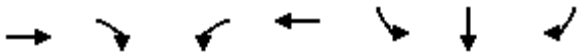
APPENDIX 7.6

General Plan Buildout (Post-2035) With Project Conditions
Ramp Queuing Analysis Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	607	1463	0	0	1471	554	293	0	950	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	660	1590	0	0	1599	602	318	0	1033	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2201			1590			4810	5111	1590	5842	4810	1900
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2201			1590			4810	5111	1590	5842	4810	1900
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	0			100			0	0	0	0	0	100
cM capacity (veh/h)	228			418			0	0	134	0	0	87

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	660	1590	2201	1351
Volume Left	660	0	0	318
Volume Right	0	0	602	1033
cSH	228	1700	1700	0
Volume to Capacity	2.90	0.94	1.29	Err
Queue Length 95th (ft)	1457	0	0	Err
Control Delay (s)	898.6	0.0	0.0	Err
Lane LOS	F			F
Approach Delay (s)	263.5		0.0	Err
Approach LOS				F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	229.5%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1436	812	914	2212	579	557	526
v/c Ratio	1.05	0.87	1.18	0.93	1.69	1.50	1.40
Control Delay	70.6	22.7	130.9	24.9	351.4	266.2	223.3
Queue Delay	0.0	0.0	0.0	44.9	0.0	0.0	0.0
Total Delay	70.6	22.7	130.9	69.8	351.4	266.2	223.3
Queue Length 50th (ft)	~581	217	~398	651	~631	~558	~482
Queue Length 95th (ft)	#719	#514	#524	#841	#857	#795	#706
Internal Link Dist (ft)	622			431		943	
Turn Bay Length (ft)			100		250		250
Base Capacity (vph)	1371	930	777	2367	343	372	377
Starvation Cap Reductn	0	0	0	422	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.87	1.18	1.14	1.69	1.50	1.40

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

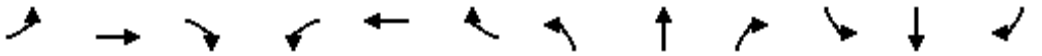


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	354	1934	2087	778	718	690	653
v/c Ratio	0.98	0.66	1.29	0.84	1.54	1.43	1.38
Control Delay	79.6	13.2	162.2	14.6	281.3	232.8	211.3
Queue Delay	0.0	0.5	0.7	1.6	0.0	0.0	0.0
Total Delay	79.6	13.7	162.9	16.2	281.3	232.8	211.3
Queue Length 50th (ft)	201	242	~558	49	~610	~552	~487
Queue Length 95th (ft)	#375	293	#654	#317	#835	#790	#711
Internal Link Dist (ft)		431	249			865	
Turn Bay Length (ft)	200				240		240
Base Capacity (vph)	361	2924	1623	927	466	481	472
Starvation Cap Reductn	0	509	302	51	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.80	1.58	0.89	1.54	1.43	1.38

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

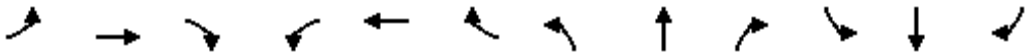
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	836	365	277	928	0	0	0	0	350	0	586
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	909	397	301	1009	0	0	0	0	380	0	637
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												8
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1009			1305			2838	2520	909	2520	2916	1009
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1009			1305			2838	2520	909	2520	2916	1009
tC, single (s)	4.1			4.2			7.1	6.5	6.2	7.6	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.3	4.0	4.0	3.3
p0 queue free %	100			41			0	100	100	0	100	0
cM capacity (veh/h)	695			511			0	12	336	7	6	294

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	909	397	301	1009	1017
Volume Left	0	0	301	0	380
Volume Right	0	397	0	0	637
cSH	1700	1700	511	1700	18
Volume to Capacity	0.53	0.23	0.59	0.59	56.55
Queue Length 95th (ft)	0	0	94	0	Err
Control Delay (s)	0.0	0.0	21.7	0.0	Err
Lane LOS			C		F
Approach Delay (s)	0.0		5.0		Err
Approach LOS					F

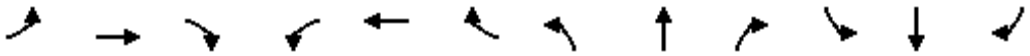
Intersection Summary				
Average Delay	2802.2			
Intersection Capacity Utilization	178.8%	ICU Level of Service	H	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	740	446	0	0	789	141	416	0	501	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	804	485	0	0	858	153	452	0	545	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1011			485			3028	3104	485	3572	3028	934
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1011			485			3028	3104	485	3572	3028	934
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	0			100			0	0	7	0	0	100
cM capacity (veh/h)	674			1089			0	0	586	0	0	325

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	804	485	1011	997
Volume Left	804	0	0	452
Volume Right	0	0	153	545
cSH	674	1700	1700	0
Volume to Capacity	1.19	0.29	0.59	Err
Queue Length 95th (ft)	683	0	0	Err
Control Delay (s)	122.8	0.0	0.0	Err
Lane LOS	F			F
Approach Delay (s)	76.6		0.0	Err
Approach LOS				F

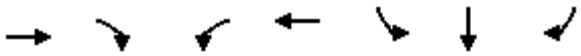
Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	178.8%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	770	1965	0	0	1947	551	416	0	745	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	837	2136	0	0	2116	599	452	0	810	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2715			2136			6226	6525	2136	7035	6226	2416
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2715			2136			6226	6525	2136	7035	6226	2416
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	0			100			0	0	0	0	0	100
cM capacity (veh/h)	147			257			0	0	63	0	0	42

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	837	2136	2715	1262
Volume Left	837	0	0	452
Volume Right	0	0	599	810
cSH	147	1700	1700	0
Volume to Capacity	5.70	1.26	1.60	Err
Queue Length 95th (ft)	Err	0	0	Err
Control Delay (s)	2174.9	0.0	0.0	Err
Lane LOS	F			F
Approach Delay (s)	612.3		0.0	Err
Approach LOS				F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	385.8%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	2179	1092	808	2263	630	607	576
v/c Ratio	1.51	1.14	1.01	0.94	1.67	1.54	1.47
Control Delay	262.8	95.0	76.9	25.1	343.1	282.3	252.3
Queue Delay	0.0	0.0	0.0	44.8	0.0	0.0	0.0
Total Delay	262.8	95.0	76.9	69.9	343.1	282.3	252.3
Queue Length 50th (ft)	~1131	~673	~300	671	~684	~621	~548
Queue Length 95th (ft)	#1268	#930	#430	#865	#914	#865	#778
Internal Link Dist (ft)	622			431		943	
Turn Bay Length (ft)			100		250		250
Base Capacity (vph)	1439	956	800	2414	377	395	393
Starvation Cap Reductn	0	0	0	435	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.51	1.14	1.01	1.14	1.67	1.54	1.47

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

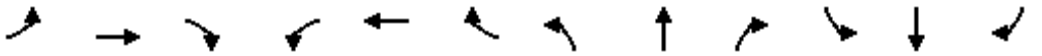


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	691	2352	1861	858	757	733	696
v/c Ratio	1.76	0.77	1.11	0.95	1.62	1.51	1.46
Control Delay	377.5	15.3	90.1	31.1	317.3	263.0	244.7
Queue Delay	0.0	1.9	0.8	10.4	0.0	0.0	0.0
Total Delay	377.5	17.2	90.9	41.6	317.3	263.0	244.7
Queue Length 50th (ft)	~591	331	~448	165	~658	~606	~540
Queue Length 95th (ft)	#802	393	#544	#463	#888	#849	#768
Internal Link Dist (ft)		431	249			865	
Turn Bay Length (ft)	200				240		240
Base Capacity (vph)	393	3067	1672	899	466	487	476
Starvation Cap Reductn	0	526	364	49	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.76	0.93	1.42	1.01	1.62	1.51	1.46

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

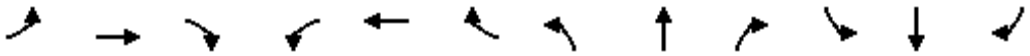
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1027	286	290	747	0	0	0	0	628	0	441
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1116	311	315	812	0	0	0	0	683	0	479
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												8
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	812			1427			2798	2559	1116	2559	2870	812
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	812			1427			2798	2559	1116	2559	2870	812
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.0	3.3
p0 queue free %	100			34			0	100	100	0	100	0
cM capacity (veh/h)	823			476			0	9	255	8	6	376

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	1116	311	315	812	1162
Volume Left	0	0	315	0	683
Volume Right	0	311	0	0	479
cSH	1700	1700	476	1700	13
Volume to Capacity	0.66	0.18	0.66	0.48	91.78
Queue Length 95th (ft)	0	0	119	0	Err
Control Delay (s)	0.0	0.0	26.1	0.0	Err
Lane LOS			D		F
Approach Delay (s)	0.0		7.3		Err
Approach LOS					F

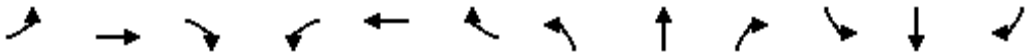
Intersection Summary			
Average Delay	3128.5		
Intersection Capacity Utilization	185.2%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	546	1109	0	0	637	415	400	0	337	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	593	1205	0	0	692	451	435	0	366	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1143			1205			3310	3536	1205	3677	3310	918
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1143			1205			3310	3536	1205	3677	3310	918
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	1			100			0	100	0	0	100	100
cM capacity (veh/h)	600			586			0	0	226	0	0	332

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	593	1205	1143	801
Volume Left	593	0	0	435
Volume Right	0	0	451	366
cSH	600	1700	1700	1
Volume to Capacity	0.99	0.71	0.67	1326.72
Queue Length 95th (ft)	363	0	0	Err
Control Delay (s)	60.2	0.0	0.0	Err
Lane LOS	F			F
Approach Delay (s)	19.9		0.0	Err
Approach LOS				F

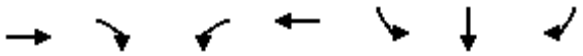
Intersection Summary			
Average Delay	2149.3		
Intersection Capacity Utilization	185.2%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	817	1671	0	0	1650	413	394	0	311	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	834	1705	0	0	1684	421	402	0	317	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2105			1705			5267	5478	1705	5584	5267	1894
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2105			1705			5267	5478	1705	5584	5267	1894
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	0			100			0	0	0	0	0	100
cM capacity (veh/h)	265			378			0	0	114	0	0	88

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	834	1705	2105	719
Volume Left	834	0	0	402
Volume Right	0	0	421	317
cSH	265	1700	1700	0
Volume to Capacity	3.15	1.00	1.24	Err
Queue Length 95th (ft)	Err	0	0	Err
Control Delay (s)	1006.3	0.0	0.0	Err
Lane LOS	F			F
Approach Delay (s)	330.5		0.0	Err
Approach LOS				F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	322.4%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1680	910	768	2023	496	475	455
v/c Ratio	1.18	0.96	0.97	0.84	1.32	1.22	1.17
Control Delay	119.5	36.7	67.9	17.5	195.4	153.0	132.6
Queue Delay	0.0	0.0	0.0	34.6	0.0	0.0	0.0
Total Delay	119.5	36.7	67.9	52.2	195.4	153.0	132.6
Queue Length 50th (ft)	~750	336	278	506	~476	~409	~360
Queue Length 95th (ft)	#888	#657	#402	622	#691	#635	#572
Internal Link Dist (ft)	622			431		943	
Turn Bay Length (ft)			100		250		250
Base Capacity (vph)	1425	944	792	2414	377	389	390
Starvation Cap Reductn	0	0	0	525	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.18	0.96	0.97	1.07	1.32	1.22	1.17

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

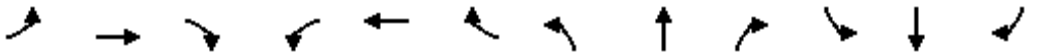


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	440	1920	1897	1020	681	646	620
v/c Ratio	1.08	0.63	1.13	1.09	1.49	1.36	1.30
Control Delay	101.6	12.5	98.6	71.9	261.3	202.6	177.4
Queue Delay	0.0	0.5	0.8	3.0	0.0	0.0	0.0
Total Delay	101.6	13.0	99.4	74.8	261.3	202.6	177.4
Queue Length 50th (ft)	~281	233	~464	~396	~569	~497	~442
Queue Length 95th (ft)	#463	278	#560	#637	#790	#730	#662
Internal Link Dist (ft)		431	249			865	
Turn Bay Length (ft)	200				240		240
Base Capacity (vph)	409	3067	1672	933	456	474	476
Starvation Cap Reductn	0	616	360	42	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.78	1.45	1.14	1.49	1.36	1.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

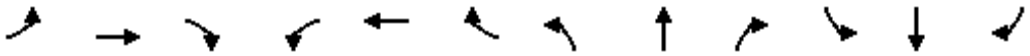
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	892	166	242	458	0	0	0	0	497	0	242
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	929	173	252	477	0	0	0	0	518	0	252
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												8
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	477			1102			2036	1910	929	1910	2083	477
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	477			1102			2036	1910	929	1910	2083	477
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			60			100	100	100	0	100	57
cM capacity (veh/h)	1096			626			17	41	327	36	32	586

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	929	173	252	477	770
Volume Left	0	0	252	0	518
Volume Right	0	173	0	0	252
cSH	1700	1700	626	1700	52
Volume to Capacity	0.55	0.10	0.40	0.28	14.86
Queue Length 95th (ft)	0	0	49	0	Err
Control Delay (s)	0.0	0.0	14.6	0.0	Err
Lane LOS			B		F
Approach Delay (s)	0.0		5.0		Err
Approach LOS					F

Intersection Summary			
Average Delay	2960.7		
Intersection Capacity Utilization	122.5%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	536	853	0	0	468	20	233	0	238	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	576	917	0	0	503	22	251	0	256	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	525			917			2584	2595	917	2840	2584	514
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	525			917			2584	2595	917	2840	2584	514
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	45			100			0	100	23	100	100	100
cM capacity (veh/h)	1042			752			9	11	331	1	12	564

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	576	917	525	506
Volume Left	576	0	0	251
Volume Right	0	0	22	256
cSH	1042	1700	1700	19
Volume to Capacity	0.55	0.54	0.31	27.29
Queue Length 95th (ft)	88	0	0	Err
Control Delay (s)	12.6	0.0	0.0	Err
Lane LOS	B			F
Approach Delay (s)	4.9		0.0	Err
Approach LOS				F

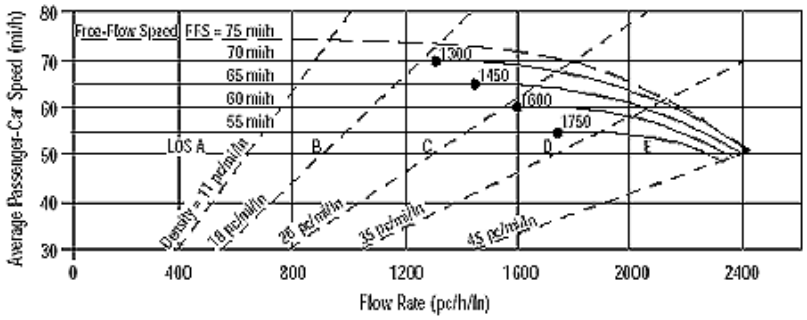
Intersection Summary			
Average Delay	2008.6		
Intersection Capacity Utilization	122.5%	ICU Level of Service	H
Analysis Period (min)	15		

