4,214		8,239	5,786		730	741	4,190		162,568
2423		1,037		2,339	1,179	1,050	1,754	1,112			189,678
2424		3,154		6,755	4,498	2,436	6,671	14,323			545,645
2425						3,655	2,701	6,249			221,106
2426						1,162	2,042	7,230			0
2427						150	1,003	1,468			0
2428	319	1,794		4,124	2,921	229	894	1,200	104		201,871
2429		570		969	741	629	137	425			203,269
2430	2,284	1,258		8,728	5,541	46	368	81			564,556
2431	437			1,093	699	9	67	13			122,550
2432	1,003	1,984		6,862	4,464	109	627	52			642,301
2433	1,976	5,453		14,210	10,251	40	999	466			605,421
2434	403			1,007	644	206	80	32			144,151
2435	2,995	1,106		9,368	6,230	60	691	325	1,494		406,645
2436	1,064	355		3,513	2,235	407	218	137			325,457
2437	590	947		3,128	1,898	444	727	1,033	3,558		358,973
2438	673	2,660		6,947	4,747	13	154	47			174,524
2439	467	644		2,714	1,714	626	145	82			352,818
2440	2,527	2,513		12,348	7,812	51	429	551	3,000		795,390
2441						49	583	243			161,000
2442	137			342	219	3	21	4			90,029
2443	150			375	240	26	293	117			94,713
2444	135			337	216	3	21	4			147,455
2445	443			1,107	708	9	68	13			182,727
2446											181,991
2447						109	1,307	545			147,455
2781											0
2782	295			739	473	6	44	9			97,151
2783											80,785
2785	393	160		1,366	869	530	436	198			148,939
2786	169			423	271	3	25	5			102,361

Final SED For City Of Newport Beach

Analysis Year: 2040
RunId: Bo10
Land Use: Bo10
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

Occupied Single Family Dwelling Units	Occupied Multi- Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment	Median Income
18,324	28,097	566	100,625	60,919	15,108	25,887	51,971	10,270		104,233

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APPENDIX Y

GENERAL PLAN BUILDOUT WITHOUT PROJECT TRIP GENERATION

Total Trip Ends By NBTM TAZ

Analysis Year: 2040
RunId: Bo10
Land Use: bo10
Network: pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

NBTM TAZ	HO Attr	HO Prod	HSch Attr	HSch Prod	HW Attr	HW Prod	OO Attr	OO Prod	OW Attr	OW Prod	Total
1373	563	0	0	0	387	0	395	404	261	265	2,274
1374	563	0	0	0	387	0	395	404	261	265	2,274
1375	869	0	0	0	584	0	607	621	397	403	3,481
1376	902	0	0	0	619	0	631	646	417	424	3,638
1377	1,296	0	0	0	889	0	908	928	599	609	5,229
1378	1,465	0	0	0	1,005	0	1,026	1,049	678	688	5,912
1379	615	0	0	0	1,629	0	603	649	836	857	5,188
1380	201	0	0	0	531	0	197	212	273	279	1,692
1381	281	0	0	0	743	0	275	296	381	391	2,367
1382	422	0	0	0	1,118	0	414	446	574	588	3,562
1383	558	0	0	0	995	0	478	505	537	550	3,623
1384	223	0	0	0	339	0	183	192	188	192	1,317
1385	430	0	0	0	650	0	399	405	361	399	2,645
1386	300	0	0	0	794	0	294	316	407	417	2,528
1387	242	0	0	0	641	0	237	256	329	337	2,042
1388	2,823	0	0	0	682	0	1,802	1,808	733	739	8,586
1389	937	0	0	0	829	0	684	704	519	529	4,202
1390	192	0	0	0	509	0	189	203	261	268	1,623
1391	128	0	0	0	339	0	125	135	174	178	1,079
1392	469	0	0	0	608	0	370	386	347	355	2,534
1393	1,044	0	0	0	198	0	659	659	247	248	3,055
1395	1,770	0	0	0	604	0	1,177	1,181	540	560	5,831
1396	828	0	0	0	2,192	0	812	874	1,124	1,153	6,981
1397	137	0	0	0	363	0	134	145	186	191	1,157
1398	53	0	0	0	139	0	52	55	71	73	443
1399	212	0	0	0	562	0	208	224	288	295	1,789
1400	64	0	0	0	169	0	62	67	87	89	537
1401	272	0	0	0	339	0	236	239	195	215	1,496
1402	60	0	0	0	159	0	59	63	82	84	507
1403	1,340	0	0	0	2,363	0	1,218	1,265	1,279	1,355	8,820
1404	571	0	0	0	1,513	0	560	603	776	796	4,818
1405	2,593	0	0	0	2,714	0	1,952	2,021	1,627	1,660	12,567
1406	85	0	0	0	979	0	170	204	460	460	2,358
1407	624	0	0	0	535	0	454	467	337	344	2,761
1408	102	698	0	48	45	267	114	114	47	21	1,457

Analysis Year: 2040
RunId: Bo10
Land Use: bo10
Network: pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

NBTM TAZ	HO Attr	HO Prod	HSch Attr	HSch Prod	HW Attr	HW Prod	OO Attr	OO Prod	OW Attr	OW Prod	Total
1409	1,835	0	0	0	2,970	0	1,571	1,642	1,630	1,693	11,341
1410	36	354	0	28	11	152	55	55	18	2	711
1411	34	0	0	0	16	0	24	24	12	13	124
1412	42	289	0	20	19	111	47	47	19	9	602
1413	453	133	0	11	487	57	378	385	293	308	2,503
1414	89	416	3	33	136	140	105	107	82	71	1,181
1415	112	736	0	51	66	282	126	126	58	32	1,589
1416	134	847	0	66	62	365	145	145	64	29	1,857
1417	39	269	0	19	18	103	44	44	18	8	562
1418	41	265	0	20	18	109	45	45	19	9	570
1419	122	832	0	58	54	319	136	136	56	25	1,737
1420	321	2,092	0	155	146	857	351	351	149	68	4,490
1421	3,105	1,981	560	137	1,600	840	2,286	2,314	1,240	1,166	15,228
1422	338	2,205	0	163	154	903	370	370	157	71	4,731
1423	248	1,197	0	88	233	490	279	279	163	130	3,108
1424	570	5,074	0	327	185	2,146	854	855	298	27	10,335
1425	203	0	0	0	502	0	196	210	260	267	1,639
1426	124	679	0	50	130	278	141	143	89	66	1,702
1427	762	2,268	1,922	189	942	990	778	797	589	509	9,744
1428	5,031	1,783	0	120	1,665	699	3,448	3,461	1,543	1,512	19,263
1429	501	3,251	384	236	305	1,319	565	569	269	141	7,540
1430	4,107	137	0	10	1,860	55	2,767	2,799	1,465	1,488	14,687
1431	2,076	135	0	8	647	53	1,358	1,367	608	608	6,860
1432	1,442	2,393	0	191	894	1,045	1,200	1,216	673	580	9,635
1433	385	888	0	102	1,182	402	471	503	618	591	5,142
1434	1,144	0	0	0	5,637	0	1,634	1,765	2,745	2,908	15,832
1435	403	386	0	32	91	174	284	284	109	92	1,855
1436	703	3,923	0	333	527	2,041	911	917	474	231	10,060
1437	1	0	0	0	11	0	2	2	5	5	27
1438	86	0	547	0	326	0	96	106	162	164	1,487
1439	1,518	1,329	0	113	3,195	691	1,485	1,578	1,729	1,669	13,306
1440	102	860	0	90	36	486	149	149	58	5	1,934
1441	1,187	3,075	0	220	428	1,287	1,019	1,021	434	306	8,976
1442	113	924	0	83	46	449	155	155	60	13	1,999
1443	241	1,921	0	165	95	916	323	323	126	28	4,140
1444	254	2,127	0	190	93	1,036	352	352	133	23	4,561
1445	272	2,133	0	173	103	667	366	366	142	28	4,250

Analysis Year: 2040
RunId: Bo10
Land Use: bo10
Network: pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

NBTM TAZ	HO Attr	HO Prod	HSch Attr	HSch Prod	HW Attr	HW Prod	OO Attr	OO Prod	OW Attr	OW Prod	Total
1446	176	1,356	0	118	71	642	227	228	90	24	2,931
1447	205	1,641	0	134	76	516	281	281	108	19	3,262
1448	493	660	0	51	157	201	373	375	161	129	2,600
1449	1,039	298	0	25	267	96	694	696	285	271	3,671
1450	1,006	507	0	43	333	163	705	709	317	292	4,075
1451	1,178	445	0	36	299	140	797	799	324	304	4,321
1452	1,849	38	0	3	688	12	1,224	1,234	591	600	6,238
1453	1,973	0	0	0	1,144	0	1,383	1,400	817	848	7,565
1454	2,882	698	0	57	930	219	1,939	1,951	873	847	10,395
1455	1,731	1,274	0	107	439	409	1,226	1,230	494	424	7,335
1456	754	5,340	0	321	324	1,285	868	869	342	146	10,248
1457	751	2,858	342	221	563	853	812	816	440	315	7,972
1458	873	4,134	0	319	396	1,250	938	942	412	202	9,467
1459	2,858	662	0	52	882	203	1,926	1,935	847	827	10,192
1460	537	3,425	0	250	249	995	613	614	262	112	7,057
1461	976	1,981	0	125	341	489	794	798	337	259	6,101
1462	22	150	0	9	10	36	24	24	10	4	289
1463	2,440	1,997	0	111	526	462	1,730	1,733	647	557	10,203
1464	2,583	10,535	0	837	748	3,189	2,645	2,649	997	438	24,620
1465	1,460	1,377	0	116	409	467	1,065	1,070	441	368	6,773
1466	3,061	525	0	48	2,398	258	2,473	2,477	1,498	1,800	14,537
1467	442	3,622	0	268	151	1,760	649	650	245	22	7,807
1468	5	0	282	0	55	0	10	12	26	26	415
1469	581	3,318	1,844	309	905	1,732	829	844	596	434	11,390
1470	1,537	2,040	0	163	488	884	1,212	1,212	480	447	8,463
1471	326	2,239	0	153	146	848	364	364	149	68	4,656
1472	2,318	0	0	0	675	0	1,496	1,504	654	661	7,308
1473	118	1,039	0	68	38	445	176	176	62	6	2,127
1474	1,255	4,042	0	289	328	1,762	1,166	1,167	435	229	10,673
1475	291	0	46	0	1,112	0	372	395	551	590	3,358
1476	98	1,010	0	72	29	393	150	150	47	4	1,953
1477	362	2,619	0	166	157	921	412	413	161	73	5,285
1478	21	222	0	16	6	86	33	33	10	1	430
1479	96	769	0	51	39	280	119	119	44	16	1,532
1480	100	1,068	0	64	29	368	156	157	46	4	1,992
1481	187	1,449	0	92	61	501	233	233	77	25	2,857
1482	342	1,345	0	77	205	444	350	350	164	128	3,407

Analysis Year: 2040
RunId: Bo10
Land Use: bo10
Network: pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

NBTM TAZ	HO Attr	HO Prod	HSch Attr	HSch Prod	HW Attr	HW Prod	OO Attr	OO Prod	OW Attr	OW Prod	Total
1483	16	118	0	7	7	39	18	18	7	3	232
1484	2,062	0	0	0	4,167	0	1,895	1,996	2,211	2,300	14,630
1485	12,083	0	0	0	3,081	0	7,764	7,787	3,211	3,257	37,183
1486	3,205	885	0	55	3,638	364	2,552	2,641	2,161	2,169	17,669
1487	1,158	263	0	22	1,472	119	1,062	1,070	832	961	6,958
1488	49	465	0	39	16	211	73	73	25	2	953
1489	156	869	0	73	42	394	178	178	63	20	1,973
1490	152	0	0	0	403	0	149	161	207	212	1,283
1491	1,727	0	0	0	3,014	0	1,570	1,628	1,634	1,735	11,308
1492	1,259	0	0	0	1,756	0	1,015	1,060	990	1,015	7,094
1493	636	0	0	0	1,684	0	624	671	864	886	5,365
1494	1,476	0	0	0	560	0	996	999	476	497	5,004
1495	1,147	2,244	0	139	1,087	553	1,023	1,044	703	643	8,582
1496	209	1,878	11	121	73	474	299	299	103	18	3,485
1497	203	1,748	0	107	74	418	273	274	95	24	3,216
1498	1,420	1,316	0	75	391	303	1,005	1,009	410	365	6,294
1499	135	953	0	55	59	221	153	154	60	27	1,817
1500	121	756	0	59	57	328	130	131	58	26	1,665
1501	2,057	3,882	0	235	673	946	1,597	1,603	673	536	12,202
1502	1,535	895	0	52	430	207	1,047	1,052	438	410	6,066
1503	1,198	238	0	14	269	58	778	779	305	299	3,938
1504	1,545	2,477	0	180	449	999	1,159	1,162	476	384	8,831
1505	1,420	3,852	0	280	579	1,554	1,195	1,201	540	397	11,018
1506	254	1,680	0	122	115	678	280	280	118	53	3,580
1507	104	762	0	47	45	262	119	119	46	21	1,525
1508	219	1,361	695	108	261	593	273	278	179	123	4,090
1510	137	890	0	67	63	369	150	150	64	29	1,919
1511	939	89	0	7	182	37	599	599	225	223	2,899
1512	96	901	0	79	31	426	144	144	51	5	1,877
1513	377	2,070	0	135	316	676	442	443	235	171	4,866
1514	29	197	0	14	13	76	32	32	13	6	412
1515	194	1,606	0	88	117	576	288	288	115	48	3,320
1516	114	663	0	41	202	150	166	169	124	99	1,728
1517	1,197	611	1,044	36	629	238	880	890	480	464	6,468
1518	359	2,827	0	168	147	929	429	430	156	66	5,511
1519	343	2,415	0	157	157	868	389	389	156	75	4,949
1520	146	996	0	69	65	382	162	163	67	30	2,078

Analysis Year: 2040
RunId: Bo10
Land Use: bo10
Network: pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

NBTM TAZ	HO Attr	HO Prod	HSch Attr	HSch Prod	HW Attr	HW Prod	OO Attr	OO Prod	OW Attr	OW Prod	Total
1521	428	2,973	438	193	274	1,069	491	494	230	129	6,720
1522	1,548	1,260	0	78	361	427	1,080	1,082	414	373	6,622
1523	859	818	0	70	203	391	600	601	238	202	3,982
1525	471	4,420	0	260	147	1,705	716	716	237	21	8,692
1526	312	1,984	0	136	221	756	353	355	177	109	4,401
1527	6	0	0	0	13	0	7	7	7	8	46
1528	39	0	0	0	113	0	48	49	57	64	371
1529	104	641	0	51	48	284	111	111	49	22	1,423
1530	214	1,401	0	72	216	462	301	301	155	112	3,235
1531	874	1,826	0	111	266	674	715	717	290	208	5,681
1532	19	142	396	9	80	42	30	33	41	36	828
1534	118	823	528	49	150	271	144	148	96	70	2,396
1535	664	5,390	0	435	242	2,584	927	928	353	55	11,579
1536	1,512	191	0	15	290	83	971	972	362	355	4,751
1537	113	897	0	67	45	367	143	143	54	16	1,845
1538	97	607	0	48	45	265	105	105	46	21	1,340
1539	416	681	0	53	515	291	402	407	310	309	3,383
1540	666	0	0	0	1,006	0	617	627	559	617	4,092
1541	37	233	0	18	17	101	40	40	18	8	514
1543	1,492	0	0	0	2,254	0	1,383	1,405	1,252	1,383	9,169
1544	122	795	0	59	56	328	134	134	57	26	1,711
1545	212	1,356	0	103	97	573	231	231	100	45	2,949
1547	157	1,186	0	70	66	391	182	182	68	31	2,335
1548	319	3,170	0	206	103	1,122	464	464	145	26	6,020
1549	45	341	0	20	19	112	52	52	20	9	672
1550	243	1,842	0	162	97	887	310	311	124	32	4,008
1553	75	593	0	44	30	243	95	95	36	11	1,221
1554	168	1,071	0	96	76	527	189	190	84	32	2,432
1555	1,982	0	0	0	621	0	1,305	1,309	579	598	6,394
1556	391	2,704	0	261	148	1,716	554	555	239	21	6,590
1558	539	2,971	0	225	724	1,480	723	741	504	322	8,229
1559	1,049	1,518	0	122	817	728	868	887	567	494	7,050
1563	521	0	0	0	1,380	0	511	550	708	726	4,396
1618	4	29	0	2	2	11	5	5	2	1	60
1671	324	506	0	46	665	254	323	341	363	347	3,171
1672	8	44	0	4	4	22	8	8	4	2	104
1673	471	0	0	0	994	0	426	453	524	537	3,405

Analysis Year: 2040
RunId: Bo10
Land Use: bo10
Network: pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

NBTM TAZ	HO Attr	HO Prod	HSch Attr	HSch Prod	HW Attr	HW Prod	OO Attr	OO Prod	OW Attr	OW Prod	Total
1674	1,771	0	0	0	618	0	1,157	1,167	546	553	5,811
1675	130	572	0	52	124	288	133	135	88	62	1,584
1676	11,248	0	0	0	39,790	0	6,849	6,836	2,450	2,963	70,136
1713	817	0	0	0	4,028	0	1,168	1,261	1,962	2,078	11,314
1714	248	1,991	0	152	86	999	362	363	139	12	4,352
1715	430	0	0	0	535	0	373	378	309	339	2,364
1716	695	0	0	0	866	0	604	612	499	549	3,825

Total Trip Ends By OCTAM TAZ

Analysis Year: 2040
 RunId: Bo10
 Land Use: bo10
 Network: pref04

Reference Number: 01232
 Build Date: 11/10/2005
 Build Time: 2:00:00 PM
 Modeler: Archie Tan

OCTAM TAZ	HO Attr	HO Prod	HSch Attr	HSch Prod	HW Attr	HW Prod	OO Attr	OO Prod	OW Attr	OW Prod	Total
2327	1,179	0	0	0	1,931	0	989	1,041	1,058	1,084	7,281
2336	8,865	0	0	0	10,605	0	6,909	7,172	6,166	6,327	46,044
2337	5,658	0	0	0	3,871	0	3,962	4,051	2,612	2,654	22,807
2338	3,250	0	0	0	5,206	0	2,683	2,828	2,862	2,915	19,744
2339	660	0	0	0	1,367	0	617	649	723	756	4,773
2340	2,735	0	0	0	3,158	0	2,123	2,199	1,851	1,903	13,969
2341	1,340	0	0	0	2,363	0	1,218	1,265	1,279	1,355	8,820
2375	214	1,401	0	72	216	462	301	301	155	112	3,235
2377	19	142	396	9	80	42	30	33	41	36	828
2378	243	1,842	0	162	97	887	310	311	124	32	4,008
2381	2,852	5,682	378	609	1,512	3,126	2,352	2,383	1,256	963	21,114
2393	471	3,233	1,288	271	392	1,358	565	574	314	168	8,634
2399	1,589	4,489	0	347	1,552	2,207	1,593	1,631	1,077	821	15,306
2400	391	2,704	0	261	148	1,716	554	555	239	21	6,590
2401	1,187	3,075	0	220	428	1,287	1,019	1,021	434	306	8,976
2402	2,307	5,252	547	447	4,047	2,732	2,491	2,601	2,365	2,064	24,854
2403	3,719	2,879	0	255	12,333	1,402	4,612	4,882	6,271	6,477	42,829
2404	1,188	6,714	0	588	396	3,217	1,341	1,342	519	180	15,486
2405	12,628	7,693	0	630	4,436	2,423	8,987	9,041	4,111	3,762	53,710
2406	754	5,340	0	321	324	1,285	868	869	342	146	10,248
2407	6,051	5,781	384	437	3,058	2,420	4,533	4,583	2,407	2,209	31,862
2408	762	2,268	1,922	189	942	990	778	797	589	509	9,744
2409	7,107	1,918	0	128	2,312	753	4,806	4,828	2,151	2,120	26,123
2410	5,019	11,080	342	842	2,089	3,302	4,289	4,306	1,962	1,455	34,687
2411	3,438	4,127	0	246	877	987	2,549	2,555	993	820	16,593
2412	2,583	10,535	0	837	748	3,189	2,645	2,649	997	438	24,620
2413	4,611	8,242	11	509	2,103	2,031	3,697	3,725	1,784	1,495	28,208
2414	4,094	9,835	0	693	1,408	3,904	3,350	3,360	1,423	1,042	29,111
2415	3,294	4,912	0	288	953	1,149	2,480	2,487	1,003	827	17,393
2416	1,391	3,241	695	260	538	1,424	1,166	1,172	519	379	10,785
2417	406	2,267	0	149	329	751	475	475	249	177	5,278
2418	4,950	13,494	560	940	2,968	5,623	4,521	4,567	2,376	1,803	41,802
2419	858	2,675	3	191	780	1,011	835	845	525	453	8,176
2420	1,973	1,053	0	76	3,027	419	1,739	1,810	1,695	1,716	13,509

Analysis Year: 2040
RunId: Bo10
Land Use: bo10
Network: pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

OCTAM TAZ	HO Attr	HO Prod	HSch Attr	HSch Prod	HW Attr	HW Prod	OO Attr	OO Prod	OW Attr	OW Prod	Total
2421	1,542	2,040	282	163	543	884	1,221	1,224	506	473	8,878
2422	1,023	6,940	1,844	577	1,056	3,491	1,478	1,493	840	455	19,198
2423	4,521	1,903	0	164	2,807	725	3,538	3,547	1,938	2,167	21,310
2424	4,720	2,482	0	189	5,569	1,089	4,014	4,123	3,287	3,364	28,837
2425	14,145	0	0	0	7,248	0	9,659	9,784	5,421	5,557	51,813
2426	3,371	0	0	0	4,000	0	2,634	2,730	2,330	2,398	17,463
2427	1,727	0	0	0	3,014	0	1,570	1,628	1,634	1,735	11,308
2428	1,546	4,042	46	289	1,441	1,762	1,538	1,562	986	820	14,031
2429	2,435	1,039	0	68	714	445	1,671	1,680	716	666	9,435
2430	578	4,621	0	305	231	1,680	715	715	261	94	9,201
2431	326	2,239	0	153	146	848	364	364	149	68	4,656
2432	645	3,980	0	240	301	1,352	758	758	294	160	8,489
2433	831	6,433	0	398	495	2,471	1,128	1,132	480	203	13,571
2434	859	818	0	70	203	391	600	601	238	202	3,982
2435	965	6,994	438	437	549	2,513	1,167	1,171	502	252	14,989
2436	1,907	4,087	0	246	509	1,356	1,509	1,512	570	439	12,133
2437	1,456	2,270	1,044	146	896	769	1,208	1,222	671	592	10,275
2438	768	6,031	0	486	290	2,868	1,039	1,039	403	77	13,002
2439	1,699	1,682	0	127	364	693	1,209	1,210	452	382	7,817
2440	640	5,520	528	346	338	1,896	843	847	329	136	11,422
2441	666	0	0	0	1,006	0	617	627	559	617	4,092
2442	97	607	0	48	45	265	105	105	46	21	1,340
2443	416	681	0	53	515	291	402	407	310	309	3,383
2444	104	762	0	47	45	262	119	119	46	21	1,525
2445	158	989	0	77	74	429	171	171	75	34	2,179
2447	1,492	0	0	0	2,254	0	1,383	1,405	1,252	1,383	9,169
2782	212	1,356	0	103	97	573	231	231	100	45	2,949
2785	2,150	1,071	0	96	697	527	1,494	1,498	663	630	8,826
2786	122	795	0	59	56	328	134	134	57	26	1,711

Total Trip Ends For City Of Newport Beach

Analysis Year: 2040 Reference Number: 01232
RunId: *Without Project* Build Date: 10/12/2005
Land Use: Build Time: 2:00:00 PM
Network: Modeler: Archie Tan

HO Attr	HO Prod	HSch Attr	HSch Prod	HW Attr	HW Prod	OO Attr	OO Prod	OW Attr	OW Prod	Total
148,526	195,168	9,041	14,241	112,693	74,938	123,330	125,391	77,664	71,257	952,249

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APPENDIX Z

WITH PROJECT AND CONSTRAINED ROADWAY SYSTEM ASSUMPTIONS
LETTERS



August 26, 2005

Mr. Elwood Tescher
EIP ASSOCIATES
12301 Wilshire Boulevard, Suite 430
Los Angeles, CA 90025

Subject: Preferred Alternative Circulation Element (Roadway) System Assumptions

Dear Mr. Tescher:

The General Plan Preferred Alternative that will be analyzed in the environmental impact report (EIR) will consist of a combination of a Preferred Land Use alternative and a Preferred Alternative Circulation Element (Roadway) system alternative. This letter provides our recommendation regarding the Preferred Alternative Circulation Element roadway system.

For the traffic analysis of the land use alternatives developed by the General Plan Advisory Committee (GPAC), the General Plan Update Committee approved the use of a "constrained network" as an assumption in the traffic model. This constrained network was developed in response to visioning process input that residents want to minimize further widening and extension of the arterial roadway system, as well as staff and consultant information on roadway improvements that are uncertain due to political or funding issues. Key roadway changes reflected in the constrained network (versus the Currently Adopted General Plan Circulation Element) include:

- No extension of the SR-55 Freeway
- No widening of Coast Highway through Mariner's Mile
- No extension of 19th Street across the Santa Ana River
- No widening of Jamboree Road north of Ford Road

Mr. Elwood Tescher
EIP ASSOCIATES
August 26, 2005
Page 2

- No grade separation at MacArthur Boulevard/Jamboree Road
- No extension of 17th Street
- No extension of 15th Street to Coast Highway

For the EIR project description, our opinion is that the most prudent approach is to reflect a relatively constrained future system that reflects political and financial realities. However, it is also desirable to include future roadway infrastructure that is likely to be needed to serve future traffic demand. If desired, elimination of these improvements can be adequately analyzed through additional sensitivity analysis, after the model runs using the preferred roadway system are complete.

Based on the aforementioned criteria, it is recommended that the Preferred Alternative Circulation Element roadway system analyzed in the EIR be largely consistent with the constrained network that was used to evaluate the preliminary alternatives, with the following exceptions:


- The 19th Street / Hamilton Avenue connection / crossing of the Santa Ana River should be included.
- Widening of Coast Highway to 6 through lanes through Mariner's Mile (Newport Boulevard to Dover Drive) should be included.

Future traffic deficiencies that would require local roadway widening above and beyond the currently adopted Circulation Element roadway system can be expected in the absence of these roadway additions / widenings. It is our opinion that, if necessary, the overall analysis can still be structured in a manner that addresses the elimination of these improvements in a manner that adequately addresses the environmental analysis requirements associated with the General Plan update. This will allow the decision-making process to explicitly consider the need for these specific improvements.

Mr. Elwood Tescher
EIP ASSOCIATES
August 26, 2005
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Urban Crossroads, Inc. is pleased to provide this letter summarizing our guidance related to the General Plan update process. Please feel free to contact me at (949) 660-1994 x210 if you wish to discuss this matter further.

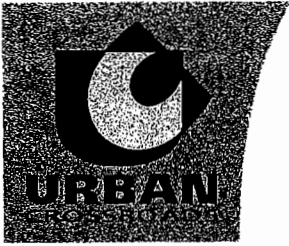
Sincerely,

A handwritten signature in black ink, appearing to read "Carleton Waters", with a long horizontal flourish extending to the right.

Carleton Waters, P.E.
Principal

CW:mg
JN:01232-20

Attachment



January 20, 2005

Mr. Elwood Tescher
EIP ASSOCIATES
12301 Wilshire Boulevard, Suite 430
Los Angeles, CA 90025

Subject: Roadway Network Assumptions

Mr. Tescher:

This letter has been prepared to document the roadway system changes for Baseline conditions for the City of Newport Beach General Plan Update model runs. Urban Crossroads, Inc. staff has been reviewing the City of Newport Beach Memorandum (January 5, 2005) in conjunction with meeting notes from Carleton Waters' January 5 meeting with City of Newport Beach Engineering Department staff, and the email provided on December 29, 2004 by Patricia Temple.

There are several roadway system improvements that have been identified as "uncertain" that will not be included in the new Currently Adopted General Plan Baseline scenario. We have summarized the findings of this review and are requesting your final decisions on the remaining issues. We have numbered each uncertain segment according to pages 24 and 25 of the Newport Beach Circulation Element for ease of reference. The notes in italics after entries provide additional information from the meeting notes.

FROM CITY MEMO (JANUARY 5, 2005)

N/A-Extension of SR 55 to south of 17th Street
2-Widening of Coast Highway through Mariner's Mile

Mr. Elwood Tescher
EIP ASSOCIATES
January 20, 2004
Page 2

11-Widening of Jamboree Road from Eastbluff/Ford Road to SR 73

5-Grade separation at the MacArthur Boulevard/Jamboree Road intersection (*grade separation that "shall be considered" – has been considered via studies. No approval or adoption as a result*).

28-19th Street extension/ bridge

24,25-Bluff Road (*Bluff is in except for Min. Alt*)

27-17th Street extension

21,22,23-15th Street extension to Coast Highway

FROM PATTY TEMPLE'S EMAIL (DECEMBER 29, 2004)

12-Bayview Way extension to MacArthur Boulevard (build 4 lanes) (*of interest to TCA as HOV ramp location*)

20-Widen Dover Drive from Cliff to Westcliff (widen to 6 lanes) (*not in baseline from Cliff to Coast, but shown as Major on current plan*)

13-Widen MacArthur Boulevard from San Miguel to Coast Highway (widen to 6 lanes) (*Rich and Carleton felt this should be included*)

FROM MEETING (JANUARY 5, 2005) BETWEEN CARLETON WATERS AND CITY OF NEWPORT BEACH ENGINEERING DEPARTMENT STAFF

26-16th from Dover to Seagull (widen to 4 lanes) (*not in, no demand, ok by us*)

55-Jamboree & Bayview (intersection improvements associated with Bayview extension to MacArthur)

SUMMARY


Our recommendation is to eliminate all of these uncertain improvements with the exception of #13 (widen MacArthur Boulevard from San Miguel to Coast Highway to 6

Mr. Elwood Tescher
EIP ASSOCIATES
January 20, 2004
Page 3

lanes). Please provide direction on these uncertain improvements at your earliest convenience. Urban Crossroads, Inc. is pleased to provide this letter report for your use. Please do not hesitate to give us a call if you have any questions.

Sincerely,

URBAN CROSSROADS, INC.



Carleton Waters, P.E.
Principal

CW:MW:mg
JN:01232-09

Attachments

xc:

Ms. Sharon Wood, CITY OF NEWPORT BEACH
Mr. Rich Edmonston, CITY OF NEWPORT BEACH
Ms. Tamara Campbell, CITY OF NEWPORT BEACH
Ms. Harriet Lai Ross, EIP ASSOCIATES
Ms. Linda Tatum, EIP ASSOCIATES

APPENDIX AA

GENERAL PLAN BUILDOUT WITHOUT PROJECT SCENARIO INTERSECTION
CAPACITY UTILIZATION (ICU) WORKSHEETS
(EXISTING LANES)

1a. Bluff & Coast Hw.

General Plan Without Project w/ Imp						
	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	180	.056*	120	.038*
SBT	0	0	0		0	
SBR	2	3200	315	.098	380	.119
EBL	2	3200	633	.198*	563	.176*
EBT	3	4800	2687	.560	1967	.410
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	2070	.431*	3000	.625*
WBR	1	1600	210	.131	300	.188
TOTAL CAPACITY UTILIZATION				.685		.839

Note: Assumes Right-Turn Overlap for SBR

1b. 15th St. & Coast Hw.

General Plan Without Project w/ Imp						
	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	180	.056*	120	.038*
SBT	0	0	0		0	
SBR	2	3200	315	.098	380	.119
EBL	2	3200	740	.231*	690	.216*
EBT	3	4800	3140	.654	2410	.502
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	2165	.451*	3073	.640*
WBR	1	1600	220	.138	307	.192
TOTAL CAPACITY UTILIZATION				.738		.894

Note: Assumes Right-Turn Overlap for SBR

2. Superior & Placentia

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	120	.075	130	.081*
NBT	2	3200	960	.300*	450	.141
NBR	1	1600	50	.031	30	.019
SBL	1	1600	70	.044*	50	.031
SBT	2	3200	300	.094	730	.228*
SBR	d	1600	20	.013	10	.006
EBL	1	1600	10	.006	10	.006
EBT	1	1600	480	.300*	370	.231*
EBR	1	1600	160	.100	230	.144
WBL	0.5		10	{.006}*	20	{.012}*
WBT	1.5	3200	370	.134	540	.213
WBR	0		50		120	
TOTAL CAPACITY UTILIZATION				.650		.552

3. Superior & Coast Hw.

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1.5		190		400	
NBT	1.5	4800	500	.171*	220	.158*
NBR	0		130		140	
SBL	1.5		160		230	
SBT	1.5	4800	160	.067*	400	.131*
SBR	2	3200	20	.006	420	.131
EBL	2	3200	510	.159	70	.022*
EBT	3	4800	2790	.581*	1450	.302
EBR	d	1600	250	.156	300	.188
WBL	1	1600	110	.069*	250	.156
WBT	4	6400	560	.088	2790	.436*
WBR	d	1600	230	.144	200	.125
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.888		.747

4. Newport & Hospital

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	150	.094	250	.156*
NBT	3	4800	2140	.446*	1200	.250
NBR	1	1600	10	.006	80	.050
SBL	1	1600	50	.031*	20	.013
SBT	3	4800	1410	.294	2050	.427*
SBR	d	1600	230	.144	190	.119
EBL	2	3200	140	.044	150	.047
EBT	1	1600	360	.225*	280	.175*
EBR	1	1600	100	.063	20	.013
WBL	1	1600	70	.044*	250	.156*
WBT	2	3200	290	.103	270	.113
WBR	0	0	40		90	
TOTAL CAPACITY UTILIZATION				.746		.914

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5. Newport & Via Lido

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1790	.373*	1010	.210*
NBR	1	1600	20	.013	30	.019
SBL	2	3200	540	.169*	590	.184*
SBT	3	4800	750	.156	1550	.323
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	30	.019*	10	.006*
WBT	0	0	0		0	
WBR	2	3200	390	.122	510	.159
Note: Assumes Right-Turn Overlap for WBR						
TOTAL CAPACITY UTILIZATION				.561	.400	

6. Newport & 32nd

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	30	.019	110	.069
NBT	2	3200	1030	.322*	830	.259*
NBR	d	1600	20	.013	30	.019
SBL	1	1600	60	.038	80	.050
SBT	2	3200	800	.291*	1370	.513*
SBR	0	0	130		270	
EBL	1.5		460		160	
EBT	0.5	3200	80	.169*	90	.078*
EBR	1	1600	20	.013	20	.013
WBL	0.5		50		30	
WBT	1.5	3200	60	.034*	70	.031*
WBR	f		200		220	
Note: Assumes N/S Split Phasing						
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.816	.881	

7. Riverside & Coast Hw.

General Plan Without Project							
	LANES	CAPACITY	AM PK	HOUR	PM PK	HOUR	
			VOL	V/C	VOL	V/C	
NBL	0	0	10	{.006}*	20		
NBT	1	1600	0	.006	10	.019*	
NBR	d	1600	0	.000	10	.006	
SBL	0	0	110		110	{.069}*	
SBT	1	1600	10	.075*	10	.075	
SBR	1	1600	350	.219	400	.250	
EBL	1	1600	200	.125	350	.219*	
EBT	2	3200	2780	.872*	2180	.684	
EBR	0	0	10		10		
WBL	1	1600	10	.006*	10	.006	
WBT	3	4800	1670	.348	2930	.610*	
WBR	1	1600	40	.025	50	.031	
Right Turn Adjustment			SBR	.019*			
Note: Assumes Right-Turn Overlap for SBR							
TOTAL CAPACITY UTILIZATION				.978	.917		

8. Tustin & Coast Hw.

General Plan Without Project							
	LANES	CAPACITY	AM PK	HOUR	PM PK	HOUR	
			VOL	V/C	VOL	V/C	
NBL	0	0	0		0		
NBT	1	1600	0	.006	0	.006	
NBR	0	0	10		10		
SBL	0	0	30		70		
SBT	1	1600	0	.031*	0	.056*	
SBR	0	0	20		20		
EBL	1	1600	70	.044	100	.063	
EBT	2	3200	2810	.881*	2230	.700*	
EBR	0	0	10		10		
WBL	0	0	0		0		
WBT	3	4800	1790	.373	3050	.635	
WBR	1	1600	60	.038	150	.094	
TOTAL CAPACITY UTILIZATION				.912	.756		

9. MacArthur & Campus

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	110	.069	290	.181*
NBT	4	6400	1460	.228*	1510	.236
NBR	1	1600	110	.069	80	.050
SBL	1	1600	260	.163*	160	.100
SBT	4	6400	1120	.175	1330	.208*
SBR	1	1600	500	.313	910	.569
EBL	2	3200	770	.241*	510	.159*
EBT	3	4800	1010	.210	650	.135
EBR	d	1600	200	.125	130	.081
WBL	2	3200	50	.016	160	.050
WBT	3	4800	620	.129*	1460	.304*
WBR	f		70		190	
Right Turn Adjustment					SBR	.361*
TOTAL CAPACITY UTILIZATION				.761	1.213	

10. MacArthur & Birch

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	50	.031	160	.100*
NBT	3	4800	1320	.275*	1040	.217
NBR	1	1600	120	.075	60	.038
SBL	1	1600	240	.150*	90	.056
SBT	4	6400	830	.173	1230	.234*
SBR	0	0	290	.181	270	
EBL	1.5		480		420	
EBT	1.5	4800	560	.225*	490	.202*
EBR	0		40		60	
WBL	1	1600	40	.025	140	.088
WBT	2	3200	310	.097*	980	.306*
WBR	f		10		340	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.747	.842	

11. Von Karman & Campus

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	20	.013	10	.006*
NBT	2	3200	830	.259*	590	.184
NBR	f		40		50	
SBL	1	1600	40	.025*	160	.100
SBT	2	3200	620	.225	1050	.419*
SBR	0	0	100		290	
EBL	1	1600	370	.231*	240	.150*
EBT	2	3200	690	.216	920	.288
EBR	1	1600	50	.031	60	.038
WBL	1	1600	70	.044	40	.025
WBT	2	3200	450	.181*	1010	.359*
WBR	0	0	130		140	
TOTAL CAPACITY UTILIZATION				.696		.934

12. MacArthur & Von Karman

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	150	.094	60	.038*
NBT	3	4800	1470	.306*	900	.188
NBR	1	1600	600	.375	190	.119
SBL	1	1600	60	.038*	120	.075
SBT	3	4800	600	.125	1240	.258*
SBR	1	1600	190	.119	110	.069
EBL	1	1600	40	.025*	160	.100
EBT	2	3200	160	.050	300	.094*
EBR	f		40		120	
WBL	2	3200	170	.053	850	.266*
WBT	1	1600	220	.138*	210	.131
WBR	f		70		100	
Right Turn Adjustment			NBR	.069*		
TOTAL CAPACITY UTILIZATION				.576		.656

13. Jamboree & Campus

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	90	.028	150	.047*
NBT	4	6400	1930	.347*	1930	.402
NBR	0	0	290		730	.456
SBL	2	3200	640	.200*	480	.150
SBT	3	4800	1800	.450	2570	.592*
SBR	0	0	360		270	
EBL	2	3200	180	.056	680	.213*
EBT	2	3200	290	.091*	830	.259
EBR	f		30		30	
WBL	2	3200	870	.272*	340	.106
WBT	2	3200	860	.269	660	.206*
WBR	1	1600	130	.081	530	.331
Right Turn Adjustment					WBR	.125*
TOTAL CAPACITY UTILIZATION				.910	1.183	

14. Jamboree & Birch

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	450	.281*	150	.094*
NBT	3	4800	1940	.421	1890	.400
NBR	0	0	80		30	
SBL	1	1600	10	.006	90	.056
SBT	3	4800	2040	.425*	2010	.419*
SBR	f		930		380	
EBL	1.5		210		710	
EBT	0.5	3200	90	.094*	20	.228*
EBR	f		10		470	
WBL	0	0	80		60	
WBT	1	1600	70	.200*	80	.094*
WBR	0	0	170		10	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				1.000	.835	

15. Campus & Bristol (N)

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	530	.166	600	.188*
NBT	3	4800	3190	.665*	1690	.352
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	470	.073	1840	.288*
SBR	2	3200	400	.125	1280	.400
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	300	.094	550	.172
WBT	4	6400	1780	.320*	2930	.477*
WBR	0	0	270		120	
Right Turn Adjustment					SBR	.112*
TOTAL CAPACITY UTILIZATION				.985	1.065	

16. Birch & Bristol (N)

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	110	.034	180	.056*
NBT	2	3200	1380	.431*	470	.147
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1.5	6400	190	.067	840	.372*
SBR	2.5		240		1540	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		460	.288	550	
WBT	3.5	8000	1700	.354*	1730	.308*
WBR	0		820	.513	180	
Right Turn Adjustment			WBR	.159*		
TOTAL CAPACITY UTILIZATION				.944	.736	

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17. Campus/Irvine & Bristol (S)

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	5	8000	2370	.362*	1770	.267*
NBR	0	0	530		370	
SBL	1	1600	100	.063*	310	.194*
SBT	3	4800	680	.142	2080	.433
SBR	0	0	0		0	
EBL	1.5		1350	{.481}*	540	
EBT	2.5	6400	1730	.481	1300	.288*
EBR	2	3200	660	.206	620	.194
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.906		.749

18. Birch & Bristol (S)

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	2.5	6400	520	.139*	300	.094
NBR	1.5		370		310	.097
SBL	2	3200	230	.072*	460	.144
SBT	2	3200	420	.131	920	.288*
SBR	0	0	0		0	
EBL	1.5		970	{.304}*	290	
EBT	3.5	8000	1250	.304	1430	.231*
EBR	0		210		130	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.515		.519

19. Irvine & Mesa

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	90	.056	50	.031*
NBT	2	3200	2050	.641*	910	.284
NBR	d	1600	620	.388	160	.100
SBL	1	1600	10	.006*	10	.006
SBT	2	3200	1030	.322	2240	.700*
SBR	d	1600	60	.038	210	.131
EBL	1	1600	340	.213	90	.056
EBT	1	1600	340	.244*	80	.181*
EBR	0	0	50		210	
WBL	1	1600	160	.100*	450	.281*
WBT	1	1600	60	.038	600	.375
WBR	1	1600	10	.006	10	.006
TOTAL CAPACITY UTILIZATION				.991		1.193

20. Irvine & University

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	240	.150	180	.113*
NBT	2	3200	2430	.759*	1070	.334
NBR	1	1600	60	.038	30	.019
SBL	1	1600	90	.056*	40	.025
SBT	2	3200	1010	.316	2640	.825*
SBR	1	1600	120	.075	440	.275
EBL	1	1600	530	.331*	150	.094*
EBT	2	3200	110	.034	30	.009
EBR	d	1600	210	.131	180	.113
WBL	1	1600	20	.013	20	.013
WBT	1	1600	30	.019*	80	.050*
WBR	d	1600	20	.013	50	.031
TOTAL CAPACITY UTILIZATION				1.165		1.082

21. Irvine & Santiago

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	100	.063	140	.088*
NBT	2	3200	1490	.469*	1100	.350
NBR	0	0	10		20	
SBL	1	1600	30	.019*	110	.069
SBT	2	3200	950	.297	1810	.566*
SBR	d	1600	40	.025	120	.075
EBL	0	0	160	{.100}*	60	{.037}*
EBT	1	1600	40	.125	70	.081
EBR	d	1600	120	.075	140	.088
WBL	0	0	20		10	
WBT	1	1600	80	.063*	100	.069*
WBR	d	1600	140	.088	70	.044
Right Turn Adjustment			WBR	.025*		
TOTAL CAPACITY UTILIZATION				.676		.760

22. Irvine & Highland

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	90	.056	120	.075*
NBT	2	3200	1590	.497*	1330	.416
NBR	d	1600	10	.006	20	.013
SBL	1	1600	20	.013*	20	.013
SBT	2	3200	1150	.359	1670	.522*
SBR	d	1600	20	.013	70	.044
EBL	0	0	80	{.050}*	20	{.012}*
EBT	1	1600	10	.056	20	.025
EBR	d	1600	120	.075	80	.050
WBL	0	0	20		10	
WBT	1	1600	30	.031*	40	.031*
WBR	d	1600	60	.038	10	.006
Right Turn Adjustment			Multi	.013*	EBR	.013*
TOTAL CAPACITY UTILIZATION				.604		.653

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23. Irvine & Dover

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	40	.025	50	.031
NBT	2	3200	1270	.397*	1060	.331*
NBR	d	1600	20	.013	20	.013
SBL	1	1600	150	.094*	240	.150*
SBT	2	3200	970	.303	1420	.444
SBR	d	1600	20	.013	60	.038
EBL	1	1600	100	.063	40	.025*
EBT	1	1600	190	.156*	120	.156
EBR	0	0	60		130	
WBL	1	1600	20	.013*	40	.025
WBT	1	1600	160	.100	270	.169*
WBR	1	1600	340	.213	280	.175
Right Turn Adjustment			WBR	.107*	WBR	.006*
TOTAL CAPACITY UTILIZATION				.767		.681

24. Irvine & Westcliff

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	110	.034	280	.088*
NBT	2	3200	900	.281*	630	.197
NBR	d	1600	30	.019	10	.006
SBL	2	3200	330	.103*	130	.041
SBT	2	3200	650	.203	820	.256*
SBR	d	1600	180	.113	490	.306
EBL	2	3200	400	.125*	360	.113*
EBT	2	3200	430	.159	520	.212
EBR	0	0	80		160	
WBL	1	1600	30	.019	90	.056
WBT	2	3200	380	.134*	860	.297*
WBR	0	0	50		90	
Right Turn Adjustment					SBR	.050*
TOTAL CAPACITY UTILIZATION				.643		.804

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25. Dover & Westcliff

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	260	.081*	860	.269*
NBT	2	3200	450	.141	700	.219
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	430	.269*	340	.213*
SBR	1	1600	50	.031	30	.019
EBL	2	3200	80	.025*	150	.047*
EBT	0	0	0		0	
EBR	f		620		930	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.375		.529

26. Dover & 16th

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	100	.063*	210	.131
NBT	2	3200	750	.234	1300	.406*
NBR	d	1600	20	.013	60	.038
SBL	1	1600	50	.031	50	.031*
SBT	2	3200	1120	.350*	930	.291
SBR	d	1600	30	.019	50	.031
EBL	0	0	10		20	
EBT	1	1600	10	.013*	30	.031*
EBR	d	1600	260	.163	220	.138
WBL	1	1600	40	.025*	40	.025*
WBT	1	1600	10	.006	30	.019
WBR	1	1600	50	.031	50	.031
Right Turn Adjustment			EBR	.150*	EBR	.107*
TOTAL CAPACITY UTILIZATION				.601		.600

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27. Dover & Coast Hw.

