APPENDIX H
FORECAST IMPROVED LONG-RANGE FUTURE CONDITIONS HCM LOS ANALYSIS SHEETS

Weekday AM Peak Hour

LRWP-AM Tue May 20, 2008 15:51:34 Page 2-1

TORRANCE CITYWIDE TRAFFIC STUDY (10-104211)
IMPROVED FORECAST LONG-RANGE CONDITIONS
WEEKDAY AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #15 Anza Ave/Sepulveda Blvd

Cycle (sec): 120 Critical Vol./Cap.(X): 0.769
Loss Time (sec): 8 (Y+R=4.0 sec) Average Delay (sec/veh): 41.3
Optimal Cycle: 61 Level Of Service: D

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected						Protected						Protected					
Rights:	Include						Include						Include						Include					
Min. Green:	0		0		0		0		0		0		0		0		0		0		0		0	
Lanes:	2	0	2	0	1		2	0	2	0	1		1	0	2	0	1		1	0	2	0	1	
Volume Module: 0730-0830																								
Base Vol:	224	936		357			265	698		79			241	881		231			229	649		153		
Growth Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
Initial Bse:	224	936		357			265	698		79			241	881		231			229	649		153		
Added Vol:	14	5		3			2	5		0			0	-24		30			1	82		3		
PasserByVol:	0	0		0			0	0		0			0	0		0			0	0		0		
Initial Fut:	238	941		360			267	703		79			241	857		261			230	731		156		
User Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
PHF Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
PHF Volume:	238	941		360			267	703		79			241	857		261			230	731		156		
Reduct Vol:	0	0		0			0	0		0			0	0		0			0	0		0		
Reduced Vol:	238	941		360			267	703		79			241	857		261			230	731		156		
PCE Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
MLF Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
FinalVolume:	238	941		360			267	703		79			241	857		261			230	731		156		
Saturation Flow Module:																								
Sat/Lane:	1900	1900		1900			1900	1900		1900			1900	1900		1900			1900	1900		1900		
Adjustment:	0.84	0.95		0.95			0.84	0.95		0.95			0.89	0.95		0.95			0.89	0.95		0.95		
Lanes:	2.00	2.00		1.00			2.00	2.00		1.00			1.00	2.00		1.00			1.00	2.00		1.00		
Final Sat.:	3200	3600		1800			3200	3600		1800			1700	3600		1800			1700	3600		1800		
Capacity Analysis Module:																								
Vol/Sat:	0.07	0.26		0.20			0.08	0.20		0.04			0.14	0.24		0.15			0.14	0.20		0.09		
Crit Moves:		****					****							****					****					
Green/Cycle:	0.12	0.34		0.34			0.11	0.32		0.32			0.20	0.31		0.31			0.18	0.29		0.29		
Volume/Cap:	0.60	0.77		0.59			0.77	0.60		0.14			0.71	0.77		0.47			0.77	0.71		0.30		
Delay/Veh:	52.4	38.5		34.2			62.1	34.9		28.7			51.7	40.9		34.1			58.7	40.8		33.9		
User DelAdj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
AdjDel/Veh:	52.4	38.5		34.2			62.1	34.9		28.7			51.7	40.9		34.1			58.7	40.8		33.9		
LOS by Move:	D	D		C			E	C		C			D	D		C			E	D		C		
HCM2kAvgQ:	6	18		12			8	12		2			11	17		8			11	14		5		

Note: Queue reported is the number of cars per lane.

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TORRANCE CITYWIDE TRAFFIC STUDY (10-104211)
IMPROVED FORECAST LONG-RANGE CONDITIONS
WEEKDAY AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #70 Hawthorne Blvd/Redondo Bch Blvd

Cycle (sec): 120 Critical Vol./Cap.(X): 0.700
Loss Time (sec): 8 (Y+R=4.0 sec) Average Delay (sec/veh): 23.2
Optimal Cycle: 50 Level Of Service: C

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected						Split Phase						Split Phase					
Rights:	Include						Include						Include						Ignore					
Min. Green:	0		0		0		0		0		0		0		0		0		0		0		0	
Lanes:	1	0	3	0	1		2	0	3	1	0		1	1	0	1	0		2	0	2	0	1	
Volume Module: 0730-0830																								
Base Vol:	17	2179		441			109	1626		110			129	351		3			361	238		184		
Growth Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
Initial Bse:	17	2179		441			109	1626		110			129	351		3			361	238		184		
Added Vol:	0	45		2			0	50		0			0	-13		0			1	13		1		
PasserByVol:	0	0		0			0	0		0			0	0		0			0	0		0		
Initial Fut:	17	2224		443			109	1676		110			129	338		3			362	251		185		
User Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		0.00		
PHF Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		0.00		
PHF Volume:	17	2224		443			109	1676		110			129	338		3			362	251		0		
Reduct Vol:	0	0		0			0	0		0			0	0		0			0	0		0		
Reduced Vol:	17	2224		443			109	1676		110			129	338		3			362	251		0		
PCE Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		0.00		
MLF Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		0.00		
FinalVolume:	17	2224		443			109	1676		110			129	338		3			362	251		0		
Saturation Flow Module:																								
Sat/Lane:	1900	1900		1900			1900	1900		1900			1900	1900		1900			1900	1900		1900		
Adjustment:	0.89	0.95		0.95			0.84	0.95		0.95			0.89	0.95		0.95			0.84	0.95		0.95		
Lanes:	1.00	3.00		1.00			2.00	3.75		0.25			1.00	1.98		0.02			2.00	2.00		1.00		
Final Sat.:	1700	5400		1800			3200	6757		443			1700	3568		32			3200	3600		1800		
Capacity Analysis Module:																								
Vol/Sat:	0.01	0.41		0.25			0.03	0.25		0.25			0.08	0.09		0.09			0.11	0.07		0.00		
Crit Moves:		****					****									****			****					
Green/Cycle:	0.02	0.59		0.59			0.05	0.61		0.61			0.14	0.14		0.14			0.16	0.16		0.00		
Volume/Cap:	0.41	0.70		0.42			0.70	0.41		0.41			0.56	0.70		0.70			0.70	0.43		0.00		
Delay/Veh:	63.9	18.0		13.8			69.5	12.1		12.1			49.4	52.9		52.9			51.8	45.9		0.0		
User DelAdj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
AdjDel/Veh:	63.9	18.0		13.8			69.5	12.1		12.1			49.4	52.9		52.9			51.8	45.9		0.0		
LOS by Move:	E	B		B			E	B		B			D	D		D			D	D		A		
HCM2kAvgQ:	1	20		9			4	9		9			6	8		8			9	5		0		