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APPENDIX 7.7

General Plan Buildout (Post-2035) Without Project Conditions
Basic Freeway Segment HCS+ Analysis Worksheets

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*9/5/2013*
Analysis Time Period	*AM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*North of Nichols Road*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4310*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1632*	pc/h/ln
S	*69.3*	mi/h
D = v_p / S	*23.6*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

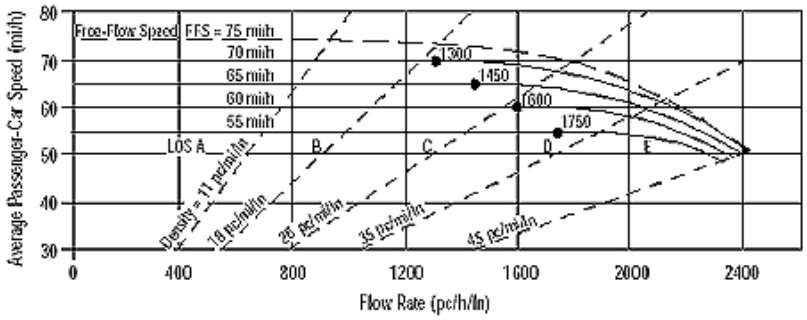
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*9/5/2013*
Analysis Time Period	*AM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*Nichols Road to Central Avenue*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4174*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1580*	pc/h/ln
S	*69.5*	mi/h
D = v_p / S	*22.7*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

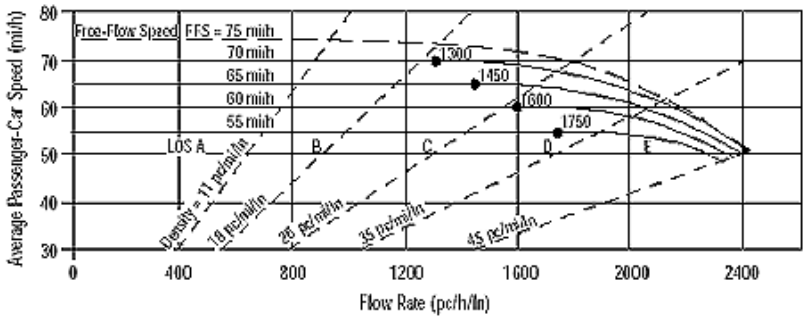
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*9/5/2013*
Analysis Time Period	*AM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*Central Avenue to Main Street*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4241*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1606*	pc/h/ln
S	*69.4*	mi/h
D = v_p / S	*23.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)		
Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

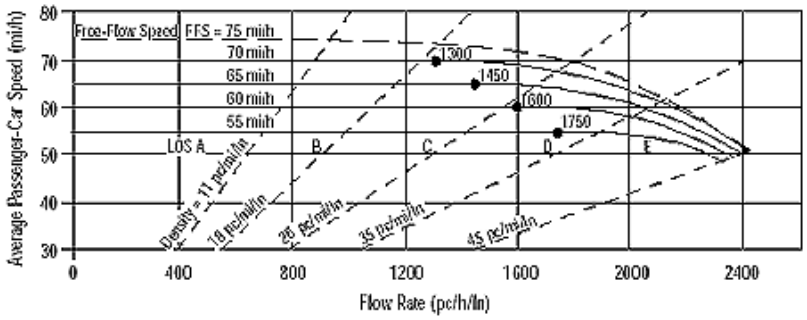
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*9/5/2013*
Analysis Time Period	*AM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*Main Street to Railroad Canyon*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3947*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1502*	pc/h/ln
S	*69.8*	mi/h
D = v_p / S	*21.5*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

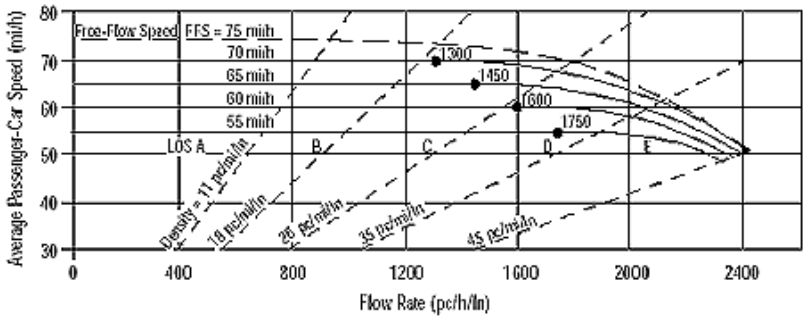
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		Site Information	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*South of Railroad Canyon*
Date Performed	*4/4/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3770*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	l/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1427*	pc/h/ln
S	*69.9*	mi/h
D = v_p / S	*20.4*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

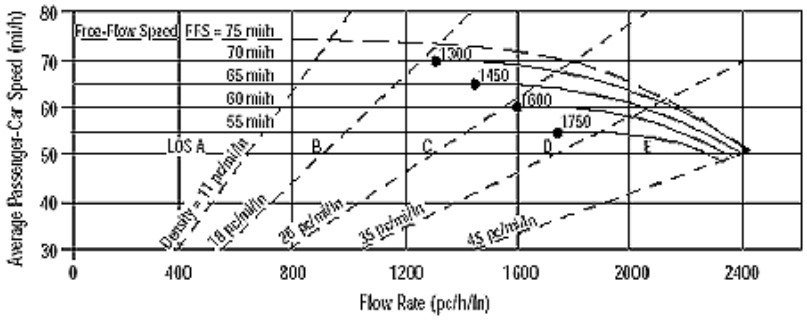
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*North of Nichols Road*
Date Performed	*9/5/2013*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6315*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

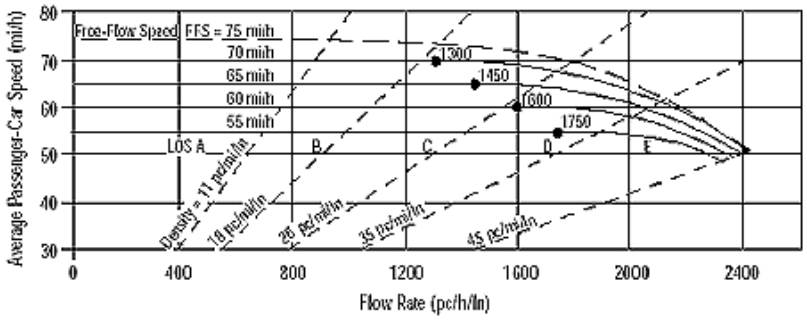
LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2391*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*53.7*	mi/h	S	mi/h
D = v_p / S	*44.5*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*E*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Nichols Road to Central Avenue*
Date Performed	*9/5/2013*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*6386*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

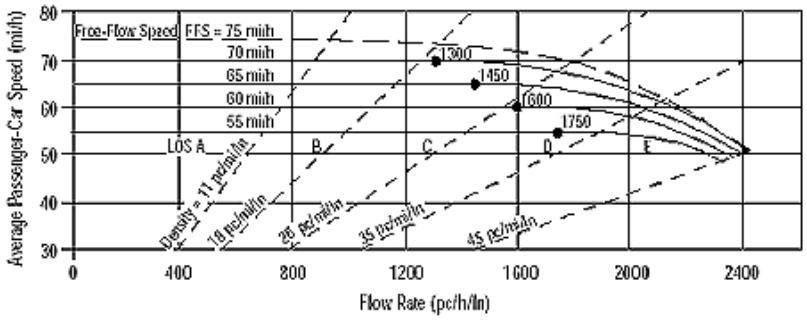
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	I/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2418*	pc/h/ln	Design LOS		
S		mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
D = v_p / S		pc/mi/ln	S		mi/h
LOS	*F*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Central Avenue to Main Street*
Date Performed	*9/5/2013*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7210*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.962*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	I/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

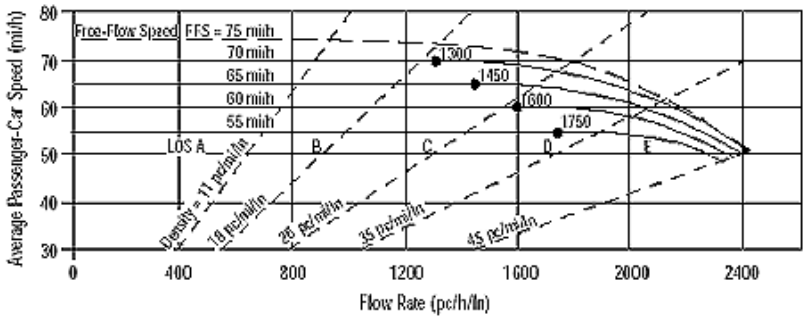
LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2717*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S		mi/h	S	mi/h
D = v_p / S		pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*F*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*9/5/2013*
Analysis Time Period	*AM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*Main Street to Railroad Canyon*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7246*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.962*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2730*	pc/h/ln
S		mi/h
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

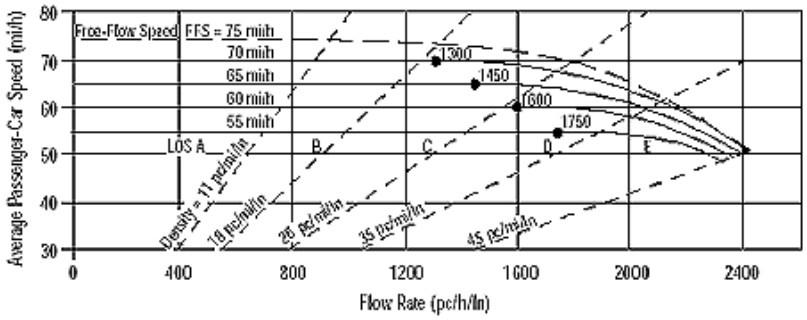
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*9/5/2013*
Analysis Time Period	*AM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*S of Railroad Canyon*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6568*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2487*	pc/h/ln
S		mi/h
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)		
Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

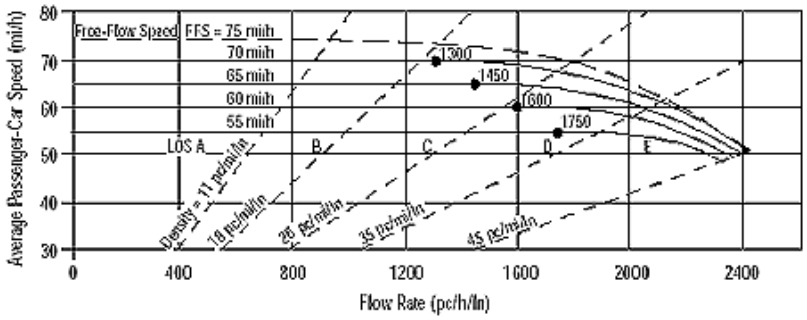
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*9/5/2013*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*North of Nichols Road*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6568*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.962*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	l/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2475*	pc/h/ln
S		mi/h
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)		
Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

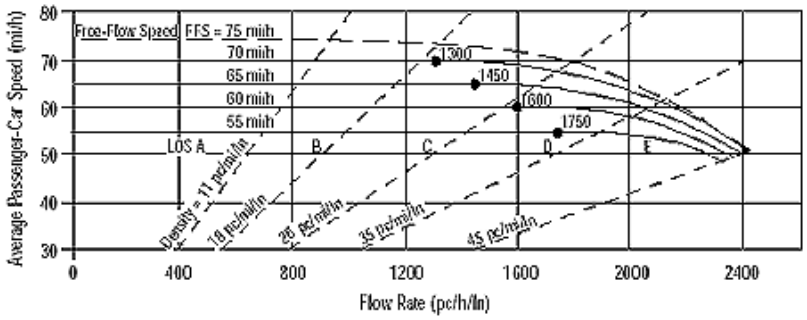
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*9/5/2013*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*Nichols Road to Central Avenue*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6378*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.962*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2403*	pc/h/ln
S		mi/h
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

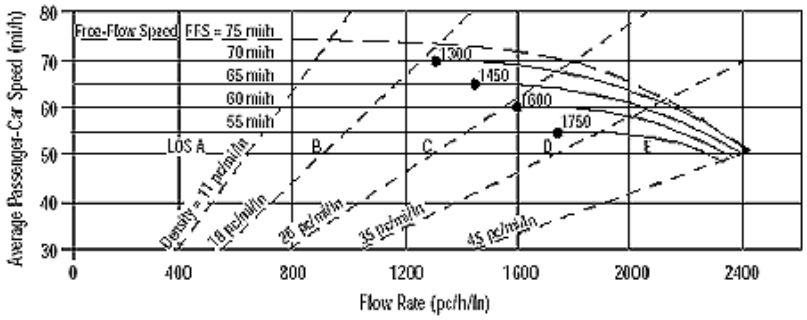
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Central Avenue to Main Street*
Date Performed	*9/5/2013*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6442*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.962*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	I/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

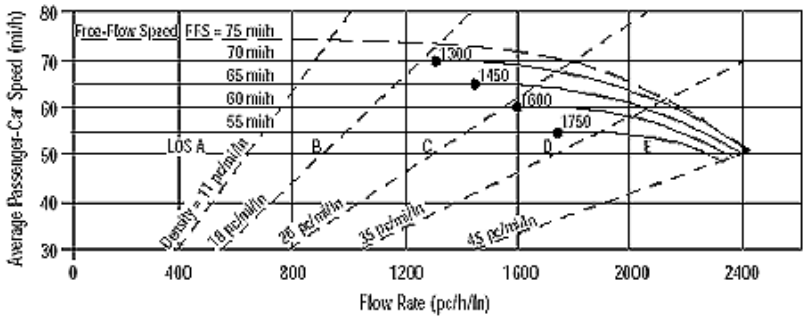
LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2427*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S		mi/h	S	mi/h
D = v_p / S		pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*F*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*9/5/2013*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*Main Street to Railroad Canyon*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5949*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2252*	pc/h/ln
S	*58.6*	mi/h
D = v_p / S	*38.5*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

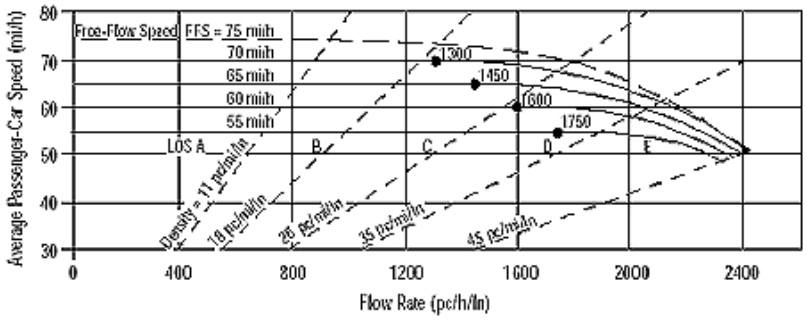
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*South of Railroad Canyon*
Date Performed	*4/4/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5571*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