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	20	.013	20	.013
NBT	1	1600	60	.038*	90	.056*
NBR	1	1600	60	.038	50	.031
SBL	3	4800	1080	.225*	1010	.210*
SBT	1	1600	60	.038	60	.038
SBR	1	1600	80	.050	110	.069
EBL	2	3200	190	.059	140	.044*
EBT	3	4800	2440	.510*	2040	.429
EBR	0	0	10		20	
WBL	1	1600	40	.025*	60	.038
WBT	3	4800	1750	.365	2980	.621*
WBR	f		690		1150	
TOTAL CAPACITY UTILIZATION				.798		.931

Note: Assumes N/S Split Phasing

28. Bayside & Coast Hw.

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2.5		420		280	
NBT	0.5	4800	30	.117*	20	.067*
NBR	0		110		20	
SBL	1	1600	50	.031*	140	.088*
SBT	1	1600	20	.013	20	.013
SBR	d	1600	50	.031	120	.075
EBL	1	1600	90	.056	140	.088*
EBT	3	4800	3290	.685*	2280	.475
EBR	1	1600	360	.225	620	.388
WBL	1	1600	80	.050*	50	.031
WBT	4	6400	1850	.311	3830	.606*
WBR	0	0	140		50	
TOTAL CAPACITY UTILIZATION				.883		.849

Note: Assumes N/S Split Phasing

29. MacArthur & Jamboree

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	210	.066	240	.075*
NBT	3	4800	1920	.400*	830	.173
NBR	1	1600	600	.375	550	.344
SBL	2	3200	130	.041*	260	.081
SBT	3	4800	500	.104	1600	.333*
SBR	f		120		540	
EBL	2	3200	690	.216	220	.069
EBT	3	4800	1770	.369*	1380	.288*
EBR	f		130		50	
WBL	2	3200	360	.113*	910	.284*
WBT	3	4800	1030	.215	1540	.321
WBR	f		170		160	
TOTAL CAPACITY UTILIZATION			.923		.980	

Note: Assumes Right-Turn Overlap for NBR

30. Jamboree & Bristol (N)

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	1230	.384	890	.278*
NBT	3	4800	3240	.675*	2500	.521
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2.5	6400	680	.213	1450	.375*
SBR	1.5		690	.216	950	
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	
TOTAL CAPACITY UTILIZATION			.675		.653	

31. Bayview Place & Bristol (S)

General Plan Without 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	80	.025	360	.113
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	4	6400	3670	.573*	3240	.506*
EBR	1	1600	120	.075	10	.006
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.025*	NBR	.113*
TOTAL CAPACITY UTILIZATION				.598		.619

32. Jamboree & Bristol (S)

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	5	8000	2110	.271*	2320	.304
NBR	0	0	60		110	
SBL	0	0	0		0	
SBT	3	4800	650	.135	1480	.308*
SBR	0	0	0		0	
EBL	1.5		2190	.684*	1080	{.546}*
EBT	1.5	4800	560	.350	1540	.546
EBR	2	3200	1010	.316	1000	.313
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.955		.854

33. Jamboree & Bayview Way

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	140	.088	70	.044
NBT	4	6400	1990	.323*	2190	.355*
NBR	0	0	80		80	
SBL	1	1600	110	.069*	150	.094*
SBT	4	6400	1400	.219	2260	.353
SBR	1	1600	170	.106	80	.050
EBL	2	3200	40	.013*	90	.028*
EBT	1	1600	10	.006	10	.006
EBR	1	1600	40	.025	180	.113
WBL	1	1600	10	.006	40	.025
WBT	1	1600	10	.006*	10	.006*
WBR	1	1600	60	.038	140	.088
Right Turn Adjustment			Multi	.044*	Multi	.186*
TOTAL CAPACITY UTILIZATION				.455	.669	

34. Jamboree & Eastbluff/Univ.

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	60	.038	50	.031
NBT	3	4800	1640	.342*	1900	.396*
NBR	1	1600	240	.150	350	.219
SBL	2	3200	130	.041*	190	.059*
SBT	3	4800	1040	.217	1910	.398
SBR	1	1600	280	.175	390	.244
EBL	1.5		520		210	
EBT	0.5	3200	110	.197*	110	.100*
EBR	1	1600	10	.006	10	.006
WBL	1.5		330	.103*	340	.106*
WBT	1.5	4800	120	.075	110	.069
WBR	f		170		210	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.683	.661	

35. Jamboree & Bison

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1630	.340*	1850	.385*
NBR	d	1600	310	.194	260	.163
SBL	2	3200	90	.028*	190	.059*
SBT	3	4800	1230	.256	1770	.369
SBR	1	1600	50	.031	90	.056
EBL	1	1600	110	.069*	40	.025*
EBT	0	0	0		0	
EBR	1	1600	80	.050	20	.013
WBL	2	3200	270	.084*	470	.147*
WBT	0	0	0		0	
WBR	2	3200	240	.075	190	.059
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.521	.616	

36. Jamboree & Eastbluff/Ford

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	370	.116*	400	.125*
NBT	3	4800	1730	.404	2040	.513
NBR	0	0	210		420	
SBL	1	1600	50	.031	60	.038
SBT	3	4800	1620	.338*	2250	.469*
SBR	1	1600	60	.038	100	.063
EBL	1	1600	160	.100	50	.031
EBT	1	1600	210	.131*	130	.081*
EBR	f		430		370	
WBL	1.5		480		250	
WBT	1.5	4800	530	.210*	150	.083*
WBR	1	1600	90	.056	30	.019
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.795	.758	

37. Jamboree & San Joaquin Hills

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	30	.019	80	.050
NBT	3	4800	1390	.290*	2030	.423*
NBR	f		160		150	
SBL	2	3200	610	.191*	580	.181*
SBT	3	4800	1720	.358	2350	.490
SBR	1	1600	40	.025	200	.125
EBL	1.5		280	.088*	90	.028*
EBT	1.5	4800	50	.031	30	.019
EBR	1	1600	50	.031	40	.025
WBL	2	3200	90	.028*	250	.078*
WBT	1	1600	10	.006	50	.031
WBR	f		440		680	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.597		.710

38. Jamboree & Santa Barbara

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	10	.006	10	.006
NBT	3	4800	1640	.342*	1940	.404*
NBR	1	1600	180	.113	90	.056
SBL	2	3200	390	.122*	290	.091*
SBT	3	4800	1370	.285	2070	.431
SBR	1	1600	10	.006	30	.019
EBL	1	1600	60	.038*	20	.013
EBT	1	1600	10	.025	10	.019*
EBR	0	0	30		20	
WBL	1.5		80		470	
WBT	0.5	3200	10	.028*	20	.153*
WBR	1	1600	60	.038	390	.244
Right Turn Adjustment			WBR	.010*	WBR	.091*
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.540		.758

39. Jamboree & Coast Hw.

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	20	.013	40	.025
NBT	2	3200	570	.206*	380	.159*
NBR	0	0	90		130	
SBL	1	1600	180	.113*	130	.081*
SBT	2	3200	280	.088	640	.200
SBR	f		920		1830	
EBL	3	4800	1310	.273*	910	.190*
EBT	4	6400	2110	.333	1570	.247
EBR	0	0	20		10	
WBL	2	3200	90	.028	210	.066
WBT	4	6400	1150	.180*	2260	.353*
WBR	f		130		130	
TOTAL CAPACITY UTILIZATION				.772		.783

40. Santa Cruz & San Joaquin H.

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	90	.028	390	.122
NBT	1	1600	10	.031*	10	.131*
NBR	0	0	40		200	
SBL	1	1600	20	.013*	10	.006*
SBT	1	1600	10	.006	10	.006
SBR	1	1600	70	.044	60	.038
EBL	1	1600	60	.038	100	.063*
EBT	3	4800	460	.142*	400	.125
EBR	0	0	220		240	.150
WBL	1	1600	230	.144*	30	.019
WBT	3	4800	350	.079	520	.115*
WBR	0	0	30		30	
Right Turn Adjustment			SBR	.028*	SBR	.023*
TOTAL CAPACITY UTILIZATION				.358		.338

41. Santa Rosa & San Joaquin H.

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	40	.025	150	.094*
NBT	1	1600	10	.006*	30	.019
NBR	1	1600	170	.106	720	.450
SBL	1	1600	110	.069*	100	.063
SBT	1	1600	20	.013	10	.006*
SBR	1	1600	30	.019	50	.031
EBL	1	1600	40	.025	50	.031
EBT	3	4800	320	.085*	610	.148*
EBR	0	0	90		100	
WBL	2	3200	750	.234*	420	.131*
WBT	3	4800	550	.138	260	.073
WBR	0	0	110		90	
Right Turn Adjustment					Multi	.307*
Note: Assumes Right-Turn Overlap for NBR						
TOTAL CAPACITY UTILIZATION				.394	.686	

42. Newport Center & Coast Hw.

General Plan Without 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	30	.009*	290	.091*
SBT	0	0	0		0	
SBR	f		90		820	
EBL	2	3200	560	.175*	340	.106*
EBT	3	4800	1970	.410	1720	.358
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1360	.283*	2030	.423*
WBR	f		170		150	
TOTAL CAPACITY UTILIZATION				.467	.620	

44. Avocado & San Miguel

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	140	.088*	60	.038
NBT	1	1600	150	.094	30	.019*
NBR	1	1600	70	.044	630	.394
SBL	1	1600	40	.025	250	.156*
SBT	1	1600	50	.031*	170	.106
SBR	1	1600	20	.013	10	.006
EBL	1	1600	10	.006*	10	.006
EBT	2	3200	130	.047	680	.244*
EBR	0	0	20		100	
WBL	2	3200	550	.172	390	.122*
WBT	2	3200	500	.225*	610	.209
WBR	0	0	220		60	
Right Turn Adjustment					NBR	.253*
Note: Assumes Right-Turn Overlap for SBR NBR						
TOTAL CAPACITY UTILIZATION				.350		.794

45. Avocado & Coast Hw.

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	100	.063*	150	.094*
NBT	1	1600	40	.025	110	.069
NBR	1	1600	260	.163	160	.100
SBL	1.5		80	.050	340	
SBT	0.5	3200	90	.056*	150	.153*
SBR	1	1600	40	.025	310	.194
EBL	1	1600	300	.188*	160	.100
EBT	3	4800	1670	.348	1790	.373*
EBR	d	1600	70	.044	80	.050
WBL	1	1600	140	.088	190	.119*
WBT	3	4800	1570	.327*	1790	.373
WBR	1	1600	130	.081	70	.044
Right Turn Adjustment			NBR	.100*	Multi	.047*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.734		.786

46. SR-73 NB Ramps & Bison

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1.5	4800	180	{.108}* .108	230	.072*
NBT	0		0		0	
NBR	1.5		340	90	.056	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1600	20	.013	10	.006*
EBT	2	3200	1300	.406*	720	.225
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	140	.044	730	.228*
WBR	1	1600	260	.163	850	.531
Right Turn Adjustment					WBR	.303*
TOTAL CAPACITY UTILIZATION			.514		.609	

47. SR-73 SB Ramps & Bison

General Plan Without 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	980	.306*	370	.116*
SBT	0	0	0		0	
SBR	f		10		10	
EBL	0	0	0		0	
EBT	2	3200	310	.097*	320	.100*
EBR	1	1600	70	.044	90	.056
WBL	2	3200	50	.016*	330	.103*
WBT	2	3200	290	.091	620	.194
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION			.419		.319	

48. MacArthur & Bison

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	380	.119	260	.081*
NBT	4	6400	3700	.578*	2680	.419
NBR	f		220		140	
SBL	2	3200	70	.022*	30	.009
SBT	4	6400	2670	.417	3060	.478*
SBR	1	1600	390	.244	430	.269
EBL	2	3200	280	.088*	340	.106*
EBT	2	3200	260	.081	210	.066
EBR	f		200		110	
WBL	2	3200	170	.053	230	.072
WBT	2	3200	270	.084*	410	.128*
WBR	1	1600	10	.006	60	.038
TOTAL CAPACITY UTILIZATION				.772		.793

Note: Assumes Right-Turn Overlap for SBR

49. MacArthur & Ford/Bonita Cyn

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	140	.044*	80	.025
NBT	4	6400	2070	.323	2420	.378*
NBR	f		130		540	
SBL	2	3200	390	.122	1060	.331*
SBT	4	6400	2950	.461*	2440	.381
SBR	f		10		60	
EBL	2	3200	30	.009*	10	.003
EBT	2	3200	370	.116	650	.203*
EBR	1	1600	90	.056	110	.069
WBL	2	3200	400	.125	270	.084*
WBT	2	3200	890	.278*	370	.116
WBR	f		1700		750	
TOTAL CAPACITY UTILIZATION				.792		0.996

50. MacArthur & San Joaquin H.

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	70	.022	20	.006
NBT	3	4800	1540	.321*	1800	.375*
NBR	1	1600	10	.006	20	.013
SBL	2	3200	600	.188*	940	.294*
SBT	3	4800	1780	.371	1870	.390
SBR	f		1070		430	
EBL	2	3200	190	.059*	1040	.325*
EBT	3	4800	310	.073	620	.150
EBR	0	0	40		100	
WBL	1	1600	20	.013	20	.013
WBT	2	3200	680	.213*	370	.116*
WBR	f		1010		540	
TOTAL CAPACITY UTILIZATION				.781		1.110

51. MacArthur & San Miguel

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	120	.038	190	.059*
NBT	3	4800	1530	.319*	890	.185
NBR	1	1600	350	.219	460	.288
SBL	2	3200	10	.003*	10	.003
SBT	3	4800	1100	.229	1420	.296*
SBR	1	1600	760	.475	560	.350
EBL	2	3200	70	.022	940	.294*
EBT	2	3200	100	.053*	500	.203
EBR	0	0	70		150	
WBL	2	3200	310	.097*	280	.088
WBT	2	3200	340	.106	310	.097*
WBR	d	1600	20	.013	40	.025
Right Turn Adjustment			SBR	.169*		
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION				.641		.746

52. MacArthur & Coast Hw.

General Plan Without 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	540	.169*	720	.225*
SBT	0	0	0		0	
SBR	f		380		770	
EBL	2	3200	890	.278*	650	.203*
EBT	3	4800	1090	.227	1540	.321
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1340	.279*	1660	.346*
WBR	f		820		530	
TOTAL CAPACITY UTILIZATION				.726		.774

53. SR-73 NB Ramps & Bonita Cyn

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	390	.122*	20	.006*
NBT	0	0	0		0	
NBR	1	1600	620	.388	200	.125
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	800	.250*	1220	.381*
EBR	1	1600	10	.006	10	.006
WBL	1	1600	710	.444*	390	.244*
WBT	2	3200	1270	.397	1190	.372
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.266*	NBR	.119*
TOTAL CAPACITY UTILIZATION				1.082		.750

54. SR-73 SB Ramps & Bonita Cyn

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	190	.059*	170	.053*
NBT	0	0	0		0	
NBR	1	1600	220	.138	350	.219
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	530	.166	800	.250*
EBR	1	1600	160	.100	600	.375
WBL	2	3200	140	.044	230	.072*
WBT	3	4800	1530	.319*	990	.206
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.079*	Multi	.291*
TOTAL CAPACITY UTILIZATION				.457		.666

55. Spyglass Hill & San Miguel

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	40	{.025}*	30	{.019}*
NBT	1	1600	40	.050	30	.038
NBR	d	1600	170	.106	190	.119
SBL	0	0	40		20	
SBT	1	1600	40	.050*	30	.031*
SBR	1	1600	40	.025	40	.025
EBL	1	1600	50	.031	70	.044
EBT	2	3200	350	.109*	510	.159*
EBR	d	1600	30	.019	50	.031
WBL	1	1600	90	.056*	130	.081*
WBT	2	3200	380	.119	440	.138
WBR	d	1600	30	.019	40	.025
Right Turn Adjustment			NBR	.056*	NBR	.081*
TOTAL CAPACITY UTILIZATION				.296		.371

56. San Miguel & San Joaquin H.

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	10	.006	10	.006
NBT	2	3200	260	.131*	570	.288*
NBR	0	0	160		350	
SBL	1	1600	70	.044*	150	.094*
SBT	2	3200	470	.147	330	.103
SBR	1	1600	380	.238	150	.094
EBL	2	3200	290	.091*	470	.147
EBT	3	4800	620	.131	910	.192*
EBR	0	0	10		10	
WBL	1	1600	390	.244	260	.163*
WBT	3	4800	1320	.296*	680	.156
WBR	0	0	100		70	
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION				.562	.737	

57. Goldenrod & Coast Hw.

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	112	.070*	84	.053*
NBT	1	1600	0	.015	0	.013
NBR	0	0	24		21	
SBL	0	0	61		36	
SBT	1	1600	0	.076*	0	.039*
SBR	0	0	60		27	
EBL	1	1600	30	.019*	33	.021
EBT	2	3200	1003	.313	1869	.584*
EBR	d	1600	43	.027	53	.033
WBL	1	1600	42	.026	22	.014*
WBT	2	3200	2633	.823*	1658	.518
WBR	d	1600	13	.008	13	.008
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.988	.690	

58. Marguerite & San Joaquin H.

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1.5		350		250	
NBT	0.5	3200	50	.125*	60	.097*
NBR	1	1600	20	.013	70	.044
SBL	1	1600	50	.031	70	.044
SBT	1	1600	40	.050*	50	.056*
SBR	0	0	40		40	
EBL	1	1600	20	.013*	40	.025
EBT	2	3200	460	.144	950	.297*
EBR	1	1600	150	.094	440	.275
WBL	1	1600	20	.013	110	.069*
WBT	3	4800	1150	.240*	710	.148
WBR	d	1600	80	.050	40	.025
Note: Assumes N/S Split Phasing						
Note: Assumes Right-Turn Overlap for EBR						
TOTAL CAPACITY UTILIZATION				.428	.519	

59. Marguerite & Coast Hw.

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	70	.044	90	.056
NBT	1	1600	180	.163*	200	.156*
NBR	0	0	80		50	
SBL	1	1600	190	.119*	280	.175*
SBT	1	1600	70	.069	120	.094
SBR	0	0	40		30	
EBL	1	1600	70	.044*	70	.044
EBT	2	3200	1360	.425	1850	.578*
EBR	1	1600	40	.025	80	.050
WBL	1	1600	60	.038	140	.088*
WBT	2	3200	2010	.644*	1520	.500
WBR	0	0	50		80	
TOTAL CAPACITY UTILIZATION				.970	0.997	

60. Spyglass H. & San Joaquin H.

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	60	.038	50	.031
NBT	1	1600	10	.019*	10	.025*
NBR	0	0	20		30	
SBL	1	1600	70	.044*	40	.025*
SBT	1	1600	10	.006	10	.006
SBR	d	1600	250	.156	150	.094
EBL	1	1600	80	.050*	280	.175*
EBT	2	3200	660	.206	950	.297
EBR	1	1600	20	.013	60	.038
WBL	1	1600	10	.006	10	.006
WBT	2	3200	1180	.369*	670	.209*
WBR	d	1600	70	.044	90	.056
Right Turn Adjustment			SBR	.131*	SBR	.075*
TOTAL CAPACITY UTILIZATION				.613	.509	

61. Poppy & Coast Hw.

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	10	.006*	40	.025
NBT	1	1600	10	.013	10	.050*
NBR	0	0	10		70	
SBL	0	0	70		130	{.081}*
SBT	1	1600	10	.056*	10	.094
SBR	0	0	10		10	
EBL	1	1600	10	.006*	30	.019
EBT	2	3200	1480	.466	1920	.606*
EBR	0	0	10		20	
WBL	1	1600	20	.013	30	.019*
WBT	2	3200	1990	.634*	1660	.531
WBR	0	0	40		40	
TOTAL CAPACITY UTILIZATION				.702	.756	

62. Newport Coast & SR-73 NB

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	2	3200	1500	.469*	970	.303*
NBR	f		490		330	
SBL	0	0	0		0	
SBT	2	3200	600	.188	870	.272
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		430		270	
WBT	0	3200	0	.166*	0	.088*
WBR	0.5		100		10	
TOTAL CAPACITY UTILIZATION				.635		.391

64. Newport Coast & San Joaquin

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	110	.034	110	.034*
NBT	3	4800	1630	.340*	990	.206
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	4800	1020	.213	1130	.235*
SBR	1	1600	270	.169	460	.288
EBL	1	1600	450	.281*	250	.156*
EBT	0	0	0		0	
EBR	2	3200	170	.053	180	.056
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					SBR	.053*
Note: Assumes Right-Turn Overlap for EBR						
TOTAL CAPACITY UTILIZATION				.621		.478

65. Newport Coast & Coast Hw.

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	10	.006	10	.006
NBT	1	1600	10	.006*	10	.006*
NBR	1	1600	10	.006	10	.006
SBL	2	3200	390	.122*	1120	.350*
SBT	1	1600	10	.006	10	.006
SBR	f		240		350	
EBL	1	1600	390	.244*	200	.125*
EBT	3	4800	1030	.215	1650	.344
EBR	1	1600	10	.006	10	.006
WBL	1	1600	10	.006	10	.006
WBT	3	4800	1580	.329*	1210	.252*
WBR	f		1100		500	
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION				.701	.733	

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APPENDIX BB

GENERAL PLAN BUILDOUT WITHOUT PROJECT SCENARIO
INTERSECTION CAPACITY UTILIZATION (ICU) WORKSHEETS
(WITH IMPROVEMENTS)

LOSD

4. Newport & Hospital

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	150	.047	250	.078*
NBT	3	4800	2140	.446*	1200	.250
NBR	1	1600	10	.006	80	.050
SBL	1	1600	50	.031*	20	.013
SBT	3	4800	1410	.294	2050	.427*
SBR	d	1600	230	.144	190	.119
EBL	2	3200	140	.044	150	.047
EBT	1	1600	360	.225*	280	.175*
EBR	1	1600	100	.063	20	.013
WBL	1	1600	70	.044*	250	.156*
WBT	2	3200	290	.103	270	.113
WBR	0	0	40		90	
TOTAL CAPACITY UTILIZATION				.746	.836	

BB3

7. Riverside & Coast Hw.

LOSE

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	10	{.006}*	20	
NBT	1	1600	0	.006	10	.019*
NBR	d	1600	0	.000	10	.006
SBL	0.5		110		110	{.069}*
SBT	0.5	1600	10	.075*	10	.075
SBR	1	1600	350	.219	400	.250
EBL	1	1600	200	.125	350	.219*
EBT	3	4800	2780	.581*	2180	.456
EBR	0	0	10		10	
WBL	1	1600	10	.006*	10	.006
WBT	3	4800	1670	.356	2930	.621*
WBR	0	0	40		50	
Right Turn Adjustment			SBR	.019*		
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION				.687	.928	

BB4

LOSD

7. Riverside & Coast Hw.

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	10	{.006}*	20	
NBT	1	1600	0	.006	10	.019*
NBR	d	1600	0	.000	10	.006
SBL	0.5		110		110	{.069}*
SBT	0.5	1600	10	.075*	10	.075*
SBR	1	1600	350	.219	400	.250
EBL	2	3200	200	.063	350	.109*
EBT	3	4800	2780	.581*	2180	.456
EBR	0	0	10		10	
WBL	1	1600	10	.006*	10	.006
WBT	3	4800	1670	.356	2930	.621*
WBR	0	0	40		50	
Right Turn Adjustment			SBR	.081*	SBR	.065*
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION				.749	.883	

8. Tustin & Coast Hw.

LOSD

Los d

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	1	1600	0	.006	0	.006
NBR	0	0	10		10	
SBL	0	0	30		70	
SBT	1	1600	0	.031*	0	.056*
SBR	0	0	20		20	
EBL	1	1600	70	.044	100	.063*
EBT	3	4800	2810	.588*	2230	.467
EBR	0	0	10		10	
WBL	0	0	0		0	
WBT	3	4800	1790	.373	3050	.635*
WBR	1	1600	60	.038	150	.094
TOTAL CAPACITY UTILIZATION				.619	.754	

BB5

LOS E

9. MacArthur & Campus

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	110	.069	290	.181*
NBT	4	6400	1460	.228*	1510	.236
NBR	1	1600	110	.069	80	.050
SBL	1	1600	260	.163*	160	.100
SBT	3.5	8000	1120	.203	1330	.277*
SBR	1.5		500		910	.284
EBL	2	3200	770	.241*	510	.159*
EBT	3	4800	1010	.210	650	.135
EBR	d	1600	200	.125	130	.081
WBL	2	3200	50	.016	160	.050
WBT	3	4800	620	.129*	1460	.304*
WBR	f		70		190	
Right Turn Adjustment					SBR	.007*
TOTAL CAPACITY UTILIZATION				.761		.928

BB 6

LOSD

9. MacArthur & Campus

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3200	110	.034	290	.091*
NBT	4	6400	1460	.228*	1510	.236
NBR	1	1600	110	.069	80	.050
SBL	1	1600	260	.163*	160	.100
SBT	3.5	8000	1120	.203	1330	.277*
SBR	1.5		500		910	.284
EBL	2	3200	770	.241*	510	.159*
EBT	3	4800	1010	.210	650	.135
EBR	d	1600	200	.125	130	.081
WBL	2	3200	50	.016	160	.050
WBT	3	4800	620	.129*	1460	.304*
WBR	f		70		190	
Right Turn Adjustment					SBR	.007*
TOTAL CAPACITY UTILIZATION				.761		.838

11. Von Karman & Campus

LOSD AIT 1

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	20	.013	10	.006*
NBT	2	3200	830	.272*	590	.200
NBR	0	0	40		50	
SBL	1	1600	40	.025*	160	.100
SBT	2	3200	620	.225	1050	.419*
SBR	0	0	100		290	
EBL	2	3200	370	.116*	240	.075*
EBT	2	3200	690	.231	920	.306
EBR	0	0	50		60	
WBL	1	1600	70	.044	40	.025
WBT	2	3200	450	.181*	1010	.359*
WBR	0	0	130		140	
TOTAL CAPACITY UTILIZATION				.594	.859	

BB8

11. Von Karman & Campus

LOSD Alt 2

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	20	.013	10	.006*
NBT	2	3200	830	.272*	590	.200
NBR	0	0	40		50	
SBL	1	1600	40	.025*	160	.100
SBT	2	3200	620	.225	1050	.419*
SBR	0	0	100		290	
EBL	1	1600	370	.231*	240	.150*
EBT	2	3200	690	.231	920	.306
EBR	0	0	50		60	
WBL	1	1600	70	.044	40	.025
WBT	3	4800	450	.121*	1010	.240*
WBR	0	0	130		140	
TOTAL CAPACITY UTILIZATION				.649	.815	

BB9

LOS D A143

11. Von Karman & Campus

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1600	20	.013	10	.006*
NBT	2	3200	830	.259*	590	.184
NBR	f		40		50	
SBL	1	1600	40	.025*	160	.100
SBT	2	3200	620	.194	1050	.328*
SBR	1	1600	100	.063	290	.181
EBL	1	1600	370	.231*	240	.150*
EBT	2	3200	690	.216	920	.288
EBR	1	1600	50	.031	60	.038
WBL	1	1600	70	.044	40	.025
WBT	2	3200	450	.181*	1010	.359*
WBR	0	0	130		140	
TOTAL CAPACITY UTILIZATION				.696	.843	

BB10

LOSD Alt 4

11. Von Karman & Campus

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1600	20	.013	10	.006*
NBT	2	3200	830	.259*	590	.184
NBR	f		40		50	
SBL	1	1600	40	.025*	160	.100
SBT	3	4800	620	.150	1050	.279*
SBR	0	0	100		290	
EBL	1	1600	370	.231*	240	.150*
EBT	2	3200	690	.216	920	.288
EBR	1	1600	50	.031	60	.038
WBL	1	1600	70	.044	40	.025
WBT	2	3200	450	.181*	1010	.359*
WBR	0	0	130		140	
TOTAL CAPACITY UTILIZATION				.696	.794	

BB11

LOS E

13. Jamboree & Campus

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3200	90	.028	150	.047*
NBT	4	6400	1930	.302*	1930	.302
NBR	1	1600	290	.181	730	.456
SBL	2	3200	640	.200*	480	.150
SBT	4	6400	1800	.338	2570	.444*
SBR	0	0	360		270	
EBL	2	3200	180	.056	680	.213*
EBT	2	3200	290	.100*	830	.269
EBR	0	0	30		30	
WBL	2	3200	870	.272*	340	.106
WBT	2	3200	860	.269	660	.206*
WBR	1	1600	130	.081	530	.331
Right Turn Adjustment					NBR	.009*
Note: Assumes Right-Turn Overlap for WBR					NBR	
TOTAL CAPACITY UTILIZATION				.874		.919

BB12

LOSD

13. Jamboree & Campus

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	90	.028	150	.047*
NBT	4	6400	1930	.302*	1930	.302
NBR	1	1600	290	.181	730	.456
SBL	2	3200	640	.200*	480	.150
SBT	4	6400	1800	.338	2570	.444*
SBR	0	0	360		270	
EBL	2	3200	180	.056	680	.213
EBT	2	3200	290	.100*	830	.269*
EBR	0	0	30		30	
WBL	2	3200	870	.272*	340	.106*
WBT	3	4800	860	.179	660	.138
WBR	1	1600	130	.081	530	.331
Right Turn Adjustment					Multi	.028*
Note: Assumes Right-Turn Overlap for WBR NBR						
TOTAL CAPACITY UTILIZATION				.874		.894

BB 13

14. Jamboree & Birch

LOSD

General Plan Without Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	450	.281*	150	.094
NBT	3	4800	1940	.421	1890	.400*
NBR	0	0	80		30	
SBL	1	1600	10	.006	90	.056*
SBT	4	6400	2040	.319*	2010	.314
SBR	f		930		380	
EBL	1.5		210		710	
EBT	0.5	3200	90	.094*	20	.228*
EBR	f		10		470	
WBL	0	0	80		60	
WBT	1	1600	70	.200*	80	.094*
WBR	0	0	170		10	
TOTAL CAPACITY UTILIZATION				.894		.778

Note: Assumes E/W Split Phasing

BB 14 a

14. Jamboree & Birch

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	450	.141*	150	.047*
NBT	3	4800	1940	.421	1890	.400
NBR	0	0	80		30	
SBL	1	1600	10	.006	90	.056
SBT	3	4800	2040	.425*	2010	.419*
SBR	f		930		380	
EBL	1.5		210		710	
EBT	0.5	3200	90	.094*	20	.228*
EBR	f		10		470	
WBL	0	0	80		60	
WBT	1	1600	70	.200*	80	.094*
WBR	0	0	170		10	
TOTAL CAPACITY UTILIZATION				.860	.788	

Note: Assumes E/W Split Phasing

BB 14b

BB14C

LOS E

15. Campus & Bristol (N)

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	530	.166	600	.188*
NBT	3	4800	3190	.665*	1690	.352
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	470	.073	1840	.288*
SBR	2	3200	400	.125	1280	.400
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	300	.094	550	.172
WBT	5	8000	1780	.256*	2930	.381*
WBR	0	0	270		120	
Right Turn Adjustment					SBR	.112*
TOTAL CAPACITY UTILIZATION				.921		.969

BB 15

LOSD AIE 1

15. Campus & Bristol (N)

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	530	.166	600	.188*
NBT	4	6400	3190	.498*	1690	.264
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	470	.073	1840	.288*
SBR	f		400		1280	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	300	.094	550	.172
WBT	5	8000	1780	.256*	2930	.381*
WBR	0	0	270		120	
TOTAL CAPACITY UTILIZATION				.754	.857	

BB 16

15. Campus & Bristol (N)

LOSD AIT 2

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	530	.166	600	.188*
NBT	4	6400	3190	.498*	1690	.264
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	470	.073	1840	.288*
SBR	3	4800	400	.083	1280	.267
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	300	.094	550	.172
WBT	5	8000	1780	.256*	2930	.381*
WBR	0	0	270		120	
TOTAL CAPACITY UTILIZATION				.754	.857	

BB 17

LOSPAIT 1

16. Birch & Bristol (N)

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	110	.034	180	.056*
NBT	3	4800	1380	.288*	470	.098
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1.5	6400	190	.067	840	.372*
SBR	2.5		240		1540	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		460	.288	550	
WBT	3.5	8000	1700	.354*	1730	.308*
WBR	0		820	.513	180	
Right Turn Adjustment			WBR	.159*		
TOTAL CAPACITY UTILIZATION				.801		.736

BB 18

LOAD A1t2

16. Birch & Bristol (N)

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	110	.034	180	.056*
NBT	2	3200	1380	.431*	470	.147
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1.5	6400	190	.067	840	.372*
SBR	2.5		240		1540	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	460	.288	550	.344
WBT	2.5	6400	1700	.394*	1730	.360*
WBR	1.5		820		180	.113
TOTAL CAPACITY UTILIZATION				.825	.788	

BB19

17. Campus/Irvine & Bristol (S)

LOSD

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	5	8000	2370	.362*	1770	.267*
NBR	0	0	530		370	
SBL	1	1600	100	.063*	310	.194*
SBT	3	4800	680	.142	2080	.433
SBR	0	0	0		0	
EBL	2	3200	1350	.422*	540	.169
EBT	2.5	6400	1730	.373	1300	.300*
EBR	1.5		660		620	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.847	.761	

BB 20

Funded Imp

19. Irvine & Mesa

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	90	.056	50	.031*
NBT	3	4800	2050	.427*	910	.190
NBR	d	1600	620	.388	160	.100
SBL	1	1600	10	.006*	10	.006
SBT	3	4800	1030	.215	2240	.467*
SBR	d	1600	60	.038	210	.131
EBL	1	1600	340	.213	90	.056*
EBT	1	1600	340	.213*	80	.050
EBR	1	1600	50	.031	210	.131
WBL	2	3200	160	.050*	450	.141
WBT	1	1600	60	.044	600	.381*
WBR	0	0	10		10	
TOTAL CAPACITY UTILIZATION				.696	.935	

LOSD A1E1

19. Irvine & Mesa

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	90	.056	50	.031*
NBT	3	4800	2050	.427*	910	.190
NBR	d	1600	620	.388	160	.100
SBL	1	1600	10	.006*	10	.006
SBT	3	4800	1030	.215	2240	.467*
SBR	d	1600	60	.038	210	.131
EBL	1	1600	340	.213	90	.056
EBT	1	1600	340	.213*	80	.050*
EBR	1	1600	50	.031	210	.131
WBL	1	1600	160	.100*	450	.281*
WBT	2	3200	60	.022	600	.191
WBR	0	0	10		10	
Right Turn Adjustment					EBR	.050*
Note: Assumes Right-Turn Overlap for EBR						
TOTAL CAPACITY UTILIZATION				.746	.879	

BB 22

LOSDAIt 2

19. Irvine & Mesa

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	90	.056	50	.031*
NBT	3	4800	2050	.427*	910	.190
NBR	d	1600	620	.388	160	.100
SBL	1	1600	10	.006*	10	.006
SBT	3	4800	1030	.215	2240	.467*
SBR	d	1600	60	.038	210	.131
EBL	1	1600	340	.213	90	.056
EBT	1	1600	340	.244*	80	.181*
EBR	0	0	50		210	
WBL	2	3200	160	.050*	582	.182*
WBT	1	1600	60	.044	459	.293
WBR	0	0	10		10	
TOTAL CAPACITY UTILIZATION				.727	.861	

BB 23

20. Irvine & University

LOS D

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	240	.150	180	.113*
NBT	3	4800	2430	.519*	1070	.229
NBR	0	0	60		30	
SBL	1	1600	90	.056*	40	.025
SBT	3	4800	1010	.210	2640	.550*
SBR	1	1600	120	.075	440	.275
EBL	1.5		530		150	
EBT	0.5	3200	110	.200*	30	.056*
EBR	1	1600	210	.131	180	.113
WBL	1	1600	20	.013	20	.013
WBT	1	1600	30	.019*	80	.050*
WBR	d	1600	20	.013	50	.031
Right Turn Adjustment					EBR	.057*
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION			.794		.826	

BB 24

27. Dover & Coast Hw.

LOAD

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	20	.013	20	.013
NBT	1	1600	60	.038*	90	.056*
NBR	1	1600	60	.038	50	.031
SBL	3	4800	1080	.225*	1010	.210*
SBT	1	1600	60	.038	60	.038
SBR	1	1600	80	.050	110	.069
EBL	2	3200	190	.059	140	.044*
EBT	3	4800	2440	.510*	2040	.429
EBR	0	0	10		20	
WBL	1	1600	40	.025*	60	.038
WBT	4	6400	1750	.273	2980	.466*
WBR	f		690		1150	
TOTAL CAPACITY UTILIZATION				.798		.776

Note: Assumes N/S Split Phasing

BB 25

LOAD ALT 1

29. MacArthur & Jamboree

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	210	.066	240	.075*
NBT	3	4800	1920	.400*	830	.173
NBR	1	1600	600	.375	550	.344
SBL	2	3200	130	.041*	260	.081
SBT	3	4800	500	.104	1600	.333*
SBR	f		120		540	
EBL	2	3200	690	.216	220	.069
EBT	3	4800	1770	.369*	1380	.288*
EBR	f		130		50	
WBL	3	4800	360	.075*	910	.190*
WBT	3	4800	1030	.215	1540	.321
WBR	f		170		160	
Note: Assumes Right-Turn Overlap for NBR						
TOTAL CAPACITY UTILIZATION				.885		.886

29. MacArthur & Jamboree

LOS D A&Z

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	210	.066	240	.075*
NBT	3	4800	1920	.400*	830	.173
NBR	1	1600	600	.375	550	.344
SBL	2	3200	130	.041*	260	.081
SBT	3	4800	500	.104	1600	.333*
SBR	f		120		540	
EBL	2	3200	690	.216*	220	.069
EBT	4	6400	1770	.277	1380	.216*
EBR	f		130		50	
WBL	3	4800	360	.075	910	.190*
WBT	3	4800	1030	.215*	1540	.321
WBR	f		170		160	

Note: Assumes Right-Turn Overlap for NBR

TOTAL CAPACITY UTILIZATION .872 .814

29. MacArthur & Jamboree

LOS D AIT 3A

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	210	.066*	240	.075*
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	130	.041	260	.081
SBT	3	4800	500	.104*	1600	.333*
SBR	1	1600	120	.075	540	.338
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	1	1600	130	.081	50	.031
WBL	2	3200	360	.113	910	.284
WBT	3	4800	1030	.215*	1540	.321*
WBR	1	1600	170	.106	160	.100
Right Turn Adjustment					SBR	.005*
TOTAL CAPACITY UTILIZATION				.385		.734

BB 28

LOS DAIT 3 B

29. MacArthur & Jamboree

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1920	.400*	830	.173*
NBR	1	1600	600	.375	550	.344
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	2	3200	690	.216	220	.069
EBT	3	4800	1770	.369*	1380	.288*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.171*
TOTAL CAPACITY UTILIZATION				.769		.632

LOS E

32. Jamboree & Bristol (S)

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	6	9600	2110	.226*	2320	.253*
NBR	0	0	60		110	
SBL	0	0	0		0	
SBT	4	6400	650	.102	1480	.231
SBR	0	0	0		0	
EBL	1.5		2190	.684*	1080	{.546}*
EBT	1.5	4800	560	.350	1540	.546
EBR	2	3200	1010	.316	1000	.313
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.910		.799

BB 30

LOAD

32. Jamboree & Bristol (S)

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	5	8000	2110	.271*	2320	.304
NBR	0	0	60		110	
SBL	0	0	0		0	
SBT	3	4800	650	.135	1480	.308*
SBR	0	0	0		0	
EBL	2.5		2190	.456*	1080	.338
EBT	1.5	6400	560	.350	1540	.481*
EBR	2	3200	1010	.316	1000	.313
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.727		.789

BB 31

49. MacArthur & Ford/Bonita Cyn

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	140	.044*	80	.025
NBT	4	6400	2070	.323	2420	.378*
NBR	1	1600	130	.081	540	.338
SBL	3	4800	390	.081	1060	.221*
SBT	4	6400	2950	.461*	2440	.381
SBR	f		10		60	
EBL	2	3200	30	.009*	10	.003
EBT	2	3200	370	.116	650	.203*
EBR	1	1600	90	.056	110	.069
WBL	2	3200	400	.125	270	.084*
WBT	2	3200	890	.278*	370	.116
WBR	f		1700		750	
TOTAL CAPACITY UTILIZATION				.792		.886

LOSE AIT 1

50. MacArthur & San Joaquin H.

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	70	.022*	20	.006
NBT	4	6400	1540	.242	1800	.284*
NBR	0	0	10		20	
SBL	3	4800	600	.125	940	.196*
SBT	3	4800	1780	.371*	1870	.390
SBR	f		1070		430	
EBL	2	3200	190	.059*	1040	.325*
EBT	3	4800	310	.073	620	.150
EBR	0	0	40		100	
WBL	1	1600	20	.013	20	.013
WBT	2	3200	680	.213*	370	.116*
WBR	f		1010		540	
TOTAL CAPACITY UTILIZATION				.665		.921

BB 33

LOSE ALT 2

50. MacArthur & San Joaquin H.

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	70	.022	20	.006
NBT	4	6400	1540	.242*	1800	.284*
NBR	0	0	10		20	
SBL	2	3200	600	.188*	940	.294*
SBT	3	4800	1780	.371	1870	.390
SBR	f		1070		430	
EBL	3	4800	190	.040*	1040	.217*
EBT	3	4800	310	.073	620	.150
EBR	0	0	40		100	
WBL	1	1600	20	.013	20	.013
WBT	2	3200	680	.213*	370	.116*
WBR	f		1010		540	
TOTAL CAPACITY UTILIZATION				.683		.911

BB 34

LOSD

50. MacArthur & San Joaquin H.

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	70	.022	20	.006
NBT	3	4800	1540	.321*	1800	.375*
NBR	1	1600	10	.006	20	.013
SBL	3	4800	600	.125*	940	.196*
SBT	3	4800	1780	.371	1870	.390
SBR	f		1070		430	
EBL	3	4800	190	.040*	1040	.217*
EBT	3	4800	310	.073	620	.150
EBR	0	0	40		100	
WBL	1	1600	20	.013	20	.013
WBT	2	3200	680	.213*	370	.116*
WBR	f		1010		540	
TOTAL CAPACITY UTILIZATION				.699	.904	

BB 35

LOSD

53. SR-73 NB Ramps & Bonita Cyn

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	2	3200	390	.122*	20	.006*
NBT	0	0	0		0	
NBR	1	1600	620	.388	200	.125
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	800	.250*	1220	.381*
EBR	1	1600	10	.006	10	.006
WBL	2	3200	710	.222*	390	.122*
WBT	2	3200	1270	.397	1190	.372
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.266*	NBR	.119*
TOTAL CAPACITY UTILIZATION				.860		.628

BB 36

57. Goldenrod & Coast Hw.

LOSD

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	112	.070*	84	.053*
NBT	1	1600	0	.015	0	.013
NBR	0	0	24		21	
SBL	0	0	61		36	
SBT	1	1600	0	.076*	0	.039*
SBR	0	0	60		27	
EBL	1	1600	30	.019*	33	.021
EBT	2	3200	1003	.313	1869	.584*
EBR	d	1600	43	.027	53	.033
WBL	1	1600	42	.026	22	.014*
WBT	3	4800	2633	.551*	1658	.348
WBR	0	0	13		13	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .716 .690

BB 37

LOSD

59. Marguerite & Coast Hw.

General Plan Without Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	70	.044	90	.056
NBT	1	1600	180	.163*	200	.156*
NBR	0	0	80		50	
SBL	1	1600	190	.119*	280	.175*
SBT	1	1600	70	.069	120	.094
SBR	0	0	40		30	
EBL	1	1600	70	.044*	70	.044
EBT	3	4800	1360	.292	1850	.402*
EBR	0	0	40		80	
WBL	1	1600	60	.038	140	.088*
WBT	3	4800	2010	.429*	1520	.333
WBR	0	0	50		80	
TOTAL CAPACITY UTILIZATION				.755	.821	

BB 38

APPENDIX CC

GENERAL PLAN BUILDOUT WITHOUT PROJECT
FREEWAY MAINLINE ANALYSIS

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10718	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2912	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	4175	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	4175	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5646	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1534	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2199	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2199	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	57.1	mi/h
Number of lanes, N	3	
Density, D	38.5	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10718	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2912	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2505	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2505	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	5	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

CC5

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5646	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1534	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1319	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1319	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	5	
Density, D	20.3	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan NP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10718	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2912	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fhV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2087	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2087	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	59.8	mi/h
Number of lanes, N	6	
Density, D	34.9	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

CC7

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan NP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V 5646 veh/h
 Peak-hour factor, PHF 0.92
 Peak 15-min volume, v15 1534 v
 Trucks and buses 5 %
 Recreational vehicles 0 %
 Terrain type: Rolling
 Grade 0.00 %
 Segment length 0.00 mi
 Trucks and buses PCE, ET 2.5
 Recreational vehicle PCE, ER 2.0
 Heavy vehicle adjustment, fhv 0.930
 Driver population factor, fp 1.00
 Flow rate, vp 1100 pc/h/ln

Speed Inputs and Adjustments

Lane width 12.0 ft
 Right-shoulder lateral clearance 6.0 ft
 Interchange density 0.50 interchange/mi
 Number of lanes, N 6
 Free-flow speed: Measured
 FFS or BFFS 65.0 mi/h
 Lane width adjustment, fLW 0.0 mi/h
 Lateral clearance adjustment, fLC 0.0 mi/h
 Interchange density adjustment, fID 0.0 mi/h
 Number of lanes adjustment, fN 0.0 mi/h
 Free-flow speed, FFS 65.0 mi/h
 Urban Freeway

LOS and Performance Measures

Flow rate, vp 1100 pc/h/ln
 Free-flow speed, FFS 65.0 mi/h
 Average passenger-car speed, S 65.0 mi/h
 Number of lanes, N 6
 Density, D 16.9 pc/mi/ln
 Level of service, LOS B

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3457	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	939	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1346	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1346	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	20.7	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

cc 9

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	9137	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2483	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	3559	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	3559	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

cc 10

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
Agency or Company: Urban Crossroads
Date Performed: 12/20/2005
Analysis Time Period: AM
Freeway/Direction: SR-73/Southbound
From/To: 405 Fw. to Bear St.
Jurisdiction:
Analysis Year: General Plan No Project w/ Imp
Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3457	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	939	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1010	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1010	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	4	
Density, D	15.5	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

CC 11

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	9137	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2483	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2669	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2669	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan NP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3457	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	939	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	673	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	673	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	6	
Density, D	10.4	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

CC13

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan NP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	9137	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2483	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1779	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1779	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.1	mi/h
Number of lanes, N	6	
Density, D	27.8	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	12544	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	3409	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	4886	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	4886	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	6607	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1795	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2573	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2573	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
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Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	12544	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	3409	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2931	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2931	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	5	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	6607	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1795	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1544	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1544	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	5	
Density, D	23.8	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan NP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V 12544 veh/h
 Peak-hour factor, PHF 0.92
 Peak 15-min volume, v15 3409 v
 Trucks and buses 5 %
 Recreational vehicles 0 %
 Terrain type: Rolling
 Grade 0.00 %
 Segment length 0.00 mi
 Trucks and buses PCE, ET 2.5
 Recreational vehicle PCE, ER 2.0
 Heavy vehicle adjustment, fHV 0.930
 Driver population factor, fp 1.00
 Flow rate, vp 2443 pc/h/ln

Speed Inputs and Adjustments

Lane width 12.0 ft
 Right-shoulder lateral clearance 6.0 ft
 Interchange density 0.50 interchange/mi
 Number of lanes, N 6
 Free-flow speed: Measured
 FFS or BFFS 65.0 mi/h
 Lane width adjustment, fLW 0.0 mi/h
 Lateral clearance adjustment, fLC 0.0 mi/h
 Interchange density adjustment, fID 0.0 mi/h
 Number of lanes adjustment, fN 0.0 mi/h
 Free-flow speed, FFS 65.0 mi/h
 Urban Freeway

LOS and Performance Measures

Flow rate, vp 2443 pc/h/ln
 Free-flow speed, FFS 65.0 mi/h
 Average passenger-car speed, S mi/h
 Number of lanes, N 6
 Density, D pc/mi/ln
 Level of service, LOS F

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan NP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	6607	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1795	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fhV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1287	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1287	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	6	
Density, D	19.8	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	4046	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1099	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1576	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1576	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.9	mi/h
Number of lanes, N	3	
Density, D	24.3	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10694	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2906	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	4165	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	4165	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	4046	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1099	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	946	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	946	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	5	
Density, D	14.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10694	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2906	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2499	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2499	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	5	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan NP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	4046	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1099	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	788	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	788	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	6	
Density, D	12.1	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

CC 25

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan NP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10694	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2906	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2083	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2083	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	59.9	mi/h
Number of lanes, N	6	
Density, D	34.8	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10718	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2912	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	4175	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	4175	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5646	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1534	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2199	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2199	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	57.1	mi/h
Number of lanes, N	3	
Density, D	38.5	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10718	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2912	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2505	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2505	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	5	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5646	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1534	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1319	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1319	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	5	
Density, D	20.3	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan NP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10718	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2912	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2087	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2087	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	59.8	mi/h
Number of lanes, N	6	
Density, D	34.9	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan NP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5646	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1534	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1100	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1100	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	6	
Density, D	16.9	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3457	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	939	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1346	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1346	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	20.7	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	9137	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2483	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	3559	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	3559	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3457	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	939	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	808	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	808	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	5	
Density, D	12.4	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	9137	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2483	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2135	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2135	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	58.7	mi/h
Number of lanes, N	5	
Density, D	36.4	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan NP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3457	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	939	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	673	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	673	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	6	
Density, D	10.4	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan NP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	9137	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2483	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1779	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1779	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.1	mi/h
Number of lanes, N	6	
Density, D	27.8	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Jamboree to Bonita Canyon
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	7701	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2093	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2999	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2999	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Jamboree to Bonita Canyon
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	4057	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1102	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1580	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1580	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.9	mi/h
Number of lanes, N	3	
Density, D	24.3	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Jamboree to Bonita Canyon
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	7701	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2093	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1800	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1800	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	63.9	mi/h
Number of lanes, N	5	
Density, D	28.2	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Jamboree to Bonita Canyon
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	4057	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1102	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	948	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	948	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	5	
Density, D	14.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Jamboree to Bonita Canyon
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	2484	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	675	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fhV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	967	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	967	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	14.9	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS2000: Basic Freeway Segments Release 4.1c

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Jamboree to Bonita Canyon
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	6565	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1784	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2557	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2557	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Jamboree to Bonita Canyon
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	2484	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	675	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	580	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	580	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	5	
Density, D	8.9	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

CC45

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Jamboree to Bonita Canyon
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	6565	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1784	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1534	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1534	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	5	
Density, D	23.6	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

CC46

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10797	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2934	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	3154	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	3154	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5687	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1545	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1661	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1661	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.7	mi/h
Number of lanes, N	4	
Density, D	25.7	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10797	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2934	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fhv	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2103	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2103	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	59.5	mi/h
Number of lanes, N	6	
Density, D	35.4	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5687	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1545	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1108	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1108	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	6	
Density, D	17.0	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

CC50

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: General Plan NP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10797	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2934	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1802	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	7	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1802	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	63.9	mi/h
Number of lanes, N	7	
Density, D	28.2	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

CC51

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: General Plan NP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5687	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1545	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	949	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	7	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	949	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	7	
Density, D	14.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

CC52

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3483	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	946	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1017	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	65.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1017	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	4	
Density, D	15.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

CC53

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	9205	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2501	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fhv	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2689	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2689	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

CC54

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3483	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	946	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	678	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	678	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	6	
Density, D	10.4	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

CC55

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	9205	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2501	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1793	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1793	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.0	mi/h
Number of lanes, N	6	
Density, D	28.0	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

cc 56

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10083	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2740	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	3927	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	3927	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

CC57

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5311	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1443	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2069	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2069	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	60.2	mi/h
Number of lanes, N	3	
Density, D	34.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

CC58

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10083	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2740	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2356	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2356	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	5	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

CC59

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5311	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1443	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1241	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1241	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	5	
Density, D	19.1	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

CC60

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: General Plan NP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5311	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1443	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1034	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1034	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	6	
Density, D	15.9	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

CC 41

HCS2000: Basic Freeway Segments Release 4.1c

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: General Plan NP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10083	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2740	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1964	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1964	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	62.0	mi/h
Number of lanes, N	6	
Density, D	31.7	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

CC62

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3252	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	884	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1267	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1267	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	19.5	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	8596	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2336	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	3348	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	3348	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

CC 64

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3252	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	884	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	633	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	633	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	6	
Density, D	9.7	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

CC 65

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	8596	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2336	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1674	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1674	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.7	mi/h
Number of lanes, N	6	
Density, D	25.9	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

CC 66

APPENDIX DD

**GENERAL PLAN BUILDOUT WITHOUT PROJECT
FREEWAY RAMP ANALYSIS**

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bristol St.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	10718	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	45.0	mph
Volume on ramp	2360	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	10718	2360	vph

DD3

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	2912	641		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	0.00		%
Length	0.00	0.00		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	12524	2758		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 5924$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	10020	9400	Yes
Fi F			
v	5924	4400	Yes
12			
v = v - v	7262	9400	No
FO F R			
v	2758	2100	Yes
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 55.2$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, $D = 0.546$

S

Space mean speed in ramp influence area, $S = 52$ mph

R

Space mean speed in outer lanes, $S = 67.2$ mph

0

Space mean speed for all vehicles, $S = 57.6$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bristol St.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	5646	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	45.0	mph	
Volume on ramp	900	vph	
Length of first accel/decel lane	0	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	5646	900	vph

DD5

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1534	245		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	6597	1052		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v)P = 3038$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	5608	9400	No
Fi F			
v	3038	4400	No
12			
v = v - v	4556	9400	No
FO F R			
v	1052	2100	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 30.4$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, $D = 0.393$

S

Space mean speed in ramp influence area, $S = 56$ mph

R

Space mean speed in outer lanes, $S = 70.2$ mph

0

Space mean speed for all vehicles, $S = 61.7$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/13/2005
Analysis time period: AM
Freeway/dir or travel: SR-73/Northbound
Junction: Bristol St.
Jurisdiction:
Analysis Year: General Plan No Project w/ Imp
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	8932	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-Flow speed on ramp	45.0	mph
Volume on ramp	2360	vph
Length of first accel/decel lane	310	ft
Length of second accel/decel lane	0	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	8932	2360	vph

DD 7

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	2427	641		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	10437	2758		pcph

Estimation of V₁₂ Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.260 Using Equation 0

FD

$v = v + (v - v) P = 4212 \text{ pc/h}$

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	8350	9400	No
Fi F			
v	4212	4400	No
12			
v = v - v	5592	9400	No
FO F R			
v	2758	4100	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 34.9 \text{ pc/mi/ln}$

R 12 D

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, $D = 0.546$

S

Space mean speed in ramp influence area, $S = 52 \text{ mph}$

R

Space mean speed in outer lanes, $S = 67.1 \text{ mph}$

0

Space mean speed for all vehicles, $S = 58.8 \text{ mph}$

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bristol St.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	4705	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	2		
Free-Flow speed on ramp	45.0	mph	
Volume on ramp	900	vph	
Length of first accel/decel lane	310	ft	
Length of second accel/decel lane	0	ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4705	900	vph

DD9

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1279	245		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, f _{HV}		0.930	0.930	
Driver population factor, f _P		1.00	1.00	
Flow rate, v _p	5498	1052		pcph

Estimation of V12 Diverge Areas

$L = 0.00$ (Equation 25-8 or 25-9)
 EQ
 $P = 0.260$ Using Equation 0
 FD
 $v = v + (v - v) P = 2065$ pc/h
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
$v = v$ F _i F	4949	9400	No
v 12	2065	4400	No
$v = v - v$ F _O F R	3897	9400	No
v R	1052	4100	No

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 16.4$ pc/mi/ln
 R 12 D

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, $D = 0.393$
 S
 Space mean speed in ramp influence area, $S = 56$ mph
 R
 Space mean speed in outer lanes, $S = 69.6$ mph
 0
 Space mean speed for all vehicles, $S = 63.2$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Bristol St.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	3457	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-Flow speed on ramp	45.0	mph
Volume on ramp	1430	vph
Length of first accel/decel lane	2725	ft
Length of second accel/decel lane	0	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	3457	1430	vph

DD II

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	939	389		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	4039	1671		pcph

Estimation of V₁₂ Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)
 EQ
 P = 0.260 Using Equation 0
 FD
 $v = v + (v - v) P = 2182 \text{ pc/h}$
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	3636	9400	No
Fi F			
v	2182	4400	No
12			
v = v - v	1965	9400	No
FO F R			
v	1671	4100	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = -26.0 \text{ pc/mi/ln}$
 R 12 D

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable, $D = 0.448$
 S
 Space mean speed in ramp influence area, $S = 55 \text{ mph}$
 R
 Space mean speed in outer lanes, $S = 71.3 \text{ mph}$
 0
 Space mean speed for all vehicles, $S = 60.3 \text{ mph}$

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/13/2005
Analysis time period: PM
Freeway/dir or travel: SR-73/Southbound
Junction: Bristol St.
Jurisdiction:
Analysis Year: General Plan No Project
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	9137	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-Flow speed on ramp	45.0	mph
Volume on ramp	660	vph
Length of first accel/decel lane	2725	ft
Length of second accel/decel lane	0	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	9137	660	vph

DD 13

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	2483	179		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	10676	771		pcph

Estimation of V₁₂ Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.260 Using Equation 0

FD

$v = v + (v - v)P = 2791 \text{ pc/h}$
 $12 \quad R \quad F \quad R \quad FD$

Capacity Checks

	Actual	Maximum	LOS F?
$v = v$	8541	9400	No
$F_i \quad F$			
v	2791	4400	No
12			
$v = v - v$	7770	9400	No
$F_O \quad F \quad R$			
v	771	4100	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = -20.8 \text{ pc/mi/ln}$
 $R \quad 12 \quad D$

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable,	D = 0.367
S	
Space mean speed in ramp influence area,	S = 57 mph
R	
Space mean speed in outer lanes,	S = 64.0 mph
0	
Space mean speed for all vehicles,	S = 61.4 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	7701	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	15.0	mph
Volume on ramp	460	vph
Length of first accel/decel lane	120	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	7701	460	DD15 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2093	125	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	8998	537	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.240 Using Equation 4

FM

$v = v(P) = 1559$ pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	7035	9400	No
v _{R12}	2096	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 20.8$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, M = 0.349

S

Space mean speed in ramp influence area, S = 57.0 mph

R

Space mean speed in outer lanes, S = 57.5 mph

0

Space mean speed for all vehicles, S = 57.3 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4057	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	15.0	mph
Volume on ramp	860	vph
Length of first accel/decel lane	120	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4057	860	DD17 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1102	234	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	4741	1005	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.181 Using Equation 4

FM

v = v (P) = 671 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	4703	9400	No
v _{R12}	1676	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + \frac{0.00734}{R} v + \frac{0.0078}{12} v - 0.00627 \frac{L}{A} = 17.3$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M = 0.338

S

Space mean speed in ramp influence area, S = 57.2 mph

R

Space mean speed in outer lanes, S = 61.4 mph

0

Space mean speed for all vehicles, S = 59.8 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	3457	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	40.0	mph
Volume on ramp	620	vph
Length of first accel/decel lane	1700	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
	Ramp		
Volume, V (vph)	3457	620	vph