Note: Queue reported is the number of cars per lane.

Weekday PM Peak Hour

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TORRANCE CITYWIDE TRAFFIC STUDY (10-104211)
IMPROVED FORECAST LONG-RANGE CONDITIONS
WEEKDAY PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #15 Anza Ave/Sepulveda Blvd

Cycle (sec): 120 Critical Vol./Cap.(X): 0.917
Loss Time (sec): 8 (Y+R=4.0 sec) Average Delay (sec/veh): 48.5
Optimal Cycle: 119 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	2 0	1	2 0	2 0	1	1 0	2 0	1	1 0	2 0	1
Volume Module:1630-1730												
Base Vol:	292	943	215	326	1057	161	165	942	218	278	994	329
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	292	943	215	326	1057	161	165	942	218	278	994	329
Added Vol:	43	11	3	6	11	0	0	97	21	4	32	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	335	954	218	332	1068	161	165	1039	239	282	1026	334
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	335	954	218	332	1068	161	165	1039	239	282	1026	334
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	335	954	218	332	1068	161	165	1039	239	282	1026	334
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	335	954	218	332	1068	161	165	1039	239	282	1026	334
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.84	0.95	0.95	0.84	0.95	0.95	0.89	0.95	0.95	0.89	0.95	0.95
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	3200	3600	1800	3200	3600	1800	1700	3600	1800	1700	3600	1800
Capacity Analysis Module:												
Vol/Sat:	0.10	0.27	0.12	0.10	0.30	0.09	0.10	0.29	0.13	0.17	0.29	0.19
Crit Moves:	****				****			****		****		
Green/Cycle:	0.11	0.31	0.31	0.12	0.32	0.32	0.13	0.31	0.31	0.18	0.37	0.37
Volume/Cap:	0.92	0.84	0.39	0.84	0.92	0.28	0.77	0.92	0.42	0.92	0.77	0.50
Delay/Veh:	79.9	44.2	32.5	66.5	50.4	30.4	66.5	51.2	33.0	79.0	36.2	29.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	79.9	44.2	32.5	66.5	50.4	30.4	66.5	51.2	33.0	79.0	36.2	29.9
LOS by Move:	E	D	C	E	D	C	E	D	C	E	D	C
HCM2kAvgQ:	11	20	7	10	24	5	8	23	7	15	19	10

Note: Queue reported is the number of cars per lane.

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TORRANCE CITYWIDE TRAFFIC STUDY (10-104211)
IMPROVED FORECAST LONG-RANGE CONDITIONS
WEEKDAY PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #70 Hawthorne Blvd/Redondo Bch Blvd

Cycle (sec): 120 Critical Vol./Cap.(X): 0.816
Loss Time (sec): 8 (Y+R=4.0 sec) Average Delay (sec/veh): 36.8
Optimal Cycle: 72 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	3 0	1	2 0	3 1	0	1 1	0 1	0	2 0	2 0	1
Volume Module:1700-1800												
Base Vol:	203	1786	730	59	1979	99	108	435	40	691	389	104
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	203	1786	730	59	1979	99	108	435	40	691	389	104
Added Vol:	0	98	1	1	85	0	0	-43	0	3	-51	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	203	1884	731	60	2064	99	108	392	40	694	338	104
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	203	1884	731	60	2064	99	108	392	40	694	338	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	203	1884	731	60	2064	99	108	392	40	694	338	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	203	1884	731	60	2064	99	108	392	40	694	338	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.89	0.91	0.95	0.84	0.92	0.95	0.89	0.95	0.95	0.84	0.95	0.95
Lanes:	1.00	3.00	1.00	2.00	3.82	0.18	1.00	1.81	0.19	2.00	2.00	1.00
Final Sat.:	1700	5187	1800	3200	6667	320	1700	3267	333	3200	3600	1800
Capacity Analysis Module:												
Vol/Sat:	0.12	0.36	0.41	0.02	0.31	0.31	0.06	0.12	0.12	0.22	0.09	0.00
Crit Moves:			****	****				****		****		
Green/Cycle:	0.14	0.50	0.50	0.02	0.38	0.38	0.15	0.15	0.15	0.27	0.27	0.00
Volume/Cap:	0.82	0.73	0.82	0.82	0.82	0.82	0.43	0.82	0.82	0.82	0.35	0.00
Delay/Veh:	69.5	24.9	31.4	106.8	36.1	36.1	46.9	57.4	57.4	47.5	35.9	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	69.5	24.9	31.4	106.8	36.1	36.1	46.9	57.4	57.4	47.5	35.9	0.0
LOS by Move:	E	C	C	F	D	D	D	E	E	D	D	A
HCM2kAvgQ:	10	21	26	3	22	22	4	10	10	16	5	0

Note: Queue reported is the number of cars per lane.