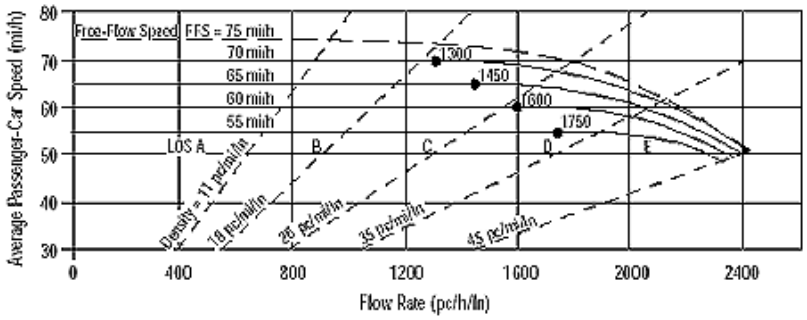
LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2109*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*62.5*	mi/h	S	mi/h
D = v_p / S	*33.7*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*9/5/2013*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*North of Nichols Road*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5726*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*11*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.948*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2189*	pc/h/ln
S	*60.4*	mi/h
D = v_p / S	*36.2*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

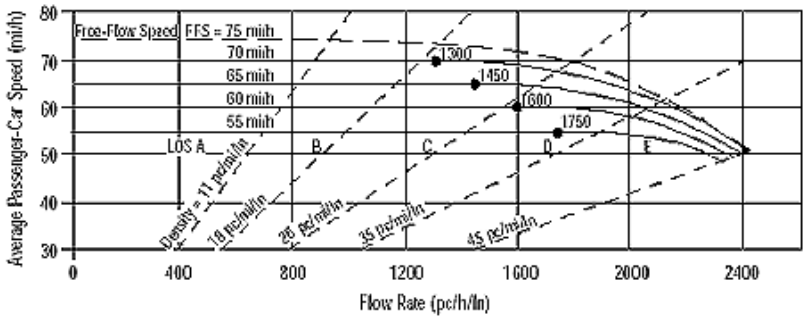
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Nichols Road to Central Avenue*
Date Performed	*9/5/2013*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*5549*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*11*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.948*

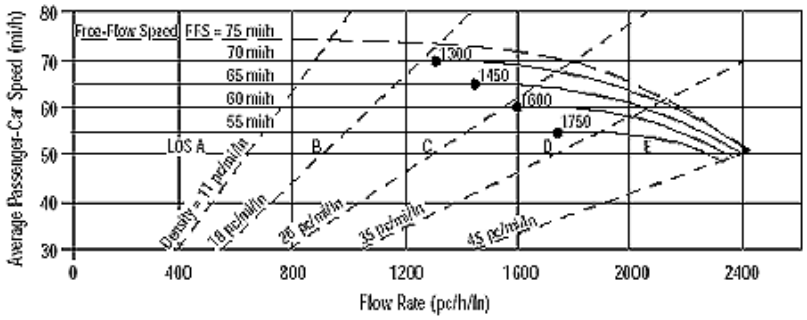
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	I/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2121*	pc/h/ln	Design LOS		
S	*62.2*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
D = v_p / S	*34.1*	pc/mi/ln	S		mi/h
LOS	*D*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*9/5/2013*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*Central Avenue to Main Street*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6152*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2340*	pc/h/ln
S	*55.6*	mi/h
D = v_p / S	*42.1*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)		
Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

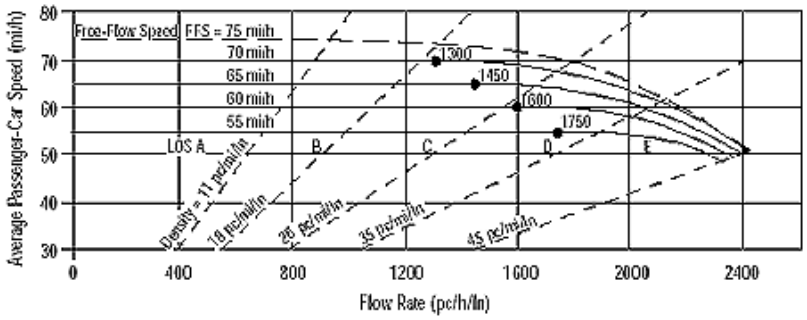
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*9/5/2013*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*Main Street to Railroad Canyon*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5928*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2255*	pc/h/ln
S	*58.5*	mi/h
D = v_p / S	*38.6*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

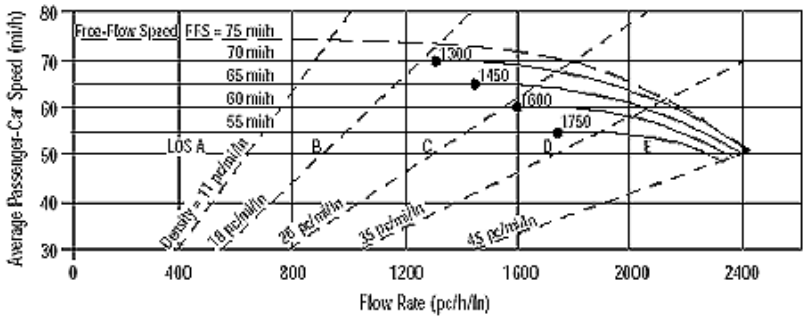
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*9/5/2013*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*S of Railroad Canyon*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5735*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*11*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.948*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2192*	pc/h/ln
S	*60.3*	mi/h
D = v_p / S	*36.3*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)		
Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

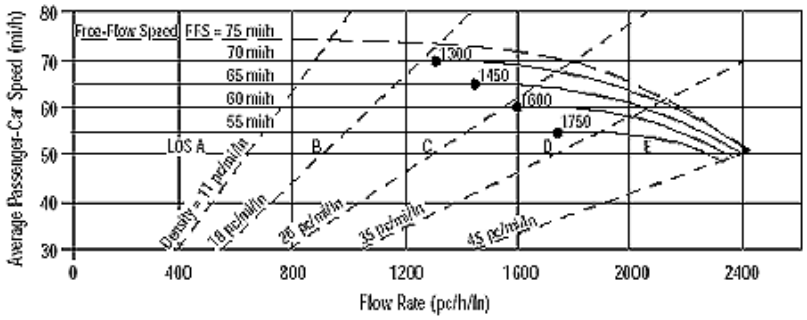
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*North of Nichols Road*
Date Performed	*9/5/2013*	Jurisdiction	*Caltrans*
Analysis Time Period	*Saturday Mid-Day Peak Hour*	Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5775*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.962*

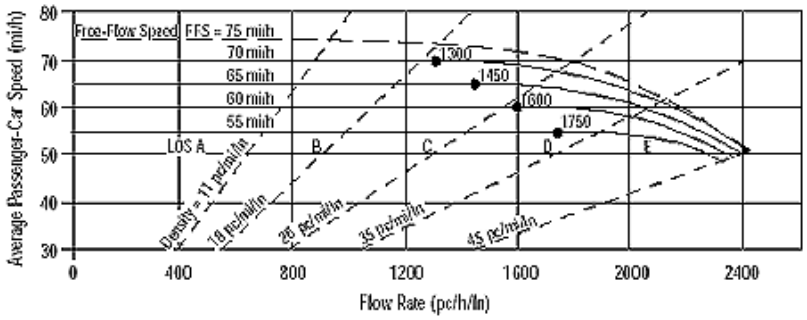
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	I/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2176*	pc/h/ln	Design LOS v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*60.8*	mi/h	S	mi/h
D = v_p / S	*35.8*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*E*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*9/5/2013*
Analysis Time Period	*Saturday Mid-Day Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*Nichols Road to Central Avenue*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5510*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.962*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2076*	pc/h/ln
S	*63.3*	mi/h
D = v_p / S	*32.8*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

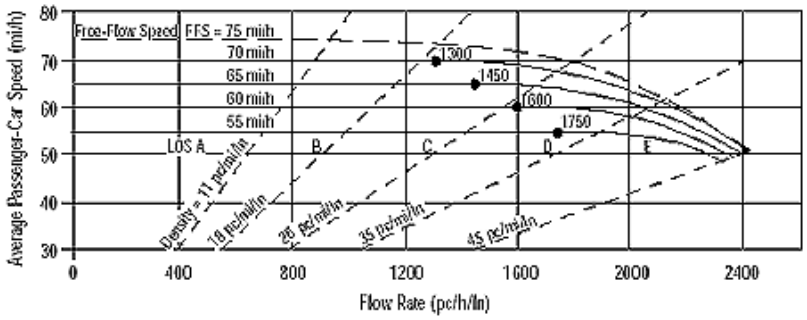
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*9/5/2013*
Analysis Time Period	*Saturday Mid-Day Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*Central Avenue to Main Street*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5733*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.962*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2160*	pc/h/ln
S	*61.2*	mi/h
D = v_p / S	*35.3*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)		
Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

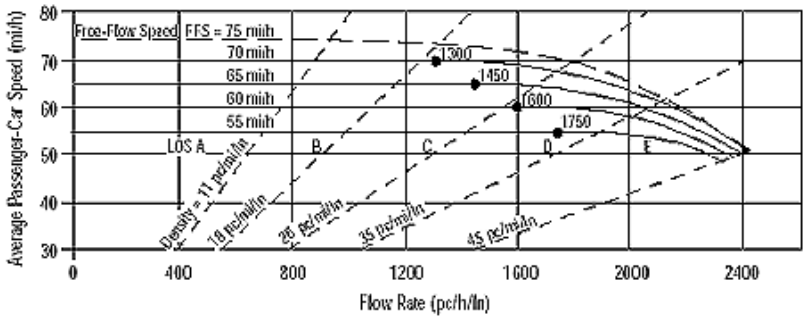
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*9/5/2013*
Analysis Time Period	*Saturday Mid-Day Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*Main Street to Railroad Canyon*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5402*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2045*	pc/h/ln
S	*63.9*	mi/h
D = v_p / S	*32.0*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

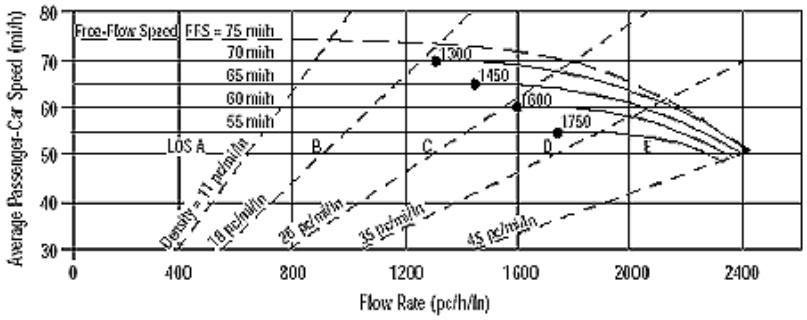
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*South of Railroad Canyon*
Date Performed	*9/5/2013*	Jurisdiction	*Caltrans*
Analysis Time Period	*Saturday Mid-Day Peak Hour*	Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*5113*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

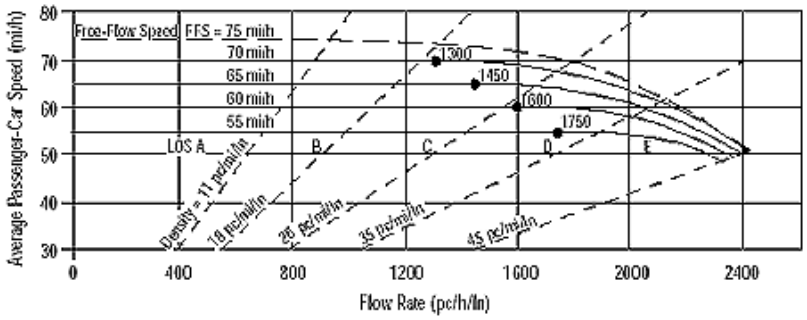
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1936*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*66.0*	mi/h	S	mi/h
D = v_p / S	*29.3*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*North of Nichols Road*
Date Performed	*9/5/2013*	Jurisdiction	*Caltrans*
Analysis Time Period	*Saturday Mid-Day Peak Hour*	Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5280*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*11*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.948*

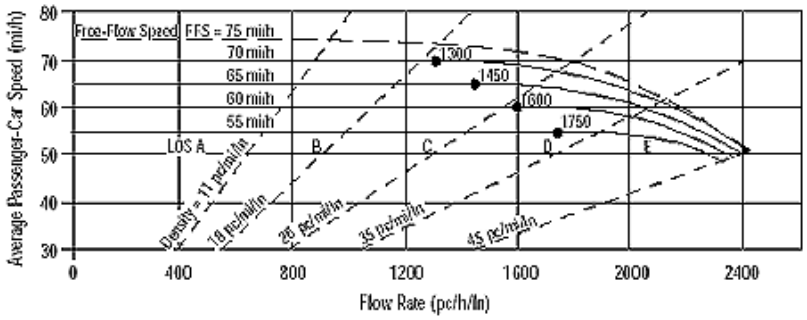
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	I/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2018*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.5*	mi/h	S	mi/h
D = v_p / S	*31.3*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Nichols Road to Central Avenue*
Date Performed	*9/5/2013*	Jurisdiction	*Caltrans*
Analysis Time Period	*Saturday Mid-Day Peak Hour*	Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*4731*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*12*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.943*

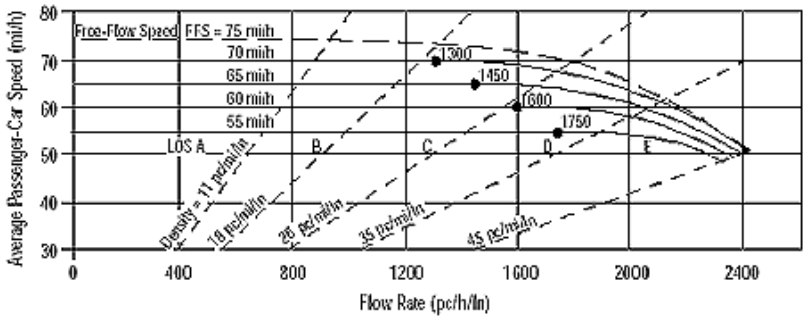
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	I/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1817*	pc/h/ln	Design LOS		
S	*67.7*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
D = v_p / S	*26.9*	pc/mi/ln	S		mi/h
LOS	*D*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*9/5/2013*
Analysis Time Period	*Saturday Mid-Day Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*Central Avenue to Main Street*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5183*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*11*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.948*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1981*	pc/h/ln
S	*65.2*	mi/h
D = v_p / S	*30.4*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)	
Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