DD19

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	939	168	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	4039	724	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
EQ
P = 0.601 Using Equation 4
FM
 $v = v(P) = 1894$ pc/h
12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	3875	9400	No
FO			
v	2618	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 14.9$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M = 0.238
S
Space mean speed in ramp influence area, S = 59.5 mph
R
Space mean speed in outer lanes, S = 64.5 mph
0
Space mean speed for all vehicles, S = 61.1 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	9137	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	40.0	mph
Volume on ramp	1650	vph
Length of first accel/decel lane	1700	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	9137	1650	DD21 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2483	448	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, fHV	0.930	0.930	
Driver population factor, fP	1.00	1.00	
Flow rate, v _p	10676	1928	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.451 Using Equation 4

FM

v = v(P) = 3685 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	10104	9400	Yes
v _{R12}	5613	4600	Yes

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 37.7$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, M = 1.253

S

Space mean speed in ramp influence area, S = 36.2 mph

R

Space mean speed in outer lanes, S = 58.7 mph

0

Space mean speed for all vehicles, S = 43.6 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: AM
Freeway/dir or travel: SR-73/Southbound
Junction: Jamboree Rd.
Jurisdiction:
Analysis Year: General Plan No Project w/ Imp
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2881	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	40.0	mph
Volume on ramp	620	vph
Length of first accel/decel lane	1580	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2881	620	vph

DD 23

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	783	168	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	3366	724	pcph

Estimation of V12 Merge Areas

$L = 0.00$ (Equation 25-2 or 25-3)
 EQ
 $P = 0.568$ Using Equation 4
 FM
 $v = v(P) = 1491$ pc/h
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	3350	9400	No
v _{R12}	2215	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L = 12.5$ pc/mi/ln
 R R A

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, $M = 0.230$
 S
 Space mean speed in ramp influence area, $S = 59.7$ mph
 R
 Space mean speed in outer lanes, $S = 64.8$ mph
 0
 Space mean speed for all vehicles, $S = 61.3$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: PM
Freeway/dir or travel: SR-73/Southbound
Junction: Jamboree Rd.
Jurisdiction:
Analysis Year: General Plan No Project w/ Imp
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	7614	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	40.0	mph
Volume on ramp	1650	vph
Length of first accel/decel lane	1580	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	7614	1650	vph

DD 25

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2069	448	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	8897	1928	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.417 Using Equation 4

FM

$v = v(P) = 2669$ pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	8325	9400	No
v _{R12}	4597	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 \frac{v}{R} + 0.0078 \frac{v}{12} - 0.00627 \frac{L}{A} = 30.5$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, M = 0.581

S

Space mean speed in ramp influence area, S = 51.6 mph

R

Space mean speed in outer lanes, S = 60.1 mph

0

Space mean speed for all vehicles, S = 55.1 mph

DD26

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/13/2005
Analysis time period: AM
Freeway/dir or travel: SR-73/Northbound
Junction: MacArthur Bl.
Jurisdiction:
Analysis Year: General Plan No Project
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	7701	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	960	vph
Length of first accel/decel lane	1480	ft
Length of second accel/decel lane	0	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	7701	Ramp 960	DD 27 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	2093	261		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	8998	1122		pcph

Estimation of V₁₂ Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.260 Using Equation 0

FD

$v = v + (v - v)P = 2702$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	7199	9400	No
F _i F			
v	2702	4400	No
12			
v = v - v	6077	9400	No
F _O F R			
v	1122	3800	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 0.8$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable, $D = 0.594$

S

Space mean speed in ramp influence area, $S = 51$ mph

R

Space mean speed in outer lanes, $S = 66.4$ mph

0

Space mean speed for all vehicles, $S = 59.8$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 E-mail: _____

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: MacArthur Bl.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4057	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	490	vph
Length of first accel/decel lane	1480	ft
Length of second accel/decel lane	0	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4057	490	DD29 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1102	133		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	4741	573		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)
EQ
P = 0.260 Using Equation 0
FD
 $v = v + (v - v) P = 1533$ pc/h
12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v Fi F	4267	9400	No
v 12	1533	4400	No
v = v - v FO F R	3694	9400	No
v R	573	3800	No

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = -9.2$ pc/mi/ln
R 12 D

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable,	D = 0.545
Space mean speed in ramp influence area,	S = 52 mph
Space mean speed in outer lanes,	S = 69.9 mph
Space mean speed for all vehicles,	S = 62.4 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: AM
Freeway/dir or travel: SR-73/Northbound
Junction: MacArthur Bl.
Jurisdiction:
Analysis Year: General Plan No Project
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	7701	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	50.0	mph
Volume on ramp	2520	vph
Length of first accel/decel lane	340	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	7701	2520	DD31 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2093	685	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	8998	2945	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
EQ
P = Using Equation 4
FM
 $v = v(P) =$ pc/h
12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	9443	9400	Yes
v _{R12}		4600	Yes

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A =$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence

Speed Estimation

Intermediate speed variable, $M = 0.382$
S
Space mean speed in ramp influence area, $S =$ mph
R
Space mean speed in outer lanes, $S = 59.2$ mph
0
Space mean speed for all vehicles, $S = 57.9$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: MacArthur Bl.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4057	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	50.0	mph
Volume on ramp	2200	vph
Length of first accel/decel lane	340	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4057	2200	vph

DD33

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1102	598	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	4741	2571	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = Using Equation 4

FM

$v = v(P) = \text{pc/h}$
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	6269	9400	No
v _{R12}		4600	Yes

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = \text{pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence

Speed Estimation

Intermediate speed variable, M = 0.336

S

Space mean speed in ramp influence area, S = mph

R

Space mean speed in outer lanes, S = 60.6 mph

0

Space mean speed for all vehicles, S = 59.2 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: AM
Freeway/dir or travel: SR-73/Northbound
Junction: MacArthur Bl.
Jurisdiction:
Analysis Year: General Plan No Project w/ Imp
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	6418	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-flow speed on ramp	50.0	mph
Volume on ramp	2520	vph
Length of first accel/decel lane	340	ft
Length of second accel/decel lane	0	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	6418	2520	DD 35 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1744	685	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	7499	2945	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.209 Using Equation 0

FM

$v = v(P) = 1144$ pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	8420	9400	No
FO			
v	4089	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 31.8$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, M = 0.486

S

Space mean speed in ramp influence area, S = 53.8 mph

R

Space mean speed in outer lanes, S = 59.0 mph

O

Space mean speed for all vehicles, S = 56.4 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: PM
Freeway/dir or travel: SR-73/Northbound
Junction: MacArthur Bl.
Jurisdiction:
Analysis Year: General Plan No Project w/ Imp
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	3381	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-flow speed on ramp	50.0	mph
Volume on ramp	2200	vph
Length of first accel/decel lane	340	ft
Length of second accel/decel lane	0	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	3381	2200	DD 37 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	919	598	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, fHV	0.930	0.930	
Driver population factor, fP	1.00	1.00	
Flow rate, v _p	3951	2571	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.209 Using Equation 0

FM

$v = v(P) = 644$ pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	5653	9400	No
v _{R12}	3215	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 \frac{v}{R} + 0.0078 \frac{v}{12} - 0.00627 \frac{L}{A} = 25.1$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, M = 0.350

S

Space mean speed in ramp influence area, S = 56.9 mph

R

Space mean speed in outer lanes, S = 62.4 mph

0

Space mean speed for all vehicles, S = 59.2 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: MacArthur Bl.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2484	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	2200	vph
Length of first accel/decel lane	1340	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2484	2200	vph

DD 39

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	675	598		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	2902	2571		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 2715$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	2902	9400	No
F _i F			
v	2715	4400	No
12			
v = v - v	331	9400	No
F _O F R			
v	2571	2000	Yes
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 15.5$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, $D = 0.724$

S

Space mean speed in ramp influence area, $S = 48$ mph

R

Space mean speed in outer lanes, $S = 71.3$ mph

O

Space mean speed for all vehicles, $S = 49.4$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: MacArthur Bl.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	6565	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	2240	vph
Length of first accel/decel lane	1340	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	6565	2240	DD 41

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1784	609		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	7671	2617		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 4152$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	6137	9400	No
F _i F			
v	4152	4400	No
12			
v = v - v	3520	9400	No
F _O F R			
v	2617	2000	Yes
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 27.9$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, $D = 0.729$

S

Space mean speed in ramp influence area, $S = 48$ mph

R

Space mean speed in outer lanes, $S = 71.3$ mph

O

Space mean speed for all vehicles, $S = 53.9$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 E-mail: _____

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: MacArthur Bl.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	2484	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	2		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	2200	vph	
Length of first accel/decel lane	1340	ft	
Length of second accel/decel lane	0	ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
	Ramp		
Volume, V (vph)	2484	2200	vph

DD43

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	675	598		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	2902	2571		pcph

Estimation of V₁₂ Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.260 Using Equation 0

FD

$v = v + (v - v) P = 2657$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	2902	9400	No
Fi F			
v	2657	4400	No
12			
v = v - v	331	9400	No
FO F R			
v	2571	3800	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 3.0$ pc/mi/ln

R

12

D

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable, $D = 0.724$

S

Space mean speed in ramp influence area, $S = 48$ mph

R

Space mean speed in outer lanes, $S = 71.3$ mph

0

Space mean speed for all vehicles, $S = 49.7$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: MacArthur Bl.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	6565	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	2240	vph
Length of first accel/decel lane	1340	ft
Length of second accel/decel lane	0	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	6565	2240	DD 45 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1784	609		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	0.00		%
Length	0.00	0.00		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, f _{HV}		0.930	0.930	
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	7671	2617		pcph

Estimation of V12 Diverge Areas

$L = 0.00$ (Equation 25-8 or 25-9)
 EQ
 $P = 0.260$ Using Equation 0
 FD
 $v = v + (v - v) P = 3532$ pc/h
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v F _i F	6137	9400	No
v 12	3532	4400	No
v = v - v F _O F R	3520	9400	No
v R	2617	3800	No

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 10.5$ pc/mi/ln
 R 12 D

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable,	D = 0.729
Space mean speed in ramp influence area,	S = 48 mph
Space mean speed in outer lanes,	S = 70.1 mph
Space mean speed for all vehicles,	S = 55.6 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: University Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	7701	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	20.0	mph
Volume on ramp	1300	vph
Length of first accel/decel lane	200	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
	Ramp		
Volume, V (vph)	7701	1300	DD 47 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2093	353	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	8998	1519	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
EQ
P = 0.139 Using Equation 4
FM
 $v = v(P) = 906$ pc/h
12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	8017	9400	No
v _{R12}	2425	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 \frac{v}{R} + 0.0078 \frac{v}{12} - 0.00627 \frac{v}{A} = 22.4$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence, C

Speed Estimation

Intermediate speed variable, $M = 0.357$
S
Space mean speed in ramp influence area, $S = 56.8$ mph
R
Space mean speed in outer lanes, $S = 55.5$ mph
0
Space mean speed for all vehicles, $S = 55.9$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: PM
Freeway/dir or travel: SR-73/Northbound
Junction: University Dr.
Jurisdiction:
Analysis Year: General Plan No Project
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4057	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	20.0	mph
Volume on ramp	1430	vph
Length of first accel/decel lane	200	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4057	1430	DD 49 vph

Peak-hour factor, PHF	0.92	* 0.92	
Peak 15-min volume, v ₁₅	1102	389	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	4741	1671	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.120 Using Equation 4

FM

v = v(P) = 445 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	5369	9400	No
FO			
v	2116	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 20.0$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M = 0.345

S

Space mean speed in ramp influence area, S = 57.1 mph

R

Space mean speed in outer lanes, S = 60.9 mph

0

Space mean speed for all vehicles, S = 59.4 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: University Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2484	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	810	vph
Length of first accel/decel lane	1400	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2484	810	DD51 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	675	220		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, f _{HV}		0.930	0.930	
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	2902	946		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v)P = 1799$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	2902	9400	No
F _i F			
v	1799	4400	No
12			
v = v - v	1956	9400	No
F _O F R			
v	946	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 7.1$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable, $D = 0.513$

S

Space mean speed in ramp influence area, $S = 53$ mph

R

Space mean speed in outer lanes, $S = 71.3$ mph

0

Space mean speed for all vehicles, $S = 58.9$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: University Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	6565	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	840	vph
Length of first accel/decel lane	1400	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	6565	840	DD53 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1784	228		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	7671	982		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 3230$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	6137	9400	No
F _i F			
v	3230	4400	No
12			
v = v - v	5155	9400	No
F _O F R			
v	982	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 19.4$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, $D = 0.516$

S

Space mean speed in ramp influence area, $S = 53$ mph

R

Space mean speed in outer lanes, $S = 69.5$ mph

0

Space mean speed for all vehicles, $S = 59.8$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bison Av.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	7701	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	520	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	7701	520	DD55 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	2093	141		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, f _{HV}		0.930	0.930	
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	8998	608		pcph

Estimation of V₁₂ Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)
EQ
P = 0.436 Using Equation 8
FD
 $v = v + (v - v) P = 3482 \text{ pc/h}$
12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	7199	9400	No
F _i F			
v	3482	4400	No
12			
v = v - v	6591	9400	No
F _O F R			
v	608	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 34.2 \text{ pc/mi/ln}$
R 12 D

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	D = 0.548
S	
Space mean speed in ramp influence area,	S = 52 mph
R	
Space mean speed in outer lanes,	S = 68.0 mph
0	
Space mean speed for all vehicles,	S = 59.4 mph

DD 56

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bison Av.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4057	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	320	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4057	320	DD 57 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1102	87		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, f _{HV}		0.930	0.930	
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	4741	374		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)
EQ
P = 0.436 Using Equation 8
FD
 $v = v + (v - v) P = 2071$ pc/h
12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v Fi F	4267	9400	No
v 12	2071	4400	No
v = v - v FO F R	3893	9400	No
v R	374	2000	No

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 22.1$ pc/mi/ln
R 12 D

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, S	D = 0.527
Space mean speed in ramp influence area, S	S = 53 mph
Space mean speed in outer lanes, S	S = 70.9 mph
Space mean speed for all vehicles, S	S = 60.9 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bison Av.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	7701	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	40.0	mph
Volume on ramp	280	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	7701	280	DD59 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2093	76	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	8998	327	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.247 Using Equation 4

FM

$v = v(P) = 1602 \text{ pc/h}$

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	6825	9400	No
v _{R12}	1929	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 18.8 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M = 0.328

Space mean speed in ramp influence area, S = 57.5 mph

Space mean speed in outer lanes, S = 57.6 mph

Space mean speed for all vehicles, S = 57.5 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: PM
Freeway/dir or travel: SR-73/Northbound
Junction: Bison Av.
Jurisdiction:
Analysis Year: General Plan No Project
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4057	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	40.0	mph
Volume on ramp	860	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4057	860	DD 61 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1102	234	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	4741	1005	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
EQ
P = 0.162 Using Equation 4
FM
 $v = v(P) = 599$ pc/h
12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	4703	9400	No
v _{R12}	1604	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 16.0$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, $M = 0.320$
S
Space mean speed in ramp influence area, $S = 57.6$ mph
R
Space mean speed in outer lanes, $S = 61.2$ mph
0
Space mean speed for all vehicles, $S = 59.9$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/13/2005
Analysis time period: AM
Freeway/dir or travel: SR-73/Southbound
Junction: Bison Av.
Jurisdiction:
Analysis Year: General Plan No Project
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2484	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	990	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2484	990	DD 63 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	675	269		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	2902	1157		pcph

Estimation of V₁₂ Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 1918$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	2902	9400	No
Fi F			
v	1918	4400	No
12			
v = v - v	1745	9400	No
FO F R			
v	1157	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 20.7$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, $D = 0.597$

S

Space mean speed in ramp influence area, $S = 51$ mph

R

Space mean speed in outer lanes, $S = 71.3$ mph

0

Space mean speed for all vehicles, $S = 56.7$ mph

DD 64

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Bison Av.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	6565	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	380	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	6565	380	DD 65 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1784	103		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	7671	444		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)
EQ
P = 0.436 Using Equation 8
FD
 $v = v + (v - v) P = 2926$ pc/h
12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	6137	9400	No
F _i F			
v	2926	4400	No
12			
v = v - v	5693	9400	No
F _O F R			
v	444	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 29.4$ pc/mi/ln
R 12 D
Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, D = 0.533
S
Space mean speed in ramp influence area, S = 53 mph
R
Space mean speed in outer lanes, S = 68.9 mph
0
Space mean speed for all vehicles, S = 60.1 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Bison Av.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	2484	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	35.0	mph	
Volume on ramp	120	vph	
Length of first accel/decel lane	740	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2484	120	DD67 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	675	33	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	2902	140	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
EQ
P = 0.436 Using Equation 4
FM
 $v = v(P) = 987$ pc/h
12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	2404	9400	No
FO			
v	1127	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 9.6$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable,	M = 0.281
S	
Space mean speed in ramp influence area,	S = 58.5 mph
R	
Space mean speed in outer lanes,	S = 64.5 mph
0	
Space mean speed for all vehicles,	S = 61.6 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: PM
Freeway/dir or travel: SR-73/Southbound
Junction: Bison Av.
Jurisdiction:
Analysis Year: General Plan No Project
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	6565	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	320	vph
Length of first accel/decel lane	740	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	6565	320	DD 69 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1784	87	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	7671	374	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.407 Using Equation 4

FM

v = v(P) = 2231 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	5859	9400	No
FO			
v	2605	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 \frac{v}{R} + 0.0078 \frac{v}{12} - 0.00627 \frac{L}{A} = 21.0$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, M = 0.322

S

Space mean speed in ramp influence area, S = 57.6 mph

R

Space mean speed in outer lanes, S = 60.9 mph

0

Space mean speed for all vehicles, S = 59.4 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 E-mail: _____

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bonita Canyon Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	8998	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	1010	vph	
Length of first accel/decel lane	1250	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	8998	1010	DD 71 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	2445	274		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, f _{HV}		0.930	0.930	
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	10514	1180		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 4333$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	8412	9400	No
Fi F			
v	4333	4400	No
12			
v = v - v	7232	9400	No
FO F R			
v	1180	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 30.3$ pc/mi/ln

R

12

D

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, $D = 0.599$

S

Space mean speed in ramp influence area, $S = 51$ mph

R

Space mean speed in outer lanes, $S = 67.3$ mph

0

Space mean speed for all vehicles, $S = 57.9$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/13/2005
Analysis time period: PM
Freeway/dir or travel: SR-73/Northbound
Junction: Bonita Canyon Dr.
Jurisdiction:
Analysis Year: General Plan No Project
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	4740	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	220	vph	
Length of first accel/decel lane	1250	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4740	220	DD73 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1288	60		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, fHV		0.930	0.930	
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	5539	257		pcph

Estimation of V12 Diverge Areas

$L = 0.00$ (Equation 25-8 or 25-9)
 EQ
 $P = 0.436$ Using Equation 8
 FD
 $v = v + (v - v) P = 2198$ pc/h
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
$v = v$ Fi F	4709	9400	No
v 12	2198	4400	No
$v = v - v$ FO F R	4452	9400	No
v R	257	2000	No

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 11.9$ pc/mi/ln
 R 12 D
 Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, $D = 0.516$
 S
 Space mean speed in ramp influence area, $S = 53$ mph
 R
 Space mean speed in outer lanes, $S = 70.3$ mph
 0
 Space mean speed for all vehicles, $S = 61.1$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bonita Canyon Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	7701	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	25.0	mph	
Volume on ramp	720	vph	
Length of first accel/decel lane	2440	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	7701	720	DD 75 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2093	196	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	8998	841	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
EQ
P = 1.000 Using Equation 4
FM
 $v = v(P) = 6498$ pc/h
12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	7339	9400	No
v _{R12}	7339	4600	Yes

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_A - 0.00627 L = 47.0$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, $M = 6.202$
S
Space mean speed in ramp influence area, $S =$ mph
R
Space mean speed in outer lanes, $S = 65.0$ mph
0
Space mean speed for all vehicles, $S =$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 E-mail: _____

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bonita Canyon Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	4057	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	25.0	mph	
Volume on ramp	400	vph	
Length of first accel/decel lane	2440	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4057	400	DD77 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1102	109	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	4741	467	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 1.000 Using Equation 4

FM

v = v (P) = 3698 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	4165	9400	No
FO			
v	4165	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 22.4$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, $M = 0.450$

Space mean speed in ramp influence area, $S_R = 54.6$ mph

Space mean speed in outer lanes, $S_0 = 65.0$ mph

Space mean speed for all vehicles, $S = 54.6$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: AM
Freeway/dir or travel: SR-73/Northbound
Junction: Bonita Canyon Dr.
Jurisdiction:
Analysis Year: General Plan No Project w/ Imp
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	7701	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	25.0	mph	
Volume on ramp	720	vph	
Length of first accel/decel lane	1040	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	7701	720	DD 79 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2093	196	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, fHV	0.930	0.930	
Driver population factor, fP	1.00	1.00	
Flow rate, v _p	8998	841	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
 EQ
 P = 0.577 Using Equation 4
 FM
 $v = v(P) = 3746$ pc/h
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	7339	9400	No
v _{R12}	4587	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L = 34.3$ pc/mi/ln
 R R 12 A

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, M = 0.652
 S
 Space mean speed in ramp influence area, S = 50.0 mph
 R
 Space mean speed in outer lanes, S = 61.8 mph
 0
 Space mean speed for all vehicles, S = 53.9 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Borita Canyon Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4057	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	25.0	mph
Volume on ramp	400	vph
Length of first accel/decel lane	1040	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4057	400	DD 81 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1102	109	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	4741	467	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
 EQ
 P = 0.623 Using Equation 4
 FM
 $v = v(P) = 2305$ pc/h
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	4165	9400	No
FO			
v	2772	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 20.4$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, $M = 0.331$
 S
 Space mean speed in ramp influence area, $S = 57.4$ mph
 R
 Space mean speed in outer lanes, $S = 64.3$ mph
 0
 Space mean speed for all vehicles, $S = 59.5$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 E-mail: _____

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Bonita Canyon Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	2484	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	410	vph	
Length of first accel/decel lane	0	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2484	410	DD 83 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	675	111		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, f _{HV}		0.930	0.930	
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	2902	479		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 1535$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	2902	9400	No
Fi F			
v	1535	4400	No
12			
v = v - v	2423	9400	No
FO F R			
v	479	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 17.5$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, $D = 0.536$

S

Space mean speed in ramp influence area, $S = 53$ mph

R

Space mean speed in outer lanes, $S = 71.3$ mph

0

Space mean speed for all vehicles, $S = 60.1$ mph

DD84

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 E-mail: _____

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Bonita Canyon Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	6565	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	520	vph	
Length of first accel/decel lane	0	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	6565	520	DD 85 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1784	141		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, fHV		0.930	0.930	
Driver population factor, fP	1.00	1.00		
Flow rate, vp	7671	608		pcph

Estimation of V12 Diverge Areas

$L = 0.00$ (Equation 25-8 or 25-9)
 EQ
 $P = 0.436$ Using Equation 8
 FD
 $v = v + (v - v)P = 3019$ pc/h
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
$v = v$	6137	9400	No
Fi F			
v	3019	4400	No
12			
$v = v - v$	5529	9400	No
FO F R			
v	608	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 30.2$ pc/mi/ln
 R 12 D

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	D = 0.548
S	
Space mean speed in ramp influence area,	S = 52 mph
R	
Space mean speed in outer lanes,	S = 69.1 mph
0	
Space mean speed for all vehicles,	S = 59.7 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Bonita Canyon Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2484	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	300	vph
Length of first accel/decel lane	400	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2484	300	DD 87 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	675	82	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	2902	351	pcph

Estimation of V12 Merge Areas

$L = 0.00$ (Equation 25-2 or 25-3)
 EQ
 $P = 0.301$ Using Equation 4
 FM
 $v = v(P) = 682$ pc/h
 $12 F FM$

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	2615	9400	No
v _{R12}	1033	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L = 10.9$ pc/mi/ln
 R R 12 A

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, S	M = 0.304
Space mean speed in ramp influence area, S _R	S = 58.0 mph
Space mean speed in outer lanes, S ₀	S = 64.0 mph
Space mean speed for all vehicles, S	S = 61.5 mph

DD88

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Bonita Canyon Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	6565	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	35.0	mph	
Volume on ramp	830	vph	
Length of first accel/decel lane	400	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	6565	830	DD 89 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1784	226	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	7671	970	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
EQ
P = 0.224 Using Equation 4
FM
 $v = v(P) = 1229$ pc/h
12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	6455	9400	No
v _{R12}	2199	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 19.7$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M = 0.328
S
Space mean speed in ramp influence area, S = 57.5 mph
R
Space mean speed in outer lanes, S = 59.1 mph
0
Space mean speed for all vehicles, S = 58.6 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	10083	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	530	vph	
Length of first accel/decel lane	0	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	10083	530	DD 91 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	2740	144		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, fHV		0.930	0.930	
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	11782	619		pcph

Estimation of V12 Diverge Areas

$L = 0.00$ (Equation 25-8 or 25-9)
 EQ
 $P = 0.436$ Using Equation 8
 FD
 $v = v + (v - v) P = 4459$ pc/h
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	9426	9400	Yes
Fi F			
v	4459	4400	Yes
12			
v = v - v	8807	9400	No
FO F R			
v	619	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 42.6$ pc/mi/ln
 R 12 D

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, $D = 0.549$
 S
 Space mean speed in ramp influence area, $S = 52$ mph
 R
 Space mean speed in outer lanes, $S = 65.5$ mph
 0
 Space mean speed for all vehicles, $S = 58.6$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	5311	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	280	vph	
Length of first accel/decel lane	0	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	5311	280	DD93 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1443	76		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, f _{HV}		0.930	0.930	
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	6206	327		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 2485$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	5276	9400	No
Fi F			
v	2485	4400	No
12			
v = v - v	4949	9400	No
FO F R			
v	327	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 25.6$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, $D = 0.522$

S

Space mean speed in ramp influence area, $S = 53$ mph

R

Space mean speed in outer lanes, $S = 69.8$ mph

0

Space mean speed for all vehicles, $S = 60.7$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	8403	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	530	vph
Length of first accel/decel lane	190	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	8403	530	
		DD95	vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	2283	144		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	9819	619		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 3774$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	7856	9400	No
F _i F			
v	3774	4400	No
12			
v = v - v	7237	9400	No
F _O F R			
v	619	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 35.0$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, D = 0.549

S

Space mean speed in ramp influence area, S = 52 mph

R

Space mean speed in outer lanes, S = 67.2 mph

O

Space mean speed for all vehicles, S = 59.2 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 E-mail: _____

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	4426	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	280	vph	
Length of first accel/decel lane	190	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4426	280	DD 97 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1203	76		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	0.00		%
Length	0.00	0.00		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	5172	327		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 2214$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	4655	9400	No
F _i F			
v	2214	4400	No
12			
v = v - v	4328	9400	No
F _O F R			
v	327	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 21.6$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, $D = 0.522$

S

Space mean speed in ramp influence area, $S = 53$ mph

R

Space mean speed in outer lanes, $S = 70.4$ mph

0

Space mean speed for all vehicles, $S = 60.9$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	10083	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	25.0	mph	
Volume on ramp	490	vph	
Length of first accel/decel lane	1250	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	10083	490	vph
		DD99	

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2740	133	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	11782	573	pcph

Estimation of V12 Merge Areas

$L = 0.00$ (Equation 25-2 or 25-3)
 EQ
 $P = 0.704$ Using Equation 4
 FM
 $v = v(P) = 6532$ pc/h
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	9855	9400	Yes
v _{R12}	7105	4600	Yes

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 52.8$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, S	M = 5.009
Space mean speed in ramp influence area, S _R	S = mph
Space mean speed in outer lanes, S ₀	S = 61.8 mph
Space mean speed for all vehicles, S	S = 221.6 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	5311	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	25.0	mph	
Volume on ramp	330	vph	
Length of first accel/decel lane	1250	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	5311	330	DD 101 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1443	90	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	6206	386	pcph

Estimation of V12 Merge Areas

$L = 0.00$ (Equation 25-2 or 25-3)
 EQ
 $P = 0.727$ Using Equation 4
 FM
 $v = v(P) = 3429$ pc/h
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	5103	9400	No
v _{R12}	3815	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 27.2$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, S	M = 0.435
Space mean speed in ramp influence area, S _R	S = 55.0 mph
Space mean speed in outer lanes, S ₀	S = 64.5 mph
Space mean speed for all vehicles, S	S = 57.1 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 E-mail: _____

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	8403	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	25.0	mph	
Volume on ramp	490	vph	
Length of first accel/decel lane	880	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	8403	490	DD 103 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2283	133	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	9819	573	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
EQ
P = 0.539 Using Equation 4
FM
 $v = v(P) = 3942$ pc/h
12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	7892	9400	No
v _{R12}	4515	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 34.9$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, $M = 0.633$
S
Space mean speed in ramp influence area, $S = 50.4$ mph
R
Space mean speed in outer lanes, $S = 60.7$ mph
0
Space mean speed for all vehicles, $S = 54.4$ mph

DD104

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4426	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	25.0	mph
Volume on ramp	330	vph
Length of first accel/decel lane	880	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
	Ramp		
Volume, V (vph)	4426	330	DD 106 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1203	90	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, fHV	0.930	0.930	
Driver population factor, fP	1.00	1.00	
Flow rate, v _p	5172	386	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.562 Using Equation 4

FM

$v = v_{15} (P_{FM}) = 2268$ pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	4421	9400	No
v _{R12}	2654	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 20.5$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, $M = 0.332$

S

Space mean speed in ramp influence area, $S = 57.4$ mph

R

Space mean speed in outer lanes, $S = 63.6$ mph

0

Space mean speed for all vehicles, $S = 59.7$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	2903	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	680	vph	
Length of first accel/decel lane	0	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2903	680	
		<i>DD 107</i>	vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	789	185		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Level	
Grade	0.00	0.00		%
Length	0.00	0.00		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, f _{HV}		0.930	0.930	
Driver population factor, f _P		1.00	1.00	
Flow rate, v _p	3392	795		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v)P = 1927$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	3392	9400	No
F _i F			
v	1927	4400	No
12			
v = v - v	2597	9400	No
F _O F R			
v	795	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 20.8$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, $D = 0.565$

S

Space mean speed in ramp influence area, $S = 52$ mph

R

Space mean speed in outer lanes, $S = 71.3$ mph

0

Space mean speed for all vehicles, $S = 58.9$ mph

DD108

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	7671	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	1060	vph	
Length of first accel/decel lane	0	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	7671	1060	DD 109 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	2085	288		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Level	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, vp	8963	1239		pcph

Estimation of V12 Diverge Areas

$L = 0.00$ (Equation 25-8 or 25-9)
 EQ
 $P = 0.436$ Using Equation 8
 FD
 $v = v + (v - v) P = 3825$ pc/h
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
$v = v$ Fi F	7171	9400	No
v 12	3825	4400	No
$v = v - v$ FO F R	5932	9400	No
v R	1239	2000	No

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 37.1$ pc/mi/ln
 R 12 D

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable, $D = 0.605$
 S
 Space mean speed in ramp influence area, $S = 51$ mph
 R
 Space mean speed in outer lanes, $S = 68.7$ mph
 0
 Space mean speed for all vehicles, $S = 58.0$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2903	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	680	vph
Length of first accel/decel lane	240	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2903	680	vph

DD III

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	789	185		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Level	
Grade	0.00	0.00		%
Length	0.00	0.00		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	3392	795		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)
EQ
P = 0.436 Using Equation 8
FD
 $v = v + (v - v) P = 1927$ pc/h
12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v Fi F	3392	9400	No
v 12	1927	4400	No
v = v - v FO F R	2597	9400	No
v R	795	2000	No

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 18.7$ pc/mi/ln
R 12 D

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, S	D = 0.565
Space mean speed in ramp influence area, R	S = 52 mph
Space mean speed in outer lanes, 0	S = 71.3 mph
Space mean speed for all vehicles,	S = 58.9 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	7671	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	1060	vph
Length of first accel/decel lane	240	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	7671	1060	DD 113 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	2085	288		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Level	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	8963	1239		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 3825$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	7171	9400	No
F _i F			
v	3825	4400	No
12			
v = v - v	5932	9400	No
F _O F R			
v	1239	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 35.0$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, $D = 0.605$

S

Space mean speed in ramp influence area, $S = 51$ mph

R

Space mean speed in outer lanes, $S = 68.7$ mph

O

Space mean speed for all vehicles, $S = 58.0$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	3153	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	30.0	mph
Volume on ramp	440	vph
Length of first accel/decel lane	360	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	3153	440	vph

DD 115

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	857	120	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Level
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	3684	514	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.287 Using Equation 4

FM

$v = v(P) = 826$ pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	3388	9400	No
v _{R12}	1340	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 13.4$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M = 0.314

S

Space mean speed in ramp influence area, S = 57.8 mph

R

Space mean speed in outer lanes, S = 63.1 mph

O

Space mean speed for all vehicles, S = 60.9 mph

DD116

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan No Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	7671	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	30.0	mph	
Volume on ramp	580	vph	
Length of first accel/decel lane	360	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
	Ramp		
Volume, V (vph)	7671	580	DD117 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2085	158	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Level
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	8963	678	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
 EQ
 P = 0.267 Using Equation 4
 FM
 $v = v(P) = 1725 \text{ pc/h}$
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	7141	9400	No
v _{R12}	2403	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 21.6 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, $M = 0.343$
 S
 Space mean speed in ramp influence area, $S = 57.1 \text{ mph}$
 R
 Space mean speed in outer lanes, $S = 58.1 \text{ mph}$
 O
 Space mean speed for all vehicles, $S = 57.7 \text{ mph}$

APPENDIX EE

GENERAL PLAN BUILDOUT WITH PROJECT LAND USE

compare

	LU_Code	Real Quantity	Surrogate Quantity	OccupancyRate			
1516	2	67	67	0.95			
1516	4	100	100	1			
1516	36	53.2	53.2	1			
1517	3	160	160	0.95			
1517	10	74	74	0.9			
1517	23	9.75	9.75	0.9			
1517	28	13.39	13.39	1			
1517	29	406	406	1			
1517	30	780	780	1			
1517	36	31.38	31.38	1			
1518	1	441	441	0.95			
1518	2	67	67	0.95			
1518	38	0.95	0.95	1			
1519	1	471	471	0.95			
1519	38	14.23	14.23	1			
1520	1	207	207	0.95			
1521	1	580	580	0.95			
1521	29	498	498	1			
1521	38	9.73	9.73	1			
1522	1	119	119	0.95			
1522	2	120	120	0.95			
1522	10	80	80	0.9			
1522	23	12.9	12.9	0.9			
1408	1	145	145	0.95			
1409	7	300	300	0.9			
1409	10	35	35	0.9			
1409	13	8	8	0.9			
1409	23	660	660	0.9			
1409	38	3.33	3.33	1			
1410	2	88	88	0.95			
1411	10	1.38	1.38	0.9			
1411	40	15.69	15.69	1			
1412	1	60	60	0.95			
1413	2	33	33	0.95			
1413	18	60.33	60.33	1			
1413	23	67.95	67.95	0.9			
1413	39	45.91	45.91	1			
1415	1	153	153	0.95			
1415	36	8.73	8.73	1			
1416	1	198	198	0.95			
1417	1	56	56	0.95			
1418	1	59	59	0.95			
1419	1	173	173	0.95			
1420	1	465	465	0.95			
1421	1	116	116	0.95			
1421	2	60	60	0.95			
1421	3	352	352	0.95			
1421	10	179.8	179.8	0.9			
1421	13	4.4	4.4	0.9			
1421	15	3	3	0.9			
1421	23	109.8	109.8	0.9			

compare

	LU_Code	Real Quantity	Surrogate Quantity	OccupancyRate			
1421	24	109.8	109.8	0.9			
1421	29	636	636	1			
1421	32	5.2	5.2	1			
1422	1	490	490	0.95			
1423	1	266	266	0.95			
1423	37	18.23	18.23	1			
1423	38	4	4	1			
1424	3	1445	1445	0.95			
1373	10	36.46	36.46	0.9			
1373	23	85.073	85.073	0.9			
1373	24	0	0	0.9			
1373	25	0	0	0.9			
1373	26	0	0	0.9			
1374	10	42.231	42.231	0.9			
1374	23	84.463	84.463	0.9			
1374	24	0	0	0.9			
1374	25	0	0	0.9			
1374	26	0	0	0.9			
1375	10	61.518	61.518	0.9			
1375	13	0	0	0.9			
1375	23	123.035	123.035	0.9			
1375	24	0	0	0.9			
1375	25	0	0	0.9			
1375	26	0	0	0.9			
1376	10	67.464	67.464	0.9			
1376	23	134.927	134.927	0.9			
1376	24	0	0	0.9			
1376	25	0	0	0.9			
1376	26	0	0	0.9			
1377	7	107	107	0.9			
1377	10	74.583	74.583	0.9			
1377	23	179.7	179.7	0.9			
1377	24	0	0	0.9			
1377	25	0	0	0.9			
1377	26	0	0	0.9			
1378	7	122	122	0.9			
1378	10	85.378	85.378	0.9			
1378	23	243.936	243.936	0.9			
1378	24	0	0	0.9			
1378	25	0	0	0.9			
1378	26	0	0	0.9			
1425	3	130	130	0.9			
1425	24	94.9	94.9	0.9			
1425	36	24.1	24.1	1			
1426	1	119	119	0.95			
1426	36	40	40	1			
1427	1	315	315	0.95			
1427	2	235	235	0.95			
1427	10	8.4	8.4	0.9			
1427	15	1.7	1.7	0.9			
1427	16	11.4	11.4	1			

compare

	LU_Code	Real Quantity	Surrogate Quantity	OccupancyRate			
1427	23	17.6	17.6	0.9			
1427	24	12	12	0.9			
1427	30	2184	2184	1			
1427	35	68	68	1			
1427	36	59.7	59.7	1			
1427	37	13.4	13.4	1			
1427	38	0.4	0.4	1			
1428	1	257	257	0.95			
1428	3	152	152	0.95			
1428	7	140	140	0.9			
1428	10	332.52	332.52	0.9			
1428	13	0	0	0.9			
1428	15	0	0	0.9			
1428	16	0	0	1			
1428	19	0	0	1			
1428	20	130	130	1			
1428	23	75.09	75.09	0.9			
1428	24	0	0	0.9			
1428	37	22.31	22.31	1			
1523	1	149	149	0.95			
1523	10	54	54	0.9			
1525	3	1112	1112	0.95			
1526	36	44.444	44.444	1			
1526	1	410	410	0.95			
1618	1	6	6	0.95			
1527	2	0	0	0.95			
1527	38	18.5	18.5	1			
1536	10	114.173	114.173	0.9			
1429	1	656	656	0.95			
1429	2	13	13	0.95			
1429	3	59	59	0.95			
1429	21	90	90	1			
1429	29	436	436	1			
1429	37	0.9	0.9	1			
1429	38	3.03	3.03	1			
1528	28	7.32	7.32	1			
1528	36	26.01	26.01	1			
1529	1	284	284	0.95			
1530	1	40	40	0.95			
1530	3	173	173	0.95			
1530	32	5.8	5.8	1			
1530	37	16.869	16.869	1			
1530	38	14.39	14.39	1			
1532	30	450	450	1			
1534	1	271	271	0.95			
1534	29	600	600	1			
1430	1	30	30	0.95			
1430	3	278	278	0.95			
1430	6	0	0	0.9			
1430	7	64	64	0.9			
1430	10	397.851	397.851	0.9			

compare

	LU_Code	Real Quantity	Surrogate Quantity	OccupancyRate			
1430	13	0	0	0.9			
1430	15	0	0	0.9			
1430	16	0	0	1			
1430	18	0	0	1			
1430	23	139.65	139.65	0.9			
1430	33	9.9	9.9	1			
1431	3	195	195	0.95			
1431	10	101.447	101.447	0.9			
1431	13	0	0	0.9			
1431	17	0	0	1			
1431	23	50.355	50.355	0.9			
1432	1	DU	200	0.95			
1432	2	379	379	0.95			
1432	3	244	244	0.95			
1432	6	0	0	0.9			
1432	7	53	53	0.9			
1432	10	92.848	92.848	0.9			
1432	13	0	0	0.9			
1432	23	0	0	0.9			
1432	24	185.696	185.696	0.9			
1433	1	98	98	0.95			
1433	2	0	0	0.95			
1433	3	142	142	0.95			
1433	23	67.16	67.16	0.9			
1433	24	352.249	352.249	0.9			
1433	26	0	0	0.9			
1433	35	270	270	1			
1535	1	368	368	0.95			
1535	2	294	294	0.95			
1535	3	512	512	0.95			
1536	2	48	48	0.95			
1537	1	98	98	0.95			
1537	2	108	108	0.95			
1538	1	144	144	0.95			
1539	1	158	158	0.95			
1539	7	250	250	0.9			
1540	7	540	540	0.9			
1541	1	55	55	0.95			
1543	7	1210	1210	0.9			
1715	24	136.05	136.05	0.9			
1714	3	673	673	0.95			
1715	10	0	0	0.9			
1716	24	220.08	220.08	0.9			
1434	34	1167	1167	1			
1716	35	0	0	1			
1435	1	68	68	0.95			
1435	2	28	28	0.95			
1435	10	10.8	10.8	0.9			
1435	13	8.4	8.4	0.9			
1435	15	2.7	2.7	0.9			
1544	1	178	178	0.95			

compare

	LU_Code	Real Quantity	Surrogate Quantity	OccupancyRate			
1545	1	311	311	0.95			
1574	1	212	212	0.95			
1548	1	207	207	0.95			
1548	2	278	278	0.95			
1549	1	113	113	0.95			
1550	1	329	329	0.95			
1550	2	169	169	0.95			
1553	1	66	66	0.95			
1553	2	70	70	0.95			
1379	3	368	294	0.95			
1379	23	240.451	240.451	0.9			
1380	3	418	334	0.95			
1380	23	0	0	0.9			
1381	3	344	275	0.95			
1381	23	104.211	104.211	0.9			
1382	3	761	609	0.95			
1382	23	73.704	73.704	0.9			
1383	10	0	0	0.9			
1383	23	202.585	202.585	0.9			
1384	3	147	132	0.95			
1384	10	46.13	41.517	0.9			
1384	23	0	0	0.9			
1385	7	349	349	0.9			
1386	23	203.8	203.8	0.9			
1387	23	177.534	177.534	0.9			
1388	10	120.596	120.596	0.9			
1388	13	0	0	0.9			
1388	16	130	130	1			
1389	3	165	132	0.95			
1389	10	16.191	16.191	1			
1389	23	105.807	105.807	0.9			
1390	3	109	87	0.95			
1390	23	99.97	99.97	0.9			
1391	23	72.5	72.5	0.9			
1392	10	19.324	19.324	1			
1392	23	124	124	0.9			
1393	3	376	338	0.95			
1393	10	90.169	81.152	0.9			
1436	2	0	0	0.95			
1436	3	1790	1790	0.95			
1436	4	0	0	1			
1436	10	0	0	0.9			
1436	24	39.6	39.6	0.9			
1436	26	0	0	0.9			
1436	35	169	169	1			
1436	38	0.17	0.17	1			
1554	1	207	207	0.95			
1554	2	84	84	0.95			
1555	7	150	150	0.9			
1555	10	137.5	137.5	0.9			
1563	23	396.869	396.869	0.9			

compare

	LU_Code	Real Quantity	Surrogate Quantity	OccupancyRate			
1671	1	138	138	0.95			
1671	23	178.781	178.781	0.9			
1672	1	12	12	0.95			
1673	10	7.877	7.877	0.9			
1673	23	280.212	280.212	0.9			
1674	10	126.748	126.748	0.9			
1674	23	87.077	87.077	0.9			
1675	1	156	156	0.95			
1675	23	21.472	21.472	0.9			
1437	26	5	5	0.9			
1438	3	152	152	0.95			
1438	23	0	0	0.9			
1438	26	0	0	0.9			
1438	27	0	0	0.9			
1438	29	622	622	1			
1439	2	0	0	0.95			
1439	3	784	784	0.95			
1439	5	0	0	0.95			
1439	10	50.91	50.91	0.9			
1439	23	239.51	239.51	0.9			
1439	24	61.63	61.63	0.9			
1439	25	0	0	0.9			
1439	26	837.27	837.27	0.9			
1439	35	59	59	1			
1440	2	281	281	0.95			
1441	1	462	462	0.95			
1441	2	0	0	0.95			
1441	3	361	361	0.95			
1441	6	90	90	0.9			
1441	10	57.935	57.935	0.9			
1441	13	0	0	0.9			
1441	15	0	0	0.9			
1442	1	43	43	0.95			
1442	2	214	214	0.95			
1442	38	6.79	6.79	1			
1443	1	125	125	0.95			
1443	2	350	350	0.95			
1443	3	54	54	0.95			
1443	38	6.5	6.5	1			
1444	1	94	94	0.95			
1444	2	498.5	498.5	0.95			
1445	1	139	139	0.9			
1445	2	509	509	0.9			
1446	1	124	124	0.95			
1446	2	239	239	0.95			
1446	38	2.69	2.69	1			
1447	1	88	88	0.9			
1447	2	415	415	0.9			
1448	1	87	87	0.9			
1448	2	103	103	0.9			
1448	10	26.17	26.17	0.9			

compare

	LU_Code	Real Quantity	Surrogate Quantity	OccupancyRate			
1448	13	2.24	2.24	0.9			
1448	23	12.19	12.19	0.9			
1448	24	0.99	0.99	0.9			
1449	2	95	95	0.9			
1449	3	160	160	0.9			
1449	10	82.235	75.512	0.9			
1449	13	0	0	0.9			
1449	15	0	0	0.9			
1449	23	0	0	0.9			
1450	2	159	159	0.9			
1450	3	188	188	0.9			
1450	6	16	16	0.9			
1450	10	140.417	133.678	0.9			
1450	13	0	0	0.9			
1450	23	0	0	0.9			
1451	1	22	22	0.9			
1451	2	110	110	0.9			
1451	3	5	5	0.9			
1451	6	0	0	0.9			
1451	7	124	124	0.9			
1451	10	93.218	93.218	0.9			
1451	13	0	0	0.9			
1451	15	0	0	0.9			
1451	23	0	0	0.9			
1452	37	6	6	1			
1452	2	0	0	0.9			
1452	3	187.2	187.2	0.95			
1452	7	99.8	99.8	0.9			
1452	10	187.199	187.199	0.9			
1452	13	0	0	0.9			
1452	15	0	0	0.9			
1452	23	35	35	0.9			
1452	37	6	6	1			
1453	3	63	63	0.95			
1453	10	132.772	132.772	0.9			
1453	13	0	0	0.9			
1453	21	685	685	1			
1453	23	3.5	3.5	0.9			
1453	24	0	0	0.9			
1453	36	15.71	15.71	1			
1454	1	0	0	0.9			
1454	2	0	0	0.9			
1454	3	192	192	0.9			
1454	10	109.479	105.858	0.9			
1454	11	0.85	0.85	1			
1454	13	0	0	0.9			
1454	15	0	0	0.9			
1454	23	42.156	42.156	0.9			
1454	37	4.65	4.65	1			
1455	1	3	3	0.9			
1455	2	403	403	0.9			

compare

	LU_Code	Real Quantity	Surrogate Quantity	OccupancyRate			
1455	10	108.22	108.22	0.9			
1455	13	9.2	9.2	0.9			
1455	23	1	1	0.9			
1455	26	38	38	0.9			
1456	1	807	807	0.9			
1456	2	101	101	0.9			
1456	3	26	26	0.9			
1457	1	218	218	0.9			
1457	2	476	476	0.9			
1457	3	103	103	0.9			
1457	5	58	58	0.9			
1457	6	26	26	0.9			
1457	10	12.54	12.54	0.9			
1457	15	1.25	1.25	0.9			
1457	20	58	58	1			
1457	28	13.44	13.44	1			
1457	29	389	389	1			
1457	36	10.05	10.05	1			
1457	37	17.4	17.4	1			
1457	38	1.2	1.2	1			
1458	1	372	372	0.9			
1458	2	684	684	0.9			
1458	3	257	253	0.9			
1458	7	65	65	0.9			
1458	10	68.34	63.287	0.9			
1458	15	0	0	0.9			
1458	20	14	14	1			
1458	23	12	12	0.9			
1458	24	0	0	0.9			
1458	32	4.8	4.8	1			
1458	36	2	2	1			
1395	7	164	164	0.9			
1395	10	20.19	20.19	0.9			
1395	13	0	0	0.9			
1396	23	630.221	630.221	0.9			
1397	23	104.42	104.42	0.9			
1459	1	9	9	0.9			
1459	2	131	131	0.9			
1459	3	255	246	0.9			
1459	7	200	200	0.9			
1459	10	124.163	111.747	0.9			
1459	11	4.25	4.25	1			
1459	13	0	0	0.9			
1459	15	0	0	0.9			
1459	17	0	0	1			
1459	21	350	350	1			
1459	23	0	0	0.9			
1459	33	1.7	1.7	1			
1459	37	4.97	4.97	1			
1460	1	677	677	0.9			
1460	2	194	194	0.9			

compare

	LU_Code	Real Quantity	Surrogate Quantity	OccupancyRate			
1460	3	51	51	0.9			
1460	19	2	2	1			
1460	38	0.83	0.83	1			
1461	1	194	194	0.9			
1461	2	271	271	0.9			
1461	10	4.99	4.99	0.9			
1461	13	20	20	0.9			
1461	17	8.29	8.29	1			
1461	20	352	352	1			
1461	23	12	12	0.9			
1461	26	5.04	5.04	0.9			
1461	38	0.78	0.78	1			
1462	1	32	32	0.9			
1463	3	520	520	0.9			
1463	10	73.884	73.884	0.9			
1463	13	21.55	21.55	0.9			
1463	16	34.9	34.9	1			
1464	1	43	43	0.9			
1464	2	3119	3119	0.9			
1464	6	4	4	0.9			
1464	10	73.07	73.07	0.9			
1464	13	16.55	16.55	0.9			
1464	15	5.43	5.43	0.9			
1464	23	18.37	18.37	0.9			
1464	24	2.75	2.75	0.9			
1464	33	1.9	1.9	1			
1464	36	3	3	1			
1464	38	1.62	1.62	1			
1465	5	397	397	0.95			
1465	10	60.63	60.63	0.9			
1465	13	18.19	18.19	0.9			
1465	20	218	218	1			
1465	23	30.31	30.31	0.9			
1466	2	149	149	0.95			
1466	7	754	754	0.9			
1466	13	83.93	83.93	0.9			
1466	19	16	16	1			
1466	22	64	64	1			
1466	23	6	6	0.9			
1466	37	2.69	2.69	1			
1466	40	2	2	1			
1467	3	1185	1185	0.95			
1468	29	320	320	1			
1469	2	808	808	0.95			
1469	3	225	225	0.95			
1469	28	6.45	6.45	1			
1469	29	294	294	1			
1469	30	1801	1801	1			
1469	36	34.96	34.96	1			
1469	37	34.97	34.97	1			
1469	38	8	8	1			

compare

	LU_Code	Real Quantity	Surrogate Quantity	OccupancyRate			
1470	2	511	511	0.95			
1470	10	75	75	0.9			
1470	19	19	19	1			
1470	23	11.66	11.66	0.9			
1398	23	40	40	0.9			
1399	23	161.49	161.49	0.9			
1400	23	48.5	48.5	0.9			
1471	1	460	460	0.95			
1471	38	2	2	1			
1472	16	209.75	209.75	1			
1473	3	300	300	0.95			
1474	1	168	168	0.95			
1474	2	208	208	0.95			
1474	3	736	736	0.95			
1474	10	47.5	47.5	0.9			
1474	13	6.4	6.4	0.9			
1474	38	29.2	29.2	1			
1475	25	81.73	81.73	0.9			
1475	27	196.42	196.42	0.9			
1475	29	52	52	1			
1475	33	55.2	55.2	1			
1475	36	100.28	100.28	1			
1476	2	227	227	0.95			
1477	1	500	500	0.95			
1478	2	50	50	0.95			
1479	1	101	101	0.95			
1479	2	54	54	0.95			
1480	2	144	144	0.95			
1480	3	80	80	0.95			
1401	24	86.096	86.096	0.9			
1402	3	187	168	0.95			
1402	10	44.976	40.478	0.9			
1402	23	0	0	0.9			
1481	1	101	101	0.95			
1481	2	182	182	0.95			
1481	10	2.3	2.3	0.9			
1482	1	142	142	0.95			
1482	2	43	43	0.95			
1482	3	73	73	0.95			
1482	40	181.2	181.2	1			
1483	1	21	21	0.95			
1484	7	425	425	0.9			
1484	10	21.7	21.7	0.9			
1484	13	0	0	0.9			
1484	23	965.03	965.03	0.9			
1485	9	0	0	0.8			
1485	9	1684	1684	0.8			
1485	21	1700	1700	1			
1486	2	0	0	0.95			
1486	3	645	565	0.95			
1486	10	144.33	144.33	0.9			

compare

	LU_Code	Real Quantity	Surrogate Quantity	OccupancyRate			
1486	13	0	0	0.9			
1486	16	0	0	1			
1486	23	881	881	0.9			
1486	31	40	40	1			
1487	2	69	69	0.95			
1487	3	200	160	0.95			
1487	7	750	750	0.9			
1487	10	7.5	7.5	0.9			
1487	19	22	22	1			
1487	23	11.63	11.63	0.9			
1487	40	99.4	99.4	1			
1488	2	122	122	0.95			
1489	2	228	228	0.95			
1489	10	5	5	0.9			
1490	23	115.8	115.8	0.9			
1403	3	125	100	0.95			
1403	7	471	471	0.9			
1403	10	26.8	26.8	0.9			
1403	18	0	0	1			
1403	23	393.05	393.05	0.9			
1403	37	10.9	10.9	0.9			
1491	23	478.64	478.64	0.9			
1491	24	351.95	351.95	0.9			
1492	10	38.1	38.1	0.9			
1492	13	0	0	0.9			
1492	18	0	0	1			
1492	21	2150	2150	1			
1492	23	452.11	452.11	0.9			
1493	23	484.3	484.3	0.9			
1494	10	105	105	0.9			
1494	32	65	65	1			
1495	1	423	423	0.9			
1495	2	81	81	0.9			
1495	10	2.38	2.38	0.9			
1495	17	62.02	62.02	1			
1495	20	283	283	1			
1495	23	186.53	186.53	0.9			
1495	38	6.53	6.53	1			
1496	1	73	73	0.9			
1496	2	256	256	0.9			
1496	3	152	152	0.9			
1496	29	12.03	12.03	1			
1497	1	143	143	0.9			
1497	2	214	214	0.9			
1497	3	48	48	0.9			
1498	1	234	234	0.9			
1498	2	0	0	0.9			
1498	3	48	48	0.9			
1498	10	92.44	92.44	0.9			
1498	13	0	0	0.9			
1498	23	23.98	23.98	0.9			

compare

	LU_Code	Real Quantity	Surrogate Quantity	OccupancyRate			
1498	38	4	4	1			
1499	1	198	198	0.9			
1500	1	178	178	0.95			
1500	38	1.03	1.03	1			
1501	1	849	849	0.9			
1501	2	0	0	0.9			
1501	10	106.84	106.84	0.9			
1501	13	0	0	0.9			
1501	15	0	0	0.9			
1501	21	500	500	1			
1501	23	36.05	36.05	0.9			
1501	24	0	0	0.9			
1501	38	3	3	1			
1502	1	186	186	0.9			
1502	2	0	0	0.9			
1502	10	104.41	104.41	0.9			
1502	13	0	0	0.9			
1502	15	0	0	0.9			
1502	23	33.09	33.09	0.9			
1502	24	0	0	0.9			
1404	3	225	180	0.95			
1404	23	434.953	434.953	0.9			
1405	3	160	128	0.95			
1405	10	128.61	128.61	0.9			
1405	13	0	0	0.9			
1405	15	0	0	0.9			
1405	23	695.157	695.157	0.9			
1406	3	1125	900	0.95			
1406	25	0	0	0.9			
1406	26	0	0	0.9			
1407	10	31.72	31.72	0.9			
1407	15	1.56	1.56	0.9			
1407	23	124.99	124.99	0.9			
1407	24	3.77	3.77	0.9			
1503	1	52	52	0.9			
1503	2	0	0	0.9			
1503	10	88.02	88.02	0.9			
1503	13	0	0	0.9			
1503	15	0	0	0.9			
1503	18	0	0	1			
1503	23	9.97	9.97	0.9			
1503	24	0	0	0.9			
1504	1	542	542	0.95			
1504	2	0	0	0.95			
1504	10	88.02	88.02	0.9			
1504	13	0	0	0.9			
1504	15	0	0	0.9			
1504	18	0	0	1			
1504	23	9.97	9.97	0.9			
1504	24	0	0	0.9			
1504	36	12.34	12.34	1			