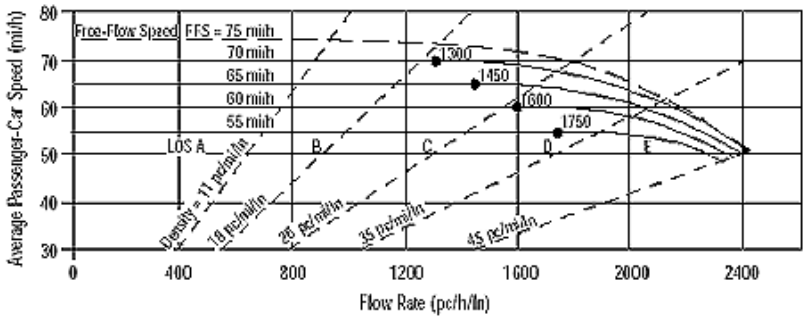
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*9/5/2013*
Analysis Time Period	*Saturday Mid-Day Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*Main Street to Railroad Canyon*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5098*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*12*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.943*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1958*	pc/h/ln
S	*65.6*	mi/h
D = v_p / S	*29.8*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

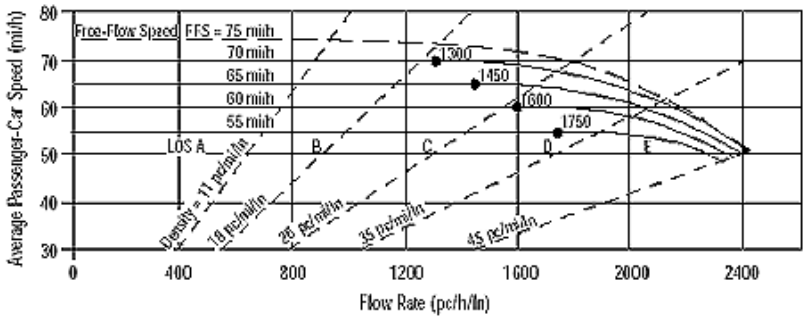
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*9/5/2013*
Analysis Time Period	*Saturday Mid-Day Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*S of Railroad Canyon*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 NP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4364*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1684*	pc/h/ln
S	*68.9*	mi/h
D = v_p / S	*24.4*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)		
Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

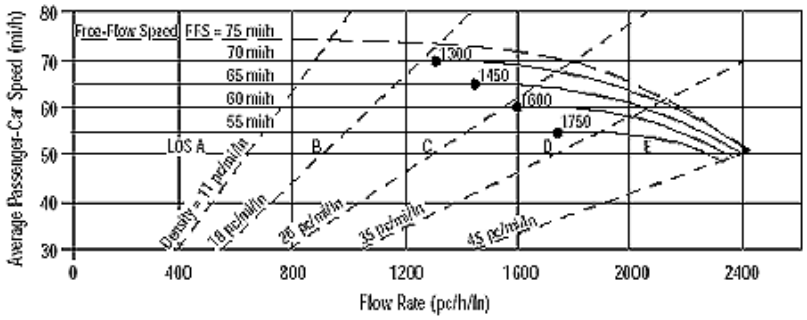
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APPENDIX 7.8

General Plan Buildout (Post-2035) With Project Conditions
Basic Freeway Segment HCS+ Analysis Worksheets

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*AM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*North of Nichols Road*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4365*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.962*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1645*	pc/h/ln
S	*69.2*	mi/h
D = v_p / S	*23.8*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

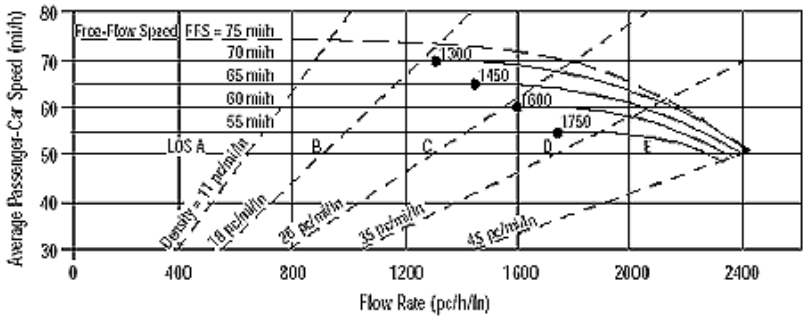
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*AM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*Nichols Road to Central Avenue*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4242*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1606*	pc/h/ln
S	*69.4*	mi/h
D = v_p / S	*23.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

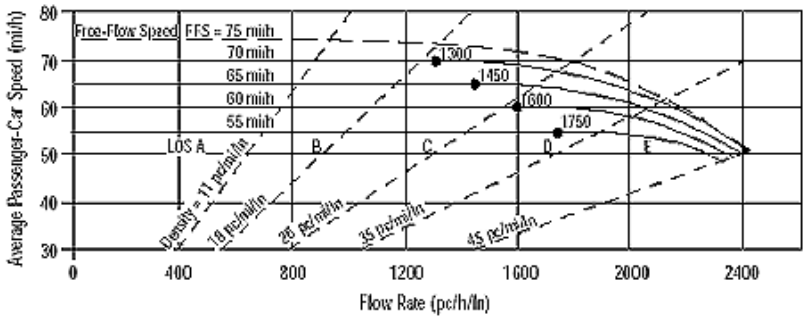
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Central Avenue to Main Street*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4301*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

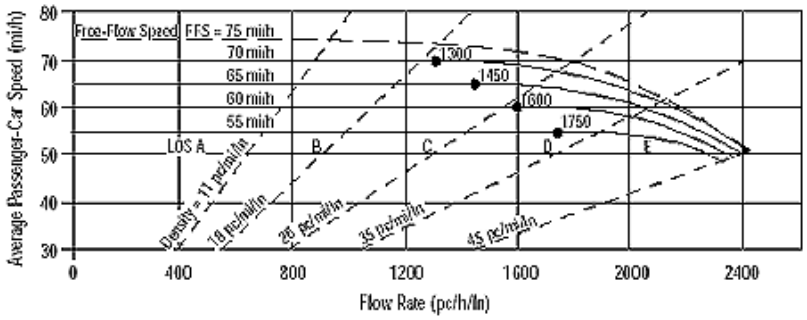
LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1628*	pc/h/ln	Design LOS v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*69.3*	mi/h	S	mi/h
D = v_p / S	*23.5*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*AM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*Main Street to Railroad Canyon*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4007*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1517*	pc/h/ln
S	*69.8*	mi/h
D = v_p / S	*21.7*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

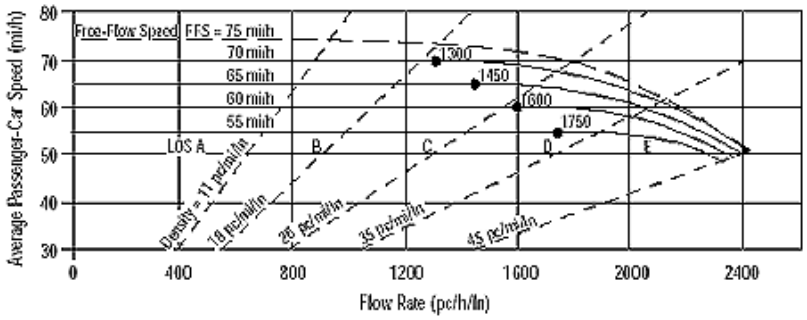
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*South of Railroad Canyon*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3800*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

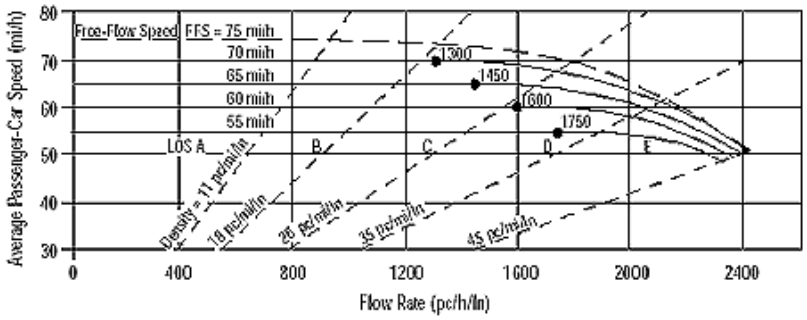
LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1439*	pc/h/ln	Design LOS v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*69.9*	mi/h	S	mi/h
D = v_p / S	*20.6*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*North of Nichols Road*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6355*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	I/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

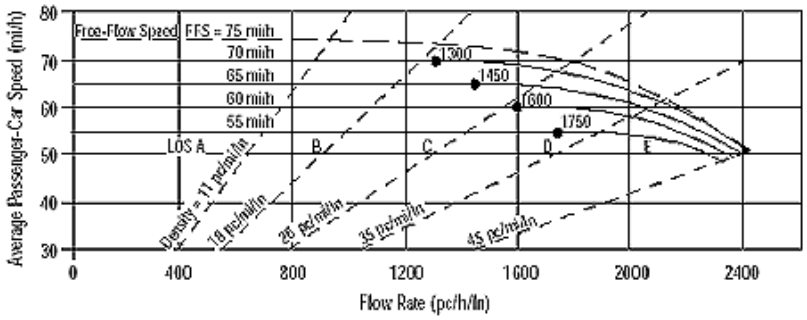
LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2406*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S		mi/h	S	mi/h
D = v_p / S		pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*F*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*AM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*Nichols Road to Central Avenue*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6437*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2437*	pc/h/ln
S		mi/h
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

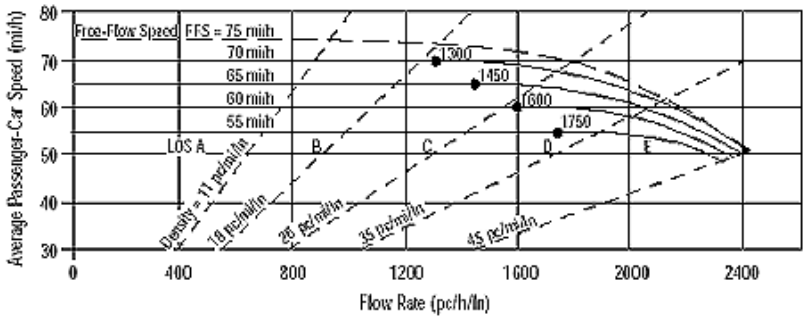
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Central Avenue to Main Street*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7291*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.962*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	I/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

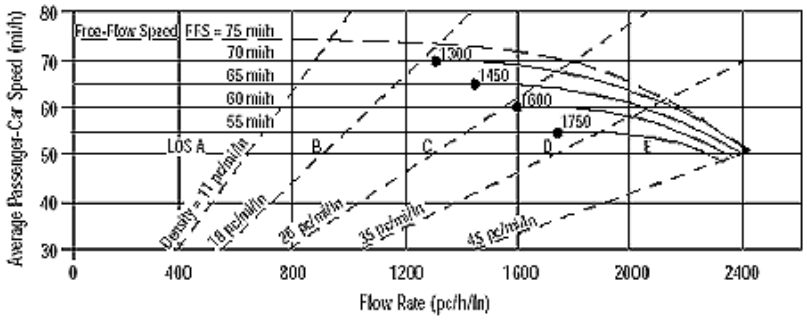
LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2747*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S		mi/h	S	mi/h
D = v_p / S		pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*F*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*AM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*Main Street to Railroad Canyon*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7327*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.962*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2761*	pc/h/ln
S		mi/h
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

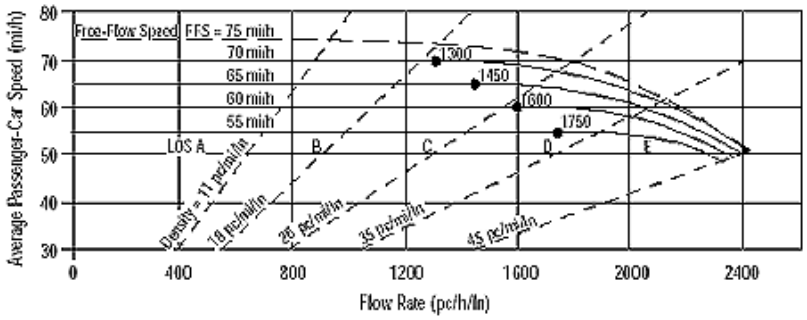
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*S of Railroad Canyon*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6608*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

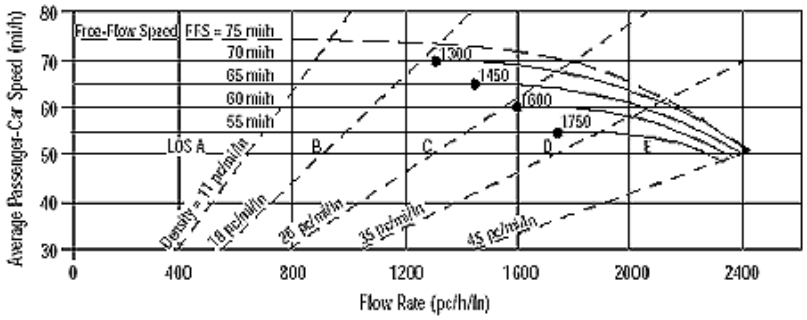
LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2502*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S		mi/h	S	mi/h
D = v_p / S		pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*F*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*North of Nichols Road*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6634*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.962*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	I/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

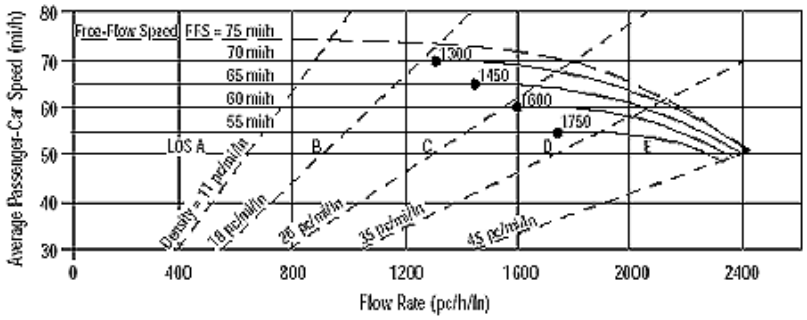
LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2500*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S		mi/h	S	mi/h
D = v_p / S		pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*F*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*Nichols Road to Central Avenue*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6460*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.962*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2434*	pc/h/ln
S		mi/h
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

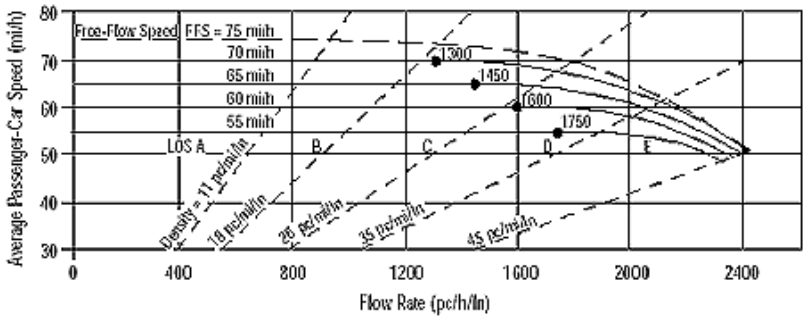
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Central Avenue to Main Street*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6542*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.962*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	I/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

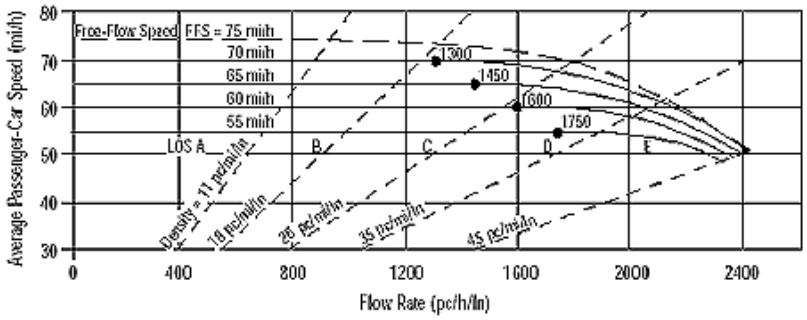
LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2465*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S		mi/h	S	mi/h
D = v_p / S		pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*F*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Main Street to Railroad Canyon*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*6049*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.962*

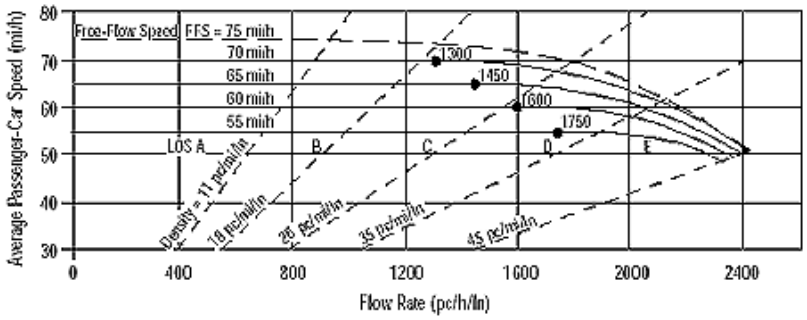
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	I/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2279*	pc/h/ln	Design LOS		
S	*57.7*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
D = v_p / S	*39.5*	pc/mi/ln	S		mi/h
LOS	*E*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*South of Railroad Canyon*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5621*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

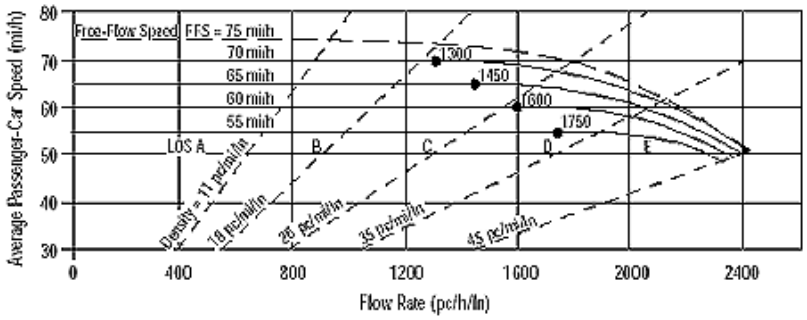
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2128*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*62.0*	mi/h	S	mi/h
D = v_p / S	*34.3*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*North of Nichols Road*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5792*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*11*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.948*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

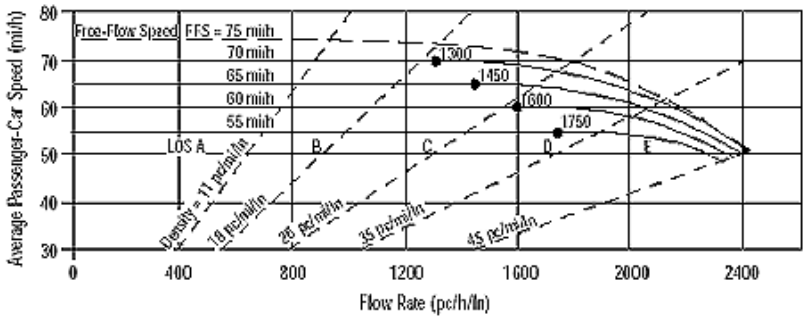
LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2214*	pc/h/ln	Design LOS v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*59.7*	mi/h	S	mi/h
D = v_p / S	*37.1*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*E*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*Nichols Road to Central Avenue*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5632*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*11*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.948*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2153*	pc/h/ln
S	*61.4*	mi/h
D = v_p / S	*35.1*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

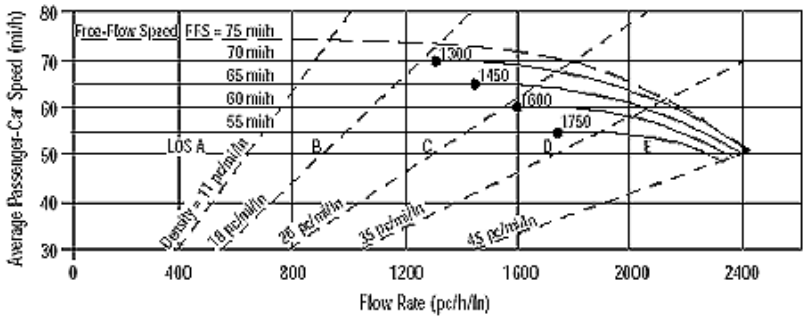
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Central Avenue to Main Street*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6251*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	I/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

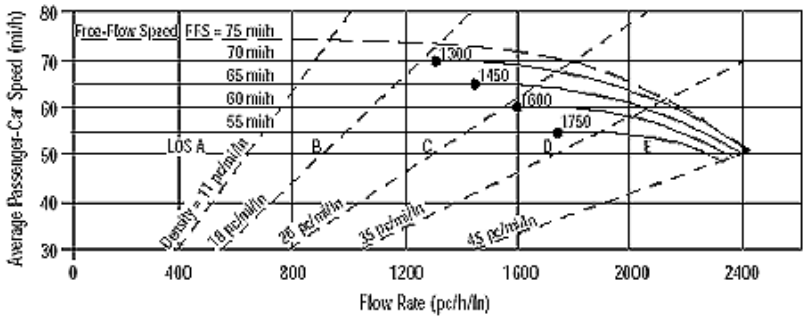
LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2378*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*54.2*	mi/h	S	mi/h
D = v_p / S	*43.9*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*E*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*Main Street to Railroad Canyon*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6027*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2293*	pc/h/ln
S	*57.2*	mi/h
D = v_p / S	*40.1*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

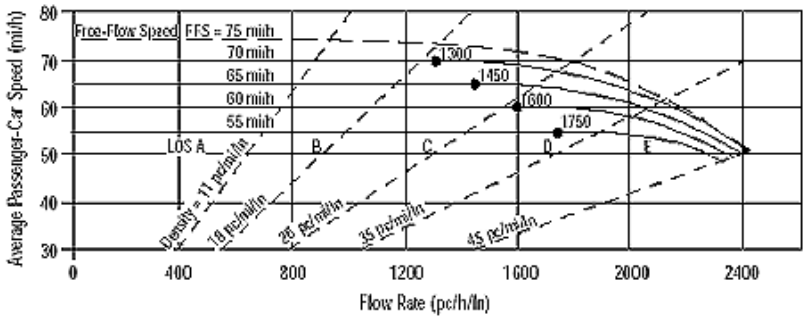
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*S of Railroad Canyon*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5783*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*11*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.948*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	I/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

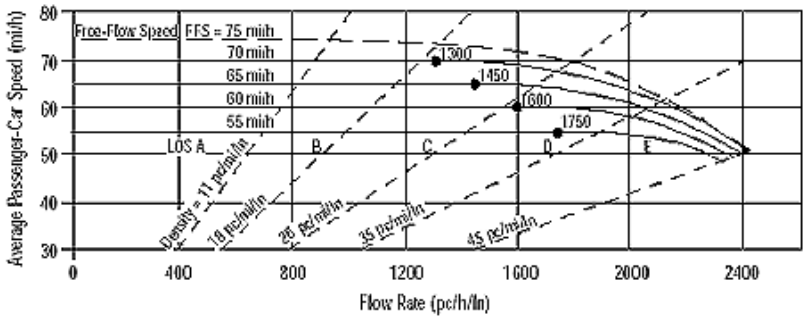
LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2211*	pc/h/ln	Design LOS v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*59.8*	mi/h	S	mi/h
D = v_p / S	*37.0*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*E*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*North of Nichols Road*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*Saturday Mid-Day Peak Hour*	Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*5871*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.962*

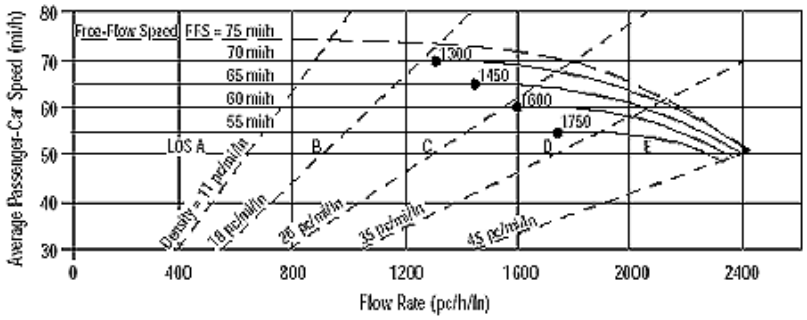
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2212*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*59.8*	mi/h	S	mi/h
D = v_p / S	*37.0*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*E*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Nichols Road to Central Avenue*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*Saturday Mid-Day Peak Hour*	Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*5630*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.962*

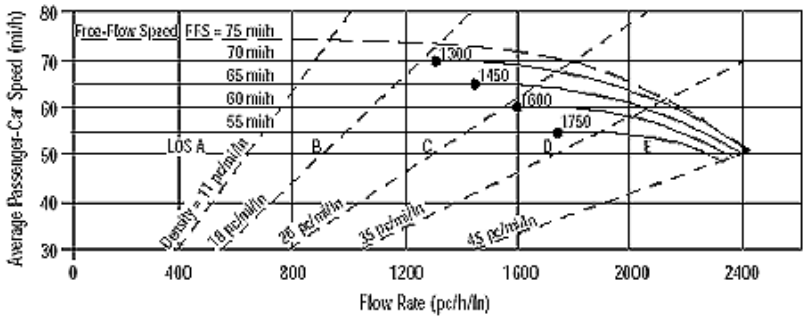
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	I/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2121*	pc/h/ln	Design LOS		
S	*62.2*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
D = v_p / S	*34.1*	pc/mi/ln	S		mi/h
LOS	*D*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Central Avenue to Main Street*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*Saturday Mid-Day Peak Hour*	Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*5878*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.962*

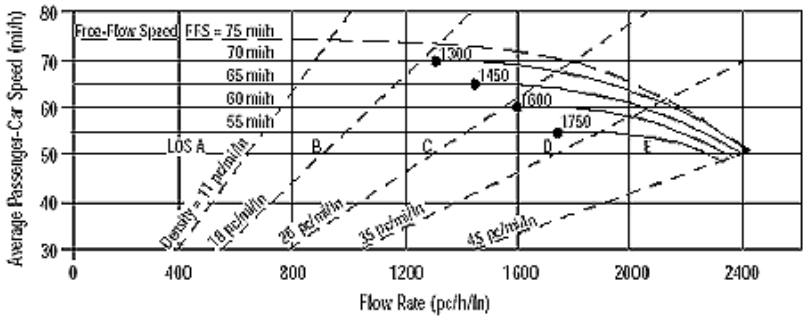
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2215*	pc/h/ln	Design LOS v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*59.7*	mi/h	S	mi/h
D = v_p / S	*37.1*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*E*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*Saturday Mid-Day Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*Main Street to Railroad Canyon*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5547*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2100*	pc/h/ln
S	*62.7*	mi/h
D = v_p / S	*33.5*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

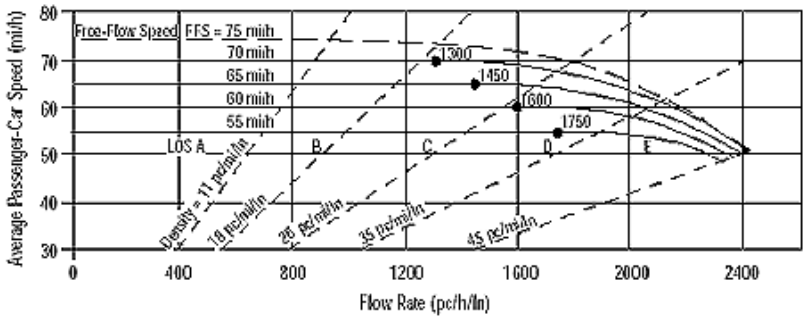
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		Site Information	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*South of Railroad Canyon*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*Saturday Mid-Day Peak Hour*	Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5185*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	l/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1963*	pc/h/ln
S	*65.5*	mi/h
D = v_p / S	*30.0*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

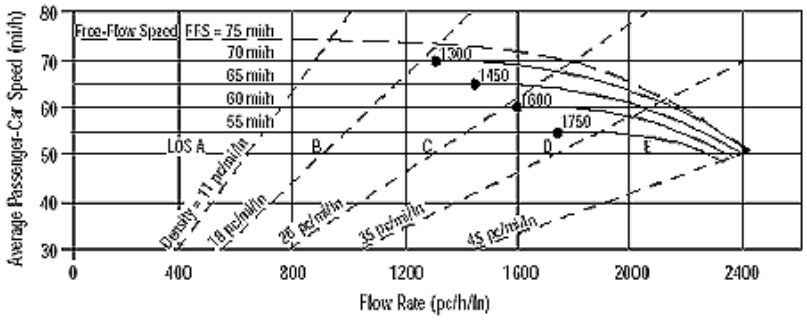
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*North of Nichols Road*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*Saturday Mid-Day Peak Hour*	Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5376*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*11*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.948*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

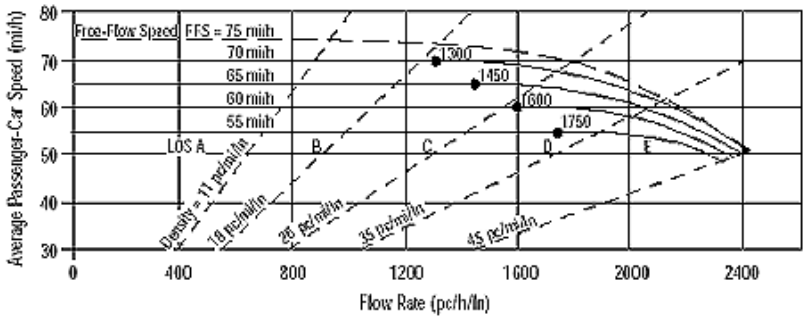
LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2055*	pc/h/ln	Design LOS v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*63.7*	mi/h	S	mi/h
D = v_p / S	*32.2*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Nichols Road to Central Avenue*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*Saturday Mid-Day Peak Hour*	Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*4851*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*12*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.943*