EEZ

compare

	LU_Code	Real Quantity	Surrogate Quantity	OccupancyRate			
1505	1	843	843	0.95			
1505	2	0	0	0.95			
1505	10	58.9	58.9	0.9			
1505	13	0	0	0.9			
1505	15	0	0	0.9			
1505	23	35	35	0.9			
1505	32	3.8	3.8	1			
1505	33	5	5	1			
1506	1	363	363	0.95			
1506	2	0	0	0.95			
1506	3	6	6	0.95			
1507	1	142	142	0.95			
1507	38	0.78	0.78	1			
1508	1	193	193	0.95			
1508	2	137	137	0.95			
1508	29	790	790	1			
1508	37	5.85	5.85	1			
1510	1	200	200	0.95			
1511	1	20	20	0.95			
1511	10	70.79	70.79	0.9			
1512	2	246	246	0.95			
1513	1	348	348	0.95			
1513	4	100	100	1			
1513	18	1	1	1			
1513	37	24.07	24.07	1			
1514	1	41	41	0.95			
1515	3	410	410	0.95			
1515	28	0	0	1			
1556	1	206	206	0.9			
1556	3	0	0	0.9			
1556	38	30	30	1			
1558	1	276	276	0.9			
1558	3	344	344	0.9			
1558	23	0	0	0.9			
1558	26	0	0	0.9			
1558	29	500	500	1			
1558	38	10	10	1			
1559	1	206	206	0.9			
1559	3	343	343	0.9			
1559	7	75	75	0.9			
1559	10	75	75	0.9			
1559	23	0	0	0.9			
1559	26	0	0	0.9			
1559	39	20	20	1			
1713	34	834	834	1			
1394	10	115.434	115.434	0.9			
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Study Area Land Use By NBTM Taz

Analysis Year: 2040
 RunId: NBWP05
 Land Use: nbwp05
 Network: pref04

Reference Number: 01232
 Build Date: 11/10/2005
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 Modeler: Archie Tan

NBTM TAZ	Land Use Code	Units	Description	Quantity
1373	10	TSF	General Commercial	36.460
1373	23	TSF	General Office	85.073
1373	24	TSF	Medical Office	0.000
1373	25	TSF	R & D	0.000
1373	26	TSF	Industrial	0.000
1374	10	TSF	General Commercial	42.231
1374	23	TSF	General Office	84.463
1374	24	TSF	Medical Office	0.000
1374	25	TSF	R & D	0.000
1374	26	TSF	Industrial	0.000
1375	10	TSF	General Commercial	61.518
1375	13	TSF	Restaurant	0.000
1375	23	TSF	General Office	123.035
1375	24	TSF	Medical Office	0.000
1375	25	TSF	R & D	0.000
1375	26	TSF	Industrial	0.000
1376	10	TSF	General Commercial	67.464
1376	23	TSF	General Office	134.927
1376	24	TSF	Medical Office	0.000
1376	25	TSF	R & D	0.000
1376	26	TSF	Industrial	0.000
1377	7	ROOM	Hotel	107.000
1377	10	TSF	General Commercial	74.583
1377	23	TSF	General Office	179.700
1377	24	TSF	Medical Office	0.000
1377	25	TSF	R & D	0.000
1377	26	TSF	Industrial	0.000
1378	7	ROOM	Hotel	122.000
1378	10	TSF	General Commercial	85.378
1378	23	TSF	General Office	243.936
1378	24	TSF	Medical Office	0.000
1378	25	TSF	R & D	0.000
1378	26	TSF	Industrial	0.000
1379	3	DU	Apartment	294.000
1379	23	TSF	General Office	240.451
1380	3	DU	Apartment	334.000
1380	23	TSF	General Office	0.000

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1381	3	DU	Apartment	275.000
1381	23	TSF	General Office	104.211
1382	3	DU	Apartment	609.000
1382	23	TSF	General Office	73.704
1383	10	TSF	General Commercial	0.000
1383	23	TSF	General Office	202.585
1384	3	DU	Apartment	132.000
1384	10	TSF	General Commercial	41.517
1384	23	TSF	General Office	0.000
1385	7	ROOM	Hotel	349.000
1386	23	TSF	General Office	203.800
1387	23	TSF	General Office	177.534
1388	10	TSF	General Commercial	120.596
1388	13	TSF	Restaurant	0.000
1388	16	TSF	Auto Dealer/Sales	130.000
1389	3	DU	Apartment	132.000
1389	10	TSF	General Commercial	16.191
1389	23	TSF	General Office	105.807
1390	3	DU	Apartment	87.000
1390	23	TSF	General Office	99.970
1391	23	TSF	General Office	72.500
1392	10	TSF	General Commercial	19.324
1392	23	TSF	General Office	124.000
1393	3	DU	Apartment	338.000
1393	10	TSF	General Commercial	81.152
1394	10	TSF	General Commercial	115.434
1395	7	ROOM	Hotel	164.000
1395	10	TSF	General Commercial	20.190
1395	13	TSF	Restaurant	0.000
1396	23	TSF	General Office	630.221
1397	23	TSF	General Office	104.420
1398	23	TSF	General Office	40.000
1399	23	TSF	General Office	161.490
1400	23	TSF	General Office	48.500
1401	24	TSF	Medical Office	86.096
1402	3	DU	Apartment	168.000
1402	10	TSF	General Commercial	40.478
1402	23	TSF	General Office	0.000
1403	3	DU	Apartment	100.000
1403	7	ROOM	Hotel	471.000

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1403	10	TSF	General Commercial	26.800
1403	18	TSF	Health Club	0.000
1403	23	TSF	General Office	393.050
1403	37	TSF	Youth Ctr/Service	10.900
1404	3	DU	Apartment	180.000
1404	23	TSF	General Office	434.953
1405	3	DU	Apartment	128.000
1405	10	TSF	General Commercial	128.610
1405	13	TSF	Restaurant	0.000
1405	15	TSF	Fast Food Restaurant	0.000
1405	23	TSF	General Office	695.157
1406	3	DU	Apartment	900.000
1406	25	TSF	R & D	0.000
1406	26	TSF	Industrial	0.000
1407	10	TSF	General Commercial	31.720
1407	15	TSF	Fast Food Restaurant	1.560
1407	23	TSF	General Office	124.990
1407	24	TSF	Medical Office	3.770
1408	1	DU	Res-Low (SFD)	145.000
1409	7	ROOM	Hotel	300.000
1409	10	TSF	General Commercial	35.000
1409	13	TSF	Restaurant	8.000
1409	23	TSF	General Office	660.000
1409	38	ACRE	Park	3.330
1410	2	DU	Res-Medium (SFA)	88.000
1411	10	TSF	General Commercial	1.380
1411	40	ACRE	Golf Course	15.690
1412	1	DU	Res-Low (SFD)	60.000
1413	2	DU	Res-Medium (SFA)	33.000
1413	18	TSF	Health Club	60.330
1413	23	TSF	General Office	67.950
1413	39	ACRE	Regional Park	45.910
1415	1	DU	Res-Low (SFD)	153.000
1415	36	TSF	Church	8.730
1416	1	DU	Res-Low (SFD)	198.000
1417	1	DU	Res-Low (SFD)	56.000
1418	1	DU	Res-Low (SFD)	59.000
1419	1	DU	Res-Low (SFD)	173.000
1420	1	DU	Res-Low (SFD)	465.000
1421	1	DU	Res-Low (SFD)	116.000

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1421	2	DU	Res-Medium (SFA)	60.000
1421	3	DU	Apartment	352.000
1421	10	TSF	General Commercial	179.800
1421	13	TSF	Restaurant	4.400
1421	15	TSF	Fast Food Restaurant	3.000
1421	23	TSF	General Office	109.800
1421	24	TSF	Medical Office	109.800
1421	29	STU	Elementary/Private School	636.000
1421	32	TSF	Library	5.200
1422	1	DU	Res-Low (SFD)	490.000
1423	1	DU	Res-Low (SFD)	266.000
1423	37	TSF	Youth Ctr/Service	18.230
1423	38	ACRE	Park	4.000
1424	3	DU	Apartment	1,445.000
1425	3	DU	Apartment	130.000
1425	24	TSF	Medical Office	94.900
1425	36	TSF	Church	24.100
1426	1	DU	Res-Low (SFD)	119.000
1426	36	TSF	Church	40.000
1427	1	DU	Res-Low (SFD)	315.000
1427	2	DU	Res-Medium (SFA)	235.000
1427	10	TSF	General Commercial	8.400
1427	15	TSF	Fast Food Restaurant	1.700
1427	16	TSF	Auto Dealer/Sales	11.400
1427	23	TSF	General Office	17.600
1427	24	TSF	Medical Office	12.000
1427	30	STU	Junior/High School	2,184.000
1427	35	BEDS	Nursing/Conv. Home	68.000
1427	36	TSF	Church	59.700
1427	37	TSF	Youth Ctr/Service	13.400
1427	38	ACRE	Park	0.400
1428	1	DU	Res-Low (SFD)	257.000
1428	3	DU	Apartment	152.000
1428	7	ROOM	Hotel	140.000
1428	10	TSF	General Commercial	332.520
1428	13	TSF	Restaurant	0.000
1428	15	TSF	Fast Food Restaurant	0.000
1428	16	TSF	Auto Dealer/Sales	0.000
1428	19	CRT	Tennis Club	0.000
1428	20	SLIP	Marina	130.000

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1428	23	TSF	General Office	75.090
1428	24	TSF	Medical Office	0.000
1428	37	TSF	Youth Ctr/Service	22.310
1429	1	DU	Res-Low (SFD)	656.000
1429	2	DU	Res-Medium (SFA)	13.000
1429	3	DU	Apartment	59.000
1429	21	SEAT	Theater	90.000
1429	29	STU	Elementary/Private School	436.000
1429	37	TSF	Youth Ctr/Service	0.900
1429	38	ACRE	Park	3.030
1430	1	DU	Res-Low (SFD)	30.000
1430	3	DU	Apartment	278.000
1430	6	ROOM	Motel	0.000
1430	7	ROOM	Hotel	64.000
1430	10	TSF	General Commercial	397.851
1430	13	TSF	Restaurant	0.000
1430	15	TSF	Fast Food Restaurant	0.000
1430	16	TSF	Auto Dealer/Sales	0.000
1430	18	TSF	Health Club	0.000
1430	23	TSF	General Office	139.650
1430	33	TSF	Post Office	9.900
1431	3	DU	Apartment	195.000
1431	10	TSF	General Commercial	101.447
1431	13	TSF	Restaurant	0.000
1431	17	TSF	Yacht Club	0.000
1431	23	TSF	General Office	50.355
1432	1	DU	Res-Low (SFD)	200.000
1432	2	DU	Res-Medium (SFA)	379.000
1432	3	DU	Apartment	244.000
1432	6	ROOM	Motel	0.000
1432	7	ROOM	Hotel	53.000
1432	10	TSF	General Commercial	92.848
1432	13	TSF	Restaurant	0.000
1432	23	TSF	General Office	0.000
1432	24	TSF	Medical Office	185.696
1433	1	DU	Res-Low (SFD)	98.000
1433	2	DU	Res-Medium (SFA)	0.000
1433	3	DU	Apartment	142.000
1433	23	TSF	General Office	67.160
1433	24	TSF	Medical Office	352.249

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1433	26	TSF	Industrial	0.000
1433	35	BEDS	Nursing/Conv. Home	270.000
1434	34	BED	Hospital	1,167.000
1435	1	DU	Res-Low (SFD)	68.000
1435	2	DU	Res-Medium (SFA)	28.000
1435	10	TSF	General Commercial	10.800
1435	13	TSF	Restaurant	8.400
1435	15	TSF	Fast Food Restaurant	2.700
1436	2	DU	Res-Medium (SFA)	0.000
1436	3	DU	Apartment	1,790.000
1436	4	DU	Elderly Residential	0.000
1436	10	TSF	General Commercial	0.000
1436	24	TSF	Medical Office	39.600
1436	26	TSF	Industrial	0.000
1436	35	BEDS	Nursing/Conv. Home	169.000
1436	38	ACRE	Park	0.170
1437	26	TSF	Industrial	5.000
1438	3	DU	Apartment	152.000
1438	23	TSF	General Office	0.000
1438	26	TSF	Industrial	0.000
1438	27	TSF	Mini-Storage/Warehouse	0.000
1438	29	STU	Elementary/Private School	622.000
1439	2	DU	Res-Medium (SFA)	0.000
1439	3	DU	Apartment	784.000
1439	5	DU	Mobile Home	0.000
1439	10	TSF	General Commercial	50.910
1439	23	TSF	General Office	239.510
1439	24	TSF	Medical Office	61.630
1439	25	TSF	R & D	0.000
1439	26	TSF	Industrial	837.270
1439	35	BEDS	Nursing/Conv. Home	59.000
1440	2	DU	Res-Medium (SFA)	281.000
1441	1	DU	Res-Low (SFD)	462.000
1441	2	DU	Res-Medium (SFA)	0.000
1441	3	DU	Apartment	361.000
1441	6	ROOM	Motel	90.000
1441	10	TSF	General Commercial	57.935
1441	13	TSF	Restaurant	0.000
1441	15	TSF	Fast Food Restaurant	0.000
1442	1	DU	Res-Low (SFD)	43.000

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1442	2	DU	Res-Medium (SFA)	214.000
1442	38	ACRE	Park	6.790
1443	1	DU	Res-Low (SFD)	125.000
1443	2	DU	Res-Medium (SFA)	350.000
1443	3	DU	Apartment	54.000
1443	38	ACRE	Park	6.500
1444	1	DU	Res-Low (SFD)	94.000
1444	2	DU	Res-Medium (SFA)	498.500
1445	1	DU	Res-Low (SFD)	139.000
1445	2	DU	Res-Medium (SFA)	509.000
1446	1	DU	Res-Low (SFD)	124.000
1446	2	DU	Res-Medium (SFA)	239.000
1446	38	ACRE	Park	2.690
1447	1	DU	Res-Low (SFD)	88.000
1447	2	DU	Res-Medium (SFA)	415.000
1448	1	DU	Res-Low (SFD)	87.000
1448	2	DU	Res-Medium (SFA)	103.000
1448	10	TSF	General Commercial	26.170
1448	13	TSF	Restaurant	2.240
1448	23	TSF	General Office	12.190
1448	24	TSF	Medical Office	0.990
1449	2	DU	Res-Medium (SFA)	95.000
1449	3	DU	Apartment	160.000
1449	10	TSF	General Commercial	75.512
1449	13	TSF	Restaurant	0.000
1449	15	TSF	Fast Food Restaurant	0.000
1449	23	TSF	General Office	0.000
1450	2	DU	Res-Medium (SFA)	159.000
1450	3	DU	Apartment	188.000
1450	6	ROOM	Motel	16.000
1450	10	TSF	General Commercial	133.678
1450	13	TSF	Restaurant	0.000
1450	23	TSF	General Office	0.000
1451	1	DU	Res-Low (SFD)	22.000
1451	2	DU	Res-Medium (SFA)	110.000
1451	3	DU	Apartment	5.000
1451	6	ROOM	Motel	0.000
1451	7	ROOM	Hotel	124.000
1451	10	TSF	General Commercial	93.218
1451	13	TSF	Restaurant	0.000

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1451	15	TSF	Fast Food Restaurant	0.000
1451	23	TSF	General Office	0.000
1451	37	TSF	Youth Ctr/Service	6.000
1452	2	DU	Res-Medium (SFA)	0.000
1452	3	DU	Apartment	187.200
1452	7	ROOM	Hotel	99.800
1452	10	TSF	General Commercial	187.199
1452	13	TSF	Restaurant	0.000
1452	15	TSF	Fast Food Restaurant	0.000
1452	23	TSF	General Office	35.000
1452	37	TSF	Youth Ctr/Service	6.000
1453	3	DU	Apartment	63.000
1453	10	TSF	General Commercial	132.772
1453	13	TSF	Restaurant	0.000
1453	21	SEAT	Theater	685.000
1453	23	TSF	General Office	3.500
1453	24	TSF	Medical Office	0.000
1453	36	TSF	Church	15.710
1454	1	DU	Res-Low (SFD)	0.000
1454	2	DU	Res-Medium (SFA)	0.000
1454	3	DU	Apartment	192.000
1454	10	TSF	General Commercial	105.858
1454	11	ACRE	Comm./Recreation	0.850
1454	13	TSF	Restaurant	0.000
1454	15	TSF	Fast Food Restaurant	0.000
1454	23	TSF	General Office	42.156
1454	37	TSF	Youth Ctr/Service	4.650
1455	1	DU	Res-Low (SFD)	3.000
1455	2	DU	Res-Medium (SFA)	403.000
1455	10	TSF	General Commercial	108.220
1455	13	TSF	Restaurant	9.200
1455	23	TSF	General Office	1.000
1455	26	TSF	Industrial	38.000
1456	1	DU	Res-Low (SFD)	807.000
1456	2	DU	Res-Medium (SFA)	101.000
1456	3	DU	Apartment	26.000
1457	1	DU	Res-Low (SFD)	218.000
1457	2	DU	Res-Medium (SFA)	476.000
1457	3	DU	Apartment	103.000
1457	5	DU	Mobile Home	58.000

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1457	6	ROOM	Motel	26.000
1457	10	TSF	General Commercial	12.540
1457	15	TSF	Fast Food Restaurant	1.250
1457	20	SLIP	Marina	58.000
1457	28	TSF	Pre-school/Day Care	13.440
1457	29	STU	Elementary/Private School	389.000
1457	36	TSF	Church	10.050
1457	37	TSF	Youth Ctr/Service	17.400
1457	38	ACRE	Park	1.200
1458	1	DU	Res-Low (SFD)	372.000
1458	2	DU	Res-Medium (SFA)	684.000
1458	3	DU	Apartment	253.000
1458	7	ROOM	Hotel	65.000
1458	10	TSF	General Commercial	63.287
1458	15	TSF	Fast Food Restaurant	0.000
1458	20	SLIP	Marina	14.000
1458	23	TSF	General Office	12.000
1458	24	TSF	Medical Office	0.000
1458	32	TSF	Library	4.800
1458	36	TSF	Church	2.000
1459	1	DU	Res-Low (SFD)	9.000
1459	2	DU	Res-Medium (SFA)	131.000
1459	3	DU	Apartment	246.000
1459	7	ROOM	Hotel	200.000
1459	10	TSF	General Commercial	111.747
1459	11	ACRE	Comm./Recreation	4.250
1459	13	TSF	Restaurant	0.000
1459	15	TSF	Fast Food Restaurant	0.000
1459	17	TSF	Yacht Club	0.000
1459	21	SEAT	Theater	350.000
1459	23	TSF	General Office	0.000
1459	33	TSF	Post Office	1.700
1459	37	TSF	Youth Ctr/Service	4.970
1460	1	DU	Res-Low (SFD)	677.000
1460	2	DU	Res-Medium (SFA)	194.000
1460	3	DU	Apartment	51.000
1460	19	CRT	Tennis Club	2.000
1460	38	ACRE	Park	0.830
1461	1	DU	Res-Low (SFD)	194.000
1461	2	DU	Res-Medium (SFA)	271.000

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1461	10	TSF	General Commercial	4.990
1461	13	TSF	Restaurant	20.000
1461	17	TSF	Yacht Club	8.290
1461	20	SLIP	Marina	352.000
1461	23	TSF	General Office	12.000
1461	26	TSF	Industrial	5.040
1461	38	ACRE	Park	0.780
1462	1	DU	Res-Low (SFD)	32.000
1463	3	DU	Apartment	520.000
1463	10	TSF	General Commercial	73.884
1463	13	TSF	Restaurant	21.550
1463	16	TSF	Auto Dealer/Sales	34.900
1464	1	DU	Res-Low (SFD)	43.000
1464	2	DU	Res-Medium (SFA)	3,119.000
1464	6	ROOM	Motel	4.000
1464	10	TSF	General Commercial	73.070
1464	13	TSF	Restaurant	16.550
1464	15	TSF	Fast Food Restaurant	5.430
1464	23	TSF	General Office	18.370
1464	24	TSF	Medical Office	2.750
1464	33	TSF	Post Office	1.900
1464	36	TSF	Church	3.000
1464	38	ACRE	Park	1.620
1465	5	DU	Mobile Home	397.000
1465	10	TSF	General Commercial	60.630
1465	13	TSF	Restaurant	18.190
1465	20	SLIP	Marina	218.000
1465	23	TSF	General Office	30.310
1466	2	DU	Res-Medium (SFA)	149.000
1466	7	ROOM	Hotel	754.000
1466	13	TSF	Restaurant	83.930
1466	19	CRT	Tennis Club	16.000
1466	22	ACRE	Newport Dunes	64.000
1466	23	TSF	General Office	6.000
1466	37	TSF	Youth Ctr/Service	2.690
1466	40	ACRE	Golf Course	2.000
1467	3	DU	Apartment	1,185.000
1468	29	STU	Elementary/Private School	320.000
1469	2	DU	Res-Medium (SFA)	808.000
1469	3	DU	Apartment	225.000

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1469	28	TSF	Pre-school/Day Care	6.450
1469	29	STU	Elementary/Private School	294.000
1469	30	STU	Junior/High School	1,801.000
1469	36	TSF	Church	34.960
1469	37	TSF	Youth Ctr/Service	34.970
1469	38	ACRE	Park	8.000
1470	2	DU	Res-Medium (SFA)	511.000
1470	10	TSF	General Commercial	75.000
1470	19	CRT	Tennis Club	19.000
1470	23	TSF	General Office	11.660
1471	1	DU	Res-Low (SFD)	460.000
1471	38	ACRE	Park	2.000
1472	16	TSF	Auto Dealer/Sales	209.750
1473	3	DU	Apartment	300.000
1474	1	DU	Res-Low (SFD)	168.000
1474	2	DU	Res-Medium (SFA)	208.000
1474	3	DU	Apartment	736.000
1474	10	TSF	General Commercial	47.500
1474	13	TSF	Restaurant	6.400
1474	38	ACRE	Park	29.200
1475	25	TSF	R & D	81.730
1475	27	TSF	Mini-Storage/Warehouse	196.420
1475	29	STU	Elementary/Private School	52.000
1475	33	TSF	Post Office	55.200
1475	36	TSF	Church	100.280
1476	2	DU	Res-Medium (SFA)	227.000
1477	1	DU	Res-Low (SFD)	500.000
1478	2	DU	Res-Medium (SFA)	50.000
1479	1	DU	Res-Low (SFD)	101.000
1479	2	DU	Res-Medium (SFA)	54.000
1480	2	DU	Res-Medium (SFA)	144.000
1480	3	DU	Apartment	80.000
1481	1	DU	Res-Low (SFD)	101.000
1481	2	DU	Res-Medium (SFA)	182.000
1481	10	TSF	General Commercial	2.300
1482	1	DU	Res-Low (SFD)	142.000
1482	2	DU	Res-Medium (SFA)	43.000
1482	3	DU	Apartment	73.000
1482	40	ACRE	Golf Course	181.200
1483	1	DU	Res-Low (SFD)	21.000

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1484	7	ROOM	Hotel	425.000
1484	10	TSF	General Commercial	21.700
1484	13	TSF	Restaurant	0.000
1484	23	TSF	General Office	965.030
1485	9	TSF	Regional Commercial	1,684.000
1485	10	TSF	General Commercial	0.000
1485	21	SEAT	Theater	1,700.000
1486	2	DU	Res-Medium (SFA)	0.000
1486	3	DU	Apartment	565.000
1486	10	TSF	General Commercial	144.330
1486	13	TSF	Restaurant	0.000
1486	16	TSF	Auto Dealer/Sales	0.000
1486	23	TSF	General Office	881.000
1486	31	TSF	Cultural/Learning Center	40.000
1487	2	DU	Res-Medium (SFA)	69.000
1487	3	DU	Apartment	160.000
1487	7	ROOM	Hotel	750.000
1487	10	TSF	General Commercial	7.500
1487	19	CRT	Tennis Club	22.000
1487	23	TSF	General Office	11.630
1487	40	ACRE	Golf Course	99.400
1488	2	DU	Res-Medium (SFA)	122.000
1489	2	DU	Res-Medium (SFA)	228.000
1489	10	TSF	General Commercial	5.000
1490	23	TSF	General Office	115.800
1491	23	TSF	General Office	478.640
1491	24	TSF	Medical Office	351.950
1492	10	TSF	General Commercial	38.100
1492	13	TSF	Restaurant	0.000
1492	18	TSF	Health Club	0.000
1492	21	SEAT	Theater	2,150.000
1492	23	TSF	General Office	452.110
1493	23	TSF	General Office	484.300
1494	10	TSF	General Commercial	105.000
1494	32	TSF	Library	65.000
1495	1	DU	Res-Low (SFD)	423.000
1495	2	DU	Res-Medium (SFA)	81.000
1495	10	TSF	General Commercial	2.380
1495	17	TSF	Yacht Club	62.020
1495	20	SLIP	Marina	283.000

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1495	23	TSF	General Office	186.530
1495	38	ACRE	Park	6.530
1496	1	DU	Res-Low (SFD)	73.000
1496	2	DU	Res-Medium (SFA)	256.000
1496	3	DU	Apartment	152.000
1496	29	STU	Elementary/Private School	12.030
1497	1	DU	Res-Low (SFD)	143.000
1497	2	DU	Res-Medium (SFA)	214.000
1497	3	DU	Apartment	48.000
1498	1	DU	Res-Low (SFD)	234.000
1498	2	DU	Res-Medium (SFA)	0.000
1498	3	DU	Apartment	48.000
1498	10	TSF	General Commercial	92.440
1498	13	TSF	Restaurant	0.000
1498	23	TSF	General Office	23.980
1498	38	ACRE	Park	4.000
1499	1	DU	Res-Low (SFD)	198.000
1500	1	DU	Res-Low (SFD)	178.000
1500	38	ACRE	Park	1.030
1501	1	DU	Res-Low (SFD)	849.000
1501	2	DU	Res-Medium (SFA)	0.000
1501	10	TSF	General Commercial	106.840
1501	13	TSF	Restaurant	0.000
1501	15	TSF	Fast Food Restaurant	0.000
1501	21	SEAT	Theater	500.000
1501	23	TSF	General Office	36.050
1501	24	TSF	Medical Office	0.000
1501	38	ACRE	Park	3.000
1502	1	DU	Res-Low (SFD)	186.000
1502	2	DU	Res-Medium (SFA)	0.000
1502	10	TSF	General Commercial	104.410
1502	13	TSF	Restaurant	0.000
1502	15	TSF	Fast Food Restaurant	0.000
1502	23	TSF	General Office	33.090
1502	24	TSF	Medical Office	0.000
1503	1	DU	Res-Low (SFD)	52.000
1503	2	DU	Res-Medium (SFA)	0.000
1503	10	TSF	General Commercial	88.020
1503	13	TSF	Restaurant	0.000
1503	15	TSF	Fast Food Restaurant	0.000

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1503	18	TSF	Health Club	0.000
1503	23	TSF	General Office	9.970
1503	24	TSF	Medical Office	0.000
1504	1	DU	Res-Low (SFD)	542.000
1504	2	DU	Res-Medium (SFA)	0.000
1504	10	TSF	General Commercial	88.020
1504	13	TSF	Restaurant	0.000
1504	15	TSF	Fast Food Restaurant	0.000
1504	18	TSF	Health Club	0.000
1504	23	TSF	General Office	9.970
1504	24	TSF	Medical Office	0.000
1504	36	TSF	Church	12.340
1505	1	DU	Res-Low (SFD)	843.000
1505	2	DU	Res-Medium (SFA)	0.000
1505	10	TSF	General Commercial	58.900
1505	13	TSF	Restaurant	0.000
1505	15	TSF	Fast Food Restaurant	0.000
1505	23	TSF	General Office	35.000
1505	32	TSF	Library	3.800
1505	33	TSF	Post Office	5.000
1506	1	DU	Res-Low (SFD)	363.000
1506	2	DU	Res-Medium (SFA)	0.000
1506	3	DU	Apartment	6.000
1507	1	DU	Res-Low (SFD)	142.000
1507	38	ACRE	Park	0.780
1508	1	DU	Res-Low (SFD)	193.000
1508	2	DU	Res-Medium (SFA)	137.000
1508	29	STU	Elementary/Private School	790.000
1508	37	TSF	Youth Ctr/Service	5.850
1510	1	DU	Res-Low (SFD)	200.000
1511	1	DU	Res-Low (SFD)	20.000
1511	10	TSF	General Commercial	70.790
1512	2	DU	Res-Medium (SFA)	246.000
1513	1	DU	Res-Low (SFD)	348.000
1513	4	DU	Elderly Residential	100.000
1513	18	TSF	Health Club	1.000
1513	37	TSF	Youth Ctr/Service	24.070
1514	1	DU	Res-Low (SFD)	41.000
1515	3	DU	Apartment	410.000
1515	28	TSF	Pre-school/Day Care	0.000

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1516	2	DU	Res-Medium (SFA)	67.000
1516	4	DU	Elderly Residential	100.000
1516	36	TSF	Church	53.200
1517	3	DU	Apartment	160.000
1517	10	TSF	General Commercial	74.000
1517	23	TSF	General Office	9.750
1517	28	TSF	Pre-school/Day Care	13.390
1517	29	STU	Elementary/Private School	406.000
1517	30	STU	Junior/High School	780.000
1517	36	TSF	Church	31.380
1518	1	DU	Res-Low (SFD)	441.000
1518	2	DU	Res-Medium (SFA)	67.000
1518	38	ACRE	Park	0.950
1519	1	DU	Res-Low (SFD)	471.000
1519	38	ACRE	Park	14.230
1520	1	DU	Res-Low (SFD)	207.000
1521	1	DU	Res-Low (SFD)	580.000
1521	29	STU	Elementary/Private School	498.000
1521	38	ACRE	Park	9.730
1522	1	DU	Res-Low (SFD)	119.000
1522	2	DU	Res-Medium (SFA)	120.000
1522	10	TSF	General Commercial	80.000
1522	23	TSF	General Office	12.900
1523	1	DU	Res-Low (SFD)	149.000
1523	10	TSF	General Commercial	54.000
1525	3	DU	Apartment	1,112.000
1526	1	DU	Res-Low (SFD)	410.000
1526	36	TSF	Church	44.444
1527	2	DU	Res-Medium (SFA)	0.000
1527	38	ACRE	Park	18.500
1528	28	TSF	Pre-school/Day Care	7.320
1528	36	TSF	Church	26.010
1529	1	DU	Res-Low (SFD)	284.000
1530	1	DU	Res-Low (SFD)	40.000
1530	3	DU	Apartment	173.000
1530	32	TSF	Library	5.800
1530	37	TSF	Youth Ctr/Service	16.869
1530	38	ACRE	Park	14.390
1532	30	STU	Junior/High School	450.000
1534	1	DU	Res-Low (SFD)	271.000

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1534	29	STU	Elementary/Private School	600.000
1535	1	DU	Res-Low (SFD)	368.000
1535	2	DU	Res-Medium (SFA)	294.000
1535	3	DU	Apartment	512.000
1536	2	DU	Res-Medium (SFA)	48.000
1536	10	TSF	General Commercial	114.173
1537	1	DU	Res-Low (SFD)	98.000
1537	2	DU	Res-Medium (SFA)	108.000
1538	1	DU	Res-Low (SFD)	144.000
1539	1	DU	Res-Low (SFD)	158.000
1539	7	ROOM	Hotel	250.000
1540	7	ROOM	Hotel	540.000
1541	1	DU	Res-Low (SFD)	55.000
1543	7	ROOM	Hotel	1,210.000
1544	1	DU	Res-Low (SFD)	178.000
1545	1	DU	Res-Low (SFD)	311.000
1547	1	DU	Res-Low (SFD)	212.000
1548	1	DU	Res-Low (SFD)	207.000
1548	2	DU	Res-Medium (SFA)	278.000
1549	1	DU	Res-Low (SFD)	113.000
1550	1	DU	Res-Low (SFD)	329.000
1550	2	DU	Res-Medium (SFA)	169.000
1553	1	DU	Res-Low (SFD)	66.000
1553	2	DU	Res-Medium (SFA)	70.000
1554	1	DU	Res-Low (SFD)	207.000
1554	2	DU	Res-Medium (SFA)	84.000
1555	7	ROOM	Hotel	150.000
1555	10	TSF	General Commercial	137.500
1556	1	DU	Res-Low (SFD)	206.000
1556	3	DU	Apartment	0.000
1556	38	ACRE	Park	30.000
1558	1	DU	Res-Low (SFD)	276.000
1558	3	DU	Apartment	344.000
1558	23	TSF	General Office	0.000
1558	26	TSF	Industrial	0.000
1558	29	STU	Elementary/Private School	500.000
1558	38	ACRE	Park	10.000
1559	1	DU	Res-Low (SFD)	206.000
1559	3	DU	Apartment	343.000
1559	7	ROOM	Hotel	75.000

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NBTM TAZ	Land Use Code	Units	Description	Quantity
1559	10	TSF	General Commercial	75.000
1559	23	TSF	General Office	0.000
1559	26	TSF	Industrial	0.000
1559	39	ACRE	Regional Park	20.000
1563	23	TSF	General Office	396.869
1618	1	DU	Res-Low (SFD)	6.000
1671	1	DU	Res-Low (SFD)	138.000
1671	23	TSF	General Office	178.781
1672	1	DU	Res-Low (SFD)	12.000
1673	10	TSF	General Commercial	7.877
1673	23	TSF	General Office	280.212
1674	10	TSF	General Commercial	126.748
1674	23	TSF	General Office	87.077
1675	1	DU	Res-Low (SFD)	156.000
1675	23	TSF	General Office	21.472
1713	34	BED	Hospital	834.000
1714	3	DU	Apartment	673.000
1715	10	TSF	General Commercial	0.000
1715	24	TSF	Medical Office	136.050
1716	24	TSF	Medical Office	220.080
1716	35	BEDS	Nursing/Conv. Home	0.000

Study Area Land Use By OCTAM Taz

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OCTAM TAZ	Land Use Code	Description	Units	Quantity
2327	10	General Commercial	TSF	33.100
2327	15	Fast Food Restaurant	TSF	1.560
2327	23	General Office	TSF	521.859
2327	24	Medical Office	TSF	3.770
2327	40	Golf Course	ACRE	15.690
2328	1	Res-Low (SFD)	DU	306.000
2328	10	General Commercial	TSF	134.625
2328	23	General Office	TSF	567.542
2336	3	Apartment	DU	2,201.000
2336	7	Hotel	ROOM	349.000
2336	10	General Commercial	TSF	394.214
2336	13	Restaurant	TSF	0.000
2336	16	Auto Dealer/Sales	TSF	130.000
2336	23	General Office	TSF	1,404.562
2337	7	Hotel	ROOM	229.000
2337	10	General Commercial	TSF	367.634
2337	13	Restaurant	TSF	0.000
2337	23	General Office	TSF	851.134
2337	24	Medical Office	TSF	0.000
2337	25	R & D	TSF	0.000
2337	26	Industrial	TSF	0.000
2338	3	Apartment	DU	1,208.000
2338	10	General Commercial	TSF	128.610
2338	13	Restaurant	TSF	0.000
2338	15	Fast Food Restaurant	TSF	0.000
2338	23	General Office	TSF	1,130.110
2338	25	R & D	TSF	0.000
2338	26	Industrial	TSF	0.000
2339	3	Apartment	DU	168.000
2339	10	General Commercial	TSF	40.478
2339	23	General Office	TSF	249.990
2339	24	Medical Office	TSF	86.096
2340	7	Hotel	ROOM	164.000
2340	10	General Commercial	TSF	20.190
2340	13	Restaurant	TSF	0.000
2340	23	General Office	TSF	734.641
2341	3	Apartment	DU	100.000

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OCTAM TAZ	Land Use Code	Description	Units	Quantity
2341	7	Hotel	ROOM	471.000
2341	10	General Commercial	TSF	26.800
2341	18	Health Club	TSF	0.000
2341	23	General Office	TSF	393.050
2341	37	Youth Ctr/Service	TSF	10.900
2375	1	Res-Low (SFD)	DU	40.000
2375	3	Apartment	DU	173.000
2375	32	Library	TSF	5.800
2375	37	Youth Ctr/Service	TSF	16.869
2375	38	Park	ACRE	14.390
2377	30	Junior/High School	STU	450.000
2378	1	Res-Low (SFD)	DU	329.000
2378	2	Res-Medium (SFA)	DU	169.000
2381	2	Res-Medium (SFA)	DU	281.000
2393	1	Res-Low (SFD)	DU	198.000
2399	1	Res-Low (SFD)	DU	482.000
2399	3	Apartment	DU	687.000
2399	7	Hotel	ROOM	75.000
2399	10	General Commercial	TSF	75.000
2399	23	General Office	TSF	0.000
2399	26	Industrial	TSF	5.000
2399	29	Elementary/Private School	STU	500.000
2399	38	Park	ACRE	10.000
2399	39	Regional Park	ACRE	20.000
2400	1	Res-Low (SFD)	DU	206.000
2400	3	Apartment	DU	0.000
2400	38	Park	ACRE	30.000
2401	1	Res-Low (SFD)	DU	462.000
2401	2	Res-Medium (SFA)	DU	0.000
2401	3	Apartment	DU	361.000
2401	6	Motel	ROOM	90.000
2401	10	General Commercial	TSF	57.935
2401	13	Restaurant	TSF	0.000
2401	15	Fast Food Restaurant	TSF	0.000
2402	2	Res-Medium (SFA)	DU	0.000
2402	3	Apartment	DU	2,726.000
2402	4	Elderly Residential	DU	0.000
2402	5	Mobile Home	DU	0.000
2402	10	General Commercial	TSF	50.910
2402	23	General Office	TSF	239.510

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OCTAM TAZ	Land Use Code	Description	Units	Quantity
2402	24	Medical Office	TSF	101.230
2402	25	R & D	TSF	0.000
2402	26	Industrial	TSF	837.270
2402	27	Mini-Storage/Warehouse	TSF	0.000
2402	29	Elementary/Private School	STU	622.000
2402	35	Nursing/Conv. Home	BEDS	228.000
2402	38	Park	ACRE	0.170
2403	1	Res-Low (SFD)	DU	98.000
2403	2	Res-Medium (SFA)	DU	0.000
2403	3	Apartment	DU	815.000
2403	10	General Commercial	TSF	0.000
2403	23	General Office	TSF	67.160
2403	24	Medical Office	TSF	708.379
2403	26	Industrial	TSF	0.000
2403	34	Hospital	BED	2,001.000
2403	35	Nursing/Conv. Home	BEDS	270.000
2404	1	Res-Low (SFD)	DU	454.000
2404	2	Res-Medium (SFA)	DU	1,329.500
2404	3	Apartment	DU	54.000
2404	10	General Commercial	TSF	10.800
2404	13	Restaurant	TSF	8.400
2404	15	Fast Food Restaurant	TSF	2.700
2404	38	Park	ACRE	15.980
2405	1	Res-Low (SFD)	DU	339.000
2405	2	Res-Medium (SFA)	DU	1,794.000
2405	3	Apartment	DU	795.200
2405	6	Motel	ROOM	16.000
2405	7	Hotel	ROOM	223.800
2405	10	General Commercial	TSF	862.627
2405	11	Comm./Recreation	ACRE	0.850
2405	13	Restaurant	TSF	11.440
2405	15	Fast Food Restaurant	TSF	0.000
2405	21	Theater	SEAT	685.000
2405	23	General Office	TSF	93.846
2405	24	Medical Office	TSF	0.990
2405	26	Industrial	TSF	38.000
2405	36	Church	TSF	15.710
2405	37	Youth Ctr/Service	TSF	16.650
2406	1	Res-Low (SFD)	DU	807.000
2406	2	Res-Medium (SFA)	DU	101.000

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OCTAM TAZ	Land Use Code	Description	Units	Quantity
2406	3	Apartment	DU	26.000
2407	1	Res-Low (SFD)	DU	886.000
2407	2	Res-Medium (SFA)	DU	392.000
2407	3	Apartment	DU	581.000
2407	6	Motel	ROOM	0.000
2407	7	Hotel	ROOM	117.000
2407	10	General Commercial	TSF	490.699
2407	13	Restaurant	TSF	0.000
2407	15	Fast Food Restaurant	TSF	0.000
2407	16	Auto Dealer/Sales	TSF	0.000
2407	18	Health Club	TSF	0.000
2407	21	Theater	SEAT	90.000
2407	23	General Office	TSF	139.650
2407	24	Medical Office	TSF	185.696
2407	29	Elementary/Private School	STU	436.000
2407	33	Post Office	TSF	9.900
2407	37	Youth Ctr/Service	TSF	0.900
2407	38	Park	ACRE	3.030
2408	1	Res-Low (SFD)	DU	315.000
2408	2	Res-Medium (SFA)	DU	235.000
2408	10	General Commercial	TSF	8.400
2408	15	Fast Food Restaurant	TSF	1.700
2408	16	Auto Dealer/Sales	TSF	11.400
2408	23	General Office	TSF	17.600
2408	24	Medical Office	TSF	12.000
2408	30	Junior/High School	STU	2,184.000
2408	35	Nursing/Conv. Home	BEDS	68.000
2408	36	Church	TSF	59.700
2408	37	Youth Ctr/Service	TSF	13.400
2408	38	Park	ACRE	0.400
2409	1	Res-Low (SFD)	DU	257.000
2409	3	Apartment	DU	347.000
2409	7	Hotel	ROOM	140.000
2409	10	General Commercial	TSF	433.967
2409	13	Restaurant	TSF	0.000
2409	15	Fast Food Restaurant	TSF	0.000
2409	16	Auto Dealer/Sales	TSF	0.000
2409	17	Yacht Club	TSF	0.000
2409	19	Tennis Club	CRT	0.000
2409	20	Marina	SLIP	130.000

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OCTAM TAZ	Land Use Code	Description	Units	Quantity
2409	23	General Office	TSF	125.445
2409	24	Medical Office	TSF	0.000
2409	37	Youth Ctr/Service	TSF	22.310
2410	1	Res-Low (SFD)	DU	1,276.000
2410	2	Res-Medium (SFA)	DU	1,485.000
2410	3	Apartment	DU	653.000
2410	5	Mobile Home	DU	58.000
2410	6	Motel	ROOM	26.000
2410	7	Hotel	ROOM	265.000
2410	10	General Commercial	TSF	187.574
2410	11	Comm./Recreation	ACRE	4.250
2410	13	Restaurant	TSF	0.000
2410	15	Fast Food Restaurant	TSF	1.250
2410	17	Yacht Club	TSF	0.000
2410	19	Tennis Club	CRT	2.000
2410	20	Marina	SLIP	72.000
2410	21	Theater	SEAT	350.000
2410	23	General Office	TSF	12.000
2410	24	Medical Office	TSF	0.000
2410	28	Pre-school/Day Care	TSF	13.440
2410	29	Elementary/Private School	STU	389.000
2410	32	Library	TSF	4.800
2410	33	Post Office	TSF	1.700
2410	36	Church	TSF	12.050
2410	37	Youth Ctr/Service	TSF	22.370
2410	38	Park	ACRE	2.030
2411	1	Res-Low (SFD)	DU	226.000
2411	2	Res-Medium (SFA)	DU	271.000
2411	3	Apartment	DU	520.000
2411	10	General Commercial	TSF	78.874
2411	13	Restaurant	TSF	41.550
2411	16	Auto Dealer/Sales	TSF	34.900
2411	17	Yacht Club	TSF	8.290
2411	20	Marina	SLIP	352.000
2411	23	General Office	TSF	12.000
2411	26	Industrial	TSF	5.040
2411	38	Park	ACRE	0.780
2412	1	Res-Low (SFD)	DU	43.000
2412	2	Res-Medium (SFA)	DU	3,119.000
2412	6	Motel	ROOM	4.000

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OCTAM TAZ	Land Use Code	Description	Units	Quantity
2412	10	General Commercial	TSF	73.070
2412	13	Restaurant	TSF	16.550
2412	15	Fast Food Restaurant	TSF	5.430
2412	23	General Office	TSF	18.370
2412	24	Medical Office	TSF	2.750
2412	33	Post Office	TSF	1.900
2412	36	Church	TSF	3.000
2412	38	Park	ACRE	1.620
2413	1	Res-Low (SFD)	DU	1,397.000
2413	2	Res-Medium (SFA)	DU	337.000
2413	3	Apartment	DU	152.000
2413	10	General Commercial	TSF	197.240
2413	13	Restaurant	TSF	0.000
2413	15	Fast Food Restaurant	TSF	0.000
2413	17	Yacht Club	TSF	62.020
2413	18	Health Club	TSF	0.000
2413	20	Marina	SLIP	283.000
2413	21	Theater	SEAT	500.000
2413	23	General Office	TSF	232.550
2413	24	Medical Office	TSF	0.000
2413	29	Elementary/Private School	STU	12.030
2413	38	Park	ACRE	9.530
2414	1	Res-Low (SFD)	DU	1,748.000
2414	2	Res-Medium (SFA)	DU	0.000
2414	3	Apartment	DU	6.000
2414	10	General Commercial	TSF	146.920
2414	13	Restaurant	TSF	0.000
2414	15	Fast Food Restaurant	TSF	0.000
2414	18	Health Club	TSF	0.000
2414	23	General Office	TSF	44.970
2414	24	Medical Office	TSF	0.000
2414	32	Library	TSF	3.800
2414	33	Post Office	TSF	5.000
2414	36	Church	TSF	12.340
2415	1	Res-Low (SFD)	DU	761.000
2415	2	Res-Medium (SFA)	DU	214.000
2415	3	Apartment	DU	96.000
2415	10	General Commercial	TSF	196.850
2415	13	Restaurant	TSF	0.000
2415	15	Fast Food Restaurant	TSF	0.000

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OCTAM TAZ	Land Use Code	Description	Units	Quantity
2415	23	General Office	TSF	57.070
2415	24	Medical Office	TSF	0.000
2415	38	Park	ACRE	4.000
2416	1	Res-Low (SFD)	DU	413.000
2416	2	Res-Medium (SFA)	DU	383.000
2416	10	General Commercial	TSF	70.790
2416	29	Elementary/Private School	STU	790.000
2416	37	Youth Ctr/Service	TSF	5.850
2417	1	Res-Low (SFD)	DU	389.000
2417	4	Elderly Residential	DU	100.000
2417	18	Health Club	TSF	1.000
2417	37	Youth Ctr/Service	TSF	24.070
2418	1	Res-Low (SFD)	DU	1,515.000
2418	2	Res-Medium (SFA)	DU	60.000
2418	3	Apartment	DU	1,927.000
2418	10	General Commercial	TSF	179.800
2418	13	Restaurant	TSF	4.400
2418	15	Fast Food Restaurant	TSF	3.000
2418	23	General Office	TSF	109.800
2418	24	Medical Office	TSF	204.700
2418	29	Elementary/Private School	STU	636.000
2418	32	Library	TSF	5.200
2418	36	Church	TSF	64.100
2418	37	Youth Ctr/Service	TSF	18.230
2418	38	Park	ACRE	4.000
2419	1	Res-Low (SFD)	DU	442.000
2419	2	Res-Medium (SFA)	DU	33.000
2419	18	Health Club	TSF	60.330
2419	23	General Office	TSF	67.950
2419	36	Church	TSF	8.730
2419	39	Regional Park	ACRE	45.910
2420	1	Res-Low (SFD)	DU	145.000
2420	2	Res-Medium (SFA)	DU	88.000
2420	7	Hotel	ROOM	300.000
2420	10	General Commercial	TSF	35.000
2420	13	Restaurant	TSF	8.000
2420	23	General Office	TSF	660.000
2420	38	Park	ACRE	3.330
2421	2	Res-Medium (SFA)	DU	511.000
2421	10	General Commercial	TSF	75.000

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OCTAM TAZ	Land Use Code	Description	Units	Quantity
2421	19	Tennis Club	CRT	19.000
2421	23	General Office	TSF	11.660
2421	29	Elementary/Private School	STU	320.000
2422	2	Res-Medium (SFA)	DU	808.000
2422	3	Apartment	DU	1,410.000
2422	28	Pre-school/Day Care	TSF	6.450
2422	29	Elementary/Private School	STU	294.000
2422	30	Junior/High School	STU	1,801.000
2422	36	Church	TSF	34.960
2422	37	Youth Ctr/Service	TSF	34.970
2422	38	Park	ACRE	8.000
2423	2	Res-Medium (SFA)	DU	149.000
2423	5	Mobile Home	DU	397.000
2423	7	Hotel	ROOM	754.000
2423	10	General Commercial	TSF	60.630
2423	13	Restaurant	TSF	102.120
2423	19	Tennis Club	CRT	16.000
2423	20	Marina	SLIP	218.000
2423	22	Newport Dunes	ACRE	64.000
2423	23	General Office	TSF	36.310
2423	37	Youth Ctr/Service	TSF	2.690
2423	40	Golf Course	ACRE	2.000
2424	2	Res-Medium (SFA)	DU	419.000
2424	3	Apartment	DU	725.000
2424	7	Hotel	ROOM	750.000
2424	10	General Commercial	TSF	156.830
2424	13	Restaurant	TSF	0.000
2424	16	Auto Dealer/Sales	TSF	0.000
2424	19	Tennis Club	CRT	22.000
2424	23	General Office	TSF	1,008.430
2424	31	Cultural/Learning Center	TSF	40.000
2424	40	Golf Course	ACRE	99.400
2425	7	Hotel	ROOM	425.000
2425	9	Regional Commercial	TSF	1,684.000
2425	10	General Commercial	TSF	21.700
2425	13	Restaurant	TSF	0.000
2425	21	Theater	SEAT	1,700.000
2425	23	General Office	TSF	965.030
2426	10	General Commercial	TSF	143.100
2426	13	Restaurant	TSF	0.000

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OCTAM TAZ	Land Use Code	Description	Units	Quantity
2426	18	Health Club	TSF	0.000
2426	21	Theater	SEAT	2,150.000
2426	23	General Office	TSF	936.410
2426	32	Library	TSF	65.000
2427	23	General Office	TSF	478.640
2427	24	Medical Office	TSF	351.950
2428	1	Res-Low (SFD)	DU	168.000
2428	2	Res-Medium (SFA)	DU	208.000
2428	3	Apartment	DU	736.000
2428	10	General Commercial	TSF	47.500
2428	13	Restaurant	TSF	6.400
2428	25	R & D	TSF	81.730
2428	27	Mini-Storage/Warehouse	TSF	196.420
2428	29	Elementary/Private School	STU	52.000
2428	33	Post Office	TSF	55.200
2428	36	Church	TSF	100.280
2428	38	Park	ACRE	29.200
2429	3	Apartment	DU	300.000
2429	16	Auto Dealer/Sales	TSF	209.750
2430	1	Res-Low (SFD)	DU	601.000
2430	2	Res-Medium (SFA)	DU	331.000
2431	1	Res-Low (SFD)	DU	460.000
2431	38	Park	ACRE	2.000
2432	1	Res-Low (SFD)	DU	264.000
2432	2	Res-Medium (SFA)	DU	369.000
2432	3	Apartment	DU	153.000
2432	10	General Commercial	TSF	2.300
2432	40	Golf Course	ACRE	181.200
2433	1	Res-Low (SFD)	DU	416.000
2433	2	Res-Medium (SFA)	DU	0.000
2433	3	Apartment	DU	1,112.000
2433	28	Pre-school/Day Care	TSF	7.320
2433	36	Church	TSF	70.454
2433	38	Park	ACRE	18.500
2434	1	Res-Low (SFD)	DU	149.000
2434	10	General Commercial	TSF	54.000
2435	1	Res-Low (SFD)	DU	1,051.000
2435	3	Apartment	DU	410.000
2435	28	Pre-school/Day Care	TSF	0.000
2435	29	Elementary/Private School	STU	498.000

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OCTAM TAZ	Land Use Code	Description	Units	Quantity
2435	38	Park	ACRE	23.960
2436	1	Res-Low (SFD)	DU	560.000
2436	2	Res-Medium (SFA)	DU	187.000
2436	10	General Commercial	TSF	80.000
2436	23	General Office	TSF	12.900
2436	38	Park	ACRE	0.950
2437	1	Res-Low (SFD)	DU	207.000
2437	2	Res-Medium (SFA)	DU	67.000
2437	3	Apartment	DU	160.000
2437	4	Elderly Residential	DU	100.000
2437	10	General Commercial	TSF	74.000
2437	23	General Office	TSF	9.750
2437	28	Pre-school/Day Care	TSF	13.390
2437	29	Elementary/Private School	STU	406.000
2437	30	Junior/High School	STU	780.000
2437	36	Church	TSF	84.580
2438	1	Res-Low (SFD)	DU	652.000
2438	2	Res-Medium (SFA)	DU	294.000
2438	3	Apartment	DU	512.000
2439	1	Res-Low (SFD)	DU	164.000
2439	2	Res-Medium (SFA)	DU	226.000
2439	10	General Commercial	TSF	114.173
2440	1	Res-Low (SFD)	DU	803.000
2440	2	Res-Medium (SFA)	DU	278.000
2440	29	Elementary/Private School	STU	600.000
2441	7	Hotel	ROOM	540.000
2442	1	Res-Low (SFD)	DU	144.000
2443	1	Res-Low (SFD)	DU	158.000
2443	7	Hotel	ROOM	250.000
2444	1	Res-Low (SFD)	DU	142.000
2444	38	Park	ACRE	0.780
2445	1	Res-Low (SFD)	DU	233.000
2445	38	Park	ACRE	1.030
2447	7	Hotel	ROOM	1,210.000
2782	1	Res-Low (SFD)	DU	311.000
2785	1	Res-Low (SFD)	DU	207.000
2785	2	Res-Medium (SFA)	DU	84.000
2785	7	Hotel	ROOM	150.000
2785	10	General Commercial	TSF	137.500
2786	1	Res-Low (SFD)	DU	178.000

Study Area Land Use for City of Newport Beach

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Land Use Code	Description	Units	Quantity
1	Res-Low (SFD)	DU	20,402.000
2	Res-Medium (SFA)	DU	14,222.500
3	Apartment	DU	19,114.200
4	Elderly Residential	DU	200.000
5	Mobile Home	DU	455.000
6	Motel	ROOM	136.000
7	Hotel	ROOM	6,412.800
9	Regional Commercial	TSF	1,684.000
10	General Commercial	TSF	5,268.840
11	Comm./Recreation	ACRE	5.100
13	Restaurant	TSF	198.860
15	Fast Food Restaurant	TSF	15.640
16	Auto Dealer/Sales	TSF	386.050
17	Yacht Club	TSF	70.310
18	Health Club	TSF	61.330
19	Tennis Club	CRT	59.000
20	Marina	SLIP	1,055.000
21	Theater	SEAT	5,475.000
22	Newport Dunes	ACRE	64.000
23	General Office	TSF	11,209.939
24	Medical Office	TSF	1,657.561
25	R & D	TSF	81.730
26	Industrial	TSF	885.310
27	Mini-Storage/Warehouse	TSF	196.420
28	Pre-school/Day Care	TSF	40.600
29	Elementary/Private School	STU	5,555.030
30	Junior/High School	STU	5,215.000
31	Cultural/Learning Center	TSF	40.000
32	Library	TSF	84.600
33	Post Office	TSF	73.700
34	Hospital	BED	2,001.000
35	Nursing/Conv. Home	BEDS	566.000
36	Church	TSF	465.904
37	Youth Ctr/Service	TSF	189.209
38	Park	ACRE	183.680
39	Regional Park	ACRE	65.910
40	Golf Course	ACRE	298.290

APPENDIX FF

GENERAL PLAN BUILDOUT WITH PROJECT LAND USE CHANGE
FROM GENERAL PLAN BUILDOUT WITHOUT PROJECT BY TAZ

NbtmTAZ	WITHOUT PROJECT			WITH PROJECT		
	LU_Code	Quantity	OccupancyRate	LU_Code	Quantity	OccupancyRate
1373	10	35.08	0.9	10	36.46	0.9
1373	23	78.13	0.9	23	85.073	0.9
1373	24	0	0.9	24	0	0.9
1373	25	0	0.9	25	0	0.9
1373	26	12.19	0.9	26	0	0.9
1374	10	35.08	0.9	10	42.231	0.9
1374	23	78.13	0.9	23	84.463	0.9
1374	24	0	0.9	24	0	0.9
1374	25	0	0.9	25	0	0.9
1374	26	12.19	0.9	26	0	0.9
1375	10	54.46	0.9	10	61.518	0.9
1375	13	0	0.9	13	0	0.9
1375	23	117.2	0.9	23	123.035	0.9
1375	24	0	0.9	24	0	0.9
1375	25	0	0.9	25	0	0.9
1375	26	18.29	0.9	26	0	0.9
1376	10	56.13	0.9	10	67.464	0.9
1376	23	125.01	0.9	23	134.927	0.9
1376	24	0	0.9	24	0	0.9
1376	25	0	0.9	25	0	0.9
1376	26	19.51	0.9	26	0	0.9
1377				7	107	0.9
1377	10	80.68	0.9	10	74.583	0.9
1377	23	179.7	0.9	23	179.7	0.9
1377	24	0	0.9	24	0	0.9
1377	25	0	0.9	25	0	0.9
1377	26	28.05	0.9	26	0	0.9
1378				7	122	0.9
1378	10	91.21	0.9	10	85.378	0.9
1378	23	203.14	0.9	23	243.936	0.9
1378	24	0	0.9	24	0	0.9
1378	25	0	0.9	25	0	0.9
1378	26	31.7	0.9	26	0	0.9
1379				3	294	0.95
1379	23	468.349	0.9	23	240.451	0.9
1380				3	334	0.95
1380	23	152.776	0.9	23	0	0.9
1381				3	275	0.95
1381	23	213.637	0.9	23	104.211	0.9
1382				3	609	0.95
1382	23	321.53	0.9	23	73.704	0.9
1383	10	15.011	0.9	10	0	0.9
1383	23	275.267	0.9	23	202.585	0.9
1384				3	132	0.95
1384	10	7.87	0.9	10	41.517	0.9
1384	23	91.756	0.9	23	0	0.9
1385	7	349	0.9	7	349	0.9
1386	23	228.21	0.9	23	203.8	0.9
1387	23	184.32	0.9	23	177.534	0.9
1388	10	106.11	0.9	10	120.596	0.9
1388	13	0	0.9	13	0	0.9
1388	16	130	1	16	130	1
1389				3	132	0.95
1389	10	46.3	1	10	16.191	1

FF3

NbtmTAZ	WITHOUT PROJECT			WITH PROJECT		
	LU_Code	Quantity	OccupancyRate	LU_Code	Quantity	OccupancyRate
1389	23	201.78	0.9	23	105.807	0.9
1390				3	87	0.95
1390	23	146.48	0.9	23	99.97	0.9
1391	23	97.42	0.9	23	72.5	0.9
1392	10	17.78	1	10	19.324	1
1392	23	160.59	0.9	23	124	0.9
1393				3	338	0.95
1393	10	79.906	0.9	10	81.152	0.9
1394				10	115.434	0.9
1395	7	164	0.9	7	164	0.9
1395	10	120	0.9	10	20.19	0.9
1395	13	0	0.9	13	0	0.9
1396	23	630.221	0.9	23	630.221	0.9
1397	23	104.42	0.9	23	104.42	0.9
1398	23	40	0.9	23	40	0.9
1399	23	161.49	0.9	23	161.49	0.9
1400	23	48.5	0.9	23	48.5	0.9
1401	24	86.096	0.9	24	86.096	0.9
1402				3	168	0.95
1402				10	40.478	0.9
1402	23	45.794	0.9	23	0	0.9
1403				3	100	0.95
1403	7	471	0.9	7	471	0.9
1403	10	16	0.9	10	26.8	0.9
1403	18	0	1	18	0	1
1403	23	393.05	0.9	23	393.05	0.9
1403	37	10.9	0.9	37	10.9	0.9
1404				3	180	0.95
1404	23	434.953	0.9	23	434.953	0.9
1405				3	128	0.95
1405	10	129.3	0.9	10	128.61	0.9
1405	13	0	0.9	13	0	0.9
1405	15	0	0.9	15	0	0.9
1405	23	688.16	0.9	23	695.157	0.9
1406				3	900	0.95
1406	25	0	0.9	25	0	0.9
1406	26	430	0.9	26	0	0.9
1407	10	31.72	0.9	10	31.72	0.9
1407	15	1.56	0.9	15	1.56	0.9
1407	23	124.99	0.9	23	124.99	0.9
1407	24	3.77	0.9	24	3.77	0.9
1408	1	145	0.95	1	145	0.95
1409	7	300	0.9	7	300	0.9
1409	10	35	0.9	10	35	0.9
1409	13	8	0.9	13	8	0.9
1409	23	660	0.9	23	660	0.9
1409	38	3.33	1	38	3.33	1
1410	2	88	0.95	2	88	0.95
1411	10	1.38	0.9	10	1.38	0.9
1411	40	15.69	1	40	15.69	1
1412	1	60	0.95	1	60	0.95
1413	2	33	0.95	2	33	0.95
1413	18	60.33	1	18	60.33	1
1413	23	67.95	0.9	23	67.95	0.9

FF4

NbtmTAZ	WITHOUT PROJECT			WITH PROJECT		
	LU_Code	Quantity	OccupancyRate	LU_Code	Quantity	OccupancyRate
1413	39	45.91	1	39	45.91	1
1415	1	153	0.95	1	153	0.95
1415	36	8.73	1	36	8.73	1
1416	1	198	0.95	1	198	0.95
1417	1	56	0.95	1	56	0.95
1418	1	59	0.95	1	59	0.95
1419	1	173	0.95	1	173	0.95
1420	1	465	0.95	1	465	0.95
1421	1	116	0.95	1	116	0.95
1421	2	60	0.95	2	60	0.95
1421	3	352	0.95	3	352	0.95
1421	10	174.8	0.9	10	179.8	0.9
1421	13	4.4	0.9	13	4.4	0.9
1421	15	3	0.9	15	3	0.9
1421	23	214.7	0.9	23	109.8	0.9
1421	24	43.2	0.9	24	109.8	0.9
1421	29	636	1	29	636	1
1421	32	5.2	1	32	5.2	1
1422	1	490	0.95	1	490	0.95
1423	1	266	0.95	1	266	0.95
1423	37	18.23	1	37	18.23	1
1423	38	4	1	38	4	1
1424	3	1445	0.95	3	1445	0.95
1425				3	130	0.9
1425	10	1.7	0.9			
1425	23	128.8	0.9			
1425				24	94.9	0.9
1425	36	24.1	1	36	24.1	1
1426	1	151	0.95	1	119	0.95
1426	36	40	1	36	40	1
1427	1	315	0.95	1	315	0.95
1427	2	235	0.95	2	235	0.95
1427	10	8.4	0.9	10	8.4	0.9
1427	15	1.7	0.9	15	1.7	0.9
1427	16	11.4	1	16	11.4	1
1427	23	17.6	0.9	23	17.6	0.9
1427	24	12	0.9	24	12	0.9
1427	30	2184	1	30	2184	1
1427	35	68	1	35	68	1
1427	36	59.7	1	36	59.7	1
1427	37	13.4	1	37	13.4	1
1427	38	0.4	1	38	0.4	1
1428	1	257	0.95	1	257	0.95
1428	3	152	0.95	3	152	0.95
1428	7	140	0.9	7	140	0.9
1428	10	332.52	0.9	10	332.52	0.9
1428	13	0	0.9	13	0	0.9
1428	15	0	0.9	15	0	0.9
1428	16	0	1	16	0	1
1428	19	0	1	19	0	1
1428	20	130	1	20	130	1
1428	23	75.09	0.9	23	75.09	0.9
1428	24	0	0.9	24	0	0.9
1428	37	22.31	1	37	22.31	1

FF5

NbtmTAZ	WITHOUT PROJECT			WITH PROJECT		
	LU_Code	Quantity	OccupancyRate	LU_Code	Quantity	OccupancyRate
1429	1	656	0.95	1	656	0.95
1429	2	13	0.95	2	13	0.95
1429	3	59	0.95	3	59	0.95
1429	21	90	1	21	90	1
1429	29	436	1	29	436	1
1429	37	0.9	1	37	0.9	1
1429	38	3.03	1	38	3.03	1
1430	1	30	0.95	1	30	0.95
1430				3	278	0.95
1430	6	0	0.9	6	0	0.9
1430	7	64	0.9	7	64	0.9
1430	10	275.98	0.9	10	397.851	0.9
1430	13	0	0.9	13	0	0.9
1430	15	0	0.9	15	0	0.9
1430	16	0	1	16	0	1
1430	18	0	1	18	0	1
1430	23	283.82	0.9	23	139.65	0.9
1430	33	9.9	1	33	9.9	1
1431	3	36	0.95	3	195	0.95
1431	10	149.91	0.9	10	101.447	0.9
1431	13	0	0.9	13	0	0.9
1431	17	0	1	17	0	1
1431	23	77.65	0.9	23	50.355	0.9
1432	1	205	0.95	1	200	0.95
1432	2	379	0.95	2	379	0.95
1432	3	8	0.95	3	244	0.95
1432	6	0	0.9	6	0	0.9
1432	7	53	0.9	7	53	0.9
1432	10	66.38	0.9	10	92.848	0.9
1432	13	0	0.9	13	0	0.9
1432	23	135.73	0.9	23	0	0.9
1432	24	11.29	0.9	24	185.696	0.9
1433	1	98	0.95	1	98	0.95
1433	2	0	0.95	2	0	0.95
1433	3	142	0.95	3	142	0.95
1433	23	67.16	0.9	23	67.16	0.9
1433	24	24.46	0.9	24	352.249	0.9
1433	26	298.12	0.9	26	0	0.9
1433	35	270	1	35	270	1
1434	34	1167	1	34	1167	1
1435	1	68	0.95	1	68	0.95
1435	2	28	0.95	2	28	0.95
1435	10	10.8	0.9	10	10.8	0.9
1435	13	8.4	0.9	13	8.4	0.9
1435	15	2.7	0.9	15	2.7	0.9
1436	2	0	0.95	2	0	0.95
1436	3	1370	0.95	3	1790	0.95
1436	4	0	1	4	0	1
1436	10	3.5	0.9	10	0	0.9
1436	24	39.6	0.9	24	39.6	0.9
1436	26	48.002	0.9	26	0	0.9
1436	35	169	1	35	169	1
1436	38	0.17	1	38	0.17	1
1437	26	5	0.9	26	5	0.9

FF6

NbtmTAZ	WITHOUT PROJECT			WITH PROJECT		
	LU_Code	Quantity	OccupancyRate	LU_Code	Quantity	OccupancyRate
1438				3	152	0.95
1438	23	57.4	0.9	23	0	0.9
1438	26	8.33	0.9	26	0	0.9
1438	27	0	0.9	27	0	0.9
1438	29	622	1	29	622	1
1439	2	0	0.95	2	0	0.95
1439	3	464	0.95	3	784	0.95
1439	5	0	0.95	5	0	0.95
1439	10	50.91	0.9	10	50.91	0.9
1439	23	239.51	0.9	23	239.51	0.9
1439	24	61.63	0.9	24	61.63	0.9
1439	25	0	0.9	25	0	0.9
1439	26	837.27	0.9	26	837.27	0.9
1439	35	59	1	35	59	1
1440	2	281	0.95	2	281	0.95
1441	1	462	0.95	1	462	0.95
1441	2	0	0.95	2	0	0.95
1441	3	293	0.95	3	361	0.95
1441	6	90	0.9	6	90	0.9
1441	10	50.03	0.9	10	57.935	0.9
1441	13	0	0.9	13	0	0.9
1441	15	0	0.9	15	0	0.9
1442	1	43	0.95	1	43	0.95
1442	2	214	0.95	2	214	0.95
1442	38	6.79	1	38	6.79	1
1443	1	125	0.95	1	125	0.95
1443	2	350	0.95	2	350	0.95
1443	3	54	0.95	3	54	0.95
1443	38	6.5	1	38	6.5	1
1444	1	94	0.95	1	94	0.95
1444	2	498.5	0.95	2	498.5	0.95
1445	1	139	0.9	1	139	0.9
1445	2	509	0.9	2	509	0.9
1446	1	124	0.95	1	124	0.95
1446	2	239	0.95	2	239	0.95
1446	38	2.69	1	38	2.69	1
1447	1	88	0.9	1	88	0.9
1447	2	415	0.9	2	415	0.9
1448	1	87	0.9	1	87	0.9
1448	2	103	0.9	2	103	0.9
1448	10	26.17	0.9	10	26.17	0.9
1448	13	2.24	0.9	13	2.24	0.9
1448	23	12.19	0.9	23	12.19	0.9
1448	24	0.99	0.9	24	0.99	0.9
1449	2	95	0.9	2	95	0.9
1449				3	160	0.9
1449	10	74.9	0.9	10	75.512	0.9
1449	13	0	0.9	13	0	0.9
1449	15	0	0.9	15	0	0.9
1449	23	20.02	0.9	23	0	0.9
1450	2	159	0.9	2	159	0.9
1450	3	3	0.9	3	188	0.9
1450	6	16	0.9	6	16	0.9
1450	10	67.59	0.9	10	133.678	0.9

FF7

NbtmTAZ	WITHOUT PROJECT			WITH PROJECT		
	LU_Code	Quantity	OccupancyRate	LU_Code	Quantity	OccupancyRate
1450	13	0	0.9	13	0	0.9
1450	23	35.75	0.9	23	0	0.9
1451	1	22	0.9	1	22	0.9
1451	2	110	0.9	2	110	0.9
1451	3	5	0.9	3	5	0.9
1451	6	3	0.9	6	0	0.9
1451	7	22	0.9	7	124	0.9
1451	10	82.75	0.9	10	93.218	0.9
1451	13	0	0.9	13	0	0.9
1451	15	0	0.9	15	0	0.9
1451	23	8	0.9	23	0	0.9
1451				37	6	1
1452	2	12	0.9	2	0	0.9
1452				3	187.2	0.95
1452				7	99.8	0.9
1452	10	130.51	0.9	10	187.199	0.9
1452	13	0	0.9	13	0	0.9
1452	15	0	0.9	15	0	0.9
1452	23	90.22	0.9	23	35	0.9
1452	37	6	1	37	6	1
1453				3	63	0.95
1453	10	111.58	0.9	10	132.772	0.9
1453	13	0	0.9	13	0	0.9
1453	21	685	1	21	685	1
1453	23	119.9	0.9	23	3.5	0.9
1453	24	90.71	0.9	24	0	0.9
1453	36	26.01	1	36	15.71	1
1454	1	41	0.9	1	0	0.9
1454	2	172	0.9	2	0	0.9
1454				3	192	0.9
1454	10	201.78	0.9	10	105.858	0.9
1454	11	0.85	1	11	0.85	1
1454	13	0	0.9	13	0	0.9
1454	15	0	0.9	15	0	0.9
1454	23	101.5	0.9	23	42.156	0.9
1454	37	4.65	1	37	4.65	1
1455	1	3	0.9	1	3	0.9
1455	2	403	0.9	2	403	0.9
1455	10	108.22	0.9	10	108.22	0.9
1455	13	9.2	0.9	13	9.2	0.9
1455	23	1	0.9	23	1	0.9
1455	26	38	0.9	26	38	0.9
1456	1	1040	0.9	1	807	0.9
1456	2	102	0.9	2	101	0.9
1456	3	26	0.9	3	26	0.9
1457	1	218	0.9	1	218	0.9
1457	2	476	0.9	2	476	0.9
1457	3	103	0.9	3	103	0.9
1457	5	58	0.9	5	58	0.9
1457	6	26	0.9	6	26	0.9
1457	10	12.54	0.9	10	12.54	0.9
1457	15	1.25	0.9	15	1.25	0.9
1457	20	58	1	20	58	1
1457	28	13.44	1	28	13.44	1

FF8

NbtmTAZ	WITHOUT PROJECT			WITH PROJECT		
	LU_Code	Quantity	OccupancyRate	LU_Code	Quantity	OccupancyRate
1457	29	389	1	29	389	1
1457	36	10.05	1	36	10.05	1
1457	37	17.4	1	37	17.4	1
1457	38	1.2	1	38	1.2	1
1458	1	366	0.9	1	372	0.9
1458	2	684	0.9	2	684	0.9
1458	3	173	0.9	3	253	0.9
1458				7	65	0.9
1458	10	20.81	0.9	10	63.287	0.9
1458	15	0	0.9	15	0	0.9
1458	20	14	1	20	14	1
1458	23	29.26	0.9	23	12	0.9
1458	24	0	0.9	24	0	0.9
1458	32	4.8	1	32	4.8	1
1458	36	2	1	36	2	1
1459	1	9	0.9	1	9	0.9
1459	2	131	0.9	2	131	0.9
1459	3	69	0.9	3	246	0.9
1459	7	34	0.9	7	200	0.9
1459	10	196.53	0.9	10	111.747	0.9
1459	11	4.25	1	11	4.25	1
1459	13	0	0.9	13	0	0.9
1459	15	0	0.9	15	0	0.9
1459	17	0	1	17	0	1
1459	21	350	1	21	350	1
1459	23	60	0.9	23	0	0.9
1459	33	1.7	1	33	1.7	1
1459	37	4.97	1	37	4.97	1
1460	1	677	0.9	1	677	0.9
1460	2	194	0.9	2	194	0.9
1460	3	51	0.9	3	51	0.9
1460	19	2	1	19	2	1
1460	38	0.83	1	38	0.83	1
1461	1	194	0.9	1	194	0.9
1461	2	271	0.9	2	271	0.9
1461	10	4.99	0.9	10	4.99	0.9
1461	13	20	0.9	13	20	0.9
1461	17	8.29	1	17	8.29	1
1461	20	352	1	20	352	1
1461	23	12	0.9	23	12	0.9
1461	26	5.04	0.9	26	5.04	0.9
1461	38	0.78	1	38	0.78	1
1462	1	32	0.9	1	32	0.9
1463	3	520	0.9	3	520	0.9
1463	10	112.45	0.9	10	73.884	0.9
1463	13	21.55	0.9	13	21.55	0.9
1463	16	34.9	1	16	34.9	1
1464	1	43	0.9	1	43	0.9
1464	2	3119	0.9	2	3119	0.9
1464	6	4	0.9	6	4	0.9
1464	10	73.07	0.9	10	73.07	0.9
1464	13	16.55	0.9	13	16.55	0.9
1464	15	5.43	0.9	15	5.43	0.9
1464	23	18.37	0.9	23	18.37	0.9

FF9

NbtmTAZ	WITHOUT PROJECT			WITH PROJECT		
	LU_Code	Quantity	OccupancyRate	LU_Code	Quantity	OccupancyRate
1464	24	2.75	0.9	24	2.75	0.9
1464	33	1.9	1	33	1.9	1
1464	36	3	1	36	3	1
1464	38	1.62	1	38	1.62	1
1465	5	397	0.95	5	397	0.95
1465	10	60.63	0.9	10	60.63	0.9
1465	13	18.19	0.9	13	18.19	0.9
1465	20	218	1	20	218	1
1465	23	30.31	0.9	23	30.31	0.9
1466	2	149	0.95	2	149	0.95
1466	7	754	0.9	7	754	0.9
1466	13	83.93	0.9	13	83.93	0.9
1466	19	16	1	19	16	1
1466	22	64	1	22	64	1
1466	23	6	0.9	23	6	0.9
1466	37	2.69	1	37	2.69	1
1466	40	2	1	40	2	1
1467	3	1185	0.95	3	1185	0.95
1468	29	320	1	29	320	1
1469	2	808	0.95	2	808	0.95
1469	3	225	0.95	3	225	0.95
1469	28	6.45	1	28	6.45	1
1469	29	294	1	29	294	1
1469	30	1801	1	30	1801	1
1469	36	34.96	1	36	34.96	1
1469	37	34.97	1	37	34.97	1
1469	38	8	1	38	8	1
1470	2	511	0.95	2	511	0.95
1470	10	89.777	0.9	10	75	0.9
1470	19	19	1	19	19	1
1470	23	11.66	0.9	23	11.66	0.9
1471	1	460	0.95	1	460	0.95
1471	38	2	1	38	2	1
1472	16	209.75	1	16	209.75	1
1473	3	300	0.95	3	300	0.95
1474	1	168	0.95	1	168	0.95
1474	2	208	0.95	2	208	0.95
1474	3	736	0.95	3	736	0.95
1474	10	50	0.9	10	47.5	0.9
1474	13	6.4	0.9	13	6.4	0.9
1474	38	14.2	1	38	29.2	1
1475	25	81.73	0.9	25	81.73	0.9
1475	27	196.42	0.9	27	196.42	0.9
1475	29	52	1	29	52	1
1475	33	55.2	1	33	55.2	1
1475	36	100.28	1	36	100.28	1
1476	2	227	0.95	2	227	0.95
1477	1	500	0.95	1	500	0.95
1478	2	50	0.95	2	50	0.95
1479	1	101	0.95	1	101	0.95
1479	2	54	0.95	2	54	0.95
1480	2	144	0.95	2	144	0.95
1480	3	80	0.95	3	80	0.95
1481	1	101	0.95	1	101	0.95

FF10

NbtmTAZ	WITHOUT PROJECT			WITH PROJECT		
	LU_Code	Quantity	OccupancyRate	LU_Code	Quantity	OccupancyRate
1481	2	182	0.95	2	182	0.95
1481	10	2.3	0.9	10	2.3	0.9
1482	1	142	0.95	1	142	0.95
1482	2	43	0.95	2	43	0.95
1482	3	73	0.95	3	73	0.95
1482	40	181.2	1	40	181.2	1
1483	1	21	0.95	1	21	0.95
1484	7	425	0.9	7	425	0.9
1484	10	21.7	0.9	10	21.7	0.9
1484	13	0	0.9	13	0	0.9
1484	23	955.03	0.9	23	965.03	0.9
1485	9	1559	0.8	9	1684	0.8
1485	10	0	0.9	10	0	0.9
1485	21	1700	1	21	1700	1
1486	2	0	0.95	2	0	0.95
1486	3	245	0.95	3	565	0.95
1486	10	144.33	0.9	10	144.33	0.9
1486	13	0	0.9	13	0	0.9
1486	16	0	1	16	0	1
1486	23	881	0.9	23	881	0.9
1486	31	40	1	31	40	1
1487	2	69	0.95	2	69	0.95
1487				3	160	0.95
1487	7	611	0.9	7	750	0.9
1487	10	7.5	0.9	10	7.5	0.9
1487	19	22	1	19	22	1
1487	23	11.63	0.9	23	11.63	0.9
1487	40	99.4	1	40	99.4	1
1488	2	122	0.95	2	122	0.95
1489	2	228	0.95	2	228	0.95
1489	10	5	0.9	10	5	0.9
1490	23	115.8	0.9	23	115.8	0.9
1491	23	468.64	0.9	23	478.64	0.9
1491	24	351.95	0.9	24	351.95	0.9
1492	10	38.1	0.9	10	38.1	0.9
1492	13	0	0.9	13	0	0.9
1492	18	0	1	18	0	1
1492	21	2150	1	21	2150	1
1492	23	442.11	0.9	23	452.11	0.9
1493	23	484.3	0.9	23	484.3	0.9
1494	10	105	0.9	10	105	0.9
1494	32	65	1	32	65	1
1495	1	423	0.9	1	423	0.9
1495	2	81	0.9	2	81	0.9
1495	10	2.38	0.9	10	2.38	0.9
1495	17	62.02	1	17	62.02	1
1495	20	283	1	20	283	1
1495	23	186.53	0.9	23	186.53	0.9
1495	38	6.53	1	38	6.53	1
1496	1	73	0.9	1	73	0.9
1496	2	256	0.9	2	256	0.9
1496	3	152	0.9	3	152	0.9
1496	29	12.03	1	29	12.03	1
1497	1	143	0.9	1	143	0.9

FF 11

NbtrmTAZ	WITHOUT PROJECT			WITH PROJECT		
	LU_Code	Quantity	OccupancyRate	LU_Code	Quantity	OccupancyRate
1497	2	214	0.9	2	214	0.9
1497	3	48	0.9	3	48	0.9
1498	1	234	0.9	1	234	0.9
1498	2	0	0.9	2	0	0.9
1498	3	48	0.9	3	48	0.9
1498	10	92.44	0.9	10	92.44	0.9
1498	13	0	0.9	13	0	0.9
1498	23	23.98	0.9	23	23.98	0.9
1498	38	3.6	1	38	4	1
1499	1	198	0.9	1	198	0.9
1500	1	178	0.95	1	178	0.95
1500	38	1.03	1	38	1.03	1
1501	1	849	0.9	1	849	0.9
1501	2	0	0.9	2	0	0.9
1501	10	106.84	0.9	10	106.84	0.9
1501	13	0	0.9	13	0	0.9
1501	15	0	0.9	15	0	0.9
1501	21	500	1	21	500	1
1501	23	36.05	0.9	23	36.05	0.9
1501	24	0	0.9	24	0	0.9
1501	38	2.5	1	38	3	1
1502	1	186	0.9	1	186	0.9
1502	2	0	0.9	2	0	0.9
1502	10	104.41	0.9	10	104.41	0.9
1502	13	0	0.9	13	0	0.9
1502	15	0	0.9	15	0	0.9
1502	23	33.09	0.9	23	33.09	0.9
1502	24	0	0.9	24	0	0.9
1503	1	52	0.9	1	52	0.9
1503	2	0	0.9	2	0	0.9
1503	10	88.02	0.9	10	88.02	0.9
1503	13	0	0.9	13	0	0.9
1503	15	0	0.9	15	0	0.9
1503	18	0	1	18	0	1
1503	23	9.97	0.9	23	9.97	0.9
1503	24	0	0.9	24	0	0.9
1504	1	542	0.95	1	542	0.95
1504	2	0	0.95	2	0	0.95
1504	10	88.02	0.9	10	88.02	0.9
1504	13	0	0.9	13	0	0.9
1504	15	0	0.9	15	0	0.9
1504	18	0	1	18	0	1
1504	23	9.97	0.9	23	9.97	0.9
1504	24	0	0.9	24	0	0.9
1504	36	12.34	1	36	12.34	1
1505	1	843	0.95	1	843	0.95
1505	2	0	0.95	2	0	0.95
1505	10	58.9	0.9	10	58.9	0.9
1505	13	0	0.9	13	0	0.9
1505	15	0	0.9	15	0	0.9
1505	23	35	0.9	23	35	0.9
1505	32	3.8	1	32	3.8	1
1505	33	5	1	33	5	1
1506	1	363	0.95	1	363	0.95

FF 12

NbtmTAZ	WITHOUT PROJECT			WITH PROJECT		
	LU_Code	Quantity	OccupancyRate	LU_Code	Quantity	OccupancyRate
1506	2	0	0.95	2	0	0.95
1506	3	6	0.95	3	6	0.95
1507	1	142	0.95	1	142	0.95
1507	38	0.78	1	38	0.78	1
1508	1	193	0.95	1	193	0.95
1508	2	137	0.95	2	137	0.95
1508	29	790	1	29	790	1
1508	37	5.85	1	37	5.85	1
1510	1	200	0.95	1	200	0.95
1511	1	20	0.95	1	20	0.95
1511	10	70.79	0.9	10	70.79	0.9
1512	2	246	0.95	2	246	0.95
1513	1	348	0.95	1	348	0.95
1513	4	100	1	4	100	1
1513	18	1	1	18	1	1
1513	37	24.07	1	37	24.07	1
1514	1	41	0.95	1	41	0.95
1515	3	388	0.95	3	410	0.95
1515	28	8.4	1	28	0	1
1516	2	67	0.95	2	67	0.95
1516	4	100	1	4	100	1
1516	36	88.7	1	36	53.2	1
1517	3	160	0.95	3	160	0.95
1517	10	79.453	0.9	10	74	0.9
1517	23	9.75	0.9	23	9.75	0.9
1517	28	13.39	1	28	13.39	1
1517	29	406	1	29	406	1
1517	30	780	1	30	780	1
1517	36	31.38	1	36	31.38	1
1518	1	441	0.95	1	441	0.95
1518	2	67	0.95	2	67	0.95
1518	38	0.95	1	38	0.95	1
1519	1	471	0.95	1	471	0.95
1519	38	14.23	1	38	14.23	1
1520	1	207	0.95	1	207	0.95
1521	1	580	0.95	1	580	0.95
1521	29	498	1	29	498	1
1521	38	9.73	1	38	9.73	1
1522	1	119	0.95	1	119	0.95
1522	2	120	0.95	2	120	0.95
1522	10	106.217	0.9	10	80	0.9
1522	23	12.9	0.9	23	12.9	0.9
1523	1	212	0.95	1	149	0.95
1523	10	55	0.9	10	54	0.9
1525	3	1148	0.95	3	1112	0.95
1526	1	410	0.95	1	410	0.95
1526	36	44.444	1	36	44.444	1
1527	2	0	0.95	2	0	0.95
1527	38	18.5	1	38	18.5	1
1528	28	7.32	1	28	7.32	1
1528	36	26.01	1	36	26.01	1
1529	1	154	0.95	1	284	0.95
1530	1	22	0.95	1	40	0.95
1530	3	284	0.95	3	173	0.95

FF13

NbtmTAZ	WITHOUT PROJECT			WITH PROJECT		
	LU_Code	Quantity	OccupancyRate	LU_Code	Quantity	OccupancyRate
1530	32	5.8	1	32	5.8	1
1530	37	16.869	1	37	16.869	1
1530	38	14.39	1	38	14.39	1
1532	30	450	1	30	450	1
1534	1	147	0.95	1	271	0.95
1534	29	600	1	29	600	1
1535	1	200	0.95	1	368	0.95
1535	2	559	0.95	2	294	0.95
1535	3	841	0.95	3	512	0.95
1536	2	48	0.95	2	48	0.95
1536	10	114.173	0.9	10	114.173	0.9
1537	1	98	0.95	1	98	0.95
1537	2	108	0.95	2	108	0.95
1538	1	144	0.95	1	144	0.95
1539	1	158	0.95	1	158	0.95
1539	7	250	0.9	7	250	0.9
1540	7	540	0.9	7	540	0.9
1541	1	55	0.95	1	55	0.95
1543	7	1210	0.9	7	1210	0.9
1544	1	178	0.95	1	178	0.95
1545	1	311	0.95	1	311	0.95
1547	1	212	0.95	1	212	0.95
1548	1	112	0.95	1	207	0.95
1548	2	529	0.95	2	278	0.95
1549	1	61	0.95	1	113	0.95
1550	1	179	0.95	1	329	0.95
1550	2	322	0.95	2	169	0.95
1553	1	66	0.95	1	66	0.95
1553	2	70	0.95	2	70	0.95
1554	1	207	0.95	1	207	0.95
1554	2	84	0.95	2	84	0.95
1555	7	150	0.9	7	150	0.9
1555	10	137.5	0.9	10	137.5	0.9
1556				1	206	0.9
1556	3	1220	0.9	3	0	0.9
1556				38	30	1
1558				1	276	0.9
1558	3	1052	0.9	3	344	0.9
1558	23	117.8	0.9	23	0	0.9
1558	26	82.2	0.9	26	0	0.9
1558				29	500	1
1558				38	10	1
1559	1	225	0.9	1	206	0.9
1559	3	238	0.9	3	343	0.9
1559				7	75	0.9
1559	10	50	0.9	10	75	0.9
1559	23	117.8	0.9	23	0	0.9
1559	26	82.2	0.9	26	0	0.9
1559				39	20	1
1563	23	396.869	0.9	23	396.869	0.9
1618	1	6	0.95	1	6	0.95
1671	1	138	0.95	1	138	0.95
1671	23	178.781	0.9	23	178.781	0.9
1672	1	12	0.95	1	12	0.95

FF14

NbtmTAZ	WITHOUT PROJECT			WITH PROJECT		
	LU_Code	Quantity	OccupancyRate	LU_Code	Quantity	OccupancyRate
1673	10	7.877	0.9	10	7.877	0.9
1673	23	280.212	0.9	23	280.212	0.9
1674	10	126.748	0.9	10	126.748	0.9
1674	23	87.077	0.9	23	87.077	0.9
1675	1	156	0.95	1	156	0.95
1675	23	21.472	0.9	23	21.472	0.9
1713	34	834	1	34	834	1
1714	3	673	0.95	3	673	0.95
1715	10	0	0.9	10	0	0.9
1715	24	136.05	0.9	24	136.05	0.9
1716	24	220.08	0.9	24	220.08	0.9
1716	35	0	1	35	0	1
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APPENDIX GG

GENERAL PLAN BUILDOUT WITH PROJECT SOCIOECONOMIC DATA (SED)

SED From Land Use by NBTM Taz

Analysis Year: 2040
 RunId: NBWP05
 Land Use: NBWP05
 Network: Pref04

Reference Number: 01232
 Build Date: 11/10/2005
 Build Time: 2:00:00 PM
 Modeler: Archie Tan

NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non-Resident Univ/College Enrollment
1373						76	45	216		
1374						86	46	215		
1375						125	66	313		
1376						137	73	344		
1377						165	210	503		
1378						193	257	670		
1379		279		475	363	28	114	594		
1380		317		539	412	0	6	3		
1381		261		444	340	12	52	259		
1382		579		984	752	9	45	187		
1383						24	91	498		
1384		125		213	163	75	10	9		
1385						31	377	157		
1386						24	92	501		
1387						21	80	436		
1388						412	61	152		
1389		125		213	163	45	53	264		
1390		83		141	107	12	47	246		
1391						8	33	178		
1392						53	60	309		
1393		321		546	417	146	21	18		
1394						208	21	21		
1395						51	181	77		
1396						74	284	1,548		
1397						12	47	257		
1398						5	18	98		
1399						19	73	397		
1400						6	22	119		
1401						23	194	77		
1402		160		271	207	73	10	9		
1403		95		162	124	137	761	1,183		
1404		171		291	222	51	199	1,070		

Analysis Year: 2040
RunId: NBWP05
Land Use: NBWP05
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment
1405		122		207	158	313	338	1,732		
1406		855		1,454	1,112		17	9		
1407						77	70	317		
1408	138			344	220	3	21	4		
1409						187	629	1,767		
1410		84		201	125		2	1		
1411						4	10	0		
1412	57			143	91	1	9	2		
1413		31		75	47	44	210	167		
1415	145			363	233	3	29	13		
1416	188			470	301	4	28	6		
1417	53			133	85	1	8	2		
1418	56			140	90	1	8	2		
1419	164			411	263	3	25	5		
1420	442			1,104	707	9	66	13		
1421	110	391		981	697	388	369	513	636	
1422	466			1,164	745	9	70	14		
1423	253			632	404	5	168	8		
1424		1,373		2,334	1,785		27	14		
1425		117		199	152	26	235	111		
1426	113			283	181	2	49	43		
1427	299	223	68	1,352	814	49	251	473	2,184	
1428	244	144		856	578	638	441	332		
1429	623	68		1,683	1,089	13	105	87	436	
1430	29	264		520	389	740	253	457		
1431		185		315	241	188	45	144		
1432	190	592		1,733	1,145	226	532	219		
1433	93	135	270	732	324	105	920	513		
1434							1,634	3,268		
1435	65	27		225	143	49	12	10		
1436		1,701	169	3,060	2,211	11	174	70		
1437								10		
1438		144		245	188	0	3	95	622	
1439		745	59	1,325	968	136	288	2,324		

Analysis Year: 2040
RunId: NBWP05
Land Use: NBWP05
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non-Resident Univ/College Enrollment
1440		267		641	400		5	3		
1441	439	343		1,680	1,148	121	164	43		
1442	41	203		590	370	1	14	3		
1443	119	384		1,182	755	2	29	7		
1444	89	474		1,360	853	2	23	7		
1445	125	458		1,237	537	3	28	8		
1446	118	227		839	529	2	24	6		
1447	79	374		959	415	2	19	6		
1448	78	93		367	162	56	26	40		
1449		230		424	192	136	18	16		
1450		312		588	264	242	45	30		
1451	20	104		259	113	179	198	74		
1452		178		302	142	350	203	166		
1453		60		102	48	246	53	63		
1454	0	173		294	138	196	77	124		
1455	3	363		768	329	217	28	105		
1456	726	114		1,829	827	15	111	23		
1457	196	573		1,578	687	38	290	94	389	
1458	335	843		2,416	1,071	129	170	97		
1459	8	339		642	291	227	310	122		
1460	609	221		1,785	803	14	96	24		
1461	175	244		896	394	103	59	99		
1462	29			63	29	1	4	1		
1463		468		796	374	238	33	63		
1464	39	2,807		5,980	2,565	192	104	106		
1465		377		830	377	179	25	120		
1466		142		340	212	346	853	436		
1467		1,126		1,914	1,463		23	11		
1468								48	320	
1469		981		2,206	1,429		342	359	2,095	
1470		485		1,165	728	155	28	79		
1471	437			1,093	699	9	67	13		
1472						315	63	210		
1473		285		485	371		6	3		

Analysis Year: 2040
RunId: NBWP05
Land Use: NBWP05
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
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Modeler: Archie Tan

NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment
1474	160	897		2,062	1,461	104	68	25		
1475						6	388	574	52	
1476		216		518	323		4	2		
1477	475			1,188	760	10	71	14		
1478		48		114	71		1	0		
1479	96	51		363	230	2	15	3		
1480		213		458	304		4	2		
1481	96	173		655	413	6	18	5		
1482	135	110		553	367	21	131	5		
1483	20			50	32	0	3	1		
1484						190	897	2,566		
1485						1,768	492	627		
1486		537		912	698	363	553	2,236		
1487		218		416	296	114	881	407		
1488		116		278	174		2	1		
1489		217		520	325	9	5	3		
1490						14	52	285		
1491						151	1,007	1,493		
1492						143	253	1,161		
1493						57	218	1,190		
1494						189	214	84		
1495	381	73		991	446	99	302	505		
1496	66	367		861	383	1	17	7	12	
1497	129	236		761	337	3	24	6		
1498	211	43		537	245	173	62	82		
1499	178			392	178	4	27	5		
1500	169			423	271	3	26	5		
1501	764	0		1,681	764	217	162	141		
1502	167	0		368	167	195	59	105		
1503	47	0		103	47	161	27	42		
1504	515	0		1,287	824	170	107	68		
1505	801	0		2,002	1,281	127	178	129		
1506	345	6		872	559	7	52	10		
1507	135			337	216	3	21	4		

Analysis Year: 2040
RunId: NBWP05
Land Use: NBWP05
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment
1508	183	130		771	489	4	71	125	790	
1510	190			475	304	4	29	6		
1511	19			48	30	128	16	13		
1512		234		561	351		5	2		
1513	331	100		967	554	7	221	10		
1514	39			97	62	1	6	1		
1515		390		662	506		8	4		
1516		164		293	120		44	54		
1517		152		258	198	134	140	248	1,186	
1518	419	64		1,200	766	8	65	13		
1519	447			1,119	716	9	76	13		
1520	197			492	315	4	29	6		
1521	551			1,378	882	11	88	91	498	
1522	113	114		556	352	148	39	51		
1523	142			354	226	100	31	14		
1525		1,056		1,796	1,373		21	11		
1526	390			974	623	8	94	56		
1527		0		0	0		11	0		
1528							72	26		
1529	270			675	432	5	40	8		
1530	38	164		374	274	1	153	9		
1532								68	450	
1534	257			644	412	5	39	98	600	
1535	350	766		2,371	1,611	7	68	18		
1536		46		109	68	206	21	21		
1537	93	103		479	303	2	16	4		
1538	137			342	219	3	21	4		
1539	150			375	240	26	293	117		
1540						49	583	243		
1541	52			131	84	1	8	2		
1543						109	1,307	545		
1544	169			423	271	3	25	5		
1545	295			739	473	6	44	9		
1547	201			504	322	4	30	6		

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Analysis Year: 2040
RunId: NBWP05
Land Use: NBWP05
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
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Modeler: Archie Tan

NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment
1548	197	264		1,125	711	4	35	9		
1549	107			268	172	2	16	3		
1550	313	161		1,167	741	6	50	11		
1553	63	67		316	200	1	11	3		
1554	197	80		683	434	4	31	7		
1555						261	187	92		
1556	185	0		464	297	4	46	6		
1558	248	310		1,147	800	5	49	86	500	
1559	185	309		988	698	145	140	56		
1563						46	179	975		
1618	6			14	9	0	1	0		
1671	131			328	210	24	100	443		
1672	11			29	18	0	2	0		
1673						47	128	690		
1674						238	62	237		
1675	148			371	237	5	32	57		
1713							1,168	2,335		
1714		639		1,087	831		13	6		
1715						37	306	122		
1716			0	0		59	495	198		

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SED From Land Use by OCTAM Taz

Analysis Year: 2040
 RunId: NBWP05
 Land Use: NBWP05
 Network: Pref04

Reference Number: 01232
 Build Date: 11/10/2005
 Build Time: 2:00:00 PM
 Modeler: Archie Tan

OCTAM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non-Resident Univ/College Enrollment
2327						128	259	1,293		
2328	291			727	465	315	323	1,427		
2336		2,091		3,555	2,718	1,107	1,161	3,831		
2337						782	697	2,260		
2338		1,148		1,951	1,492	364	555	2,811		
2339		160		271	207	125	317	701		
2340						137	511	1,882		
2341		95		162	124	137	761	1,183		
2375	38	164		374	274	1	153	9		
2377								68	450	
2378	313	161		1,167	741	6	50	11		
2381		267		641	400		5	3		
2393	188			470	301	4	28	6		
2399	434	618		2,136	1,498	150	190	151	500	
2400	185	0		464	297	4	46	6		
2401	439	343		1,680	1,148	121	164	43		
2402		2,590	228	4,630	3,367	147	465	2,489	622	
2403	93	774	270	1,819	1,155	201	4,536	6,443		
2404	431	1,314		4,197	2,651	56	103	34		
2405	305	2,343		5,300	2,341	1,627	695	633		
2406	726	114		1,829	827	15	111	23		
2407	842	924		3,936	2,623	979	890	763	436	
2408	299	223	68	1,352	814	49	251	473	2,184	
2409	244	330		1,171	819	826	485	476		
2410	1,148	1,976		6,421	2,853	409	866	338	389	
2411	203	712		1,755	797	341	96	163		
2412	39	2,807		5,980	2,565	192	104	106		
2413	1,257	440		3,636	1,640	478	508	695	12	
2414	1,661	6		4,161	2,664	303	337	208		
2415	685	279		2,058	927	375	172	199		
2416	392	364		1,854	1,174	135	120	147	790	
2417	370	100		1,064	616	8	226	11		

Analysis Year: 2040
RunId: NBWP05
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Reference Number: 01232
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Modeler: Archie Tan

OCTAM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non-Resident Univ/College Enrollment
2418	1,439	1,881		6,836	4,760	440	993	717	636	
2419	420	31		1,125	719	53	280	189		
2420	138	84		545	346	189	652	1,771		
2421		485		1,165	728	155	28	127	320	
2422		2,107		4,119	2,893		365	370	2,095	
2423		519		1,169	589	525	877	556		
2424		1,087		2,126	1,492	500	1,493	2,932		
2425						1,959	1,389	3,193		
2426						389	685	2,435		
2427						151	1,007	1,493		
2428	160	897		2,062	1,461	110	456	599	52	
2429		285		485	371	315	69	213		
2430	571	314		2,182	1,385	11	92	20		
2431	437			1,093	699	9	67	13		
2432	251	496		1,715	1,116	27	157	13		
2433	395	1,056		2,784	2,006	8	199	93		
2434	142			354	226	100	31	14		
2435	998	390		3,158	2,104	20	172	109	498	
2436	532	178		1,756	1,118	156	104	64		
2437	197	316		1,043	633	138	213	308	1,186	
2438	619	766		3,046	2,042	12	108	26		
2439	156	215		905	571	209	48	27		
2440	763	264		2,541	1,617	15	120	116	600	
2441						49	583	243		
2442	137			342	219	3	21	4		
2443	150			375	240	26	293	117		
2444	135			337	216	3	21	4		
2445	221			553	354	4	34	7		
2447						109	1,307	545		
2782	295			739	473	6	44	9		
2785	197	80		683	434	265	218	99		
2786	169			423	271	3	25	5		

SED From Land Use for City of Newport Beach

Analysis Year: 2040
RunId: NBWP05
Land Use: NBWP05
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

Occupied Single Family Dwelling Units	Occupied Multi - Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment
19,105	31,793	566	108,421	66,581	15,480	27,336	45,312	10,770	

Supplemental SED by NBTM Taz

Analysis Year: 2040
RunId: NBWP05
Land Use: NBWP05
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
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Modeler: Archie Tan

NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non-Resident Univ/College Enrollment
1414	80	0	0	237	113	2	57	53	4	0
1531	202	237	2	791	559	89	61	43	0	0
1532	21	0	0	66	35	0	0	0	0	0

Supplemental SED by OCTAM Taz

Analysis Year: 2040
RunId: NBWP05
Land Use: NBWP05
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

OCTAM TAZ	Occupied Single Family Dwelling Units	Occupied Multl Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non-Resident Univ/College Enrollment
2377	21	0	0	66	35	0	0	0	0	0
2414	202	237	2	791	559	89	61	43	0	0
2419	80	0	0	237	113	2	57	53	4	0

Supplemental SED for City of Newport Beach

Analysis Year: 2040
RunId: NBWP05
Land Use: NBWP05
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

Occupied Single Family Dwelling Units	Occupied Multi - Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment
303	237	2	1,093	706	91	118	95	4	0

Final SED by NBTM Taz

Analysis Year: 2040
 RunId: NBWP05
 Land Use: NBWP05
 Network: Pref04

Reference Number: 01232
 Build Date: 11/10/2005
 Build Time: 2:00:00 PM
 Modeler: Archie Tan

NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non-Resident Univ/College Enrollment	Median Income
1373					76	45	216			100,096
1374					86	46	215			100,096
1375					125	66	313			100,096
1376					137	73	344			100,096
1377					165	210	503			100,096
1378					193	257	670			100,096
1379		279		475	363	28	114	594		100,096
1380		317		539	412	0	6	3		100,096
1381		261		444	340	12	52	259		100,096
1382		579		984	752	9	45	187		100,096
1383						24	91	498		100,096
1384		125		213	163	75	10	9		100,096
1385						31	377	157		100,096
1386						24	92	501		100,096
1387						21	80	436		100,096
1388						412	61	152		100,096
1389		125		213	163	45	53	264		100,096
1390		83		141	107	12	47	246		100,096
1391						8	33	178		100,096
1392						53	60	309		100,096
1393		321		546	417	146	21	18		100,096
1394						208	21	21		100,096
1395						51	181	77		100,096
1396						74	284	1,548		100,096
1397						12	47	257		100,096
1398						5	18	98		100,096
1399						19	73	397		100,096
1400						6	22	119		100,096
1401						23	194	77		100,096
1402		160		271	207	73	10	9		100,096
1403		95		162	124	137	761	1,183		100,096
1404		171		291	222	51	199	1,070		100,096
1405		122		207	158	313	338	1,732		100,096
1406		855		1,454	1,112		17	9		100,096
1407						77	70	317		27,500