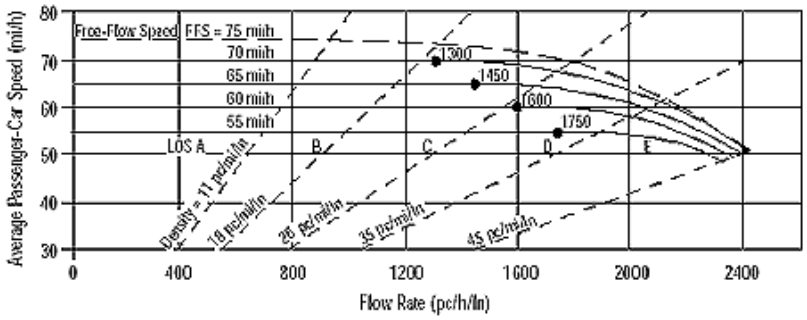
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	I/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1863*	pc/h/ln	Design LOS		
S	*67.1*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
D = v_p / S	*27.8*	pc/mi/ln	S		mi/h
LOS	*D*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*Saturday Mid-Day Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*Central Avenue to Main Street*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5328*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*11*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.948*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2037*	pc/h/ln
S	*64.1*	mi/h
D = v_p / S	*31.8*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

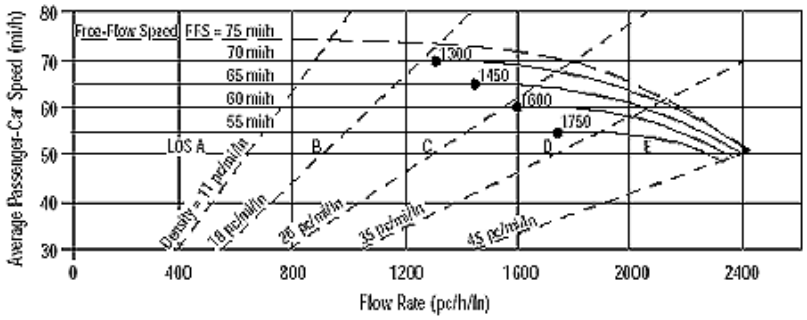
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*Saturday Mid-Day Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*Main Street to Railroad Canyon*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5243*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*11*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.948*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2004*	pc/h/ln
S	*64.8*	mi/h
D = v_p / S	*30.9*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

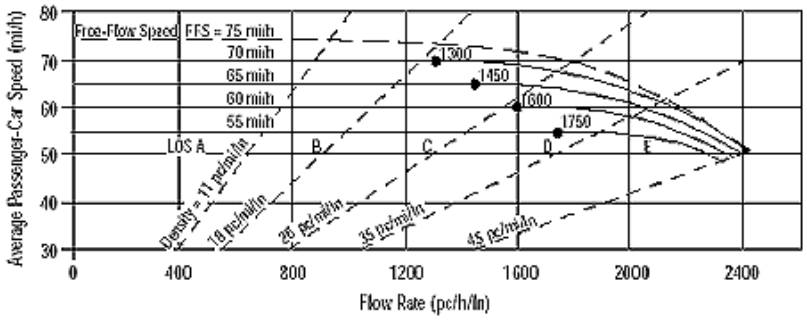
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*S of Railroad Canyon*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*Saturday Mid-Day Peak Hour*	Analysis Year	*Post-2035 WP*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4436*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1712*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*68.7*	mi/h	S	mi/h
D = v_p / S	*24.9*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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APPENDIX 7.9

General Plan Buildout (Post-2035) Without Project Conditions
Freeway Ramp Junction (Merge/Diverge) HCS+ Analysis Worksheets

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2075 ft
V_D = 1078 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4310	0.92	Level	9	0	0.957	1.00	4896
Ramp	1214	0.92	Level	4	0	0.980	1.00	1346
UpStream								
DownStream	1078	0.92	Level	2	0	0.990	1.00	1183

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.576 using Equation (Exhibit 25-12)
V_{12} = 3390 pc/h
V_3 or V_{av34} 1506 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4896	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	3550	Exhibit 25-14	7200	No
V_R	1346	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3390	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 31.4 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.419 (Exhibit 25-19)
S_R= 58.3 mph (Exhibit 25-19)
S_0= 74.8 mph (Exhibit 25-19)
S = 62.5 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 NP
Project Description	Lake Elsinore Walmart TIA (JN 08651)		

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2075 ft
V_u = 1214 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3096	0.92	Level	12	0	0.943	1.00	3567
Ramp	1078	0.92	Level	2	0	0.990	1.00	1183
UpStream	1214	0.92	Level	1	0	0.995	1.00	1326
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1070.02 (Equation 25-2 or 25-3)
P_{FM} = 0.584 using Equation (Exhibit 25-5)
V_{12} = 2083 pc/h
V_3 or V_{av34} 1484 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4750	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3266	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 29.0 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.403 (Exibit 25-19)
S_R= 58.7 mph (Exhibit 25-19)
S_0= 66.5 mph (Exhibit 25-19)
S = 60.9 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = 2050 ft
V_u = veh/h	S_{FF} = 70.0 mph S_{FR} = 45.0 mph Sketch (show lanes, L_A, L_D, V_R, V_f)	V_D = 1527 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4174	0.92	Level	9	0	0.957	1.00	4741
Ramp	1460	0.92	Level	4	0	0.980	1.00	1619
UpStream								
DownStream	1527	0.92	Level	4	0	0.980	1.00	1693

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.567 using Equation (Exhibit 25-12)

V_{12} = 3389 pc/h

V_3 or V_{av34} 1352 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4741	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	3122	Exhibit 25-14	7200	No
V_R	1619	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3389	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 31.6 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.444 (Exhibit 25-19)

S_R = 57.6 mph (Exhibit 25-19)

S_0 = 75.4 mph (Exhibit 25-19)

S = 61.7 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2050 ft
V_u = 1460 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2714	0.92	Level	12	0	0.943	1.00	3127
Ramp	1527	0.92	Level	4	0	0.980	1.00	1693
UpStream	1460	0.92	Level	4	0	0.980	1.00	1619
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1107.20 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 1830 pc/h
V_3 or V_{av34} 1297 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4820	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3523	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 30.4 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.428 (Exibit 25-19)
S_R = 58.0 mph (Exhibit 25-19)
S_0 = 67.1 mph (Exhibit 25-19)
S = 60.2 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = 2620 ft
V_u = veh/h	S_{FF} = 70.0 mph S_{FR} = 45.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	V_D = 642 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4241	0.92	Level	9	0	0.957	1.00	4817
Ramp	936	0.92	Level	0	0	1.000	1.00	1017
UpStream								
DownStream	642	0.92	Level	2	0	0.990	1.00	705

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.593 using Equation (Exhibit 25-12)

V_{12} = 3270 pc/h

V_3 or V_{av34} 1547 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4817	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	3800	Exhibit 25-14	7200	No
V_R	1017	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3270	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 31.0 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.390 (Exhibit 25-19)

S_R= 59.1 mph (Exhibit 25-19)

S_0= 74.7 mph (Exhibit 25-19)

S = 63.3 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2620 ft
V_u = 936 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3305	0.92	Level	11	0	0.948	1.00	3790
Ramp	642	0.92	Level	2	0	0.990	1.00	705
UpStream	936	0.92	Level	0	0	1.000	1.00	1017
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1046.53 (Equation 25-2 or 25-3)
P_{FM} = 0.586 using Equation (Exhibit 25-5)
V_{12} = 2221 pc/h
V_3 or V_{av34} 1569 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4495	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2926	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 26.1 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.367 (Exibit 25-19)
S_R= 59.7 mph (Exhibit 25-19)
S_0= 66.2 mph (Exhibit 25-19)
S = 61.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon Off-Ramp
Date Performed	4/4/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2250 ft
V_D = 634 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3947	0.92	Level	10	0	0.952	1.00	4505
Ramp	810	0.92	Level	7	0	0.966	1.00	911
UpStream								
DownStream	634	0.92	Level	4	0	0.980	1.00	703

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.605 using Equation (Exhibit 25-12)
V_{12} = 3087 pc/h
V_3 or V_{av34} 1418 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4505	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	3594	Exhibit 25-14	7200	No
V_R	911	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3087	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 29.4 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.380 (Exhibit 25-19)
S_R= 59.4 mph (Exhibit 25-19)
S_0= 75.2 mph (Exhibit 25-19)
S = 63.6 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon On-Ramp
Date Performed	4/4/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2250 ft
V_u = 810 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3136	0.92	Level	10	0	0.952	1.00	3579
Ramp	634	0.92	Level	4	0	0.980	1.00	703
UpStream	810	0.92	Level	7	0	0.966	1.00	911
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1080.87 (Equation 25-2 or 25-3)
P_{FM} = 0.591 using Equation (Exhibit 25-5)
V_{12} = 2115 pc/h
V_3 or V_{av34} 1464 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4282	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2818	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 24.1 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.343 (Exibit 25-19)
S_R = 60.4 mph (Exhibit 25-19)
S_0 = 66.5 mph (Exhibit 25-19)
S = 62.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2130 ft
V_u = 1232 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5154	0.92	Level	11	0	0.948	1.00	5910
Ramp	1161	0.92	Level	1	0	0.995	1.00	1268
UpStream	1232	0.92	Level	0	0	1.000	1.00	1339
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1842.69 (Equation 25-2 or 25-3)
P_{FM} = 0.600 using Equation (Exhibit 25-5)
V_{12} = 3545 pc/h
V_3 or V_{av34} 2365 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7178	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4813	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 37.4 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

M_S = 0.729 (Exibit 25-19)
S_R = 49.6 mph (Exhibit 25-19)
S_0 = 63.1 mph (Exhibit 25-19)
S = 53.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2130 ft
V_D = 1161 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6384	0.92	Level	9	0	0.957	1.00	7251
Ramp	1232	0.92	Level	0	0	1.000	1.00	1339
UpStream								
DownStream	1161	0.92	Level	1	0	0.995	1.00	1268

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.517 using Equation (Exhibit 25-12)
V_{12} = 4396 pc/h
V_3 or V_{av34} 2855 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = 4551 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7251	Exhibit 25-14	7200	Yes
$V_{FO} = V_F - V_R$	5912	Exhibit 25-14	7200	No
V_R	1339	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4396	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 41.4 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

D_s = 0.419 (Exhibit 25-19)
S_R= 58.3 mph (Exhibit 25-19)
S_0= 70.2 mph (Exhibit 25-19)
S = 62.2 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1650 ft
V_u = 1815 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5395	0.92	Level	10	0	0.952	1.00	6157
Ramp	991	0.92	Level	5	0	0.976	1.00	1104
UpStream	1815	0.92	Level	1	0	0.995	1.00	1983
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1811.61 (Equation 25-2 or 25-3)
P_{FM} = 0.587 using Equation (Exhibit 25-5)
V_{12} = 3611 pc/h
V_3 or V_{av34} 2546 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7261	Exhibit 25-7		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4715	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 37.4 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

M_S = 0.694 (Exibit 25-19)
S_R = 50.6 mph (Exhibit 25-19)
S_0 = 62.0 mph (Exhibit 25-19)
S = 54.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1650 ft
V_D = 991 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7210	0.92	Level	8	0	0.962	1.00	8150
Ramp	1815	0.92	Level	1	0	0.995	1.00	1983
UpStream								
DownStream	991	0.92	Level	5	0	0.976	1.00	1104

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.465 using Equation (Exhibit 25-12)
V_{12} = 4851 pc/h
V_3 or V_{av34} 3299 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = 5450 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8150	Exhibit 25-14	7200	Yes
$V_{FO} = V_F - V_R$	6167	Exhibit 25-14	7200	No
V_R	1983	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4851	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 49.4 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

D_s = 0.476 (Exhibit 25-19)
S_R= 56.7 mph (Exhibit 25-19)
S_0= 70.2 mph (Exhibit 25-19)
S = 60.5 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2100 ft
V_u = 917 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6329	0.92	Level	9	0	0.957	1.00	7189
Ramp	881	0.92	Level	1	0	0.995	1.00	962
UpStream	917	0.92	Level	1	0	0.995	1.00	1002
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1806.71 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 4202 pc/h
V_3 or V_{av34} 2987 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = 4489 pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8151	Exhibit 25-7		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5451	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 46.0 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

M_S = 1.207 (Exibit 25-19)
S_R= 36.2 mph (Exhibit 25-19)
S_0= 61.1 mph (Exhibit 25-19)
S = 41.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 881 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7246	0.92	Level	8	0	0.962	1.00	8191
Ramp	917	0.92	Level	1	0	0.995	1.00	1002
UpStream								
DownStream	881	0.92	Level	1	0	0.995	1.00	962

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.509 using Equation (Exhibit 25-12)
V_{12} = 4662 pc/h
V_3 or V_{av34} 3529 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 5491 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8191	Exhibit 25-14	7200	Yes
$V_{FO} = V_F - V_R$	7189	Exhibit 25-14	7200	No
V_R	1002	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4662	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 49.8 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

D_s = 0.388 (Exhibit 25-19)
S_R = 59.1 mph (Exhibit 25-19)
S_0 = 70.2 mph (Exhibit 25-19)
S = 62.4 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2000 ft
V_u = 619 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5949	0.92	Level	9	0	0.957	1.00	6757
Ramp	1297	0.92	Level	2	0	0.990	1.00	1424
UpStream	619	0.92	Level	6	0	0.971	1.00	693
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1826.45 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 3955 pc/h
V_3 or V_{av34} 2802 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = 4057 pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8181	Exhibit 25-7		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5481	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 45.8 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

M_S = 1.232 (Exibit 25-19)
S_R= 35.5 mph (Exhibit 25-19)
S_0= 61.1 mph (Exhibit 25-19)
S = 41.2 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2000 ft
V_D = 1297 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6568	0.92	Level	9	0	0.957	1.00	7460
Ramp	619	0.92	Level	6	0	0.971	1.00	693
UpStream								
DownStream	1297	0.92	Level	2	0	0.990	1.00	1424

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.542 using Equation (Exhibit 25-12)
V_{12} = 4358 pc/h
V_3 or V_{av34} 3102 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = 4760 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7460	Exhibit 25-14	7200	Yes
$V_{FO} = V_F - V_R$	6767	Exhibit 25-14	7200	No
V_R	693	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4358	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 43.2 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

D_s = 0.360 (Exhibit 25-19)
S_R= 59.9 mph (Exhibit 25-19)
S_0= 70.2 mph (Exhibit 25-19)
S = 63.3 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2075 ft
V_D = 1359 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6568	0.92	Level	8	0	0.962	1.00	7425
Ramp	1549	0.92	Level	1	0	0.995	1.00	1692
UpStream								
DownStream	1359	0.92	Level	1	0	0.995	1.00	1485

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.497 using Equation (Exhibit 25-12)
V_{12} = 4539 pc/h
V_3 or V_{av34} 2886 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = 4725 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7425	Exhibit 25-14	7200	Yes
$V_{FO} = V_F - V_R$	5733	Exhibit 25-14	7200	No
V_R	1692	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4539	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 42.9 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