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Analysis Year: 2040
RunId: NBWP05
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Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
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Modeler: Archie Tan

NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment	Median Income
1408	138			344	220	3	21	4			119,951
1409						187	629	1,767			119,951
1410		84		201	125		2	1			119,951
1411						4	10	0			27,500
1412	57			143	91	1	9	2			119,697
1413		31		75	47	44	210	167			119,697
1414	80	0	0	237	113	2	57	53	4	0	119,697
1415	145			363	233	3	29	13			119,697
1416	188			470	301	4	28	6			93,006
1417	53			133	85	1	8	2			119,697
1418	56			140	90	1	8	2			104,110
1419	164			411	263	3	25	5			119,697
1420	442			1,104	707	9	66	13			104,110
1421	110	391		981	697	388	369	513	636		104,110
1422	466			1,164	745	9	70	14			104,110
1423	253			632	404	5	168	8			104,110
1424		1,373		2,334	1,785		27	14			104,110
1425		117		199	152	26	235	111			104,110
1426	113			283	181	2	49	43			104,110
1427	299	223	68	1,352	814	49	251	473	2,184		100,260
1428	244	144		856	578	638	441	332			115,496
1429	623	68		1,683	1,089	13	105	87	436		107,136
1430	29	264		520	389	740	253	457			107,136
1431		185		315	241	188	45	144			115,496
1432	190	592		1,733	1,145	226	532	219			107,136
1433	93	135	270	732	324	105	920	513			76,372
1434							1,634	3,268			76,372
1435	65	27		225	143	49	12	10			91,787
1436		1,701	169	3,060	2,211	11	174	70			69,767
1437								10			77,503
1438		144		245	188	0	3	95	622		69,767
1439		745	59	1,325	968	136	288	2,324			69,767
1440		267		641	400		5	3			71,467
1441	439	343		1,680	1,148	121	164	43			101,940
1442	41	203		590	370	1	14	3			91,787
1443	119	384		1,182	755	2	29	7			91,787
1444	89	474		1,360	853	2	23	7			91,787

Analysis Year:
RunId:
Land Use:
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Modeler: Archie Tan

NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment	Median Income
1445	125	458		1,237	537	3	28	8			88,082
1446	118	227		839	529	2	24	6			91,787
1447	79	374		959	415	2	19	6			88,082
1448	78	93		367	162	56	26	40			88,082
1449		230		424	192	136	18	16			88,082
1450		312		588	264	242	45	30			88,082
1451	20	104		259	113	179	198	74			88,082
1452		178		302	142	350	203	166			88,082
1453		60		102	48	246	53	63			88,082
1454	0	173		294	138	196	77	124			88,082
1455	3	363		768	329	217	28	105			88,082
1456	726	114		1,829	827	15	111	23			129,233
1457	196	573		1,578	687	38	290	94	389		90,227
1458	335	843		2,416	1,071	129	170	97			90,227
1459	8	339		642	291	227	310	122			90,227
1460	609	221		1,785	803	14	96	24			90,227
1461	175	244		896	394	103	59	99			131,252
1462	29			63	29	1	4	1			131,252
1463		468		796	374	238	33	63			131,252
1464	39	2,807		5,980	2,565	192	104	106			98,125
1465		377		830	377	179	25	120			94,839
1466		142		340	212	346	853	436			94,839
1467		1,126		1,914	1,463		23	11			81,284
1468								48	320		118,212
1469		981		2,206	1,429		342	359	2,095		81,284
1470		485		1,165	728	155	28	79			118,212
1471	437			1,093	699	9	67	13			122,550
1472						315	63	210			101,634
1473		285		485	371		6	3			101,634
1474	160	897		2,062	1,461	104	68	25			100,935
1475						6	388	574	52		100,935
1476		216		518	323		4	2			141,139
1477	475			1,188	760	10	71	14			141,139
1478		48		114	71		1	0			141,139
1479	96	51		363	230	2	15	3			141,139
1480		213		458	304		4	2			160,575
1481	96	173		655	413	6	18	5			160,575

Analysis Year: 2040
RunId: NBWP05
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Network: Pref04

Reference Number: 01232
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NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment	Median Income
	1482	135	110		553	367	21	131	5		
1483	20			50	32	0	3	1			160,575
1484						190	897	2,566			110,553
1485						1,768	492	627			110,553
1486		537		912	698	363	553	2,236			109,129
1487		218		416	296	114	881	407			109,129
1488		116		278	174		2	1			109,129
1489		217		520	325	9	5	3			109,129
1490						14	52	285			109,129
1491						151	1,007	1,493			0
1492						143	253	1,161			0
1493						57	218	1,190			0
1494						189	214	84			0
1495	381	73		991	446	99	302	505			124,795
1496	66	367		861	383	1	17	7	12		124,795
1497	129	236		761	337	3	24	6			137,480
1498	211	43		537	245	173	62	82			137,480
1499	178			392	178	4	27	5			137,480
1500	169			423	271	3	26	5			91,364
1501	764	0		1,681	764	217	162	141			124,795
1502	167	0		368	167	195	59	105			137,480
1503	47	0		103	47	161	27	42			124,795
1504	515	0		1,287	824	170	107	68			107,624
1505	801	0		2,002	1,281	127	178	129			107,624
1506	345	6		872	559	7	52	10			107,624
1507	135			337	216	3	21	4			147,455
1508	183	130		771	489	4	71	125	790		101,649
1510	190			475	304	4	29	6			101,649
1511	19			48	30	128	16	13			101,649
1512		234		561	351		5	2			101,649
1513	331	100		967	554	7	221	10			119,988
1514	39			97	62	1	6	1			119,988
1515		390		662	506		8	4			135,548
1516		164		293	120		44	54			119,658
1517		152		258	198	134	140	248	1,186		119,658
1518	419	64		1,200	766	8	65	13			162,729
1519	447			1,119	716	9	76	13			135,548

Analysis Year: 2040
RunId: NBWP05
Land Use: NBWP05
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment	Median Income
	1520	197			492	315	4	29	6		
1521	551			1,378	882	11	88	91	498		135,548
1522	113	114		556	352	148	39	51			162,729
1523	142			354	226	100	31	14			72,075
1524											72,075
1525		1,056		1,796	1,373		21	11			121,084
1526	390			974	623	8	94	56			121,084
1527		0		0	0		11	0			121,084
1528							72	26			121,084
1529	270			675	432	5	40	8			87,262
1530	38	164		374	274	1	153	9			153,980
1531	202	237	2	791	559	89	61	43	0	0	107,624
1532	21	0	0	66	35	0	0	68	450	0	192,222
1533											192,222
1534	257			644	412	5	39	98	600		159,078
1535	350	766		2,371	1,611	7	68	18			87,262
1536		46		109	68	206	21	21			117,606
1537	93	103		479	303	2	16	4			117,606
1538	137			342	219	3	21	4			90,029
1539	150			375	240	26	293	117			94,713
1540						49	583	243			161,000
1541	52			131	84	1	8	2			91,364
1542											181,991
1543						109	1,307	545			147,455
1544	169			423	271	3	25	5			102,361
1545	295			739	473	6	44	9			97,151
1546											159,078
1547	201			504	322	4	30	6			159,078
1548	197	264		1,125	711	4	35	9			159,078
1549	107			268	172	2	16	3			159,078
1550	313	161		1,167	741	6	50	11			88,257
1551											80,785
1552											0
1553	63	67		316	200	1	11	3			117,606
1554	197	80		683	434	4	31	7			74,470
1555						261	187	92			74,470
1556	185	0		464	297	4	46	6			45,384

Analysis Year: 2040
RunId: NBWP05
Land Use: NBWP05
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

NBTM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment	Median Income
1557											45,384
1558	248	310		1,147	800	5	49	86	500		77,503
1559	185	309		988	698	145	140	56			77,503
1563						46	179	975			27,500
1618	6			14	9	0	1	0			121,084
1671	131			328	210	24	100	443			62,521
1672	11			29	18	0	2	0			62,521
1673						47	128	690			62,521
1674						238	62	237			62,521
1675	148			371	237	5	32	57			62,521
1676											0
1713							1,168	2,335			76,372
1714		639		1,087	831		13	6			76,372
1715						37	306	122			76,372
1716			0	0		59	495	198			76,372

Final SED by OCTAM Taz

Analysis Year: 2040 **Reference Number:** 01232
RunId: NBWP05 **Build Date:** 11/10/2005
Land Use: NBWP05 **Build Time:** 2:00:00 PM
Network: Pref04 **Modeler:** Archie Tan

OCTAM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non-Resident Univ/College Enrollment	Median Income
2327						384	776	3,878			82,500
2328	1,454			3,634	2,326	1,573	1,616	7,137			312,606
2331											0
2336		33,455		56,874	43,492	17,719	18,583	61,290			1,601,541
2337						4,692	4,179	13,563			600,578
2338		3,443		5,853	4,476	1,091	1,664	8,434			300,289
2339		798		1,357	1,037	627	1,583	3,503			500,482
2340						411	1,534	5,647			300,289
2341		95		162	124	137	761	1,183			100,096
2375	38	164		374	274	1	153	9			153,980
2377	42	0	0	131	69	0	0	135	900	0	384,444
2378	313	161		1,167	741	6	50	11			88,257
2381	710	814	20	4,347	2,567	289	116	778	429	0	71,467
2393	517	241	31	1,935	1,114	10	60	204	1,464	0	93,006
2399	1,301	1,855		6,407	4,494	451	570	454	1,500		232,509
2400	371	0		927	593	7	92	11			90,767
2401	439	343		1,680	1,148	121	164	43			101,940
2402		7,769	684	13,891	10,100	441	1,395	7,466	1,866		209,300
2403	559	4,646	1,620	10,914	6,933	1,206	27,216	38,657			458,235
2404	2,157	6,572		20,984	13,257	282	513	168			458,936
2405	3,051	23,428		52,998	23,408	16,272	6,947	6,327			880,820
2406	726	114		1,829	827	15	111	23			129,233
2407	2,525	2,773		11,809	7,869	2,937	2,670	2,288	1,308		321,409
2408	299	223	68	1,352	814	49	251	473	2,184		100,260
2409	488	659		2,342	1,638	1,653	970	951			230,992
2410	4,594	7,906		25,684	11,411	1,636	3,465	1,350	1,556		360,907
2411	610	2,136		5,266	2,392	1,023	288	488			393,755
2412	39	2,807		5,980	2,565	192	104	106			98,125
2413	5,029	1,760		14,542	6,559	1,912	2,033	2,779	48		499,180
2414	7,448	969	6	19,807	12,891	1,570	1,595	1,003	0	0	430,495
2415	2,740	1,116		8,232	3,709	1,499	687	796			549,919
2416	1,569	1,455		7,416	4,694	541	479	587	3,160		406,597
2417	739	200		2,128	1,233	16	453	22			239,975
2418	11,514	15,049		54,688	38,078	3,521	7,942	5,735	5,088		832,882
2419	2,999	188	0	8,173	4,992	327	2,016	1,448	21	0	718,180

Analysis Year: 2040
RunId: NBWP05
Land Use: NBWP05
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

OCTAM TAZ	Occupied Single Family Dwelling Units	Occupied Multi Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment	Median Income
2420	413	251		1,635	1,037	568	1,955	5,314			359,852
2421		971		2,330	1,456	311	57	255	640		236,423
2422		4,214		8,239	5,786		730	741	4,190		162,568
2423		1,037		2,339	1,179	1,050	1,754	1,112			189,678
2424		5,434		10,631	7,462	2,499	7,467	14,659			545,645
2425						3,917	2,778	6,386			221,106
2426						1,166	2,055	7,304			0
2427						151	1,007	1,493			0
2428	319	1,794		4,124	2,921	220	911	1,199	104		201,871
2429		570		969	741	629	137	425			203,269
2430	2,284	1,258		8,728	5,541	46	368	81			564,556
2431	437			1,093	699	9	67	13			122,550
2432	1,003	1,984		6,862	4,464	109	627	52			642,301
2433	1,976	5,282		13,919	10,028	40	996	464			605,421
2434	283			708	453	200	62	28			144,151
2435	2,995	1,169		9,475	6,312	60	516	326	1,494		406,645
2436	1,064	355		3,513	2,235	312	208	128			325,457
2437	590	947		3,128	1,898	415	639	923	3,558		358,973
2438	1,239	1,531		6,091	4,085	25	216	52			174,524
2439	467	644		2,714	1,714	626	145	82			352,818
2440	3,814	1,320		12,705	8,084	76	599	578	3,000		795,390
2441						49	583	243			161,000
2442	137			342	219	3	21	4			90,029
2443	150			375	240	26	293	117			94,713
2444	135			337	216	3	21	4			147,455
2445	443			1,107	708	9	68	13			182,727
2446											181,991
2447						109	1,307	545			147,455
2781											0
2782	295			739	473	6	44	9			97,151
2783											80,785
2785	393	160		1,366	869	530	436	198			148,939
2786	169			423	271	3	25	5			102,361

Final SED For City Of Newport Beach

Analysis Year: 2040
RunId: NBWP05
Land Use: NBWP05
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

Occupied Single Family Dwelling Units	Occupied Multi - Family Dwelling Units	Group Quarters Population	Population	Employed Residents	Retail Employees	Service Employees	Other Employees	Elem/High School Students	Non- Resident Univ/College Enrollment	Median Income
19,105	31,793	566	108,421	66,581	15,480	27,336	45,312	10,770		104,428

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APPENDIX HH

GENERAL PLAN BUILDOUT WITH PROJECT TRIP GENERATION

Total Trip Ends By NBTM TAZ

Analysis Year:

2040

Reference Number: 01232

RunId:

NBWP05

Build Date: 11/10/2005

Land Use:

nbwp05

Build Time: 2:00:00 PM

Network:

Pref04

Modeler: Archie Tan

NBTM TAZ	HO Attr	HO Prod	HSch Attr	HSch Prod	HW Attr	HW Prod	OO Attr	OO Prod	OW Attr	OW Prod	Total
1373	588	0	0	0	386	0	410	419	264	269	2,336
1374	663	0	0	0	399	0	457	466	281	286	2,550
1375	965	0	0	0	581	0	666	678	409	416	3,715
1376	1,059	0	0	0	637	0	730	744	449	456	4,074
1377	1,343	0	0	0	1,010	0	969	989	661	682	5,653
1378	1,586	0	0	0	1,288	0	1,157	1,184	825	851	6,891
1379	431	1,009	0	66	874	437	481	505	490	445	4,737
1380	130	1,146	0	76	43	496	195	195	69	6	2,356
1381	244	944	0	62	398	408	295	305	243	196	3,094
1382	335	2,090	0	138	334	904	450	458	257	146	5,112
1383	266	0	0	0	705	0	261	281	361	371	2,244
1384	594	453	0	30	120	196	419	420	155	131	2,518
1385	430	0	0	0	650	0	399	405	361	399	2,645
1386	268	0	0	0	709	0	262	283	364	373	2,258
1387	233	0	0	0	617	0	229	246	317	325	1,967
1388	3,012	0	0	0	718	0	1,921	1,927	778	784	9,140
1389	426	453	0	30	430	196	362	372	272	252	2,791
1390	165	299	0	20	359	129	180	189	196	184	1,721
1391	95	0	0	0	252	0	93	100	129	133	803
1392	443	0	0	0	485	0	337	349	287	293	2,195
1393	1,192	1,160	0	76	245	502	866	867	320	258	5,487
1394	1,508	0	0	0	287	0	952	952	356	358	4,414
1395	466	0	0	0	356	0	354	357	232	250	2,015
1396	828	0	0	0	2,192	0	812	874	1,124	1,153	6,981
1397	137	0	0	0	363	0	134	145	186	191	1,157
1398	53	0	0	0	139	0	52	55	71	73	443
1399	212	0	0	0	562	0	208	224	288	295	1,789
1400	64	0	0	0	169	0	62	67	87	89	537
1401	272	0	0	0	339	0	236	239	195	215	1,496
1402	595	576	0	38	122	249	432	432	160	129	2,733
1403	1,520	343	0	23	2,403	148	1,365	1,412	1,333	1,390	9,938
1404	641	618	0	41	1,536	267	665	708	813	799	6,088
1405	2,643	439	0	29	2,753	190	2,030	2,100	1,663	1,673	13,521
1406	351	3,088	0	203	115	1,336	525	525	186	17	6,348
1407	624	0	0	0	535	0	454	467	337	344	2,761

Analysis Year: 2040
RunId: NBWP05
Land Use: nbwp05
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

NBTM TAZ	HO Attr	HO Prod	HSch Attr	HSch Prod	HW Attr	HW Prod	OO Attr	OO Prod	DW Attr	OW Prod	Total
1408	102	698	0	48	45	267	114	114	47	21	1,457
1409	1,835	0	0	0	2,970	0	1,571	1,642	1,630	1,693	11,341
1410	36	354	0	28	11	152	55	55	18	2	711
1411	34	0	0	0	16	0	24	24	12	13	124
1412	42	289	0	20	19	111	47	47	19	9	602
1413	453	133	0	11	487	57	378	385	293	308	2,503
1414	89	416	3	33	136	140	105	107	82	71	1,181
1415	112	736	0	51	66	282	126	126	58	32	1,589
1416	134	847	0	66	62	365	145	145	64	29	1,857
1417	39	269	0	19	18	103	44	44	18	8	562
1418	41	265	0	20	18	109	45	45	19	9	570
1419	122	832	0	58	54	319	136	136	56	25	1,737
1420	321	2,092	0	155	146	857	351	351	149	68	4,490
1421	3,243	1,981	560	137	1,510	840	2,375	2,395	1,219	1,156	15,415
1422	338	2,205	0	163	154	903	370	370	157	71	4,731
1423	248	1,197	0	88	233	490	279	279	163	130	3,108
1424	570	5,074	0	327	185	2,146	854	855	298	27	10,335
1425	360	432	0	28	439	183	350	354	265	265	2,677
1426	102	535	0	40	120	219	117	119	79	61	1,393
1427	762	2,268	1,922	189	942	990	778	797	589	509	9,744
1428	5,031	1,783	0	120	1,665	699	3,448	3,461	1,543	1,512	19,263
1429	501	3,251	384	236	305	1,319	565	569	269	141	7,540
1430	5,621	1,130	0	73	1,697	468	3,752	3,770	1,641	1,608	19,759
1431	1,471	729	0	44	452	290	1,021	1,026	443	411	5,886
1432	2,251	3,213	0	243	1,202	1,387	1,860	1,868	955	852	13,831
1433	1,361	888	0	102	1,792	402	1,253	1,273	1,043	1,089	9,204
1434	1,144	0	0	0	5,637	0	1,634	1,765	2,745	2,908	15,832
1435	403	386	0	32	91	174	284	284	109	92	1,855
1436	800	5,110	0	428	462	2,665	1,084	1,087	499	176	12,311
1437	1	0	0	0	11	0	2	2	5	5	27
1438	64	430	547	34	127	226	99	102	82	53	1,764
1439	1,633	2,234	0	186	3,236	1,166	1,653	1,746	1,795	1,675	15,323
1440	102	860	0	90	36	486	149	149	58	5	1,934
1441	1,317	3,311	0	235	456	1,387	1,124	1,126	472	332	9,761
1442	113	924	0	83	46	449	155	155	60	13	1,999
1443	241	1,921	0	165	95	916	323	323	126	28	4,140
1444	254	2,127	0	190	93	1,036	352	352	133	23	4,561

Analysis Year: 2040
RunId: NBWP05
Land Use: nbwp05
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

NBTM TAZ	HO Attr	HO Prod	HSch Attr	HSch Prod	HW Attr	HW Prod	OO Attr	OO Prod	OW Attr	OW Prod	Total
1445	272	2,133	0	173	103	667	366	366	142	28	4,250
1446	176	1,356	0	118	71	642	227	228	90	24	2,931
1447	205	1,641	0	134	76	516	281	281	108	19	3,262
1448	493	660	0	51	157	201	373	375	161	129	2,600
1449	1,078	781	0	59	218	238	758	759	283	239	4,414
1450	1,889	1,066	0	82	396	327	1,302	1,303	493	435	7,294
1451	1,447	445	0	36	531	140	1,012	1,015	470	465	5,562
1452	2,707	597	0	42	845	176	1,833	1,839	807	792	9,638
1453	1,829	201	0	14	422	59	1,187	1,189	471	465	5,838
1454	1,532	581	0	41	475	171	1,054	1,059	462	435	5,811
1455	1,731	1,274	0	107	439	409	1,226	1,230	494	424	7,335
1456	596	4,252	0	256	255	1,024	690	691	270	113	8,148
1457	751	2,858	342	221	563	853	812	816	440	315	7,972
1458	1,519	4,403	0	338	574	1,328	1,387	1,391	597	378	11,915
1459	1,940	1,205	0	90	793	361	1,435	1,439	685	647	8,593
1460	537	3,425	0	250	249	995	613	614	262	112	7,057
1461	976	1,981	0	125	341	489	794	798	337	259	6,101
1462	22	150	0	9	10	36	24	24	10	4	289
1463	1,936	1,997	0	111	430	462	1,412	1,415	528	437	8,728
1464	2,583	10,535	0	837	748	3,189	2,645	2,649	997	438	24,620
1465	1,460	1,377	0	116	409	467	1,065	1,070	441	368	6,773
1466	3,061	525	0	48	2,398	258	2,473	2,477	1,498	1,800	14,537
1467	442	3,622	0	268	151	1,760	649	650	245	22	7,807
1468	5	0	282	0	55	0	10	12	26	26	415
1469	581	3,318	1,844	309	905	1,732	829	844	596	434	11,390
1470	1,344	2,040	0	163	451	884	1,090	1,090	435	401	7,898
1471	326	2,239	0	153	146	848	364	364	149	68	4,656
1472	2,318	0	0	0	675	0	1,496	1,504	654	661	7,308
1473	118	1,039	0	68	38	445	176	176	62	6	2,127
1474	1,227	4,042	0	289	333	1,762	1,151	1,152	432	228	10,615
1475	291	0	46	0	1,112	0	372	395	551	590	3,358
1476	98	1,010	0	72	29	393	150	150	47	4	1,953
1477	362	2,619	0	166	157	921	412	413	161	73	5,285
1478	21	222	0	16	6	86	33	33	10	1	430
1479	96	769	0	51	39	280	119	119	44	16	1,532
1480	100	1,068	0	64	29	368	156	157	46	4	1,992
1481	187	1,449	0	92	61	501	233	233	77	25	2,857

HH5

Analysis Year:
RunId:
Land Use:
Network:

2040
NBWP05
nbwp05
Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

NBTM TAZ	HO Attr	HO Prod	HSch Attr	HSch Prod	HW Attr	HW Prod	OO Attr	OO Prod	OW Attr	OW Prod	Total
1482	342	1,345	0	77	205	444	350	350	164	128	3,407
1483	16	118	0	7	7	39	18	18	7	3	232
1484	2,075	0	0	0	4,202	0	1,908	2,010	2,228	2,318	14,741
1485	13,041	0	0	0	3,320	0	8,378	8,403	3,463	3,512	40,118
1486	3,332	2,041	0	128	3,678	839	2,744	2,833	2,227	2,175	19,998
1487	1,393	841	0	58	1,751	357	1,317	1,328	1,009	1,123	9,176
1488	49	465	0	39	16	211	73	73	25	2	953
1489	156	869	0	73	42	394	178	178	63	20	1,973
1490	152	0	0	0	403	0	149	161	207	212	1,283
1491	1,740	0	0	0	3,049	0	1,583	1,642	1,652	1,753	11,419
1492	1,272	0	0	0	1,791	0	1,028	1,074	1,008	1,033	7,205
1493	636	0	0	0	1,684	0	624	671	864	886	5,365
1494	1,476	0	0	0	560	0	996	999	476	497	5,004
1495	1,147	2,244	0	139	1,087	553	1,023	1,044	703	643	8,582
1496	209	1,878	11	121	73	474	299	299	103	18	3,485
1497	203	1,748	0	107	74	418	273	274	95	24	3,216
1498	1,420	1,316	0	75	391	303	1,005	1,009	410	366	6,295
1499	135	953	0	55	59	221	153	154	60	27	1,817
1500	121	756	0	59	57	328	130	131	58	26	1,665
1501	2,057	3,882	0	235	674	946	1,597	1,603	673	536	12,203
1502	1,535	895	0	52	430	207	1,047	1,052	438	410	6,066
1503	1,198	238	0	14	269	58	778	779	305	299	3,938
1504	1,545	2,477	0	180	449	999	1,159	1,162	476	384	8,831
1505	1,420	3,852	0	280	579	1,554	1,195	1,201	540	397	11,018
1506	254	1,680	0	122	115	678	280	280	118	53	3,580
1507	104	762	0	47	45	262	119	119	46	21	1,525
1508	219	1,361	695	108	261	593	273	278	179	123	4,090
1510	137	890	0	67	63	369	150	150	64	29	1,919
1511	939	89	0	7	182	37	599	599	225	223	2,899
1512	96	901	0	79	31	426	144	144	51	5	1,877
1513	377	2,070	0	135	316	676	442	443	235	171	4,866
1514	29	197	0	14	13	76	32	32	13	6	412
1515	174	1,697	0	93	52	609	267	267	85	8	3,251
1516	96	663	0	41	129	150	142	144	88	60	1,512
1517	1,126	611	1,044	36	615	238	835	845	463	447	6,260
1518	359	2,827	0	168	147	929	429	430	156	66	5,511
1519	343	2,415	0	157	157	868	389	389	156	75	4,949

Analysis Year: 2040
Runid: NBWP05
Land Use: nbwp05
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

NBTM TAZ	HO Attr	HO Prod	HSch Attr	HSch Prod	HW Attr	HW Prod	DO Attr	DO Prod	OW Attr	OW Prod	Total
1520	146	996	0	69	65	382	162	163	67	30	2,078
1521	428	2,973	438	193	274	1,069	491	494	230	129	6,720
1522	1,205	1,260	0	78	296	427	863	865	333	291	5,620
1523	804	575	0	50	181	275	549	549	214	189	3,385
1525	456	4,281	0	251	142	1,651	693	694	230	20	8,419
1526	312	1,984	0	136	221	756	353	355	177	109	4,401
1527	6	0	0	0	13	0	7	7	7	8	46
1528	39	0	0	0	113	0	48	49	57	64	371
1529	191	1,182	0	94	89	523	205	206	91	41	2,624
1530	179	999	0	52	207	331	240	241	138	113	2,500
1531	874	1,826	0	111	266	674	715	717	290	208	5,681
1532	19	142	396	9	80	42	30	33	41	36	828
1534	210	1,517	528	90	188	499	251	255	136	88	3,762
1535	553	4,150	0	332	218	1,947	717	717	285	68	8,987
1536	1,512	191	0	15	290	83	971	972	362	355	4,751
1537	113	897	0	67	45	367	143	143	54	16	1,845
1538	97	607	0	48	45	265	105	105	46	21	1,340
1539	416	681	0	53	515	291	402	407	310	309	3,383
1540	666	0	0	0	1,006	0	617	627	559	617	4,092
1541	37	233	0	18	17	101	40	40	18	8	514
1543	1,492	0	0	0	2,254	0	1,383	1,405	1,252	1,383	9,169
1544	122	795	0	59	56	328	134	134	57	26	1,711
1545	212	1,356	0	103	97	573	231	231	100	45	2,949
1547	157	1,186	0	70	66	391	182	182	68	31	2,335
1548	278	2,495	0	158	100	862	371	372	124	35	4,795
1549	84	632	0	38	35	208	97	97	36	16	1,244
1550	286	1,950	0	163	125	899	333	334	141	51	4,281
1553	75	593	0	44	30	243	95	95	36	11	1,221
1554	168	1,071	0	96	76	527	189	190	84	32	2,432
1555	1,982	0	0	0	621	0	1,305	1,309	579	598	6,394
1556	133	649	0	65	82	360	136	136	74	41	1,676
1558	305	2,009	440	161	217	966	379	382	195	89	5,142
1559	1,328	1,743	0	138	443	842	1,024	1,026	446	361	7,352
1563	521	0	0	0	1,380	0	511	550	708	726	4,396
1618	4	29	0	2	2	11	5	5	2	1	60
1671	324	506	0	46	665	254	323	341	363	347	3,171
1672	8	44	0	4	4	22	8	8	4	2	104

Analysis Year: 2040
RunId: NBWP05
Land Use: nbwp05
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

NBTM TAZ	HO Attr	HO Prod	HSch Attr	HSch Prod	HW Attr	HW Prod	OO Attr	OO Prod	OW Attr	OW Prod	Total
1673	471	0	0	0	994	0	426	453	524	537	3,405
1674	1,771	0	0	0	618	0	1,157	1,167	546	553	5,811
1675	130	572	0	52	124	288	133	135	88	62	1,584
1676	11,248	0	0	0	39,790	0	6,849	6,836	2,450	2,963	70,136
1713	817	0	0	0	4,028	0	1,168	1,261	1,962	2,078	11,314
1714	248	1,991	0	152	86	999	362	363	139	12	4,352
1715	430	0	0	0	535	0	373	378	309	339	2,364
1716	695	0	0	0	866	0	604	612	499	549	3,825

Total Trip Ends By OCTAM TAZ

Analysis Year: 2040
 RunId: NBWP05
 Land Use: nbwp05
 Network: Pref04

Reference Number: 01232
 Build Date: 11/10/2005
 Build Time: 2:00:00 PM
 Modeler: Archie Tan

OCTAM TAZ	HO Attr	HO Prod	HSch Attr	HSch Prod	HW Attr	HW Prod	OO Attr	OO Prod	OW Attr	OW Prod	Total
2327	1,179	0	0	0	1,931	0	989	1,041	1,058	1,084	7,281
2336	9,774	7,553	0	498	7,224	3,268	7,701	7,855	4,956	4,653	53,481
2337	6,204	0	0	0	4,300	0	4,389	4,479	2,890	2,959	25,221
2338	3,636	4,145	0	273	4,404	1,794	3,221	3,333	2,662	2,488	25,957
2339	1,195	576	0	38	1,330	249	990	1,018	801	801	6,998
2340	1,431	0	0	0	2,910	0	1,300	1,375	1,543	1,594	10,153
2341	1,520	343	0	23	2,403	148	1,365	1,412	1,333	1,390	9,938
2375	179	999	0	52	207	331	240	241	138	113	2,500
2377	19	142	396	9	80	42	30	33	41	36	828
2378	286	1,950	0	163	125	899	333	334	141	51	4,281
2381	2,852	5,682	378	609	1,512	3,126	2,352	2,383	1,256	963	21,114
2393	471	3,233	1,288	271	392	1,358	565	574	314	168	8,634
2399	1,634	3,752	440	299	671	1,808	1,405	1,411	647	455	12,522
2400	133	649	0	65	82	360	136	136	74	41	1,676
2401	1,317	3,311	0	235	456	1,387	1,124	1,126	472	332	9,761
2402	2,497	7,773	547	648	3,825	4,057	2,835	2,935	2,376	1,905	29,398
2403	4,695	2,879	0	255	12,943	1,402	5,394	5,652	6,696	6,976	46,891
2404	1,188	6,714	0	588	396	3,217	1,341	1,342	519	180	15,486
2405	13,184	9,380	0	742	3,663	2,904	9,391	9,416	3,892	3,431	56,003
2406	596	4,252	0	256	255	1,024	690	691	270	113	8,148
2407	8,373	7,594	384	551	3,203	3,174	6,177	6,207	2,866	2,601	41,130
2408	762	2,268	1,922	189	942	990	778	797	589	509	9,744
2409	6,502	2,512	0	164	2,117	989	4,469	4,488	1,986	1,922	25,149
2410	4,746	11,891	342	899	2,178	3,537	4,247	4,260	1,984	1,452	35,537
2411	2,934	4,127	0	246	781	987	2,231	2,237	874	701	15,118
2412	2,583	10,535	0	837	748	3,189	2,645	2,649	997	438	24,620
2413	4,611	8,242	11	509	2,103	2,031	3,697	3,725	1,784	1,496	28,209
2414	4,094	9,835	0	693	1,408	3,904	3,350	3,360	1,423	1,042	29,111
2415	3,294	4,912	0	288	954	1,149	2,480	2,488	1,003	827	17,394
2416	1,391	3,241	695	260	538	1,424	1,166	1,172	519	379	10,785
2417	406	2,267	0	149	329	751	475	475	249	177	5,278
2418	5,223	13,782	560	957	2,804	5,747	4,739	4,768	2,351	1,786	42,718
2419	858	2,675	3	191	780	1,011	835	845	525	453	8,176
2420	1,973	1,053	0	76	3,027	419	1,739	1,810	1,695	1,716	13,509

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Analysis Year: 2040
RunId: NBWP05
Land Use: nbwp05
Network: Pref04

Reference Number: 01232
Build Date: 11/10/2005
Build Time: 2:00:00 PM
Modeler: Archie Tan

OCTAM TAZ	HO Attr	HO Prod	HSch Attr	HSch Prod	HW Attr	HW Prod	OD Attr	OD Prod	OW Attr	OW Prod	Total
2421	1,349	2,040	282	163	506	884	1,100	1,102	460	427	8,313
2422	1,023	6,940	1,844	577	1,056	3,491	1,478	1,493	840	455	19,198
2423	4,521	1,903	0	164	2,807	725	3,538	3,547	1,938	2,167	21,310
2424	5,082	4,215	0	298	5,889	1,801	4,461	4,573	3,530	3,532	33,383
2425	15,116	0	0	0	7,522	0	10,286	10,413	5,691	5,830	54,859
2426	3,384	0	0	0	4,035	0	2,647	2,744	2,348	2,416	17,574
2427	1,740	0	0	0	3,049	0	1,583	1,642	1,652	1,753	11,419
2428	1,518	4,042	46	289	1,445	1,762	1,523	1,547	984	818	13,973
2429	2,435	1,039	0	68	714	445	1,671	1,680	716	666	9,435
2430	578	4,621	0	305	231	1,680	715	715	261	94	9,201
2431	326	2,239	0	153	146	848	364	364	149	68	4,656
2432	645	3,980	0	240	301	1,352	758	758	294	160	8,489
2433	817	6,294	0	390	490	2,418	1,106	1,109	473	202	13,298
2434	804	575	0	50	181	275	549	549	214	189	3,385
2435	945	7,085	438	442	484	2,546	1,146	1,151	471	211	14,919
2436	1,564	4,087	0	246	444	1,356	1,293	1,295	489	357	11,131
2437	1,367	2,270	1,044	146	809	769	1,139	1,151	618	536	9,850
2438	744	5,333	0	426	307	2,470	922	923	376	110	11,611
2439	1,699	1,682	0	127	364	693	1,209	1,210	452	382	7,817
2440	729	5,830	528	356	391	1,961	901	906	364	171	12,136
2441	666	0	0	0	1,006	0	617	627	559	617	4,092
2442	97	607	0	48	45	265	105	105	46	21	1,340
2443	416	681	0	53	515	291	402	407	310	309	3,383
2444	104	762	0	47	45	262	119	119	46	21	1,525
2445	158	989	0	77	74	429	171	171	75	34	2,179
2447	1,492	0	0	0	2,254	0	1,383	1,405	1,252	1,383	9,169
2782	212	1,356	0	103	97	573	231	231	100	45	2,949
2785	2,150	1,071	0	96	697	527	1,494	1,498	663	630	8,826
2786	122	795	0	59	56	328	134	134	57	26	1,711

Total Trip Ends For City Of Newport Beach

Analysis Year: 2040
RunId: With Project
Land Use:

Reference Number: 01232
Build Date: 10/13/2005
Build Time: 12:00:00 PM

HO Attr	HO Prod	HSch Attr	HSch Prod	HW Attr	HW Prod	OO Attr	OO Prod	OW Attr	OW Prod	Total
153,163	212,617	9,481	15,332	107,577	81,761	127,286	129,081	76,428	69,271	981,997

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APPENDIX II

GENERAL PLAN BUILDOUT WITH PROJECT TRIP GENERATION
CHANGE FROM GENERAL PLAN BUILDOUT WITHOUT PROJECT BY TAZ

TAZ	WITHOUT PROJECT	WITH PROJECT	CHANGE
1373	2274	2336	62
1374	2274	2550	276
1375	3481	3715	234
1376	3638	4074	436
1377	5229	5653	424
1378	5912	6891	979
1379	5188	4737	-451
1380	1692	2356	664
1381	2367	3094	727
1382	3562	5112	1550
1383	3623	2244	-1379
1384	1317	2518	1201
1385	2645	2645	0
1386	2528	2258	-270
1387	2042	1967	-75
1388	8586	9140	554
1389	4202	2791	-1411
1390	1623	1721	98
1391	1079	803	-276
1392	2534	2195	-339
1393	3055	5487	2432
1394	0	4414	4414
1395	5831	2015	-3816
1396	6981	6981	0
1397	1157	1157	0
1398	443	443	0
1399	1789	1789	0
1400	537	537	0
1401	1496	1496	0
1402	507	2733	2226
1403	8820	9938	1118
1404	4818	6088	1270
1405	12567	13521	954
1406	2358	6348	3990
1407	2761	2761	0
1408	1457	1457	0
1409	11341	11341	0
1410	711	711	0
1411	124	124	0
1412	602	602	0
1413	2503	2503	0
1414	1181	1181	0
1415	1589	1589	0
1416	1857	1857	0
1417	562	562	0
1418	570	570	0
1419	1737	1737	0
1420	4490	4490	0
1421	15228	15415	187
1422	4731	4731	0
1423	3108	3108	0
1424	10335	10335	0
1425	1639	2677	1038
1426	1702	1393	-309
1427	9744	9744	0

TAZ	WITHOUT PROJECT	WITH PROJECT	CHANGE
1428	19263	19263	0
1429	7540	7540	0
1430	14687	19759	5072
1431	6860	5886	-974
1432	9635	13831	4196
1433	5142	9204	4062
1434	15832	15832	0
1435	1855	1855	0
1436	10060	12311	2251
1437	27	27	0
1438	1487	1764	277
1439	13306	15323	2017
1440	1934	1934	0
1441	8976	9761	785
1442	1999	1999	0
1443	4140	4140	0
1444	4561	4561	0
1445	4250	4250	0
1446	2931	2931	0
1447	3262	3262	0
1448	2600	2600	0
1449	3671	4414	743
1450	4075	7294	3219
1451	4321	5562	1241
1452	6238	9638	3400
1453	7565	5838	-1727
1454	10395	5811	-4584
1455	7335	7335	0
1456	10248	8148	-2100
1457	7972	7972	0
1458	9467	11915	2448
1459	10192	8593	-1599
1460	7057	7057	0
1461	6101	6101	0
1462	289	289	0
1463	10203	8728	-1475
1464	24620	24620	0
1465	6773	6773	0
1466	14537	14537	0
1467	7807	7807	0
1468	415	415	0
1469	11390	11390	0
1470	8463	7898	-565
1471	4656	4656	0
1472	7308	7308	0
1473	2127	2127	0
1474	10673	10615	-58
1475	3358	3358	0
1476	1953	1953	0
1477	5285	5285	0
1478	430	430	0
1479	1532	1532	0
1480	1992	1992	0
1481	2857	2857	0
1482	3407	3407	0

TAZ	WITHOUT PROJECT	WITH PROJECT	CHANGE
1483	232	232	0
1484	14630	14741	111
1485	37183	40118	2935
1486	17669	19998	2329
1487	6958	9176	2218
1488	953	953	0
1489	1973	1973	0
1490	1283	1283	0
1491	11308	11419	111
1492	7094	7205	111
1493	5365	5365	0
1494	5004	5004	0
1495	8582	8582	0
1496	3485	3485	0
1497	3216	3216	0
1498	6294	6295	1
1499	1817	1817	0
1500	1665	1665	0
1501	12202	12203	1
1502	6066	6066	0
1503	3938	3938	0
1504	8831	8831	0
1505	11018	11018	0
1506	3580	3580	0
1507	1525	1525	0
1508	4090	4090	0
1510	1919	1919	0
1511	2899	2899	0
1512	1877	1877	0
1513	4866	4866	0
1514	412	412	0
1515	3320	3251	-69
1516	1728	1512	-216
1517	6468	6260	-208
1518	5511	5511	0
1519	4949	4949	0
1520	2078	2078	0
1521	6720	6720	0
1522	6622	5620	-1002
1523	3982	3385	-597
1525	8692	8419	-273
1526	4401	4401	0
1527	46	46	0
1528	371	371	0
1529	1423	2624	1201
1530	3235	2500	-735
1531	5681	5681	0
1532	828	828	0
1534	2396	3762	1366
1535	11579	8987	-2592
1536	4751	4751	0
1537	1845	1845	0
1538	1340	1340	0
1539	3383	3383	0
1540	4092	4092	0

TAZ	WITHOUT PROJECT	WITH PROJECT	CHANGE
1541	514	514	0
1543	9169	9169	0
1544	1711	1711	0
1545	2949	2949	0
1547	2335	2335	0
1548	6020	4795	-1225
1549	672	1244	572
1550	4008	4281	273
1553	1221	1221	0
1554	2432	2432	0
1555	6394	6394	0
1556	6590	1676	-4914
1558	8229	5142	-3087
1559	7050	7352	302
1563	4396	4396	0
1618	60	60	0
1671	3171	3171	0
1672	104	104	0
1673	3405	3405	0
1674	5811	5811	0
1675	1584	1584	0
1676	70136	70136	0
1713	11314	11314	0
1714	4352	4352	0
1715	2364	2364	0
1716	3825	3825	0
U:\UcJobs_01200\01232\Excel\FinalAlts\FinalTripsByNbtmCompare.xls Summary			

APPENDIX JJ

GENERAL PLAN BUILDOUT WITH PROJECT
INTERSECTION CAPACITY UTILIZATION (ICU) WORKSHEETS
(EXISTING LANES)

1a. Bluff & Coast Hw.

General Plan With 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	125	.039*	90	.028*
SBT	0	0	0		0	
SBR	2	3200	215	.067	375	.117
EBL	2	3200	556	.174	470	.147*
EBT	3	4800	2826	.589*	1880	.392
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	550	.115	3080	.642*
WBR	1	1600	200	.125	230	.144
TOTAL CAPACITY UTILIZATION				.628		.817

Note: Assumes Right-Turn Overlap for SBR

1b. 15th St. & Coast Hw.

General Plan With 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	125	.039*	90	.028*
SBT	0	0	0		0	
SBR	2	3200	215	.067	375	.117
EBL	2	3200	640	.200	610	.191*
EBT	3	4800	3260	.679*	2370	.494
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	561	.117	2950	.615*
WBR	1	1600	204	.128	239	.149
TOTAL CAPACITY UTILIZATION				.718		.834

Note: Assumes Right-Turn Overlap for SBR

JJ3

2. Superior & Placentia

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	120	.075	150	.094*
NBT	2	3200	980	.306*	440	.138
NBR	1	1600	80	.050	50	.031
SBL	1	1600	70	.044*	50	.031
SBT	2	3200	290	.091	760	.238*
SBR	d	1600	20	.013	10	.006
EBL	1	1600	10	.006	10	.006
EBT	1	1600	500	.313*	360	.225*
EBR	1	1600	160	.100	240	.150
WBL	0.5		10	{.006}*	20	{.012}*
WBT	1.5	3200	390	.141	530	.209
WBR	0		50		120	
TOTAL CAPACITY UTILIZATION				.669	.569	

JJ4

3. Superior & Coast Hw.

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1.5		190		360	
NBT	1.5	4800	510	.175*	240	.152*
NBR	0		140		130	
SBL	1.5		180		260	
SBT	1.5	4800	170	.073*	410	.140*
SBR	2	3200	20	.006	420	.131
EBL	2	3200	540	.169	90	.028
EBT	3	4800	2690	.560*	1480	.308*
EBR	d	1600	220	.138	300	.188
WBL	1	1600	110	.069*	250	.156*
WBT	4	6400	580	.091	2770	.433
WBR	d	1600	240	.150	200	.125
TOTAL CAPACITY UTILIZATION				.877		.756

Note: Assumes N/S Split Phasing
 Note: Assumes Right-Turn Overlap for SBR

4. Newport & Hospital

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	160	.100	240	.150*
NBT	3	4800	2290	.477*	1250	.260
NBR	1	1600	10	.006	80	.050
SBL	1	1600	60	.038*	40	.025
SBT	3	4800	1380	.288	2130	.444*
SBR	d	1600	220	.138	200	.125
EBL	2	3200	130	.041	130	.041
EBT	1	1600	420	.263*	330	.206*
EBR	1	1600	100	.063	10	.006
WBL	1	1600	80	.050*	260	.163*
WBT	2	3200	330	.116	330	.131
WBR	0	0	40		90	
TOTAL CAPACITY UTILIZATION				.828		.963

JJ 5

5. Newport & Via Lido

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1900	.396*	1030	.215*
NBR	1	1600	20	.013	40	.025
SBL	2	3200	500	.156*	590	.184*
SBT	3	4800	750	.156	1630	.340
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1	1600	50	.031*	10	.006*
WBT	0	0	0		0	
WBR	2	3200	380	.119	520	.163
Note: Assumes Right-Turn Overlap for WBR						
TOTAL CAPACITY UTILIZATION			.583		.405	

6. Newport & 32nd

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	20	.013	50	.031
NBT	2	3200	1220	.381*	870	.272*
NBR	d	1600	20	.013	40	.025
SBL	1	1600	60	.038	80	.050
SBT	2	3200	810	.297*	1440	.537*
SBR	0	0	140		280	
EBL	1.5		430		160	
EBT	0.5	3200	50	.150*	70	.072*
EBR	1	1600	20	.013	20	.013
WBL	0.5		50	.031*	40	
WBT	1.5	3200	40	.025	60	.031*
WBR	f		150		200	
Note: Assumes N/S Split Phasing						
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION			.859		.912	

JJ 6

7. Riverside & Coast Hw.

General Plan With Project						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	10	{.006}*	20	{.012}*
NBT	1	1600	0	.006	0	.013
NBR	d	1600	0	.000	10	.006
SBL	0	0	140		120	
SBT	1	1600	10	.094*	10	.081*
SBR	1	1600	350	.219	400	.250
EBL	1	1600	210	.131	340	.213*
EBT	2	3200	2760	.866*	2290	.719
EBR	0	0	10		10	
WBL	1	1600	10	.006*	10	.006
WBT	3	4800	1810	.377	3010	.627*
WBR	1	1600	50	.031	60	.038
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION			.972		.933	

8. Tustin & Coast Hw.

General Plan With Project						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	1	1600	0	.006	0	.006
NBR	0	0	10		10	
SBL	0	0	30		110	
SBT	1	1600	0	.038*	0	.094*
SBR	0	0	30		40	
EBL	1	1600	70	.044	140	.088*
EBT	2	3200	2870	.900*	2250	.706
EBR	0	0	10		10	
WBL	0	0	0		0	
WBT	3	4800	1810	.377	3100	.646*
WBR	1	1600	80	.050	180	.113
TOTAL CAPACITY UTILIZATION			.938		.828	

9. MacArthur & Campus

General Plan With Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1600	150	.094	320	.200*
NBT	4	6400	1660	.259*	1520	.238
NBR	1	1600	120	.075	80	.050
SBL	1	1600	240	.150*	150	.094
SBT	4	6400	990	.155	1510	.236*
SBR	1	1600	550	.344	910	.569
EBL	2	3200	770	.241*	530	.166*
EBT	3	4800	990	.206	700	.146
EBR	d	1600	200	.125	160	.100
WBL	2	3200	40	.013	160	.050
WBT	3	4800	630	.131*	1470	.306*
WBR	f		60		190	
Right Turn Adjustment			SBR	.029*	SBR	.333*
TOTAL CAPACITY UTILIZATION				.810		1.241

10. MacArthur & Birch

General Plan With Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1600	50	.031	180	.113*
NBT	3	4800	1340	.279*	1030	.215
NBR	1	1600	140	.088	60	.038
SBL	1	1600	180	.113*	130	.081
SBT	4	6400	810	.163	1280	.261*
SBR	0	0	230		390	
EBL	1.5		710		460	
EBT	1.5	4800	670	.300*	480	.210*
EBR	0		60		70	
WBL	1	1600	50	.031	150	.094
WBT	2	3200	310	.097*	1020	.319*
WBR	f		20		360	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.789		.903

11. Von Karman & Campus

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	20	.013	20	.013*
NBT	2	3200	940	.294*	570	.178
NBR	f		30		20	
SBL	1	1600	40	.025*	160	.100
SBT	2	3200	580	.209	1140	.441*
SBR	0	0	90		270	
EBL	1	1600	370	.231*	240	.150*
EBT	2	3200	750	.234	1020	.319
EBR	1	1600	50	.031	70	.044
WBL	1	1600	60	.038	40	.025
WBT	2	3200	480	.181*	1040	.369*
WBR	0	0	100		140	
TOTAL CAPACITY UTILIZATION				.731		.973

12. MacArthur & Von Karman

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	130	.081	50	.031*
NBT	3	4800	1460	.304*	960	.200
NBR	1	1600	580	.363	180	.113
SBL	1	1600	60	.038*	110	.069
SBT	3	4800	670	.140	1280	.267*
SBR	1	1600	190	.119	110	.069
EBL	1	1600	40	.025*	140	.088
EBT	2	3200	170	.053	270	.084*
EBR	f		60		100	
WBL	2	3200	170	.053	860	.269*
WBT	1	1600	180	.113*	210	.131
WBR	f		40		110	
Right Turn Adjustment			NBR	.059*		
TOTAL CAPACITY UTILIZATION				.539		.651

13. Jamboree & Campus

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	100	.031	160	.050*
NBT	4	6400	2030	.367*	1950	.406
NBR	0	0	320		720	.450
SBL	2	3200	700	.219*	470	.147
SBT	3	4800	1710	.431	2660	.608*
SBR	0	0	360		260	
EBL	2	3200	260	.081*	610	.191*
EBT	2	3200	280	.088	850	.266
EBR	f		30		30	
WBL	2	3200	800	.250	360	.113
WBT	2	3200	840	.263*	650	.203*
WBR	1	1600	170	.106	530	.331
Right Turn Adjustment					WBR	.128*
TOTAL CAPACITY UTILIZATION				.930	1.180	

14. Jamboree & Birch

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	420	.263*	140	.088*
NBT	3	4800	2010	.435	1940	.410
NBR	0	0	80		30	
SBL	1	1600	10	.006	90	.056
SBT	3	4800	2030	.423*	2070	.431*
SBR	f		800		430	
EBL	1.5		280		680	
EBT	0.5	3200	90	.116*	30	.222*
EBR	f		10		420	
WBL	0	0	80		60	
WBT	1	1600	70	.200*	80	.094*
WBR	0	0	170		10	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				1.002	.835	

JJ10

15. Campus & Bristol (N)

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	540	.169	600	.188*
NBT	3	4800	3220	.671*	1700	.354
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	510	.080	1850	.289*
SBR	2	3200	410	.128	1270	.397
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	310	.097	540	.169
WBT	4	6400	2010	.353*	2880	.472*
WBR	0	0	250		140	
Right Turn Adjustment					SBR	.108*
TOTAL CAPACITY UTILIZATION			1.024		1.057	

16. Birch & Bristol (N)

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	110	.034	180	.056*
NBT	2	3200	1230	.384*	600	.188
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1.5	6400	270	.105	830	.361*
SBR	2.5		400		1480	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		480	.300	530	
WBT	3.5	8000	1730	.360*	1730	.303*
WBR	0		820	.513	160	
Right Turn Adjustment			WBR	.153*		
TOTAL CAPACITY UTILIZATION			.897		.720	

JJ II

17. Campus/Irvine & Bristol (S)

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	5	8000	2380	.361*	1770	.273*
NBR	0	0	510		410	
SBL	1	1600	110	.069*	310	.194*
SBT	3	4800	730	.152	2060	.429
SBR	0	0	0		0	
EBL	1.5		1370		550	{.308}*
EBT	2.5	6400	1590	.463*	1420	.308
EBR	2	3200	670	.209	630	.197
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.893		.775

18. Birch & Bristol (S)

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	2.5	6400	500	.139*	330	.098
NBR	1.5		390		300	
SBL	2	3200	280	.088*	440	.138
SBT	2	3200	450	.141	920	.288*
SBR	0	0	0		0	
EBL	1.5		850		380	
EBT	3.5	8000	1200	.283*	1490	.250*
EBR	0		210		130	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.510		.538

19. Irvine & Mesa

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	100	.063	50	.031*
NBT	2	3200	2070	.647*	940	.294
NBR	d	1600	640	.400	170	.106
SBL	1	1600	10	.006*	10	.006
SBT	2	3200	1090	.341	2240	.700*
SBR	d	1600	60	.038	200	.125
EBL	1	1600	300	.188	90	.056
EBT	1	1600	310	.219*	80	.188*
EBR	0	0	40		220	
WBL	1	1600	170	.106*	430	.269*
WBT	1	1600	70	.044	600	.375
WBR	1	1600	10	.006	10	.006
TOTAL CAPACITY UTILIZATION				.978		1.188

20. Irvine & University

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	260	.163	180	.113*
NBT	2	3200	2460	.769*	1090	.341
NBR	1	1600	60	.038	20	.013
SBL	1	1600	90	.056*	40	.025
SBT	2	3200	1050	.328	2630	.822*
SBR	1	1600	150	.094	450	.281
EBL	1	1600	550	.344*	170	.106*
EBT	2	3200	110	.034	30	.009
EBR	d	1600	210	.131	210	.131
WBL	1	1600	20	.013	20	.013
WBT	1	1600	30	.019*	80	.050*
WBR	d	1600	20	.013	50	.031
TOTAL CAPACITY UTILIZATION				1.188		1.091

21. Irvine & Santiago

General Plan With Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1600	110	.069	140	.088*
NBT	2	3200	1500	.472*	1120	.356
NBR	0	0	10		20	
SBL	1	1600	40	.025*	110	.069
SBT	2	3200	980	.306	1810	.566*
SBR	d	1600	40	.025	120	.075
EBL	0	0	160	{.100}*	60	{.037}*
EBT	1	1600	40	.125	70	.081
EBR	d	1600	110	.069	140	.088
WBL	0	0	20		10	
WBT	1	1600	80	.063*	110	.075*
WBR	d	1600	140	.088	70	.044
Right Turn Adjustment			WBR	.025*		
TOTAL CAPACITY UTILIZATION				.685		.766

22. Irvine & Highland

General Plan With Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1600	100	.063	120	.075*
NBT	2	3200	1610	.503*	1330	.416
NBR	d	1600	10	.006	20	.013
SBL	1	1600	20	.013*	20	.013
SBT	2	3200	1180	.369	1690	.528*
SBR	d	1600	20	.013	60	.038
EBL	0	0	80	{.050}*	20	{.012}*
EBT	1	1600	10	.056	20	.025
EBR	d	1600	120	.075	70	.044
WBL	0	0	20		10	
WBT	1	1600	30	.031*	40	.031*
WBR	d	1600	50	.031	10	.006
Right Turn Adjustment			EBR	.006*	EBR	.007*
TOTAL CAPACITY UTILIZATION				.603		.653

JJ14

23. Irvine & Dover

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	40	.025	50	.031
NBT	2	3200	1300	.406*	1090	.341*
NBR	d	1600	20	.013	20	.013
SBL	1	1600	160	.100*	250	.156*
SBT	2	3200	980	.306	1420	.444
SBR	d	1600	20	.013	60	.038
EBL	1	1600	100	.063*	40	.025*
EBT	1	1600	190	.150	120	.156
EBR	0	0	50		130	
WBL	1	1600	20	.013	40	.025
WBT	1	1600	160	.100*	270	.169*
WBR	1	1600	330	.206	260	.163
Right Turn Adjustment			WBR	.106*		
TOTAL CAPACITY UTILIZATION				.775		.691

24. Irvine & Westcliff

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	100	.031	290	.091*
NBT	2	3200	950	.297*	660	.206
NBR	d	1600	40	.025	10	.006
SBL	2	3200	320	.100*	120	.038
SBT	2	3200	660	.206	840	.263*
SBR	d	1600	200	.125	490	.306
EBL	2	3200	390	.122*	370	.116*
EBT	2	3200	440	.163	540	.228
EBR	0	0	80		190	
WBL	1	1600	30	.019	90	.056
WBT	2	3200	390	.138*	890	.309*
WBR	0	0	50		100	
Right Turn Adjustment					SBR	.043*
TOTAL CAPACITY UTILIZATION				.657		.822

JJ15

25. Dover & Westcliff

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	270	.084*	870	.272*
NBT	2	3200	440	.138	690	.216
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	1	1600	440	.275*	360	.225*
SBR	1	1600	50	.031	40	.025
EBL	2	3200	80	.025*	150	.047*
EBT	0	0	0		0	
EBR	f		610		930	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.384		.544

26. Dover & 16th

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	100	.063*	210	.131
NBT	2	3200	750	.234	1310	.409*
NBR	d	1600	20	.013	60	.038
SBL	1	1600	50	.031	50	.031*
SBT	2	3200	1130	.353*	940	.294
SBR	d	1600	30	.019	50	.031
EBL	0	0	10		20	
EBT	1	1600	10	.013*	30	.031*
EBR	d	1600	260	.163	220	.138
WBL	1	1600	40	.025*	40	.025*
WBT	1	1600	10	.006	30	.019
WBR	1	1600	50	.031	50	.031
Right Turn Adjustment			EBR	.150*	EBR	.107*
TOTAL CAPACITY UTILIZATION				.604		.603

27. Dover & Coast Hw.

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	30	.019	20	.013
NBT	1	1600	60	.038*	90	.056*
NBR	1	1600	60	.038	50	.031
SBL	3	4800	1080	.225*	1010	.210*
SBT	1	1600	60	.038	70	.044
SBR	1	1600	90	.056	110	.069
EBL	2	3200	190	.059	140	.044*
EBT	3	4800	2490	.521*	2100	.444
EBR	0	0	10		30	
WBL	1	1600	40	.025*	60	.038
WBT	3	4800	1800	.375	3030	.631*
WBR	f		700		1160	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .809 .941

28. Bayside & Coast Hw.

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2.5		430		280	
NBT	0.5	4800	30	.119*	20	.065*
NBR	0		110		10	
SBL	1	1600	50	.031*	130	.081*
SBT	1	1600	20	.013	20	.013
SBR	d	1600	50	.031	130	.081
EBL	1	1600	80	.050	140	.088*
EBT	3	4800	3320	.692*	2330	.485
EBR	1	1600	380	.238	620	.388
WBL	1	1600	80	.050*	30	.019
WBT	4	6400	1880	.316	3890	.616*
WBR	0	0	140		50	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .892 .850

29. MacArthur & Jamboree

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	210	.066	290	.091*
NBT	3	4800	1890	.394*	870	.181
NBR	1	1600	600	.375	620	.388
SBL	2	3200	130	.041*	260	.081
SBT	3	4800	570	.119	1600	.333*
SBR	f		130		560	
EBL	2	3200	670	.209	240	.075
EBT	3	4800	1760	.367*	1480	.308*
EBR	f		160		70	
WBL	2	3200	420	.131*	920	.288*
WBT	3	4800	1120	.233	1570	.327
WBR	f		170		180	

Note: Assumes Right-Turn Overlap for NBR

TOTAL CAPACITY UTILIZATION .933 1.020

30. Jamboree & Bristol (N)

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	1140	.356	900	.281*
NBT	3	4800	3270	.681*	2620	.546
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2.5	6400	730	.228	1460	.391*
SBR	1.5		740	.231	1040	
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	

TOTAL CAPACITY UTILIZATION .681 .672

31. Bayview Place & Bristol (S)

General Plan With 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	80	.025	360	.113
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	4	6400	3650	.570*	3310	.517*
EBR	1	1600	120	.075	10	.006
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.025*	NBR	.113*
TOTAL CAPACITY UTILIZATION				.595		.630

32. Jamboree & Bristol (S)

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	5	8000	2100	.270*	2360	.309
NBR	0	0	60		110	
SBL	0	0	0		0	
SBT	3	4800	700	.146	1490	.310*
SBR	0	0	0		0	
EBL	1.5		2150	.672*	1180	{.558}*
EBT	1.5	4800	570	.356	1500	.558
EBR	2	3200	1020	.319	1010	.316
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.942		.868

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33. Jamboree & Bayview Way

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	140	.088	60	.038
NBT	4	6400	1980	.322*	2230	.359*
NBR	0	0	80		70	
SBL	1	1600	110	.069*	150	.094*
SBT	4	6400	1450	.227	2270	.355
SBR	1	1600	190	.119	80	.050
EBL	2	3200	40	.013*	90	.028*
EBT	1	1600	10	.006	10	.006
EBR	1	1600	40	.025	170	.106
WBL	1	1600	10	.006	40	.025
WBT	1	1600	10	.006*	10	.006*
WBR	1	1600	60	.038	140	.088
Right Turn Adjustment			Multi	.044*	Multi	.179*
TOTAL CAPACITY UTILIZATION				.454		.666

34. Jamboree & Eastbluff/Univ.

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	60	.038	50	.031
NBT	3	4800	1620	.338*	1940	.404*
NBR	1	1600	240	.150	360	.225
SBL	2	3200	130	.041*	190	.059*
SBT	3	4800	1090	.227	1920	.400
SBR	1	1600	270	.169	390	.244
EBL	1.5		510		200	
EBT	0.5	3200	120	.197*	110	.097*
EBR	1	1600	10	.006	10	.006
WBL	1.5		340	.106*	340	.106*
WBT	1.5	4800	110	.069	110	.069
WBR	f		170		210	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.682		.666

35. Jamboree & Bison

General Plan With Project						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	0	0	0		0	
NBT	3	4800	1620	.338*	1900	.396*
NBR	d	1600	360	.225	250	.156
SBL	2	3200	90	.028*	160	.050*
SBT	3	4800	1290	.269	1820	.379
SBR	1	1600	50	.031	90	.056
EBL	1	1600	110	.069*	40	.025*
EBT	0	0	0		0	
EBR	1	1600	80	.050	20	.013
WBL	2	3200	270	.084*	490	.153*
WBT	0	0	0		0	
WBR	2	3200	220	.069	200	.063

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .519 .624

36. Jamboree & Eastbluff/Ford

General Plan With Project						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3200	360	.113*	390	.122*
NBT	3	4800	1780	.417	2080	.523
NBR	0	0	220		430	
SBL	1	1600	60	.038	60	.038
SBT	3	4800	1680	.350*	2310	.481*
SBR	1	1600	50	.031	100	.063
EBL	1	1600	160	.100	50	.031
EBT	1	1600	210	.131*	130	.081*
EBR	f		420		380	
WBL	1.5		480		260	
WBT	1.5	4800	520	.208*	150	.085*
WBR	1	1600	90	.056	20	.013

Note: Assumes E/W Split Phasing

TOTAL CAPACITY UTILIZATION .802 .769

37. Jamboree & San Joaquin Hills

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	30	.019	80	.050
NBT	3	4800	1420	.296*	2070	.431*
NBR	f		150		140	
SBL	2	3200	630	.197*	580	.181*
SBT	3	4800	1740	.363	2430	.506
SBR	1	1600	40	.025	200	.125
EBL	1.5		280	.088*	90	.028*
EBT	1.5	4800	50	.031	30	.019
EBR	1	1600	50	.031	40	.025
WBL	2	3200	90	.028*	250	.078*
WBT	1	1600	10	.006	50	.031
WBR	f		460		690	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.609		.718

38. Jamboree & Santa Barbara

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	10	.006	10	.006
NBT	3	4800	1630	.340*	1920	.400*
NBR	1	1600	200	.125	100	.063
SBL	2	3200	430	.134*	340	.106*
SBT	3	4800	1370	.285	2070	.431
SBR	1	1600	10	.006	30	.019
EBL	1	1600	60	.038*	20	.013
EBT	1	1600	10	.025	10	.013*
EBR	0	0	30		10	
WBL	1.5		90		480	
WBT	0.5	3200	10	.031*	10	.153*
WBR	1	1600	100	.063	440	.275
Right Turn Adjustment			WBR	.032*	WBR	.122*
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION				.575		.794

39. Jamboree & Coast Hw.

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	20	.013	50	.031
NBT	2	3200	560	.203*	380	.163*
NBR	0	0	90		140	
SBL	1	1600	180	.113*	150	.094*
SBT	2	3200	290	.091	620	.194
SBR	f		920		1840	
EBL	3	4800	1320	.275*	910	.190*
EBT	4	6400	2130	.336	1560	.245
EBR	0	0	20		10	
WBL	2	3200	90	.028	240	.075
WBT	4	6400	1150	.180*	2270	.355*
WBR	f		120		130	

TOTAL CAPACITY UTILIZATION .771 .802

40. Santa Cruz & San Joaquin H.

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	120	.038*	400	.125
NBT	1	1600	10	.031	10	.137*
NBR	0	0	40		210	
SBL	1	1600	20	.013	10	.006*
SBT	1	1600	10	.006*	10	.006
SBR	1	1600	70	.044	60	.038
EBL	1	1600	60	.038	100	.063*
EBT	3	4800	470	.147*	400	.125
EBR	0	0	240	.150	250	.156
WBL	1	1600	230	.144*	30	.019
WBT	3	4800	340	.077	510	.113*
WBR	0	0	30		30	
Right Turn Adjustment			Multi	.041*	SBR	.020*

TOTAL CAPACITY UTILIZATION .376 .339

41. Santa Rosa & San Joaquin H.

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	40	.025	150	.094*
NBT	1	1600	10	.006*	30	.019
NBR	1	1600	200	.125	750	.469
SBL	1	1600	110	.069*	100	.063
SBT	1	1600	20	.013	10	.006*
SBR	1	1600	20	.013	50	.031
EBL	1	1600	40	.025	50	.031
EBT	3	4800	340	.088*	620	.148*
EBR	0	0	80		90	
WBL	2	3200	780	.244*	440	.138*
WBT	3	4800	530	.133	260	.073
WBR	0	0	110		90	
Right Turn Adjustment					Multi	.319*
Note: Assumes Right-Turn Overlap for NBR						
TOTAL CAPACITY UTILIZATION			.407		.705	

42. Newport Center & Coast Hw.

General Plan With 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	30	.009*	290	.091*
SBT	0	0	0		0	
SBR	f		100		850	
EBL	2	3200	610	.191*	370	.116*
EBT	3	4800	1960	.408	1690	.352
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1360	.283*	2020	.421*
WBR	f		180		170	
TOTAL CAPACITY UTILIZATION			.483		.628	

JJ 24

44. Avocado & San Miguel

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	140	.088*	70	.044
NBT	1	1600	140	.088	30	.019*
NBR	1	1600	70	.044	610	.381
SBL	1	1600	40	.025	240	.150*
SBT	1	1600	50	.031*	170	.106
SBR	1	1600	20	.013	10	.006
EBL	1	1600	10	.006*	10	.006
EBT	2	3200	140	.050	730	.263*
EBR	0	0	20		110	
WBL	2	3200	550	.172	370	.116*
WBT	2	3200	540	.234*	630	.216
WBR	0	0	210		60	
Right Turn Adjustment					NBR	.246*
Note: Assumes Right-Turn Overlap for SBR NBR						
TOTAL CAPACITY UTILIZATION			.359		.794	

45. Avocado & Coast Hw.

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	100	.063*	150	.094*
NBT	1	1600	40	.025	100	.063
NBR	1	1600	260	.163	160	.100
SBL	1.5		80	.050	350	
SBT	0.5	3200	90	.056*	150	.156*
SBR	1	1600	50	.031	300	.188
EBL	1	1600	290	.181*	160	.100
EBT	3	4800	1670	.348	1770	.369*
EBR	d	1600	70	.044	70	.044
WBL	1	1600	140	.088	200	.125*
WBT	3	4800	1560	.325*	1800	.375
WBR	1	1600	130	.081	60	.038
Right Turn Adjustment			NBR	.100*	Multi	.038*
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION			.725		.782	

JJ25

46. SR-73 NB Ramps & Bison

General Plan With Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1.5		180	{.108}*	230	.072*
NBT	0	4800	0	.108	0	
NBR	1.5		340		100	.063
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1600	20	.013	10	.006*
EBT	2	3200	1310	.409*	720	.225
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3200	130	.041	730	.228*
WBR	1	1600	260	.163	850	.531
Right Turn Adjustment					WBR	.303*
TOTAL CAPACITY UTILIZATION			.517		.609	

47. SR-73 SB Ramps & Bison

General Plan With Project						
	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	990	.309*	370	.116*
SBT	0	0	0		0	
SBR	f		10		10	
EBL	0	0	0		0	
EBT	2	3200	310	.097*	320	.100*
EBR	1	1600	70	.044	100	.063
WBL	2	3200	50	.016*	340	.106*
WBT	2	3200	280	.088	610	.191
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION			.422		.322	

48. MacArthur & Bison

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	390	.122	260	.081*
NBT	4	6400	3680	.575*	2710	.423
NBR	f		210		140	
SBL	2	3200	60	.019*	40	.013
SBT	4	6400	2710	.423	3090	.483*
SBR	1	1600	390	.244	480	.300
EBL	2	3200	330	.103*	330	.103*
EBT	2	3200	270	.084	210	.066
EBR	f		210		100	
WBL	2	3200	160	.050	220	.069
WBT	2	3200	250	.078*	400	.125*
WBR	1	1600	10	.006	50	.031

Note: Assumes Right-Turn Overlap for SBR

TOTAL CAPACITY UTILIZATION .775 .792

49. MacArthur & Ford/Bonita Cyn

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	140	.044*	80	.025
NBT	4	6400	2110	.330	2460	.384*
NBR	f		130		550	
SBL	2	3200	390	.122	1040	.325*
SBT	4	6400	3000	.469*	2480	.388
SBR	f		10		70	
EBL	2	3200	40	.013*	10	.003
EBT	2	3200	380	.119	650	.203*
EBR	1	1600	90	.056	110	.069
WBL	2	3200	400	.125	270	.084*
WBT	2	3200	880	.275*	380	.119
WBR	f		1650		730	

TOTAL CAPACITY UTILIZATION .801 0.996

JJ27

50. MacArthur & San Joaquin H.

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	70	.022	20	.006
NBT	3	4800	1560	.325*	1810	.377*
NBR	1	1600	10	.006	20	.013
SBL	2	3200	590	.184*	920	.288*
SBT	3	4800	1800	.375	1900	.396
SBR	f		1100		450	
EBL	2	3200	230	.072*	1090	.341*
EBT	3	4800	320	.075	620	.148
EBR	0	0	40		90	
WBL	1	1600	20	.013	20	.013
WBT	2	3200	670	.209*	370	.116*
WBR	f		1000		520	

TOTAL CAPACITY UTILIZATION .790 1.122

51. MacArthur & San Miguel

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	120	.038	190	.059*
NBT	3	4800	1530	.319*	900	.188
NBR	1	1600	340	.213	450	.281
SBL	2	3200	10	.003*	10	.003
SBT	3	4800	1110	.231	1440	.300*
SBR	1	1600	770	.481	560	.350
EBL	2	3200	80	.025	940	.294*
EBT	2	3200	110	.056*	530	.213
EBR	0	0	70		150	
WBL	2	3200	300	.094*	280	.088
WBT	2	3200	360	.113	310	.097*
WBR	d	1600	20	.013	40	.025
Right Turn Adjustment			SBR	.172*		
Note: Assumes Right-Turn Overlap for SBR						

TOTAL CAPACITY UTILIZATION .644 .750

JJ28

52. MacArthur & Coast Hw.

General Plan With 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	540	.169*	730	.228*
SBT	0	0	0		0	
SBR	f		370		780	
EBL	2	3200	880	.275*	640	.200*
EBT	3	4800	1100	.229	1540	.321
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	4800	1340	.279*	1670	.348*
WBR	f		820		530	
TOTAL CAPACITY UTILIZATION				.723		.776

53. SR-73 NB Ramps & Bonita Cyn

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	390	.122*	20	.006*
NBT	0	0	0		0	
NBR	1	1600	590	.369	200	.125
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	790	.247*	1220	.381*
EBR	1	1600	10	.006	10	.006
WBL	1	1600	710	.444*	410	.256*
WBT	2	3200	1270	.397	1180	.369
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.247*	NBR	.119*
TOTAL CAPACITY UTILIZATION				1.060		.762

JJ 29

54. SR-73 SB Ramps & Bonita Cyn

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	180	.056*	150	.047*
NBT	0	0	0		0	
NBR	1	1600	230	.144	350	.219
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	520	.163	810	.253*
EBR	1	1600	160	.100	590	.369
WBL	2	3200	140	.044	230	.072*
WBT	3	4800	1520	.317*	990	.206
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.088*	Multi	.288*
TOTAL CAPACITY UTILIZATION				.461		.660

55. Spyglass Hill & San Miguel

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	40	{.025}*	30	{.019}*
NBT	1	1600	40	.050	20	.031
NBR	d	1600	170	.106	190	.119
SBL	0	0	40		20	
SBT	1	1600	40	.050*	30	.031*
SBR	1	1600	40	.025	40	.025
EBL	1	1600	50	.031	70	.044
EBT	2	3200	340	.106*	520	.163*
EBR	d	1600	30	.019	50	.031
WBL	1	1600	100	.063*	130	.081*
WBT	2	3200	380	.119	440	.138
WBR	d	1600	30	.019	40	.025
Right Turn Adjustment			NBR	.056*	NBR	.081*
TOTAL CAPACITY UTILIZATION				.300		.375

JJ 30

56. San Miguel & San Joaquin H.

General Plan With Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1600	10	.006	10	.006
NBT	2	3200	250	.131*	600	.294*
NBR	0	0	170		340	
SBL	1	1600	60	.038*	140	.088*
SBT	2	3200	480	.150	330	.103
SBR	1	1600	390	.244	140	.088
EBL	2	3200	280	.088*	450	.141
EBT	3	4800	630	.133	910	.192*
EBR	0	0	10		10	
WBL	1	1600	390	.244	260	.163*
WBT	3	4800	1290	.290*	670	.154
WBR	0	0	100		70	
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION			.547		.737	

57. Goldenrod & Coast Hw.

General Plan With Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1600	112	.070*	84	.053*
NBT	1	1600	0	.015	0	.013
NBR	0	0	24		21	
SBL	0	0	61		36	
SBT	1	1600	0	.076*	0	.039*
SBR	0	0	60		27	
EBL	1	1600	30	.019*	33	.021
EBT	2	3200	1003	.313	1869	.584*
EBR	d	1600	43	.027	53	.033
WBL	1	1600	42	.026	22	.014*
WBT	2	3200	2633	.823*	1658	.518
WBR	d	1600	13	.008	13	.008
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION			.988		.690	

JJ31

58. Marguerite & San Joaquin H.

General Plan With Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1.5		350		240	
NBT	0.5	3200	40	.122*	60	.094*
NBR	1	1600	20	.013	70	.044
SBL	1	1600	50	.031	70	.044
SBT	1	1600	40	.050*	50	.056*
SBR	0	0	40		40	
EBL	1	1600	30	.019*	40	.025
EBT	2	3200	480	.150	930	.291*
EBR	1	1600	150	.094	440	.275
WBL	1	1600	20	.013	110	.069*
WBT	3	4800	1120	.233*	700	.146
WBR	d	1600	70	.044	40	.025

Note: Assumes N/S Split Phasing
 Note: Assumes Right-Turn Overlap for EBR

TOTAL CAPACITY UTILIZATION .424 .510

59. Marguerite & Coast Hw.

General Plan With Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1600	70	.044	90	.056
NBT	1	1600	170	.156*	210	.163*
NBR	0	0	80		50	
SBL	1	1600	210	.131*	270	.169*
SBT	1	1600	70	.069	120	.094
SBR	0	0	40		30	
EBL	1	1600	80	.050*	70	.044
EBT	2	3200	1360	.425	1860	.581*
EBR	1	1600	40	.025	90	.056
WBL	1	1600	60	.038	140	.088*
WBT	2	3200	2010	.644*	1530	.500
WBR	0	0	50		70	

TOTAL CAPACITY UTILIZATION .981 1.001

60. Spyglass H. & San Joaquin H.

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	60	.038	50	.031
NBT	1	1600	10	.019*	10	.025*
NBR	0	0	20		30	
SBL	1	1600	70	.044*	40	.025*
SBT	1	1600	10	.006	10	.006
SBR	d	1600	250	.156	150	.094
EBL	1	1600	80	.050*	260	.163*
EBT	2	3200	680	.213	940	.294
EBR	1	1600	20	.013	60	.038
WBL	1	1600	10	.006	10	.006
WBT	2	3200	1130	.353*	660	.206*
WBR	d	1600	70	.044	80	.050
Right Turn Adjustment			SBR	.131*	SBR	.075*
TOTAL CAPACITY UTILIZATION				.597	.494	

61. Poppy & Coast Hw.

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	10	.006*	40	.025
NBT	1	1600	10	.013	10	.050*
NBR	0	0	10		70	
SBL	0	0	70		130	{.081}*
SBT	1	1600	10	.056*	10	.100
SBR	0	0	10		20	
EBL	1	1600	10	.006*	30	.019
EBT	2	3200	1500	.472	1930	.609*
EBR	0	0	10		20	
WBL	1	1600	20	.013	30	.019*
WBT	2	3200	1980	.631*	1660	.531
WBR	0	0	40		40	
TOTAL CAPACITY UTILIZATION				.699	.759	

62. Newport Coast & SR-73 NB

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	2	3200	1520	.475*	990	.309*
NBR	f		480		330	
SBL	0	0	0		0	
SBT	2	3200	600	.188	880	.275
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	1.5		440		280	
WBT	0	3200	0	.175*	0	.091*
WBR	0.5		120		10	
TOTAL CAPACITY UTILIZATION				.650		.400

64. Newport Coast & San Joaquin

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	110	.034	130	.041*
NBT	3	4800	1640	.342*	1000	.208
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	4800	1030	.215	1140	.238*
SBR	1	1600	270	.169	450	.281
EBL	1	1600	450	.281*	260	.163*
EBT	0	0	0		0	
EBR	2	3200	180	.056	180	.056
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					SBR	.043*
Note: Assumes Right-Turn Overlap for EBR						
TOTAL CAPACITY UTILIZATION				.623		.485

JJ 34

65. Newport Coast & Coast Hw.

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	10	.006	10	.006
NBT	1	1600	10	.006*	10	.006*
NBR	1	1600	10	.006	10	.006
SBL	2	3200	380	.119*	1110	.347*
SBT	1	1600	10	.006	10	.006
SBR	f		240		350	
EBL	1	1600	390	.244*	200	.125*
EBT	3	4800	1040	.217	1660	.346
EBR	1	1600	10	.006	10	.006
WBL	1	1600	10	.006	10	.006
WBT	3	4800	1580	.329*	1210	.252*
WBR	f		1100		500	
Note: Assumes N/S Split Phasing						
TOTAL CAPACITY UTILIZATION			.698		.730	

JJ 35

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JJ 36

APPENDIX KK

GENERAL PLAN BUILDOUT WITH PROJECT
INTERSECTION CAPACITY UTILIZATION (ICU) WORKSHEETS
(WITH IMPROVEMENTS)



4. Newport & Hospital

LOSD

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	160	.050	240	.075*
NBT	3	4800	2290	.477*	1250	.260
NBR	1	1600	10	.006	80	.050
SBL	1	1600	60	.038*	40	.025
SBT	3	4800	1380	.288	2130	.444*
SBR	d	1600	220	.138	200	.125
EBL	2	3200	130	.041	130	.041
EBT	1	1600	420	.263*	330	.206*
EBR	1	1600	100	.063	10	.006
WBL	1	1600	80	.050*	260	.163*
WBT	2	3200	330	.116	330	.131
WBR	0	0	40		90	
TOTAL CAPACITY UTILIZATION				.828		.888

KK3a

6. Newport & 32nd

General Plan With Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	20	.013	50	.031*
NBT	2	3200	1220	.381*	870	.272
NBR	d	1600	20	.013	40	.025
SBL	1	1600	60	.038*	80	.050
SBT	2	3200	810	.297	1440	.537*
SBR	0	0	140		280	
EBL	2	3200	430	.134*	160	.050*
EBT	1	1600	50	.044	70	.056
EBR	0	0	20		20	
WBL	1	1600	50	.031	40	.025
WBT	1	1600	40	.025*	60	.038*
WBR	f		150		200	
TOTAL CAPACITY UTILIZATION				.578	.656	

KK 3 b

KK 3c

LOS E

7. Riverside & Coast Hw.

General Plan With Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	10	{.006}*	20	{.012}*
NBT	1	1600	0	.006	0	.013
NBR	d	1600	0	.000	10	.006
SBL	0.5		140		120	
SBT	0.5	1600	10	.094*	10	.081*
SBR	1	1600	350	.219	400	.250
EBL	1	1600	210	.131	340	.213*
EBT	3	4800	2760	.577*	2290	.479
EBR	0	0	10		10	
WBL	1	1600	10	.006*	10	.006
WBT	3	4800	1810	.388	3010	.640*
WBR	0	0	50		60	
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION			.683		.946	

KK4

7. Riverside & Coast Hw.

LOSD

General Plan With Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	10	{.006}*	20	{.012}*
NBT	1	1600	0	.006	0	.013
NBR	d	1600	0	.000	10	.006
SBL	0.5		140		120	
SBT	0.5	1600	10	.094*	10	.081*
SBR	1	1600	350	.219	400	.250
EBL	2	3200	210	.066	340	.106*
EBT	3	4800	2760	.577*	2290	.479
EBR	0	0	10		10	
WBL	1	1600	10	.006*	10	.006
WBT	3	4800	1810	.388	3010	.640*
WBR	0	0	50		60	
Right Turn Adjustment			SBR	.059*	SBR	.063*
Note: Assumes Right-Turn Overlap for SBR						
TOTAL CAPACITY UTILIZATION				.742	.902	

8. Tustin & Coast Hw.

LOSD

General Plan With Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	0		0	
NBT	1	1600	0	.006	0	.006
NBR	0	0	10		10	
SBL	0	0	30		110	
SBT	1	1600	0	.038*	0	.094*
SBR	0	0	30		40	
EBL	1	1600	70	.044	140	.088*
EBT	3	4800	2870	.600*	2250	.471
EBR	0	0	10		10	
WBL	0	0	0		0	
WBT	3	4800	1810	.377	3100	.646*
WBR	1	1600	80	.050	180	.113
TOTAL CAPACITY UTILIZATION				.638	.828	

LOSE

9. MacArthur & Campus

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	150	.094	320	.200*
NBT	4	6400	1660	.259*	1520	.238
NBR	1	1600	120	.075	80	.050
SBL	1	1600	240	.150*	150	.094
SBT	3.5	8000	990	.193	1510	.303*
SBR	1.5		550		910	
EBL	2	3200	770	.241*	530	.166*
EBT	3	4800	990	.206	700	.146
EBR	d	1600	200	.125	160	.100
WBL	2	3200	40	.013	160	.050
WBT	3	4800	630	.131*	1470	.306*
WBR	f		60		190	
TOTAL CAPACITY UTILIZATION				.781		.975

KK6

LOSD

9. MacArthur & Campus

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	150	.047	320	.100*
NBT	4	6400	1660	.259*	1520	.238
NBR	1	1600	120	.075	80	.050
SBL	1	1600	240	.150*	150	.094
SBT	3.5	8000	990	.193	1510	.303*
SBR	1.5		550		910	
EBL	2	3200	770	.241*	530	.166*
EBT	3	4800	990	.206	700	.146
EBR	d	1600	200	.125	160	.100
WBL	2	3200	40	.013	160	.050
WBT	3	4800	630	.131*	1470	.306*
WBR	f		60		190	
TOTAL CAPACITY UTILIZATION				.781	.875	

KK7

LOSD AIT 1

11. Von Karman & Campus

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	20	.013	20	.013*
NBT	2	3200	940	.303*	570	.184
NBR	0	0	30		20	
SBL	1	1600	40	.025*	160	.100
SBT	2	3200	580	.209	1140	.441*
SBR	0	0	90		270	
EBL	2	3200	370	.116*	240	.075*
EBT	2	3200	750	.250	1020	.341
EBR	0	0	50		70	
WBL	1	1600	60	.038	40	.025
WBT	2	3200	480	.181*	1040	.369*
WBR	0	0	100		140	
TOTAL CAPACITY UTILIZATION				.625	.898	

KK8

11. Von Karman & Campus

LOSD A12

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	20	.013	20	.013*
NBT	2	3200	940	.303*	570	.184
NBR	0	0	30		20	
SBL	1	1600	40	.025*	160	.100
SBT	2	3200	580	.209	1140	.441*
SBR	0	0	90		270	
EBL	1	1600	370	.231*	240	.150*
EBT	2	3200	750	.250	1020	.341
EBR	0	0	50		70	
WBL	1	1600	60	.038	40	.025
WBT	3	4800	480	.121*	1040	.246*
WBR	0	0	100		140	
TOTAL CAPACITY UTILIZATION				.680		.850

KK9

LOSD A1t3

11. Von Karman & Campus

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	20	.013	20	.013*
NBT	2	3200	940	.294*	570	.178
NBR	f		30		20	
SBL	1	1600	40	.025*	160	.100
SBT	2	3200	580	.181	1140	.356*
SBR	1	1600	90	.056	270	.169
EBL	1	1600	370	.231*	240	.150*
EBT	2	3200	750	.234	1020	.319
EBR	1	1600	50	.031	70	.044
WBL	1	1600	60	.038	40	.025
WBT	2	3200	480	.181*	1040	.369*
WBR	0	0	100		140	
TOTAL CAPACITY UTILIZATION				.731		.888

KK10

LOSD Alt 4

11. Von Karman & Campus

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	20	.013	20	.013*
NBT	2	3200	940	.294*	570	.178
NBR	f		30		20	
SBL	1	1600	40	.025*	160	.100
SBT	3	4800	580	.140	1140	.294*
SBR	0	0	90		270	
EBL	1	1600	370	.231*	240	.150*
EBT	2	3200	750	.234	1020	.319
EBR	1	1600	50	.031	70	.044
WBL	1	1600	60	.038	40	.025
WBT	2	3200	480	.181*	1040	.369*
WBR	0	0	100		140	
TOTAL CAPACITY UTILIZATION				.731	.826	

KK 11

13. Jamboree & Campus

LOSE

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	100	.031	160	.050*
NBT	4	6400	2030	.317*	1950	.305
NBR	1	1600	320	.200	720	.450
SBL	2	3200	700	.219*	470	.147
SBT	4	6400	1710	.323	2660	.456*
SBR	0	0	360		260	
EBL	2	3200	260	.081	610	.191*
EBT	2	3200	280	.097*	850	.275
EBR	0	0	30		30	
WBL	2	3200	800	.250*	360	.113
WBT	2	3200	840	.263	650	.203*
WBR	1	1600	170	.106	530	.331
Right Turn Adjustment					NBR	.091*
Note: Assumes Right-Turn Overlap for WBR						
TOTAL CAPACITY UTILIZATION				.883	.991	

KK 12

LOSD

13. Jamboree & Campus

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	100	.031	160	.050*
NBT	4	6400	2030	.317*	1950	.305
NBR	1	1600	320	.200	720	.450
SBL	2	3200	700	.219*	470	.147
SBT	4	6400	1710	.323	2660	.456*
SBR	0	0	360		260	
EBL	2	3200	260	.081	610	.191*
EBT	2	3200	280	.097*	850	.275
EBR	0	0	30		30	
WBL	2	3200	800	.250*	360	.113
WBT	2	3200	840	.263	650	.203*
WBR	1	1600	170	.106	530	.331
Note: Assumes Right-Turn Overlap for WBR NBR						
TOTAL CAPACITY UTILIZATION				.883	.900	

KK13

14. Jamboree & Birch

LOSD

General Plan With Project w/ Imp						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1600	420	.263*	140	.088
NBT	3	4800	2010	.435	1940	.410*
NBR	0	0	80		30	
SBL	1	1600	10	.006	90	.056*
SBT	4	6400	2030	.317*	2070	.323
SBR	f		800		430	
EBL	1.5		280		680	
EBT	0.5	3200	90	.116*	30	.222*
EBR	f		10		420	
WBL	0	0	80		60	
WBT	1	1600	70	.200*	80	.094*
WBR	0	0	170		10	
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION			.896		.782	

KK14a

LOS D ALT 2

14. Jamboree & Birch

General Plan With Project w/ Imp						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	2	3200	420	.131*	140	.044*
NBT	3	4800	2010	.435	1940	.410
NBR	0	0	80		30	
SBL	1	1600	10	.006	90	.056
SBT	3	4800	2030	.423*	2070	.431*
SBR	f		800		430	
EBL	1.5		280		680	
EBT	0.5	3200	90	.116*	30	.222*
EBR	f		10		420	
WBL	0	0	80		60	
WBT	1	1600	70	.200*	80	.094*
WBR	0	0	170		10	
TOTAL CAPACITY UTILIZATION				.870		.791

Note: Assumes E/W Split Phasing

KK146

KK 14C

LOSE

15. Campus & Bristol (N)

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	540	.169	600	.188*
NBT	3	4800	3220	.671*	1700	.354
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	510	.080	1850	.289*
SBR	2	3200	410	.128	1270	.397
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	310	.097	540	.169
WBT	5	8000	2010	.283*	2880	.378*
WBR	0	0	250		140	
Right Turn Adjustment					SBR	.108*
TOTAL CAPACITY UTILIZATION				.954		.963

KK15

LOSD Alt 1

15. Campus & Bristol (N)

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	540	.169	600	.188*
NBT	4	6400	3220	.503*	1700	.266
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	510	.080	1850	.289*
SBR	f		410		1270	
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	310	.097	540	.169
WBT	5	8000	2010	.283*	2880	.378*
WBR	0	0	250		140	
TOTAL CAPACITY UTILIZATION				.786		.855

KK 16

15. Campus & Bristol (N)

LOS D Alt 2

General Plan With Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	2	3200	540	.169	600	.188*
NBT	4	6400	3220	.503*	1700	.266
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	4	6400	510	.080	1850	.289*
SBR	3	4800	410	.085	1270	.265
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	0	0	0		0	
WBL	2	3200	310	.097	540	.169
WBT	5	8000	2010	.283*	2880	.378*
WBR	0	0	250		140	
TOTAL CAPACITY UTILIZATION				.786		.855

KK17

19. Irvine & Mesa

Funded Imp

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	100	.063	50	.031*
NBT	3	4800	2070	.431*	940	.196
NBR	1	1600	640	.400	170	.106
SBL	1	1600	10	.006*	10	.006
SBT	3	4800	1090	.227	2240	.467*
SBR	1	1600	60	.038	200	.125
EBL	1	1600	300	.188	90	.056*
EBT	1	1600	310	.194*	80	.050
EBR	d	1600	40	.025	220	.138
WBL	2	3200	170	.053*	430	.134
WBT	1	1600	70	.050	600	.381*
WBR	0	0	10		10	
TOTAL CAPACITY UTILIZATION				.684	.935	

KK18

LOSD AIT 1

19. Irvine & Mesa

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	100	.063	50	.031*
NBT	3	4800	2070	.431*	940	.196
NBR	1	1600	640	.400	170	.106
SBL	1	1600	10	.006*	10	.006
SBT	3	4800	1090	.227	2240	.467*
SBR	1	1600	60	.038	200	.125
EBL	1	1600	300	.188	90	.056
EBT	1	1600	310	.194*	80	.050*
EBR	1	1600	40	.025	220	.138
WBL	1	1600	170	.106*	430	.269*
WBT	2	3200	70	.025	600	.191
WBR	0	0	10		10	
Right Turn Adjustment					EBR	.057*
Note: Assumes Right-Turn Overlap for EBR						
TOTAL CAPACITY UTILIZATION				.737	.874	

KK 19

19. Irvine & Mesa

LOAD A1E2

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	100	.063	50	.031*
NBT	3	4800	2070	.431*	940	.196
NBR	1	1600	640	.400	170	.106
SBL	1	1600	10	.006*	10	.006
SBT	3	4800	1090	.227	2240	.467*
SBR	1	1600	60	.038	200	.125
EBL	1	1600	300	.188	90	.056
EBT	1	1600	310	.219*	80	.188*
EBR	0	0	40		220	
WBL	2	3200	170	.053*	571	.178*
WBT	1	1600	70	.050	459	.293
WBR	0	0	10		10	
TOTAL CAPACITY UTILIZATION				.709		.864

KK 20

20. Irvine & University

LOS D

General Plan With Project w/ Imp						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1600	260	.163	180	.113*
NBT	3	4800	2460	.525*	1090	.231
NBR	0	0	60		20	
SBL	1	1600	90	.056*	40	.025
SBT	3	4800	1050	.219	2630	.548*
SBR	1	1600	150	.094	450	.281
EBL	1.5		550		170	
EBT	0.5	3200	110	.206*	30	.063*
EBR	1	1600	210	.131	210	.131
WBL	1	1600	20	.013	20	.013
WBT	1	1600	30	.019*	80	.050*
WBR	d	1600	20	.013	50	.031
Right Turn Adjustment					EBR	.068*
Note: Assumes E/W Split Phasing						
TOTAL CAPACITY UTILIZATION			.806		.842	

KK 21

27. Dover & Coast Hw.

LOSD

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	30	.019	20	.013
NBT	1	1600	60	.038*	90	.056*
NBR	1	1600	60	.038	50	.031
SBL	3	4800	1080	.225*	1010	.210*
SBT	1	1600	60	.038	70	.044
SBR	1	1600	90	.056	110	.069
EBL	2	3200	190	.059	140	.044*
EBT	3	4800	2490	.521*	2100	.444
EBR	0	0	10		30	
WBL	1	1600	40	.025*	60	.038
WBT	4	6400	1800	.281	3030	.473*
WBR	f		700		1160	
TOTAL CAPACITY UTILIZATION				.809		.783

Note: Assumes N/S Split Phasing

KK 22

LOS E

29. MacArthur & Jamboree

General Plan With Project w/ Imp						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	2	3200	210	.066	290	.091*
NBT	3	4800	1890	.394*	870	.181
NBR	1	1600	600	.375	620	.388
SBL	2	3200	130	.041*	260	.081
SBT	3	4800	570	.119	1600	.333*
SBR	f		130		560	
EBL	2	3200	670	.209	240	.075
EBT	3	4800	1760	.367*	1480	.308*
EBR	f		160		70	
WBL	3	4800	420	.088*	920	.192*
WBT	3	4800	1120	.233	1570	.327
WBR	f		170		180	
TOTAL CAPACITY UTILIZATION				.890		.924

Note: Assumes Right-Turn Overlap for NBR

KK 23

LOS D ART 1

29. MacArthur & Jamboree

General Plan With Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	210	.066	290	.091*
NBT	3	4800	1890	.394*	870	.181
NBR	1	1600	600	.375	620	.388
SBL	2	3200	130	.041*	260	.081
SBT	3	4800	570	.119	1600	.333*
SBR	f		130		560	
EBL	2	3200	670	.209*	240	.075
EBT	4	6400	1760	.275	1480	.231*
EBR	f		160		70	
WBL	3	4800	420	.088	920	.192*
WBT	3	4800	1120	.233*	1570	.327
WBR	f		170		180	

Note: Assumes Right-Turn Overlap for NBR

TOTAL CAPACITY UTILIZATION .877 .847

KK 24

29. MacArthur & Jamboree

LOS DAIT 2A

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	210	.066*	290	.091*
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3200	130	.041	260	.081
SBT	3	4800	570	.119*	1600	.333*
SBR	1	1600	130	.081	560	.350
EBL	0	0	0		0	
EBT	0	0	0		0	
EBR	1	1600	160	.100	70	.044
WBL	2	3200	420	.131	920	.288
WBT	3	4800	1120	.233*	1570	.327*
WBR	1	1600	170	.106	180	.113
Right Turn Adjustment					Multi	.022*
TOTAL CAPACITY UTILIZATION				.418	.773	

KK 25

LOSD A1t 2B

29. MacArthur & Jamboree

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	3	4800	1890	.394*	870	.181*
NBR	1	1600	600	.375	620	.388
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	2	3200	670	.209	240	.075
EBT	3	4800	1760	.367*	1480	.308*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.207*
TOTAL CAPACITY UTILIZATION				.761		.696

KK 26

LOSD AIT

32. Jamboree & Bristol (S)

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	6	9600	2100	.225*	2360	.257*
NBR	0	0	60		110	
SBL	0	0	0		0	
SBT	4	6400	700	.109	1490	.233
SBR	0	0	0		0	
EBL	1.5		2150	.672*	1180	{.558}*
EBT	1.5	4800	570	.356	1500	.558
EBR	2	3200	1020	.319	1010	.316
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION			.897		.815	

32. Jamboree & Bristol (S)

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	0	0	0		0	
NBT	5	8000	2100	.270*	2360	.309
NBR	0	0	60		110	
SBL	0	0	0		0	
SBT	3	4800	700	.146	1490	.310*
SBR	0	0	0		0	
EBL	2.5		2150	.448*	1180	.369
EBT	1.5	6400	570	.356	1500	.469*
EBR	2	3200	1020	.319	1010	.316
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
TOTAL CAPACITY UTILIZATION				.718	.779	

49. MacArthur & Ford/Bonita Cyn

General Plan With Project w/ Imp						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	140	.044*	80	.025
NBT	4	6400	2110	.330	2460	.384*
NBR	1	1600	130	.081	550	.344
SBL	3	4800	390	.081	1040	.217*
SBT	4	6400	3000	.469*	2480	.388
SBR	f		10		70	
EBL	2	3200	40	.013*	10	.003
EBT	2	3200	380	.119	650	.203*
EBR	1	1600	90	.056	110	.069
WBL	2	3200	400	.125	270	.084*
WBT	2	3200	880	.275*	380	.119
WBR	f		1650		730	
TOTAL CAPACITY UTILIZATION				.801		.888

50. MacArthur & San Joaquin H.

LOSE AIT 1

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	70	.022*	20	.006
NBT	4	6400	1560	.245	1810	.286*
NBR	0	0	10		20	
SBL	3	4800	590	.123	920	.192*
SBT	3	4800	1800	.375*	1900	.396
SBR	f		1100		450	
EBL	2	3200	230	.072*	1090	.341*
EBT	3	4800	320	.075	620	.148
EBR	0	0	40		90	
WBL	1	1600	20	.013	20	.013
WBT	2	3200	670	.209*	370	.116*
WBR	f		1000		520	
TOTAL CAPACITY UTILIZATION				.678		.935

KK 30

50. MacArthur & San Joaquin H.

LOSE AITZ

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	70	.022	20	.006
NBT	4	6400	1560	.245*	1810	.286*
NBR	0	0	10		20	
SBL	2	3200	590	.184*	920	.288*
SBT	3	4800	1800	.375	1900	.396
SBR	f		1100		450	
EBL	3	4800	230	.048*	1090	.227*
EBT	3	4800	320	.075	620	.148
EBR	0	0	40		90	
WBL	1	1600	20	.013	20	.013
WBT	2	3200	670	.209*	370	.116*
WBR	f		1000		520	
TOTAL CAPACITY UTILIZATION				.686	.917	

KK 31

50. MacArthur & San Joaquin H.

LOSEAIT3

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	2	3200	70	.022	20	.006
NBT	3	4800	1560	.325*	1810	.377*
NBR	1	1600	10	.006	20	.013
SBL	3	4800	590	.123*	920	.192*
SBT	3	4800	1800	.375	1900	.396
SBR	f		1100		450	
EBL	3	4800	230	.048*	1090	.227*
EBT	3	4800	320	.075	620	.148
EBR	0	0	40		90	
WBL	1	1600	20	.013	20	.013
WBT	2	3200	670	.209*	370	.116*
WBR	f		1000		520	
TOTAL CAPACITY UTILIZATION				.705		.912

KK 32

50. MacArthur & San Joaquin H.

LOS D

General Plan With Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	2	3200	70	.022*	20	.006
NBT	4	6400	1560	.245	1810	.286*
NBR	0	0	10		20	
SBL	3	4800	590	.123	920	.192*
SBT	3	4800	1800	.375*	1900	.396
SBR	f		1100		450	
EBL	3	4800	230	.048*	1090	.227*
EBT	3	4800	320	.075	620	.148
EBR	0	0	40		90	
WBL	1	1600	20	.013	20	.013
WBT	2	3200	670	.209*	370	.116*
WBR	f		1000		520	
TOTAL CAPACITY UTILIZATION				.654		.821

KK 33

53. SR-73 NB Ramps & Bonita Cyn

LOSD

General Plan With Project w/ Imp						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3200	390	.122*	20	.006*
NBT	0	0	0		0	
NBR	1	1600	590	.369	200	.125
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3200	790	.247*	1220	.381*
EBR	1	1600	10	.006	10	.006
WBL	2	3200	710	.222*	410	.128*
WBT	2	3200	1270	.397	1180	.369
WBR	0	0	0		0	
Right Turn Adjustment			NBR	.247*	NBR	.119*
TOTAL CAPACITY UTILIZATION				.838		.634

KK 34

General Plan With Project w/ Imp						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1600	112	.070*	84	.053*
NBT	1	1600	0	.015	0	.013
NBR	0	0	24		21	
SBL	0	0	61		36	
SBT	1	1600	0	.076*	0	.039*
SBR	0	0	60		27	
EBL	1	1600	30	.019*	33	.021
EBT	2	3200	1003	.313	1869	.584*
EBR	d	1600	43	.027	53	.033
WBL	1	1600	42	.026	22	.014*
WBT	3	4800	2633	.551*	1658	.348
WBR	0	0	13		13	

Note: Assumes N/S Split Phasing

TOTAL CAPACITY UTILIZATION .716 .690

59. Marguerite & Coast Hw.

LOSD

General Plan With Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1600	70	.044	90	.056
NBT	1	1600	170	.156*	210	.163*
NBR	0	0	80		50	
SBL	1	1600	210	.131*	270	.169*
SBT	1	1600	70	.069	120	.094
SBR	0	0	40		30	
EBL	1	1600	80	.050*	70	.044
EBT	3	4800	1360	.292	1860	.406*
EBR	0	0	40		90	
WBL	1	1600	60	.038	140	.088*
WBT	3	4800	2010	.429*	1530	.333
WBR	0	0	50		70	
TOTAL CAPACITY UTILIZATION				.766		.826

KK 36

APPENDIX LL

GENERAL PLAN BUILDOUT WITH PROJECT FREEWAY MAINLINE ANALYSIS

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10718	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2912	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	4175	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	4175	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

LL3

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5646	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1534	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2199	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2199	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	57.1	mi/h
Number of lanes, N	3	
Density, D	38.5	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10718	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2912	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2505	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2505	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	5	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

LL5

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5646	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1534	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1319	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1319	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	5	
Density, D	20.3	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

LL6

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan WP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10718	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2912	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2087	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2087	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	59.8	mi/h
Number of lanes, N	6	
Density, D	34.9	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan WP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5646	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1534	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fhV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1100	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1100	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	6	
Density, D	16.9	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

LL8

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3457	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	939	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1346	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1346	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	20.7	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	9137	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2483	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	3559	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	3559	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

LL10

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3457	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	939	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1010	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1010	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	4	
Density, D	15.5	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	9137	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2483	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2669	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2669	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan WP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3457	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	939	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	673	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	673	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	6	
Density, D	10.4	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: 405 Fw. to Bear St.
 Jurisdiction:
 Analysis Year: General Plan WP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	9137	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2483	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1779	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1779	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.1	mi/h
Number of lanes, N	6	
Density, D	27.8	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	12623	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	3430	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	4917	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	4917	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

LL15

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	6650	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1807	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2590	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2590	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	12623	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	3430	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2950	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2950	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	5	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	6650	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1807	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1554	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1554	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	5	
Density, D	23.9	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

LL18

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan WP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	12623	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	3430	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1844	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	8	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1844	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	63.5	mi/h
Number of lanes, N	8	
Density, D	29.0	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

LL19

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan WP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	6650	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1807	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fhV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	971	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	8	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	971	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	8	
Density, D	14.9	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

LL20

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	4072	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1107	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1586	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1586	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.9	mi/h
Number of lanes, N	3	
Density, D	24.4	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

LL21

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10761	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2924	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	4191	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	4191	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	4072	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1107	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	952	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	952	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	5	
Density, D	14.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10761	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2924	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2515	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2515	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	5	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

LL24

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan WP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	4072	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1107	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	680	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	7	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	680	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	7	
Density, D	10.5	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

LL 25

Phone: Fax:
E-mail:

Operational Analysis

Analyst: yArchie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Bear St. to 55 Fw.
 Jurisdiction:
 Analysis Year: General Plan WP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V 10761 veh/h
 Peak-hour factor, PHF 0.92
 Peak 15-min volume, v15 2924 v
 Trucks and buses 5 %
 Recreational vehicles 0 %
 Terrain type: Rolling
 Grade 0.00 %
 Segment length 0.00 mi
 Trucks and buses PCE, ET 2.5
 Recreational vehicle PCE, ER 2.0
 Heavy vehicle adjustment, fhv 0.930
 Driver population factor, fp 1.00
 Flow rate, vp 1796 pc/h/ln

Speed Inputs and Adjustments

Lane width 12.0 ft
 Right-shoulder lateral clearance 6.0 ft
 Interchange density 0.50 interchange/mi
 Number of lanes, N 7
 Free-flow speed: Measured
 FFS or BFFS 65.0 mi/h
 Lane width adjustment, fLW 0.0 mi/h
 Lateral clearance adjustment, fLC 0.0 mi/h
 Interchange density adjustment, fID 0.0 mi/h
 Number of lanes adjustment, fN 0.0 mi/h
 Free-flow speed, FFS 65.0 mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp 1796 pc/h/ln
 Free-flow speed, FFS 65.0 mi/h
 Average passenger-car speed, S 63.9 mi/h
 Number of lanes, N 7
 Density, D 28.1 pc/mi/ln
 Level of service, LOS D

Overall results are not computed when free-flow speed is less than 55 mph.