D_s = 0.450 (Exhibit 25-19)
S_R= 57.4 mph (Exhibit 25-19)
S_0= 70.2 mph (Exhibit 25-19)
S = 61.5 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2075 ft
V_u = 1549 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5019	0.92	Level	10	0	0.952	1.00	5728
Ramp	1359	0.92	Level	1	0	0.995	1.00	1485
UpStream	1549	0.92	Level	1	0	0.995	1.00	1692
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1597.10 (Equation 25-2 or 25-3)
P_{FM} = 0.584 using Equation (Exhibit 25-5)
V_{12} = 3345 pc/h
V_3 or V_{av34} 2383 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7213	Exhibit 25-7		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4830	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 41.0 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

M_S = 0.789 (Exibit 25-19)
S_R = 47.9 mph (Exhibit 25-19)
S_0 = 63.0 mph (Exhibit 25-19)
S = 52.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = 2050 ft
V_u = veh/h	S_{FF} = 70.0 mph S_{FR} = 45.0 mph Sketch (show lanes, L_A, L_D, V_R, V_f)	V_D = 1705 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6378	0.92	Level	8	0	0.962	1.00	7210
Ramp	1641	0.92	Level	1	0	0.995	1.00	1793
UpStream								
DownStream	1705	0.92	Level	1	0	0.995	1.00	1863

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.497 using Equation (Exhibit 25-12)

V_{12} = 4487 pc/h

V_3 or V_{av34} 2723 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 4510 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7210	Exhibit 25-14	7200	Yes
$V_{FO} = V_F - V_R$	5417	Exhibit 25-14	7200	No
V_R	1793	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4487	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 41.3 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Determination

D_s = 0.459 (Exhibit 25-19)

S_R = 57.1 mph (Exhibit 25-19)

S_0 = 70.2 mph (Exhibit 25-19)

S = 61.4 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2050 ft
V_u = 1641 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4737	0.92	Level	11	0	0.948	1.00	5432
Ramp	1705	0.92	Level	1	0	0.995	1.00	1863
UpStream	1641	0.92	Level	1	0	0.995	1.00	1793
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1636.85 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 3180 pc/h
V_3 or V_{av34} 2252 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7295	Exhibit 25-7		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5043	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 42.2 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

M_S = 0.900 (Exibit 25-19)
S_R= 44.8 mph (Exhibit 25-19)
S_0= 63.7 mph (Exhibit 25-19)
S = 49.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2620 ft
V_D = 576 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6442	0.92	Level	8	0	0.962	1.00	7282
Ramp	1069	0.92	Level	1	0	0.995	1.00	1168
UpStream								
DownStream	576	0.92	Level	2	0	0.990	1.00	632

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.524 using Equation (Exhibit 25-12)
V_{12} = 4373 pc/h
V_3 or V_{av34} 2909 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = 4582 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7282	Exhibit 25-14	7200	Yes
$V_{FO} = V_F - V_R$	6114	Exhibit 25-14	7200	No
V_R	1168	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4373	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 42.3 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

D_s = 0.403 (Exhibit 25-19)
S_R= 58.7 mph (Exhibit 25-19)
S_0= 70.2 mph (Exhibit 25-19)
S = 62.5 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2620 ft
V_u = 1069 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5373	0.92	Level	9	0	0.957	1.00	6103
Ramp	576	0.92	Level	2	0	0.990	1.00	632
UpStream	1069	0.92	Level	1	0	0.995	1.00	1168
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1525.89 (Equation 25-2 or 25-3)
P_{FM} = 0.586 using Equation (Exhibit 25-5)
V_{12} = 3576 pc/h
V_3 or V_{av34} 2527 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6735	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4208	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 36.1 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

M_S = 0.556 (Exibit 25-19)
S_R= 54.4 mph (Exhibit 25-19)
S_0= 62.1 mph (Exhibit 25-19)
S = 57.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon Off-Ramp
Date Performed	4/4/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2250 ft
V_D = 614 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5949	0.92	Level	9	0	0.957	1.00	6757
Ramp	992	0.92	Level	3	0	0.985	1.00	1094
UpStream								
DownStream	614	0.92	Level	2	0	0.990	1.00	674

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.541 using Equation (Exhibit 25-12)
V_{12} = 4156 pc/h
V_3 or V_{av34} 2601 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6757	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	5663	Exhibit 25-14	7200	No
V_R	1094	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4156	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 38.6 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.396 (Exhibit 25-19)
S_R = 58.9 mph (Exhibit 25-19)
S_0 = 70.5 mph (Exhibit 25-19)
S = 62.9 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon On-Ramp
Date Performed	4/4/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2250 ft
V_u = 992 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4957	0.92	Level	10	0	0.952	1.00	5657
Ramp	614	0.92	Level	2	0	0.990	1.00	674
UpStream	992	0.92	Level	3	0	0.985	1.00	1094
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1519.35 (Equation 25-2 or 25-3)
P_{FM} = 0.591 using Equation (Exhibit 25-5)
V_{12} = 3343 pc/h
V_3 or V_{av34} 2314 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6331	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4017	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 33.5 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.494 (Exibit 25-19)
S_R = 56.2 mph (Exhibit 25-19)
S_0 = 63.4 mph (Exhibit 25-19)
S = 58.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2130 ft
V_u = 1144 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4405	0.92	Level	14	0	0.935	1.00	5123
Ramp	1321	0.92	Level	1	0	0.995	1.00	1443
UpStream	1144	0.92	Level	1	0	0.995	1.00	1250
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1711.72 (Equation 25-2 or 25-3)
P_{FM} = 0.600 using Equation (Exhibit 25-5)
V_{12} = 3073 pc/h
V_3 or V_{av34} 2050 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6566	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4516	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 35.0 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

M_S = 0.606 (Exibit 25-19)
S_R = 53.0 mph (Exhibit 25-19)
S_0 = 64.4 mph (Exhibit 25-19)
S = 56.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.0009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2130 ft
V_D = 1321 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5549	0.92	Level	11	0	0.948	1.00	6363
Ramp	1144	0.92	Level	1	0	0.995	1.00	1250
UpStream								
DownStream	1321	0.92	Level	1	0	0.995	1.00	1443

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.543 using Equation (Exhibit 25-12)
V_{12} = 4029 pc/h
V_3 or V_{av34} 2334 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6363	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	5113	Exhibit 25-14	7200	No
V_R	1250	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4029	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 36.9 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.411 (Exhibit 25-19)
S_R= 58.5 mph (Exhibit 25-19)
S_0= 71.6 mph (Exhibit 25-19)
S = 62.7 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1650 ft
V_u = 2022 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4130	0.92	Level	14	0	0.935	1.00	4803
Ramp	1419	0.92	Level	2	0	0.990	1.00	1558
UpStream	2022	0.92	Level	1	0	0.995	1.00	2209
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1619.01 (Equation 25-2 or 25-3)
P_{FM} = 0.597 using Equation (Exhibit 25-5)
V_{12} = 2867 pc/h
V_3 or V_{av34} 1936 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6361	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4425	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 34.9 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.585 (Exibit 25-19)
S_R= 53.6 mph (Exhibit 25-19)
S_0= 64.8 mph (Exhibit 25-19)
S = 56.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1650 ft
V_D = 1419 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6152	0.92	Level	10	0	0.952	1.00	7021
Ramp	2022	0.92	Level	1	0	0.995	1.00	2209
UpStream								
DownStream	1419	0.92	Level	2	0	0.990	1.00	1558

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.483 using Equation (Exhibit 25-12)
V_{12} = 4533 pc/h
V_3 or V_{av34} 2488 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7021	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	4812	Exhibit 25-14	7200	No
V_R	2209	Exhibit 25-3	2100	Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4533	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 41.5 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

D_s = 0.497 (Exhibit 25-19)
S_R= 56.1 mph (Exhibit 25-19)
S_0= 71.0 mph (Exhibit 25-19)
S = 60.6 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2100 ft
V_u = 737 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5191	0.92	Level	12	0	0.943	1.00	5981
Ramp	961	0.92	Level	1	0	0.995	1.00	1050
UpStream	737	0.92	Level	1	0	0.995	1.00	805
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1567.03 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 3496 pc/h
V_3 or V_{av34} 2485 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7031	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4546	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 38.9 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

M_S = 0.666 (Exibit 25-19)
S_R = 51.3 mph (Exhibit 25-19)
S_0 = 62.4 mph (Exhibit 25-19)
S = 54.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 961 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5928	0.92	Level	10	0	0.952	1.00	6766
Ramp	737	0.92	Level	1	0	0.995	1.00	805
UpStream								
DownStream	961	0.92	Level	1	0	0.995	1.00	1050

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.554 using Equation (Exhibit 25-12)
V_{12} = 4106 pc/h
V_3 or V_{av34} 2660 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6766	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	5961	Exhibit 25-14	7200	No
V_R	805	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4106	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 37.9 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.370 (Exhibit 25-19)
S_R= 59.6 mph (Exhibit 25-19)
S_0= 70.3 mph (Exhibit 25-19)
S = 63.4 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2000 ft
V_u = 752 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4983	0.92	Level	12	0	0.943	1.00	5741
Ramp	945	0.92	Level	3	0	0.985	1.00	1043
UpStream	752	0.92	Level	3	0	0.985	1.00	830
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1527.50 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 3360 pc/h
V_3 or V_{av34} 2381 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6784	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4403	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 37.6 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

M_S = 0.614 (Exibit 25-19)
S_R= 52.8 mph (Exhibit 25-19)
S_0= 63.0 mph (Exhibit 25-19)
S = 56.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2000 ft
V_D = 945 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5735	0.92	Level	11	0	0.948	1.00	6577
Ramp	752	0.92	Level	3	0	0.985	1.00	830
UpStream								
DownStream	945	0.92	Level	3	0	0.985	1.00	1043

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.557 using Equation (Exhibit 25-12)
V_{12} = 4033 pc/h
V_3 or V_{av34} 2544 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6577	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	5747	Exhibit 25-14	7200	No
V_R	830	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4033	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 36.9 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.373 (Exhibit 25-19)
S_R= 59.6 mph (Exhibit 25-19)
S_0= 70.8 mph (Exhibit 25-19)
S = 63.4 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 NP
Project Description	Lake Elsinore Walmart TIA (JN 08651)		

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = 2075 ft
V_u = veh/h	S_{FF} = 70.0 mph S_{FR} = 45.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	V_D = 1222 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5775	0.92	Level	8	0	0.962	1.00	6528
Ramp	1487	0.92	Level	1	0	0.995	1.00	1624
UpStream								
DownStream	1222	0.92	Level	0	0	1.000	1.00	1328

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.522 using Equation (Exhibit 25-12)

V_{12} = 4184 pc/h

V_3 or V_{av34} 2344 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6528	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	4904	Exhibit 25-14	7200	No
V_R	1624	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4184	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 38.3 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.444 (Exhibit 25-19)

S_R= 57.6 mph (Exhibit 25-19)

S_0= 71.5 mph (Exhibit 25-19)

S = 61.9 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 NP

Project Description: Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp: ☑ Yes ☐ On ☐ No ☑ Off

L_{up} = 2075 ft

V_u = 1487 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4288	0.92	Level	11	0	0.948	1.00	4917
Ramp	1222	0.92	Level	0	0	1.000	1.00	1328
UpStream	1487	0.92	Level	1	0	0.995	1.00	1624
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1389.95 (Equation 25-2 or 25-3)

P_{FM} = 0.584 using Equation (Exhibit 25-5)

V_{12} = 2871 pc/h

V_3 or V_{av34} 2046 pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6245	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4199	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 36.2 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Determination

M_S = 0.560 (Exibit 25-19)

S_R = 54.3 mph (Exhibit 25-19)

S_0 = 64.4 mph (Exhibit 25-19)

S = 57.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-12)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 NP
Project Description	Lake Elsinore Walmart TIA (JN 08651)		

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = 2050 ft
V_u = veh/h	S_{FF} = 70.0 mph S_{FR} = 45.0 mph Sketch (show lanes, L_A, L_D, V_R, V_f)	V_D = 1501 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5510	0.92	Level	8	0	0.962	1.00	6229
Ramp	1278	0.92	Level	2	0	0.990	1.00	1403
UpStream								
DownStream	1501	0.92	Level	2	0	0.990	1.00	1648

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.540 using Equation (Exhibit 25-12)

V_{12} = 4008 pc/h

V_3 or V_{av34} 2221 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6229	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	4826	Exhibit 25-14	7200	No
V_R	1403	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4008	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 37.0 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.424 (Exhibit 25-19)

S_R = 58.1 mph (Exhibit 25-19)

S_0 = 72.0 mph (Exhibit 25-19)

S = 62.4 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2050 ft
V_u = 1278 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4232	0.92	Level	10	0	0.952	1.00	4830
Ramp	1501	0.92	Level	2	0	0.990	1.00	1648
UpStream	1278	0.92	Level	2	0	0.990	1.00	1403
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1462.01 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 2827 pc/h
V_3 or V_{av34} 2003 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6478	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4475	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$
D_R = 37.9 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

M_S = 0.638 (Exibit 25-19)
S_R= 52.1 mph (Exhibit 25-19)
S_0= 64.6 mph (Exhibit 25-19)
S = 55.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.0009\, L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 NP
Project Description	Lake Elsinore Walmart TIA (JN 08651)		

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = 2620 ft
V_u = veh/h	S_{FF} = 70.0 mph S_{FR} = 45.0 mph Sketch (show lanes, L_A, L_D, V_R, V_f)	V_D = 408 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5733	0.92	Level	8	0	0.962	1.00	6481
Ramp	739	0.92	Level	1	0	0.995	1.00	807
UpStream								
DownStream	408	0.92	Level	3	0	0.985	1.00	450

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.561 using Equation (Exhibit 25-12)

V_{12} = 3989 pc/h

V_3 or V_{av34} 2492 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6481	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	5674	Exhibit 25-14	7200	No
V_R	807	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3989	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 37.2 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.371 (Exhibit 25-19)

S_R = 59.6 mph (Exhibit 25-19)

S_0 = 71.0 mph (Exhibit 25-19)

S = 63.5 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2620 ft
V_u = 739 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4994	0.92	Level	9	0	0.957	1.00	5673
Ramp	408	0.92	Level	3	0	0.985	1.00	450
UpStream	739	0.92	Level	1	0	0.995	1.00	807
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1394.92 (Equation 25-2 or 25-3)
P_{FM} = 0.586 using Equation (Exhibit 25-5)
V_{12} = 3324 pc/h
V_3 or V_{av34} 2349 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6123	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3774	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 32.8 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.464 (Exibit 25-19)
S_R= 57.0 mph (Exhibit 25-19)
S_0= 63.2 mph (Exhibit 25-19)
S = 59.2 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = 2250 ft
V_u = veh/h	S_{FF} = 70.0 mph S_{FR} = 45.0 mph Sketch (show lanes, L_A, L_D, V_R, V_f)	V_D = 613 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5402	0.92	Level	9	0	0.957	1.00	6136
Ramp	902	0.92	Level	2	0	0.990	1.00	990
UpStream								
DownStream	613	0.92	Level	2	0	0.990	1.00	673

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.561 using Equation (Exhibit 25-12)

V_{12} = 3877 pc/h

V_3 or V_{av34} 2259 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6136	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	5146	Exhibit 25-14	7200	No
V_R	990	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3877	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 36.2 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.387 (Exhibit 25-19)