LL 26

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10797	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2934	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	4205	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	4205	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5687	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1545	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2215	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2215	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	56.6	mi/h
Number of lanes, N	3	
Density, D	39.1	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10797	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2934	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2523	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2523	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	5	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5687	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1545	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1329	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1329	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	5	
Density, D	20.4	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

LL30

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan WP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10797	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2934	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1802	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	7	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1802	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	63.9	mi/h
Number of lanes, N	7	
Density, D	28.2	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

LL31

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan WP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5687	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1545	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	949	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	7	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	949	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	7	
Density, D	14.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3483	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	946	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1357	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1357	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	20.9	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

LL33

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	9205	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2501	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	3585	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	3585	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3483	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	946	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	814	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	814	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	5	
Density, D	12.5	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

LL 35

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	9205	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2501	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2151	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2151	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	58.3	mi/h
Number of lanes, N	5	
Density, D	36.9	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan WP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3483	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	946	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	678	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	678	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	6	
Density, D	10.4	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

LL37

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: 55 Fw. to Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan WP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	9205	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2501	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1793	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1793	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.0	mi/h
Number of lanes, N	6	
Density, D	28.0	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Jamboree to Bonita Canyon
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	7780	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2114	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	3030	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	3030	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Jamboree to Bonita Canyon
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	4098	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1114	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1596	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1596	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.9	mi/h
Number of lanes, N	3	
Density, D	24.6	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

LL 40

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Jamboree to Bonita Canyon
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V 7780 veh/h
 Peak-hour factor, PHF 0.92
 Peak 15-min volume, v15 2114 v
 Trucks and buses 5 %
 Recreational vehicles 0 %
 Terrain type: Rolling
 Grade 0.00 %
 Segment length 0.00 mi
 Trucks and buses PCE, ET 2.5
 Recreational vehicle PCE, ER 2.0
 Heavy vehicle adjustment, fHV 0.930
 Driver population factor, fp 1.00
 Flow rate, vp 1818 pc/h/ln

Speed Inputs and Adjustments

Lane width 12.0 ft
 Right-shoulder lateral clearance 6.0 ft
 Interchange density 0.50 interchange/mi
 Number of lanes, N 5
 Free-flow speed: Measured
 FFS or BFFS 65.0 mi/h
 Lane width adjustment, fLW 0.0 mi/h
 Lateral clearance adjustment, fLC 0.0 mi/h
 Interchange density adjustment, fID 0.0 mi/h
 Number of lanes adjustment, fN 0.0 mi/h
 Free-flow speed, FFS 65.0 mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp 1818 pc/h/ln
 Free-flow speed, FFS 65.0 mi/h
 Average passenger-car speed, S 63.8 mi/h
 Number of lanes, N 5
 Density, D 28.5 pc/mi/ln
 Level of service, LOS D

Overall results are not computed when free-flow speed is less than 55 mph.

LL 41

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Jamboree to Bonita Canyon
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V 4098 veh/h
 Peak-hour factor, PHF 0.92
 Peak 15-min volume, v15 1114 v
 Trucks and buses 5 %
 Recreational vehicles 0 %
 Terrain type: Rolling
 Grade 0.00 %
 Segment length 0.00 mi
 Trucks and buses PCE, ET 2.5
 Recreational vehicle PCE, ER 2.0
 Heavy vehicle adjustment, fHV 0.930
 Driver population factor, fp 1.00
 Flow rate, vp 958 pc/h/ln

Speed Inputs and Adjustments

Lane width 12.0 ft
 Right-shoulder lateral clearance 6.0 ft
 Interchange density 0.50 interchange/mi
 Number of lanes, N 5
 Free-flow speed: Measured
 FFS or BFFS 65.0 mi/h
 Lane width adjustment, fLW 0.0 mi/h
 Lateral clearance adjustment, fLC 0.0 mi/h
 Interchange density adjustment, fID 0.0 mi/h
 Number of lanes adjustment, fN 0.0 mi/h
 Free-flow speed, FFS 65.0 mi/h
 Urban Freeway

LOS and Performance Measures

Flow rate, vp 958 pc/h/ln
 Free-flow speed, FFS 65.0 mi/h
 Average passenger-car speed, S 65.0 mi/h
 Number of lanes, N 5
 Density, D 14.7 pc/mi/ln
 Level of service, LOS B

Overall results are not computed when free-flow speed is less than 55 mph.

LL42

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Jamboree to Bonita Canyon
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	2510	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	682	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	978	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	978	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	15.0	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

LL43

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Jamboree to Bonita Canyon
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	6633	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1802	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2584	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2584	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Jamboree to Bonita Canyon
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	2510	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	682	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	587	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	587	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	5	
Density, D	9.0	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

LL45

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Jamboree to Bonita Canyon
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	6633	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1802	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1550	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1550	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	5	
Density, D	23.9	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10797	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2934	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	3154	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	3154	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

LL47

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5687	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1545	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1661	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1661	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.7	mi/h
Number of lanes, N	4	
Density, D	25.7	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

LL48

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10797	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2934	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2103	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2103	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	59.5	mi/h
Number of lanes, N	6	
Density, D	35.4	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

LL49

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5687	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1545	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1108	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1108	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	6	
Density, D	17.0	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

LL 50

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: General Plan WP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10797	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2934	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1802	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	7	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1802	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	63.9	mi/h
Number of lanes, N	7	
Density, D	28.2	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

LL51

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: General Plan WP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5687	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1545	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	949	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	7	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	949	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	7	
Density, D	14.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3483	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	946	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1017	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1017	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	4	
Density, D	15.6	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

LL53

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	9205	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2501	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2689	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2689	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

LL 54

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3483	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	946	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	678	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	678	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	6	
Density, D	10.4	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

LL55

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Bonita Canyon to Newport Coast
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	9205	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2501	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1793	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1793	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	64.0	mi/h
Number of lanes, N	6	
Density, D	28.0	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

LL56

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10162	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2761	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	3958	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	3958	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

LL57

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5353	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1455	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2085	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2085	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	59.8	mi/h
Number of lanes, N	3	
Density, D	34.8	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

LL58

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10162	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2761	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	2375	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	2375	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	5	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5353	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1455	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1251	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	5	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1251	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	5	
Density, D	19.2	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

LL 60

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Northbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: General Plan WP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	10162	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2761	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1979	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1979	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	61.8	mi/h
Number of lanes, N	6	
Density, D	32.0	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

LL61

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Northbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: General Plan WP w/ Add'l Imps
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	5353	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1455	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1042	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1042	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	6	
Density, D	16.0	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

LL62

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3278	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	891	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	1277	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	1277	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	3	
Density, D	19.6	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

LL63

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	8663	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2354	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	3374	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	3374	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

LL64

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: AM
 Freeway/Direction: SR-73/Southbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V	3278	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	891	v
Trucks and buses	5	%
Recreational vehicles	0	%
Terrain type:	Rolling	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	2.5	
Recreational vehicle PCE, ER	2.0	
Heavy vehicle adjustment, fHV	0.930	
Driver population factor, fp	1.00	
Flow rate, vp	638	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	65.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	65.0	mi/h

Urban Freeway

LOS and Performance Measures

Flow rate, vp	638	pc/h/ln
Free-flow speed, FFS	65.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	6	
Density, D	9.8	pc/mi/ln
Level of service, LOS	A	

Overall results are not computed when free-flow speed is less than 55 mph.

LL65

Phone: Fax:
E-mail:

Operational Analysis

Analyst: Archie Lee Tan
 Agency or Company: Urban Crossroads
 Date Performed: 12/20/2005
 Analysis Time Period: PM
 Freeway/Direction: SR-73/Southbound
 From/To: Newport Coast to Toll Plaza
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Flow Inputs and Adjustments

Volume, V 8663 veh/h
 Peak-hour factor, PHF 0.92
 Peak 15-min volume, v15 2354 v
 Trucks and buses 5 %
 Recreational vehicles 0 %
 Terrain type: Rolling
 Grade 0.00 %
 Segment length 0.00 mi
 Trucks and buses PCE, ET 2.5
 Recreational vehicle PCE, ER 2.0
 Heavy vehicle adjustment, fHV 0.930
 Driver population factor, fp 1.00
 Flow rate, vp 1687 pc/h/ln

Speed Inputs and Adjustments

Lane width 12.0 ft
 Right-shoulder lateral clearance 6.0 ft
 Interchange density 0.50 interchange/mi
 Number of lanes, N 6
 Free-flow speed: Measured
 FFS or BFFS 65.0 mi/h
 Lane width adjustment, fLW 0.0 mi/h
 Lateral clearance adjustment, fLC 0.0 mi/h
 Interchange density adjustment, fID 0.0 mi/h
 Number of lanes adjustment, fN 0.0 mi/h
 Free-flow speed, FFS 65.0 mi/h
 Urban Freeway

LOS and Performance Measures

Flow rate, vp 1687 pc/h/ln
 Free-flow speed, FFS 65.0 mi/h
 Average passenger-car speed, S 64.6 mi/h
 Number of lanes, N 6
 Density, D 26.1 pc/mi/ln
 Level of service, LOS D

Overall results are not computed when free-flow speed is less than 55 mph.

LL66

APPENDIX MM

GENERAL PLAN BUILDOUT WITH PROJECT FREEWAY RAMP ANALYSIS

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/13/2005
Analysis time period: AM
Freeway/dir or travel: SR-73/Northbound
Junction: Bristol St.
Jurisdiction:
Analysis Year: General Plan With Project
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	10718	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	45.0	mph
Volume on ramp	2280	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	10718	2280	vph

mm3

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	2912	620		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	12524	2664		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v)P = 5871 \text{ pc/h}$
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	10020	9400	Yes
F _i F			
v	5871	4400	Yes
12			
v = v - v	7356	9400	No
F _O F R			
v	2664	2100	Yes
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 54.7 \text{ pc/mi/ln}$
 R 12 D

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, $D = 0.538$
 S

Space mean speed in ramp influence area, $S = 53 \text{ mph}$
 R

Space mean speed in outer lanes, $S = 67.1 \text{ mph}$
 O

Space mean speed for all vehicles, $S = 57.8 \text{ mph}$

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bristol St.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	5646	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	45.0	mph	
Volume on ramp	920	vph	
Length of first accel/decel lane	0	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	5646	920	vph

mm5

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1534	250		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	0.00		%
Length	0.00	0.00		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	6597	1075		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v)P = 3051$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	5608	9400	No
F _i F			
v	3051	4400	No
12			
v = v - v	4533	9400	No
F _O F R			
v	1075	2100	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 30.5$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, D = 0.395

S

Space mean speed in ramp influence area, S = 56 mph

R

Space mean speed in outer lanes, S = 70.2 mph

0

Space mean speed for all vehicles, S = 61.6 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 E-mail: _____

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bristol St.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	8932	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	2		
Free-Flow speed on ramp	45.0	mph	
Volume on ramp	2280	vph	
Length of first accel/decel lane	280	ft	
Length of second accel/decel lane	0	ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	8932	2280	mm 1 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	2427	620		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	0.00		%
Length	0.00	0.00		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, fHV		0.930	0.930	
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	10437	2664		pcph

Estimation of V12 Diverge Areas

$L = 0.00$ (Equation 25-8 or 25-9)
 EQ
 $P = 0.260$ Using Equation 0
 FD
 $v = v + (v - v) P = 4142$ pc/h
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
$v = v$	8350	9400	No
$F_i F$			
v	4142	4400	No
12			
$v = v - v$	5686	9400	No
$F_O F R$			
v	2664	4100	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 34.8$ pc/mi/ln
 R 12 D

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	D = 0.538
S	
Space mean speed in ramp influence area,	S = 53 mph
R	
Space mean speed in outer lanes,	S = 67.0 mph
0	
Space mean speed for all vehicles,	S = 59.0 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bristol St.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4705	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-Flow speed on ramp	45.0	mph
Volume on ramp	920	vph
Length of first accel/decel lane	280	ft
Length of second accel/decel lane	0	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
	Ramp		
Volume, V (vph)	4705	920	mm9 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1279	250		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	0.00		%
Length	0.00	0.00		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	5498	1075		pcph

Estimation of V12 Diverge Areas

$L = 0.00$ (Equation 25-8 or 25-9)
 EQ
 $P = 0.260$ Using Equation 0
 FD
 $v = v + (v - v)P = 2082$ pc/h
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
$v = v$	4949	9400	No
$F_i F$			
v	2082	4400	No
12			
$v = v - v$	3874	9400	No
$F_O F R$			
v	1075	4100	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 17.1$ pc/mi/ln
 R 12 D

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable,	D = 0.395
S	
Space mean speed in ramp influence area,	S = 56 mph
R	
Space mean speed in outer lanes,	S = 69.6 mph
0	
Space mean speed for all vehicles,	S = 63.1 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/13/2005
Analysis time period: AM
Freeway/dir or travel: SR-73/Southbound
Junction: Bristol St.
Jurisdiction:
Analysis Year: General Plan With Project
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	3457	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	2		
Free-Flow speed on ramp	45.0	mph	
Volume on ramp	1370	vph	
Length of first accel/decel lane	2725	ft	
Length of second accel/decel lane	0	ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	3457	1370	MMH vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	939	372		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	0.00	0.00	%
Length	0.00	0.00	0.00	mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, fHV		0.930	0.930	
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	4039	1601		pcph

Estimation of V12 Diverge Areas

$L = 0.00$ (Equation 25-8 or 25-9)
 EQ
 $P = 0.260$ Using Equation 0
 FD
 $v = v + (v - v) P = 2130$ pc/h
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
$v = v$	3636	9400	No
Fi F			
v	2130	4400	No
12			
$v = v - v$	2035	9400	No
FO F R			
v	1601	4100	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = -26.5$ pc/mi/ln
 R 12 D

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable,	D = 0.442
S	
Space mean speed in ramp influence area,	S = 55 mph
R	
Space mean speed in outer lanes,	S = 71.3 mph
0	
Space mean speed for all vehicles,	S = 60.6 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Bristol St.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	9137	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	2		
Free-Flow speed on ramp	45.0	mph	
Volume on ramp	690	vph	
Length of first accel/decel lane	2725	ft	
Length of second accel/decel lane	0	ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	9137	690	MM13 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	2483	187		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, f _{HV}		0.930	0.930	
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	10676	806		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.260 Using Equation 0

FD

$v = v + (v - v) P = 2817$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	8541	9400	No
F _i F			
v	2817	4400	No
12			
v = v - v	7735	9400	No
F _O F R			
v	806	4100	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = -20.6$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable, $D = 0.371$

S

Space mean speed in ramp influence area, $S = 56$ mph

R

Space mean speed in outer lanes, $S = 64.0$ mph

0

Space mean speed for all vehicles, $S = 61.3$ mph

MM14

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	7780	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	15.0	mph
Volume on ramp	480	vph
Length of first accel/decel lane	120	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	7780	480	
		MM15	vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2114	130	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	9091	561	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.237 Using Equation 4

FM

$v = v(P) = 1561 \text{ pc/h}$

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	7152	9400	No
v _{R12}	2122	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 21.0 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, M = 0.350

Space mean speed in ramp influence area, S = 57.0 mph

Space mean speed in outer lanes, S = 57.2 mph

Space mean speed for all vehicles, S = 57.1 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 E-mail: _____

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	4098	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	15.0	mph	
Volume on ramp	850	vph	
Length of first accel/decel lane	120	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4098	850	MM17 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1114	231	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	4788	993	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.183 Using Equation 4

FM

v = v (P) = 683 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	4728	9400	No
FO			
v	1676	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 17.3$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M = 0.338

S

Space mean speed in ramp influence area, S = 57.2 mph

R

Space mean speed in outer lanes, S = 61.3 mph

0

Space mean speed for all vehicles, S = 59.8 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	3483	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	40.0	mph
Volume on ramp	630	vph
Length of first accel/decel lane	1700	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	3483	630	MM19 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	946	171	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	4070	736	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
 EQ
 P = 0.600 Using Equation 4
 FM
 $v = v(P) = 1904$ pc/h
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	3911	9400	No
FO			
v	2640	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 15.1$ pc/mi/ln
 R R 12 A

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M = 0.240
 S
 Space mean speed in ramp influence area, S = 59.5 mph
 R
 Space mean speed in outer lanes, S = 64.5 mph
 0
 Space mean speed for all vehicles, S = 61.0 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 E-mail: _____

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	9205	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	1610	vph	
Length of first accel/decel lane	1700	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
	Ramp		
Volume, V (vph)	9205	1610	MM 2.1 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2501	437	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	10756	1881	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
 EQ
 P = 0.457 Using Equation 4
 FM
 $v = v(P) = 3769$ pc/h
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	10137	9400	Yes
v _{R12}	5650	4600	Yes

Level of Service Determination (if not F)

Density, $D = 5.475 + \frac{0.00734}{R} v + \frac{0.0078}{12} v - 0.00627 L = 38.0$ pc/mi/ln
 R R 12 A

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, M = 1.294
 S
 Space mean speed in ramp influence area, S = 35.2 mph
 R
 Space mean speed in outer lanes, S = 58.7 mph
 0
 Space mean speed for all vehicles, S = 42.8 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: AM
Freeway/dir or travel: SR-73/Southbound
Junction: Jamboree Rd.
Jurisdiction:
Analysis Year: General Plan w/ Project w/ Imp
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	2903	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	630	vph	
Length of first accel/decel lane	1570	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent	
	Ramp			
Volume, V (vph)	2903	630	MM 23	vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	789	171	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5*	
Recreational vehicle PCE, ER	2.0*	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	3392	736	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
EQ
P = 0.563 Using Equation 4
FM
 $v = v(P) = 1491$ pc/h
12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	3382	9400	No
FO			
v	2227	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_A - 0.00627 L = 12.7$ pc/mi/ln
R R 12 A

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M = 0.232
S
Space mean speed in ramp influence area, S = 59.7 mph
R
Space mean speed in outer lanes, S = 64.7 mph
0
Space mean speed for all vehicles, S = 61.3 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 E-mail: _____

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Jamboree Rd.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	7671	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	40.0	mph	
Volume on ramp	1610	vph	
Length of first accel/decel lane	1570	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
	Ramp		
Volume, V (vph)	7671	1610	MM 25 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2085	437	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	8963	1881	pcph

Estimation of V12 Merge Areas

$L = 0.00$ (Equation 25-2 or 25-3)
 EQ
 $P = 0.420$ Using Equation 4
 FM
 $v = v(P) = 2716$ pc/h
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	8344	9400	No
FO			
v	4597	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 30.6$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	$M = 0.582$
S	
Space mean speed in ramp influence area,	$S = 51.6$ mph
R	
Space mean speed in outer lanes,	$S = 60.1$ mph
0	
Space mean speed for all vehicles,	$S = 55.1$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/13/2005
Analysis time period: AM
Freeway/dir or travel: SR-73/Northbound
Junction: MacArthur Bl.
Jurisdiction:
Analysis Year: General Plan With Project
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	7780	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	2		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	930	vph	
Length of first accel/decel lane	1480	ft	
Length of second accel/decel lane	0	ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	7780	930	MM 21 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	2114	253		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	0.00		%
Length	0.00	0.00		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, fHV		0.930	0.930	
Driver population factor, fP	1.00	1.00		
Flow rate, vp	9091	1087		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.260 Using Equation 0

FD

$v = v + (v - v)P = 2695$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	7273	9400	No
Fi F			
v	2695	4400	No
12			
v = v - v	6186	9400	No
FO F R			
v	1087	3800	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 0.8$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable, $D = 0.591$

S

Space mean speed in ramp influence area, $S = 51$ mph

R

Space mean speed in outer lanes, $S = 66.3$ mph

0

Space mean speed for all vehicles, $S = 59.9$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: MacArthur Bl.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4098	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	490	vph
Length of first accel/decel lane	1480	ft
Length of second accel/decel lane	0	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4098	490	MM 29 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1114	133		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	4788	573		pcph

Estimation of V₁₂ Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.260 Using Equation 0

FD

$v = v + (v - v)P = 1545$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	4310	9400	No
F _i F			
v	1545	4400	No
12			
v = v - v	3737	9400	No
F _O F R			
v	573	3800	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 \frac{v}{R} - 0.009 \frac{L}{D} = -9.1$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable, $D = 0.545$

S

Space mean speed in ramp influence area, $S = 52$ mph

R

Space mean speed in outer lanes, $S = 69.8$ mph

O

Space mean speed for all vehicles, $S = 62.4$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: MacArthur Bl.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	7780	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	50.0	mph	
Volume on ramp	2570	vph	
Length of first accel/decel lane	340	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
		Ramp	
Volume, V (vph)	7780	2570	vph

M M 31

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2114	698	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	9091	3003	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = Using Equation 4

FM

$v = v (P) =$ pc/h
12 F FM

Capacity Checks

v	Actual	Maximum	LOS F?
FO	9594	9400	Yes
v		4600	Yes
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v + 0.0078 v - 0.00627 L =$ pc/mi/ln
R R 12 A

Level of service for ramp-freeway junction areas of influence

Speed Estimation

Intermediate speed variable,	M = 0.400
S	
Space mean speed in ramp influence area,	S = mph
R	
Space mean speed in outer lanes,	S = 53.6 mph
0	
Space mean speed for all vehicles,	S = 54.3 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: MacArthur Bl.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4098	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	50.0	mph
Volume on ramp	2210	vph
Length of first accel/decel lane	340	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4098	2210	vph

MM 33

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1114	601	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	4788	2582	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = Using Equation 4

FM

$v = v(P) =$ pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	6317	9400	No
FO			
v		4600	Yes
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A =$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence

Speed Estimation

Intermediate speed variable,	M = 0.342
S	
Space mean speed in ramp influence area,	S = mph
R	
Space mean speed in outer lanes,	S = 60.2 mph
0	
Space mean speed for all vehicles,	S = 58.9 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: MacArthur Bl.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	6483	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-flow speed on ramp	50.0	mph
Volume on ramp	2570	vph
Length of first accel/decel lane	340	ft
Length of second accel/decel lane	0	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	6483	2570	MM 35 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1762	698	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, fHV	0.930	0.930	
Driver population factor, fP	1.00	1.00	
Flow rate, v _p	7575	3003	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.209 Using Equation 0

FM

v = v₁₅ (P) = 1132 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	8420	9400	No
v _{R12}	4135	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 32.1$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, M = 0.497

S

Space mean speed in ramp influence area, S = 53.6 mph

R

Space mean speed in outer lanes, S = 59.1 mph

0

Space mean speed for all vehicles, S = 56.2 mph

MM36

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: MacArthur Bl.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	3415	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	2		
Free-flow speed on ramp	50.0	mph	
Volume on ramp	2210	vph	
Length of first accel/decel lane	340	ft	
Length of second accel/decel lane	0	ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	3415	2210	MM31 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	928	601	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, fHV	0.930	0.930	
Driver population factor, fP	1.00	1.00	
Flow rate, v _p	3990	2582	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
 EQ
 P = 0.209 Using Equation 0
 FM
 $v = v(P) = 651$ pc/h
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	5695	9400	No
FO			
v	3233	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 25.2$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, $M = 0.352$
 S
 Space mean speed in ramp influence area, $S = 56.9$ mph
 R
 Space mean speed in outer lanes, $S = 62.4$ mph
 0
 Space mean speed for all vehicles, $S = 59.1$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: MacArthur Bl.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2510	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	2220	vph
Length of first accel/decel lane	1340	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2510	2220	MM 39 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	682	603		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	2933	2594		pcph

Estimation of V12 Diverge Areas

$L = 0.00$ (Equation 25-8 or 25-9)
 EQ
 $P = 0.436$ Using Equation 8
 FD
 $v = v + (v - v) P = 2742$ pc/h
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	2933	9400	No
Fi F			
v	2742	4400	No
12			
v = v - v	339	9400	No
FO F R			
v	2594	2000	Yes
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 15.8$ pc/mi/ln
 R 12 D

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, $D = 0.726$
 S
 Space mean speed in ramp influence area, $S = 48$ mph
 R
 Space mean speed in outer lanes, $S = 71.3$ mph
 0
 Space mean speed for all vehicles, $S = 49.3$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 E-mail: _____

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: MacArthur Bl.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	6633	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	2310	vph	
Length of first accel/decel lane	1340	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	6633	2310	MM41 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1802	628		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	0.00		%
Length	0.00	0.00		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	7751	2699		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v)P = 4226$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	6201	9400	No
F _i F			
v	4226	4400	No
12			
v = v - v	3502	9400	No
F _O F R			
v	2699	2000	Yes
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 28.5$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, $D = 0.736$

S

Space mean speed in ramp influence area, $S = 48$ mph

R

Space mean speed in outer lanes, $S = 71.3$ mph

0

Space mean speed for all vehicles, $S = 53.6$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: MacArthur Bl.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2510	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	2220	vph
Length of first accel/decel lane	1340	ft
Length of second accel/decel lane	0	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2510	2220	MM 43 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	682	603		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, fHV		0.930	0.930	
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	2933	2594		pcph

Estimation of V12 Diverge Areas

$L = 0.00$ (Equation 25-8 or 25-9)
 EQ
 $P = 0.260$ Using Equation 0
 FD
 $v = v + (v - v)P = 2682$ pc/h
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
$v = v$	2933	9400	No
$F_i F$			
v	2682	4400	No
12			
$v = v - v$	339	9400	No
$F_O F R$			
v	2594	3800	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 3.2$ pc/mi/ln
 R 12 D

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable,	$D = 0.726$
S	
Space mean speed in ramp influence area,	$S = 48$ mph
R	
Space mean speed in outer lanes,	$S = 71.3$ mph
0	
Space mean speed for all vehicles,	$S = 49.7$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 E-mail: _____

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: MacArthur Bl.
 Jurisdiction: _____
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	6633	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	2		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	2310	vph	
Length of first accel/decel lane	1340	ft	
Length of second accel/decel lane	0	ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	6633	2310	vph
		MM 45	

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1802	628		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	0.00		%
Length	0.00	0.00		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, fHV		0.930	0.930	
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	7751	2699		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.260 Using Equation 0

FD

$v = v + (v - v)P = 3610$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	6201	9400	No
F _i F			
v	3610	4400	No
12			
v = v - v	3502	9400	No
F _O F R			
v	2699	3800	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 11.2$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, $D = 0.736$

S

Space mean speed in ramp influence area, $S = 48$ mph

R

Space mean speed in outer lanes, $S = 70.2$ mph

O

Space mean speed for all vehicles, $S = 55.4$ mph

MM46

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: University Dr.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	7780	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	20.0	mph
Volume on ramp	1310	vph
Length of first accel/decel lane	200	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	7780	1310	MM 47 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2114	356	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, fHV	0.930	0.930	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	9091	1531	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
 EQ
 P = 0.138 Using Equation 4
 FM
 $v = v(P) = 909$ pc/h
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	8122	9400	No
FO			
v	2440	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 22.5$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, $M = 0.358$
 S
 Space mean speed in ramp influence area, $S = 56.8$ mph
 R
 Space mean speed in outer lanes, $S = 55.2$ mph
 0
 Space mean speed for all vehicles, $S = 55.7$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: University Dr.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4098	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	20.0	mph
Volume on ramp	1470	vph
Length of first accel/decel lane	200	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4098	1470	MM 49 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1114	399	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	4788	1718	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
 EQ
 P = 0.115 Using Equation 4
 FM
 $v = v(P) = 428$ pc/h
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	5453	9400	No
v _{R12}	2146	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 20.2$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, $M = 0.346$
 S
 Space mean speed in ramp influence area, $S = 57.0$ mph
 R
 Space mean speed in outer lanes, $S = 60.8$ mph
 0
 Space mean speed for all vehicles, $S = 59.3$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: University Dr.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2510	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	35.0	mph
Volume on ramp	800	vph
Length of first accel/decel lane	1400	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2510	800	MM51 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	682	217		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	2933	935		pcph

Estimation of V₁₂ Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v)P = 1806$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	2933	9400	No
F _i F			
v	1806	4400	No
12			
v = v - v	1998	9400	No
F _O F R			
v	935	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 \frac{v}{R} - 0.009 \frac{L}{D} = 7.2$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable, $D = 0.512$

S

Space mean speed in ramp influence area, $S = 53$ mph

R

Space mean speed in outer lanes, $S = 71.3$ mph

O

Space mean speed for all vehicles, $S = 59.0$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: University Dr.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	6633	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	35.0	mph	
Volume on ramp	840	vph	
Length of first accel/decel lane	1400	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	6633	840	MM53 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1802	228		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	7751	982		pcph

Estimation of V₁₂ Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 3257 \text{ pc/h}$

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	6201	9400	No
F _i F			
v	3257	4400	No
12			
v = v - v	5219	9400	No
F _O F R			
v	982	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 19.7 \text{ pc/mi/ln}$

R 12 D

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, $D = 0.516$

S

Space mean speed in ramp influence area, $S = 53 \text{ mph}$

R

Space mean speed in outer lanes, $S = 69.5 \text{ mph}$

0

Space mean speed for all vehicles, $S = 59.8 \text{ mph}$

MM54

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/13/2005
Analysis time period: AM
Freeway/dir or travel: SR-73/Northbound
Junction: Bison Av.
Jurisdiction:
Analysis Year: General Plan With Project
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	7780	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	520	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	7780	520	MM55 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	2114	141		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, fHV		0.930	0.930	
Driver population factor, fP	1.00	1.00		
Flow rate, vp	9091	608		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 3514$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	7273	9400	No
Fi F			
v	3514	4400	No
12			
v = v - v	6665	9400	No
FO F R			
v	608	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 34.5$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, $D = 0.548$

S

Space mean speed in ramp influence area, $S = 52$ mph

R

Space mean speed in outer lanes, $S = 67.9$ mph

0

Space mean speed for all vehicles, $S = 59.4$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bison Av.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	4098	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	330	vph	
Length of first accel/decel lane	0	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4098	330	MM 57 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1114	90		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	0.00		%
Length	0.00	0.00		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, fHV		0.930	0.930	
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	4788	386		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v)P = 2097$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	4310	9400	No
Fi F			
v	2097	4400	No
12			
v = v - v	3924	9400	No
FO F R			
v	386	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 22.3$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, $D = 0.528$

S

Space mean speed in ramp influence area, $S = 53$ mph

R

Space mean speed in outer lanes, $S = 70.9$ mph

0

Space mean speed for all vehicles, $S = 60.8$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 E-mail: _____

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bison Av.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	7780	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	40.0	mph
Volume on ramp	280	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	7780	280	MM 59 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2114	76	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	9091	327	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.247 Using Equation 4

FM

$v = v(P) = 1625 \text{ pc/h}$

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	6918	9400	No
FO			
v	1952	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 \frac{v}{R} + 0.0078 \frac{v}{12} - 0.00627 \frac{L}{A} = 19.0 \text{ pc/mi/ln}$

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, $M = 0.328$

S

Space mean speed in ramp influence area, $S = 57.4 \text{ mph}$

R

Space mean speed in outer lanes, $S = 57.4 \text{ mph}$

0

Space mean speed for all vehicles, $S = 57.4 \text{ mph}$

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bison Av.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4098	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	40.0	mph
Volume on ramp	860	vph
Length of first accel/decel lane	250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4098	860	MM61 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1114	234	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	4788	1005	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.162 Using Equation 4

FM

$v = v(P) = 605$ pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	4740	9400	No
v _{R12}	1610	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 16.0$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, $M = 0.321$

Space mean speed in ramp influence area, $S_R = 57.6$ mph

Space mean speed in outer lanes, $S_O = 61.2$ mph

Space mean speed for all vehicles, $S = 59.9$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Bison Av.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2510	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	1000	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2510	1000	MM (2) vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	682	272		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, vp	2933	1168		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 1938$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
$v = v$	2933	9400	No
Fi F			
v	1938	4400	No
12			
$v = v - v$	1765	9400	No
FO F R			
v	1168	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 20.9$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, $D = 0.598$

S

Space mean speed in ramp influence area, $S = 51$ mph

R

Space mean speed in outer lanes, $S = 71.3$ mph

0

Space mean speed for all vehicles, $S = 56.7$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Bison Av.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	6633	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	380	vph	
Length of first accel/decel lane	0	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	6633	380	MM 65 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1802	103		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	0.00	0.00	%
Length	0.00	0.00	0.00	mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, f _{HV}		0.930	0.930	
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	7751	444		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 2954$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
$v = v$	6201	9400	No
F _i F			
v	2954	4400	No
12			
$v = v - v$	5757	9400	No
F _O F R			
v	444	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 29.7$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, $D = 0.533$

S

Space mean speed in ramp influence area, $S = 53$ mph

R

Space mean speed in outer lanes, $S = 68.9$ mph

0

Space mean speed for all vehicles, $S = 60.1$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Bison Av.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	2510	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	35.0	mph	
Volume on ramp	120	vph	
Length of first accel/decel lane	740	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2510	120	vph
		MM 67	

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	682	33	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	2933	140	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.436 Using Equation 4

FM

$v = v(P) = 998$ pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	2428	9400	No
FO			
v	1138	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 9.6$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable, $M = 0.281$

S

Space mean speed in ramp influence area, $S = 58.5$ mph

R

Space mean speed in outer lanes, $S = 64.5$ mph

0

Space mean speed for all vehicles, $S = 61.5$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: PM
Freeway/dir or travel: SR-73/Southbound
Junction: Bison Av.
Jurisdiction:
Analysis Year: General Plan With Project
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	6633	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	440	vph
Length of first accel/decel lane	740	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	6633	440	
		MM 69	vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1802	120	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	7751	514	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.389 Using Equation 4

FM

v = v (P) = 2157 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	6056	9400	No
v _{R12}	2671	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 \frac{v}{R} + 0.0078 \frac{v}{12} - 0.00627 \frac{L}{A} = 21.4$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, M = 0.326

S

Space mean speed in ramp influence area, S = 57.5 mph

R

Space mean speed in outer lanes, S = 60.7 mph

0

Space mean speed for all vehicles, S = 59.3 mph

MM 70

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bonita Canyon Dr.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	8998	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	980	vph
Length of first accel/decel lane	1250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	8998	980	MM 71 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	2445	266		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	10514	1145		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 4313$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	8412	9400	No
F _i F			
v	4313	4400	No
12			
v = v - v	7267	9400	No
F _O F R			
v	1145	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 30.1$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, $D = 0.596$

S

Space mean speed in ramp influence area, $S = 51$ mph

R

Space mean speed in outer lanes, $S = 67.2$ mph

0

Space mean speed for all vehicles, $S = 58.0$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bonita Canyon Dr.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4989	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	220	vph
Length of first accel/decel lane	1250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4989	220	vph
		<i>MM 73</i>	

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1356	60		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, vp	5830	257		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 2306$ pc/h
 12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
$v = v$	4956	9400	No
Fi F			
v	2306	4400	No
12			
$v = v - v$	4699	9400	No
FO F R			
v	257	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 12.8$ pc/mi/ln
 R 12 D

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, $D = 0.516$

S

Space mean speed in ramp influence area, $S = 53$ mph

R

Space mean speed in outer lanes, $S = 70.0$ mph

0

Space mean speed for all vehicles, $S = 61.0$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bonita Canyon Dr.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	7780	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	25.0	mph
Volume on ramp	720	vph
Length of first accel/decel lane	2440	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	7780	720	MM 15 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2114	196	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, fHV	0.930	0.930	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	9091	841	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
 EQ
 P = 1.000 Using Equation 4
 FM
 $v = v(P) = 6591$ pc/h
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v FO	7432	9400	No
v R12	7432	4600	Yes

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 47.8$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, $M = 6.787$
 S
 Space mean speed in ramp influence area, $S =$ mph
 R
 Space mean speed in outer lanes, $S = 65.0$ mph
 0
 Space mean speed for all vehicles, $S =$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bonita Canyon Dr.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4098	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	25.0	mph
Volume on ramp	420	vph
Length of first accel/decel lane	2440	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4098	420	MM17 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v15	1114	114	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, fHV	0.930	0.930	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	4788	491	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 1.000 Using Equation 4

FM

$v = v(P) = 3735$ pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	4226	9400	No
FO			
v	4226	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 \frac{v}{R} + 0.0078 \frac{v}{12} - 0.00627 \frac{L}{A} = 22.9$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, $M = 0.466$

S

Space mean speed in ramp influence area, $S = 54.3$ mph

R

Space mean speed in outer lanes, $S = 65.0$ mph

0

Space mean speed for all vehicles, $S = 54.3$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 E-mail: _____

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bonita Canyon Dr.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Irnp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	7780	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	25.0	mph	
Volume on ramp	720	vph	
Length of first accel/decel lane	1020	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	7780	720	MM 79 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v15	2114	196	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, fHV	0.930	0.930	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	9091	841	pcph

Estimation of V12 Merge Areas

$L = 0.00$ (Equation 25-2 or 25-3)
 EQ
 $P = 0.568$ Using Equation 4
 FM
 $v = v(P) = 3741$ pc/h
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	7432	9400	No
FO			
v	4582	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 34.4$ pc/mi/ln
 R R 12 A

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, $M = 0.651$
 S
 Space mean speed in ramp influence area, $S = 50.0$ mph
 R
 Space mean speed in outer lanes, $S = 61.7$ mph
 0
 Space mean speed for all vehicles, $S = 53.9$ mph

MM80

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Bonita Canyon Dr.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	4098	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	25.0	mph	
Volume on ramp	420	vph	
Length of first accel/decel lane	1020	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4098	420	MM 81 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1114	114	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	4788	491	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)
EQ
P = 0.611 Using Equation 4
FM
 $v = v(P) = 2283$ pc/h
12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	4226	9400	No
FO			
v	2774	4600	No
R12			

Level of Service Determination (if not F)

$$\text{Density, } D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 20.5 \text{ pc/mi/ln}$$

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, M = 0.332
S
Space mean speed in ramp influence area, S = 57.4 mph
R
Space mean speed in outer lanes, S = 64.2 mph
0
Space mean speed for all vehicles, S = 59.5 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Bonita Canyon Dr.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2510	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	410	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2510	410	MM 83 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	682	111		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, fHV		0.930	0.930	
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	2933	479		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 1549$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	2933	9400	No
F _i F			
v	1549	4400	No
12			
v = v - v	2454	9400	No
F _O F R			
v	479	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 17.6$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, $D = 0.536$

S

Space mean speed in ramp influence area, $S = 53$ mph

R

Space mean speed in outer lanes, $S = 71.3$ mph

0

Space mean speed for all vehicles, $S = 60.1$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Bonita Canyon Dr.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	6633	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	500	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	6633	500	<i>MM 85</i> vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1802	136		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	7751	584		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 3033$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	6201	9400	No
F _i F			
v	3033	4400	No
12			
v = v - v	5617	9400	No
F _O F R			
v	584	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 30.3$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, $D = 0.546$

S

Space mean speed in ramp influence area, $S = 52$ mph

R

Space mean speed in outer lanes, $S = 69.0$ mph

0

Space mean speed for all vehicles, $S = 59.8$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: AM
Freeway/dir or travel: SR-73/Southbound
Junction: Bonita Canyon Dr.
Jurisdiction:
Analysis Year: General Plan With Project
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2510	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	300	vph
Length of first accel/decel lane	400	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2510	300	<i>MM 87</i> vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	682	82	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	2933	351	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.301 Using Equation 4

FM

$v = v(P) = 689$ pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	2639	9400	No
v _{R12}	1040	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L = 10.9$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M = 0.304

Space mean speed in ramp influence area, S = 58.0 mph

Space mean speed in outer lanes, S = 63.9 mph

Space mean speed for all vehicles, S = 61.5 mph

MM 88

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: PM
Freeway/dir or travel: SR-73/Southbound
Junction: Bonita Canyon Dr.
Jurisdiction:
Analysis Year: General Plan With Project
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	6633	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	35.0	mph
Volume on ramp	820	vph
Length of first accel/decel lane	400	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
	Ramp		
Volume, V (vph)	6633	820	MM 89 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v15	1802	223	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, fHV	0.930	0.930	
Driver population factor, fP	1.00	1.00	
Flow rate, vp	7751	958	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.225 Using Equation 4

FM

$v = v(P) = 1250$ pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	6500	9400	No
FO			
v	2208	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 \frac{v}{R} + 0.0078 \frac{v}{12} - 0.00627 \frac{L}{A} = 19.7$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M = 0.328

S

Space mean speed in ramp influence area, S = 57.4 mph

R

Space mean speed in outer lanes, S = 59.1 mph

0

Space mean speed for all vehicles, S = 58.5 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/13/2005
Analysis time period: AM
Freeway/dir or travel: SR-73/Northbound
Junction: Newport Coast Dr.
Jurisdiction:
Analysis Year: General Plan With Project
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	10162	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	560	vph
Length of first accel/decel lane	0	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	10162	560	MM 91 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	2761	152		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00	%	0.00	%
Length	0.00	mi	0.00	mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, f _{HV}		0.930	0.930	
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	11874	654		pcph

Estimation of V₁₂ Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 4511$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	9500	9400	Yes
F _i F			
v	4511	4400	Yes
12			
v = v - v	8846	9400	No
F _O F R			
v	654	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 43.0$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, D = 0.552

S

Space mean speed in ramp influence area, S = 52 mph

R

Space mean speed in outer lanes, S = 65.5 mph

0

Space mean speed for all vehicles, S = 58.5 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	5353	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	290	vph	
Length of first accel/decel lane	0	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	5353	290	M M 93 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1455	79		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET		2.5	2.5	
Recreational vehicle PCE, ER		2.0	2.0	
Heavy vehicle adjustment, f _{HV}		0.930	0.930	
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	6255	339		pcph

Estimation of V₁₂ Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 2509$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	5317	9400	No
Fi F			
v	2509	4400	No
12			
v = v - v	4978	9400	No
FO F R			
v	339	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 25.8$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, D = 0.524

S

Space mean speed in ramp influence area, S = 53 mph

R

Space mean speed in outer lanes, S = 69.7 mph

0

Space mean speed for all vehicles, S = 60.7 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 E-mail: _____

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	8468	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	560	vph
Length of first accel/decel lane	240	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	8468	560	<i>MM 95</i> vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	2301	152		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	9895	654		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v)P = 3820$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	7916	9400	No
Fi F			
v	3820	4400	No
12			
v = v - v	7262	9400	No
FO F R			
v	654	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 34.9$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, $D = 0.552$

S

Space mean speed in ramp influence area, $S = 52$ mph

R

Space mean speed in outer lanes, $S = 67.2$ mph

0

Space mean speed for all vehicles, $S = 59.1$ mph

MM96

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/13/2005
Analysis time period: PM
Freeway/dir or travel: SR-73/Northbound
Junction: Newport Coast Dr.
Jurisdiction:
Analysis Year: General Plan w/ Project w/ Imp
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	4461	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	290	vph	
Length of first accel/decel lane	240	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4461	290	MM 97 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	1212	79		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Rolling	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	5213	339		pcph

Estimation of V₁₂ Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v) P = 2237$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v F _i F	4692	9400	No
v 12	2237	4400	No
v = v - v F _O F R	4353	9400	No
v R	339	2000	No

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 21.3$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, $D = 0.524$

S

Space mean speed in ramp influence area, $S = 53$ mph

R

Space mean speed in outer lanes, $S = 70.4$ mph

O

Space mean speed for all vehicles, $S = 60.9$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Northbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	10162	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	25.0	mph
Volume on ramp	480	vph
Length of first accel/decel lane	1250	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	10162	480	MM 99 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2761	130	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	11874	561	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.705 Using Equation 4

FM

$v = v(P) = 6610$ pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	9935	9400	Yes
v _{R12}	7171	4600	Yes

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 \frac{v}{R} + 0.0078 \frac{v}{12} - 0.00627 \frac{L}{A} = 53.3$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, M = 5.333

Space mean speed in ramp influence area, S = mph

Space mean speed in outer lanes, S = 61.8 mph

Space mean speed for all vehicles, S = 222.2 mph

MM 100

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: PM
Freeway/dir or travel: SR-73/Northbound
Junction: Newport Coast Dr.
Jurisdiction:
Analysis Year: General Plan With Project
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	5353	vph	

On Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-flow speed on ramp	25.0	mph	
Volume on ramp	330	vph	
Length of first accel/decel lane	1250	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent Ramp		vph	
Position of adjacent Ramp			
Type of adjacent Ramp			
Distance to adjacent Ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	5353	330	
		MM 101	vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1455	90	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	6255	386	pcph

Estimation of V12 Merge Areas

$L = 0.00$ (Equation 25-2 or 25-3)
 EQ
 $P = 0.727$ Using Equation 4
 FM
 $v = v(P) = 3456$ pc/h
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	5140	9400	No
v _{R12}	3842	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 27.4$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, S	M = 0.440
Space mean speed in ramp influence area, S _R	S = 54.9 mph
Space mean speed in outer lanes, S ₀	S = 64.5 mph
Space mean speed for all vehicles, S	S = 57.0 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: AM
Freeway/dir or travel: SR-73/Northbound
Junction: Newport Coast Dr.
Jurisdiction:
Analysis Year: General Plan w/ Project w/ Imp
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	8468	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	25.0	mph
Volume on ramp	480	vph
Length of first accel/decel lane	860	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	8468	480	MM 103 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2301	130	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	9895	561	pcph

Estimation of V12 Merge Areas

$L = 0.00$ (Equation 25-2 or 25-3)
 EQ
 $P = 0.531$ Using Equation 4
 FM
 $v = v(P) = 3928$ pc/h
 12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v	7956	9400	No
FO			
v	4489	4600	No
R12			

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L = 34.8$ pc/mi/ln
 R R 12 A

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, S	M = 0.625
Space mean speed in ramp influence area, S _R	S = 50.6 mph
Space mean speed in outer lanes, S ₀	S = 60.6 mph
Space mean speed for all vehicles, S	S = 54.5 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: PM
Freeway/dir or travel: SR-73/Northbound
Junction: Newport Coast Dr.
Jurisdiction:
Analysis Year: General Plan w/ Project w/ Imp
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	4461	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	25.0	mph
Volume on ramp	330	vph
Length of first accel/decel lane	860	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	4461	330	MM105 vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	1212	90	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Rolling
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, fHV	0.930	0.930	
Driver population factor, fP	1.00	1.00	
Flow rate, v _p	5213	386	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.553 Using Equation 4

FM

v = v₁₂ (P) = 2249 pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	4453	9400	No
v _{R12}	2635	4600	No

Level of Service Determination (if not F)

Density, D = 5.475 + 0.00734 v_R + 0.0078 v₁₂ - 0.00627 L = 20.5 pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, M = 0.332

S

Space mean speed in ramp influence area, S = 57.4 mph

R

Space mean speed in outer lanes, S = 63.5 mph

0

Space mean speed for all vehicles, S = 59.7 mph

MM 106

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/13/2005
Analysis time period: AM
Freeway/dir or travel: SR-73/Southbound
Junction: Newport Coast Dr.
Jurisdiction:
Analysis Year: General Plan With Project
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	2903	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	680	vph	
Length of first accel/decel lane	0	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2903	680	MM 107

Peak-hour factor, PHF	0.92	0.92			
Peak 15-min volume, v ₁₅	789	185			v
Trucks and buses	5	5			%
Recreational vehicles	0	0			%
Terrain type:	Rolling	Rolling			Level
Grade	0.00	0.00	%	%	%
Length	0.00	0.00	mi	mi	mi
Trucks and buses PCE, ET		2.5		2.5	
Recreational vehicle PCE, ER		2.0		2.0	
Heavy vehicle adjustment, fHV		0.930		0.930	
Driver population factor, fP	1.00	1.00			
Flow rate, v _p	3392	795			pcph

Estimation of V₁₂ Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v)P = 1927$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	3392	9400	No
F _i F			
v	1927	4400	No
12			
v = v - v	2597	9400	No
F _O F R			
v	795	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 20.8$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, $D = 0.565$

S

Space mean speed in ramp influence area, $S = 52$ mph

R

Space mean speed in outer lanes, $S = 71.3$ mph

0

Space mean speed for all vehicles, $S = 58.9$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	7671	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	1050	vph	
Length of first accel/decel lane	0	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	7671	1050	MM 109 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	2085	285		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Level	
Grade	0.00 %	0.00 %		%
Length	0.00 mi	0.00 mi		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	8963	1227		pcph

Estimation of V₁₂ Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v)P = 3819$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	7171	9400	No
F _i F			
v	3819	4400	No
12			
v = v - v	5944	9400	No
F _O F R			
v	1227	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 37.1$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence E

Speed Estimation

Intermediate speed variable, $D = 0.603$

S

Space mean speed in ramp influence area, $S = 51$ mph

R

Space mean speed in outer lanes, $S = 68.7$ mph

0

Space mean speed for all vehicles, $S = 58.1$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: AM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge		
Number of lanes in freeway	5		
Free-flow speed on freeway	65.0	mph	
Volume on freeway	2903	vph	

Off Ramp Data

Side of freeway	Right		
Number of lanes in ramp	1		
Free-Flow speed on ramp	30.0	mph	
Volume on ramp	680	vph	
Length of first accel/decel lane	240	ft	
Length of second accel/decel lane		ft	

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No		
Volume on adjacent ramp		vph	
Position of adjacent ramp			
Type of adjacent ramp			
Distance to adjacent ramp		ft	

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2903	680	vph
		<i>MM III</i>	

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	789	185		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Level	
Grade	0.00	0.00		%
Length	0.00	0.00		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, fHV	0.930	0.930		
Driver population factor, fP	1.00	1.00		
Flow rate, v _p	3392	795		pcph

Estimation of V₁₂ Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v)P = 1927$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	3392	9400	No
Fi F			
v	1927	4400	No
12			
v = v - v	2597	9400	No
FO F R			
v	795	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 18.7$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, $D = 0.565$

S

Space mean speed in ramp influence area, $S = 52$ mph

R

Space mean speed in outer lanes, $S = 71.3$ mph

0

Space mean speed for all vehicles, $S = 58.9$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: _____ Fax: _____
 E-mail: _____

Diverge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/13/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan w/ Project w/ Imp
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	7671	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	30.0	mph
Volume on ramp	1050	vph
Length of first accel/decel lane	240	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	7671	1050	MM 113 vph

Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v ₁₅	2085	285		v
Trucks and buses	5	5		%
Recreational vehicles	0	0		%
Terrain type:	Rolling	Rolling	Level	
Grade	0.00	0.00		%
Length	0.00	0.00		mi
Trucks and buses PCE, ET	2.5	2.5		
Recreational vehicle PCE, ER	2.0	2.0		
Heavy vehicle adjustment, f _{HV}	0.930	0.930		
Driver population factor, f _P	1.00	1.00		
Flow rate, v _p	8963	1227		pcph

Estimation of V12 Diverge Areas

L = 0.00 (Equation 25-8 or 25-9)

EQ

P = 0.436 Using Equation 8

FD

$v = v + (v - v)P = 3819$ pc/h

12 R F R FD

Capacity Checks

	Actual	Maximum	LOS F?
v = v	7171	9400	No
F _i F			
v	3819	4400	No
12			
v = v - v	5944	9400	No
F _O F R			
v	1227	2000	No
R			

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v - 0.009 L = 34.9$ pc/mi/ln

R 12 D

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable, $D = 0.603$

S

Space mean speed in ramp influence area, $S = 51$ mph

R

Space mean speed in outer lanes, $S = 68.7$ mph

0

Space mean speed for all vehicles, $S = 58.1$ mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
Agency/Co.: Urban Crossroads
Date performed: 12/12/2005
Analysis time period: AM
Freeway/dir or travel: SR-73/Southbound
Junction: Newport Coast Dr.
Jurisdiction:
Analysis Year: General Plan With Project
Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	2903	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	30.0	mph
Volume on ramp	460	vph
Length of first accel/decel lane	360	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	2903	460	
		<i>MM 115</i>	vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	789	125	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Level
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	3392	537	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.284 Using Equation 4

FM

$v = v(P) = 753$ pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	3183	9400	No
v _{R12}	1290	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 13.0$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable, M = 0.314

Space mean speed in ramp influence area, S = 57.8 mph

Space mean speed in outer lanes, S = 63.4 mph

Space mean speed for all vehicles, S = 61.0 mph

HCS2000: Ramps and Ramp Junctions Release 4.1c

Phone: Fax:
E-mail:

Merge Analysis

Analyst: Archie Tan
 Agency/Co.: Urban Crossroads
 Date performed: 12/12/2005
 Analysis time period: PM
 Freeway/dir or travel: SR-73/Southbound
 Junction: Newport Coast Dr.
 Jurisdiction:
 Analysis Year: General Plan With Project
 Description: Newport Beach General Plan Update

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	5	
Free-flow speed on freeway	65.0	mph
Volume on freeway	7671	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	30.0	mph
Volume on ramp	600	vph
Length of first accel/decel lane	360	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent
Volume, V (vph)	7671	600	<i>MM 117</i> vph

Peak-hour factor, PHF	0.92	0.92	
Peak 15-min volume, v ₁₅	2085	163	v
Trucks and buses	5	5	%
Recreational vehicles	0	0	%
Terrain type:	Rolling	Rolling	Level
Grade	%	%	%
Length	mi	mi	mi
Trucks and buses PCE, ET	2.5	2.5	
Recreational vehicle PCE, ER	2.0	2.0	
Heavy vehicle adjustment, f _{HV}	0.930	0.930	
Driver population factor, f _P	1.00	1.00	
Flow rate, v _p	8963	701	pcph

Estimation of V12 Merge Areas

L = 0.00 (Equation 25-2 or 25-3)

EQ

P = 0.264 Using Equation 4

FM

$v = v(P) = 1706$ pc/h

12 F FM

Capacity Checks

	Actual	Maximum	LOS F?
v _{FO}	7164	9400	No
v _{R12}	2407	4600	No

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A = 21.7$ pc/mi/ln

Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, M = 0.343

S

Space mean speed in ramp influence area, S = 57.1 mph

R

Space mean speed in outer lanes, S = 58.0 mph

O

Space mean speed for all vehicles, S = 57.7 mph