S_R = 59.2 mph (Exhibit 25-19)

S_0 = 71.9 mph (Exhibit 25-19)

S = 63.3 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2250 ft
V_u = 902 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4500	0.92	Level	10	0	0.952	1.00	5136
Ramp	613	0.92	Level	2	0	0.990	1.00	673
UpStream	902	0.92	Level	2	0	0.990	1.00	990
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1407.65 (Equation 25-2 or 25-3)
P_{FM} = 0.591 using Equation (Exhibit 25-5)
V_{12} = 3035 pc/h
V_3 or V_{av34} 2101 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5809	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3708	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 31.1 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.437 (Exibit 25-19)
S_R = 57.8 mph (Exhibit 25-19)
S_0 = 64.2 mph (Exhibit 25-19)
S = 60.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 NP

Project Description: Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp: ☑ Yes ☐ On ☐ No ☑ Off

L_{up} = 2130 ft

V_u = 681 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4050	0.92	Level	14	0	0.935	1.00	4710
Ramp	1230	0.92	Level	1	0	0.995	1.00	1344
UpStream	681	0.92	Level	0	0	1.000	1.00	740
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1602.16 (Equation 25-2 or 25-3)

P_{FM} = 0.600 using Equation (Exhibit 25-5)

V_{12} = 2826 pc/h

V_3 or V_{av34} 1884 pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6054	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4170	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 32.4 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.501 (Exibit 25-19)

S_R = 56.0 mph (Exhibit 25-19)

S_0 = 65.0 mph (Exhibit 25-19)

S = 58.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-12)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 NP
Project Description	Lake Elsinore Walmart TIA (JN 08651)		

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = 2130 ft
V_u = veh/h	S_{FF} = 70.0 mph S_{FR} = 45.0 mph Sketch (show lanes, L_A, L_D, V_R, V_f)	V_D = 1230 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4731	0.92	Level	12	0	0.943	1.00	5451
Ramp	681	0.92	Level	0	0	1.000	1.00	740
UpStream								
DownStream	1230	0.92	Level	1	0	0.995	1.00	1344

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.590 using Equation (Exhibit 25-12)

V_{12} = 3518 pc/h

V_3 or V_{av34} 1933 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5451	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	4711	Exhibit 25-14	7200	No
V_R	740	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3518	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 32.5 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.365 (Exhibit 25-19)

S_R = 59.8 mph (Exhibit 25-19)

S_0 = 73.2 mph (Exhibit 25-19)

S = 63.9 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1650 ft
V_u = 1764 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3419	0.92	Level	16	0	0.926	1.00	4014
Ramp	1312	0.92	Level	1	0	0.995	1.00	1433
UpStream	1764	0.92	Level	2	0	0.990	1.00	1937
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1423.42 (Equation 25-2 or 25-3)
P_{FM} = 0.597 using Equation (Exhibit 25-5)
V_{12} = 2396 pc/h
V_3 or V_{av34} 1618 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5447	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3829	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 30.4 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.438 (Exibit 25-19)
S_R = 57.7 mph (Exhibit 25-19)
S_0 = 66.0 mph (Exhibit 25-19)
S = 60.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 NP
Project Description	Lake Elsinore Walmart TIA (JN 08651)		

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = 1650 ft
V_u = veh/h	S_{FF} = 70.0 mph S_{FR} = 45.0 mph Sketch (show lanes, L_A, L_D, V_R, V_f)	V_D = 1312 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5183	0.92	Level	11	0	0.948	1.00	5944
Ramp	1764	0.92	Level	2	0	0.990	1.00	1937
UpStream								
DownStream	1312	0.92	Level	1	0	0.995	1.00	1433

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.522 using Equation (Exhibit 25-12)

V_{12} = 4030 pc/h

V_3 or V_{av34} 1914 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5944	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	4007	Exhibit 25-14	7200	No
V_R	1937	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4030	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 37.2 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.472 (Exhibit 25-19)

S_R = 56.8 mph (Exhibit 25-19)

S_0 = 73.2 mph (Exhibit 25-19)

S = 61.2 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2100 ft
V_u = 471 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4627	0.92	Level	13	0	0.939	1.00	5356
Ramp	556	0.92	Level	0	0	1.000	1.00	604
UpStream	471	0.92	Level	2	0	0.990	1.00	517
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1337.84 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 3131 pc/h
V_3 or V_{av34} 2225 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5960	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3735	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 32.8 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.462 (Exibit 25-19)
S_R = 57.1 mph (Exhibit 25-19)
S_0 = 63.8 mph (Exhibit 25-19)
S = 59.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.0009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 NP

Project Description: Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = 2100 ft
V_u = veh/h	S_{FF} = 70.0 mph S_{FR} = 45.0 mph Sketch (show lanes, L_A, L_D, V_R, V_f)	V_D = 556 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5098	0.92	Level	12	0	0.943	1.00	5874
Ramp	471	0.92	Level	2	0	0.990	1.00	517
UpStream								
DownStream	556	0.92	Level	0	0	1.000	1.00	604

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.589 using Equation (Exhibit 25-12)

V_{12} = 3674 pc/h

V_3 or V_{av34} 2200 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5874	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	5357	Exhibit 25-14	7200	No
V_R	517	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3674	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 34.1 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.345 (Exhibit 25-19)

S_R = 60.4 mph (Exhibit 25-19)

S_0 = 72.1 mph (Exhibit 25-19)

S = 64.3 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon On-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2000 ft
V_u = 441 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3923	0.92	Level	15	0	0.930	1.00	4584
Ramp	1175	0.92	Level	2	0	0.990	1.00	1290
UpStream	441	0.92	Level	1	0	0.995	1.00	482
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1332.76 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 2683 pc/h
V_3 or V_{av34} 1901 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5874	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3973	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 34.1 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.503 (Exibit 25-19)
S_R= 55.9 mph (Exhibit 25-19)
S_0= 65.0 mph (Exhibit 25-19)
S = 58.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon Off-Ramp
Date Performed	9/5/2013	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 NP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2000 ft
V_D = 1175 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4364	0.92	Level	13	0	0.939	1.00	5052
Ramp	441	0.92	Level	1	0	0.995	1.00	482
UpStream								
DownStream	1175	0.92	Level	2	0	0.990	1.00	1290

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.612 using Equation (Exhibit 25-12)
V_{12} = 3277 pc/h
V_3 or V_{av34} 1775 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5052	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	4570	Exhibit 25-14	7200	No
V_R	482	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3277	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 30.4 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.341 (Exhibit 25-19)
S_R= 60.4 mph (Exhibit 25-19)
S_0= 73.8 mph (Exhibit 25-19)
S = 64.5 mph (Exhibit 25-15)

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APPENDIX 7.10

General Plan Buildout (Post-2035) With Project Conditions
Freeway Ramp Junction (Merge/Diverge) HCS+ Analysis Worksheets

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2075 ft
V_D = 1091 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4365	0.92	Level	8	0	0.962	1.00	4934
Ramp	1214	0.92	Level	1	0	0.995	1.00	1326
UpStream								
DownStream	1091	0.92	Level	2	0	0.990	1.00	1198

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.576 using Equation (Exhibit 25-12)
V_{12} = 3403 pc/h
V_3 or V_{av34} 1531 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4934	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	3608	Exhibit 25-14	7200	No
V_R	1326	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3403	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 31.5 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.417 (Exhibit 25-19)
S_R = 58.3 mph (Exhibit 25-19)
S_0 = 74.7 mph (Exhibit 25-19)
S = 62.6 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2075 ft
V_u = 1214 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3151	0.92	Level	11	0	0.948	1.00	3613
Ramp	1091	0.92	Level	2	0	0.990	1.00	1198
UpStream	1214	0.92	Level	1	0	0.995	1.00	1326
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1083.07 (Equation 25-2 or 25-3)
P_{FM} = 0.584 using Equation (Exhibit 25-5)
V_{12} = 2110 pc/h
V_3 or V_{av34} 1503 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4811	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3308	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 29.3 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.407 (Exibit 25-19)
S_R = 58.6 mph (Exhibit 25-19)
S_0 = 66.4 mph (Exhibit 25-19)
S = 60.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP

Project Description: Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off

L_{down} = 2050 ft

V_D = 1588 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4242	0.92	Level	9	0	0.957	1.00	4818
Ramp	1529	0.92	Level	4	0	0.980	1.00	1695
UpStream								
DownStream	1588	0.92	Level	3	0	0.985	1.00	1752

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.562 using Equation (Exhibit 25-12)

V_{12} = 3449 pc/h

V_3 or V_{av34} 1369 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4818	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	3123	Exhibit 25-14	7200	No
V_R	1695	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3449	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 32.2 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.451 (Exhibit 25-19)

S_R = 57.4 mph (Exhibit 25-19)

S_0 = 75.4 mph (Exhibit 25-19)

S = 61.6 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2050 ft
V_u = 1529 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2713	0.92	Level	12	0	0.943	1.00	3126
Ramp	1588	0.92	Level	3	0	0.985	1.00	1752
UpStream	1529	0.92	Level	4	0	0.980	1.00	1695
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1119.61 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 1830 pc/h
V_3 or V_{av34} 1296 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4878	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3582	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 30.9 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.436 (Exibit 25-19)
S_R = 57.8 mph (Exhibit 25-19)
S_0 = 67.1 mph (Exhibit 25-19)
S = 60.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2620 ft
V_D = 642 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4301	0.92	Level	9	0	0.957	1.00	4885
Ramp	936	0.92	Level	0	0	1.000	1.00	1017
UpStream								
DownStream	642	0.92	Level	2	0	0.990	1.00	705

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.591 using Equation (Exhibit 25-12)
V_{12} = 3303 pc/h
V_3 or V_{av34} 1582 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4885	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	3868	Exhibit 25-14	7200	No
V_R	1017	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3303	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 31.3 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.390 (Exhibit 25-19)
S_R = 59.1 mph (Exhibit 25-19)
S_0 = 74.5 mph (Exhibit 25-19)
S = 63.3 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2620 ft
V_u = 936 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3365	0.92	Level	11	0	0.948	1.00	3859
Ramp	642	0.92	Level	2	0	0.990	1.00	705
UpStream	936	0.92	Level	0	0	1.000	1.00	1017
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1061.30 (Equation 25-2 or 25-3)
P_{FM} = 0.586 using Equation (Exhibit 25-5)
V_{12} = 2261 pc/h
V_3 or V_{av34} 1598 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4564	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2966	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 26.4 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.370 (Exibit 25-19)
S_R = 59.6 mph (Exhibit 25-19)
S_0 = 66.0 mph (Exhibit 25-19)
S = 61.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = 2250 ft
V_u = veh/h	S_{FF} = 70.0 mph S_{FR} = 45.0 mph Sketch (show lanes, L_A, L_D, V_R, V_f)	V_D = 634 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4007	0.92	Level	9	0	0.957	1.00	4551
Ramp	841	0.92	Level	7	0	0.966	1.00	946
UpStream								
DownStream	634	0.92	Level	4	0	0.980	1.00	703

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.603 using Equation (Exhibit 25-12)

V_{12} = 3119 pc/h

V_3 or V_{av34} 1432 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4551	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	3605	Exhibit 25-14	7200	No
V_R	946	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3119	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 29.6 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.383 (Exhibit 25-19)

S_R = 59.3 mph (Exhibit 25-19)

S_0 = 75.1 mph (Exhibit 25-19)

S = 63.5 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2250 ft
V_u = 841 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3166	0.92	Level	10	0	0.952	1.00	3613
Ramp	634	0.92	Level	4	0	0.980	1.00	703
UpStream	841	0.92	Level	7	0	0.966	1.00	946
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1088.14 (Equation 25-2 or 25-3)
P_{FM} = 0.591 using Equation (Exhibit 25-5)
V_{12} = 2135 pc/h
V_3 or V_{av34} 1478 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4316	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2838	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 24.3 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.344 (Exibit 25-19)
S_R = 60.4 mph (Exhibit 25-19)
S_0 = 66.5 mph (Exhibit 25-19)
S = 62.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2130 ft
V_u = 1243 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5194	0.92	Level	11	0	0.948	1.00	5956
Ramp	1161	0.92	Level	1	0	0.995	1.00	1268
UpStream	1243	0.92	Level	0	0	1.000	1.00	1351
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1852.54 (Equation 25-2 or 25-3)
P_{FM} = 0.600 using Equation (Exhibit 25-5)
V_{12} = 3573 pc/h
V_3 or V_{av34} 2383 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7224	Exhibit 25-7		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4841	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 37.6 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

M_S = 0.743 (Exibit 25-19)
S_R = 49.2 mph (Exhibit 25-19)
S_0 = 63.0 mph (Exhibit 25-19)
S = 53.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2130 ft
V_D = 1161 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6437	0.92	Level	9	0	0.957	1.00	7312
Ramp	1243	0.92	Level	0	0	1.000	1.00	1351
UpStream								
DownStream	1161	0.92	Level	1	0	0.995	1.00	1268

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.515 using Equation (Exhibit 25-12)
V_{12} = 4421 pc/h
V_3 or V_{av34} 2891 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = 4612 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7312	Exhibit 25-14	7200	Yes
$V_{FO} = V_F - V_R$	5961	Exhibit 25-14	7200	No
V_R	1351	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4421	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 41.9 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

D_s = 0.420 (Exhibit 25-19)
S_R= 58.3 mph (Exhibit 25-19)
S_0= 70.2 mph (Exhibit 25-19)
S = 62.1 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1650 ft
V_u = 1896 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5395	0.92	Level	10	0	0.952	1.00	6157
Ramp	1042	0.92	Level	5	0	0.976	1.00	1161
UpStream	1896	0.92	Level	1	0	0.995	1.00	2071
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1823.81 (Equation 25-2 or 25-3)
P_{FM} = 0.586 using Equation (Exhibit 25-5)
V_{12} = 3606 pc/h
V_3 or V_{av34} 2551 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7318	Exhibit 25-7		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4767	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 37.8 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

M_S = 0.717 (Exibit 25-19)
S_R = 49.9 mph (Exhibit 25-19)
S_0 = 62.0 mph (Exhibit 25-19)
S = 53.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1650 ft
V_D = 1042 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7291	0.92	Level	8	0	0.962	1.00	8242
Ramp	1896	0.92	Level	1	0	0.995	1.00	2071
UpStream								
DownStream	1042	0.92	Level	5	0	0.976	1.00	1161

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.459 using Equation (Exhibit 25-12)
V_{12} = 4902 pc/h
V_3 or V_{av34} 3340 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = 5542 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8242	Exhibit 25-14	7200	Yes
$V_{FO} = V_F - V_R$	6171	Exhibit 25-14	7200	No
V_R	2071	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4902	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 50.2 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

D_s = 0.484 (Exhibit 25-19)
S_R = 56.4 mph (Exhibit 25-19)
S_0 = 70.2 mph (Exhibit 25-19)
S = 60.3 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2100 ft
V_u = 917 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6410	0.92	Level	9	0	0.957	1.00	7281
Ramp	881	0.92	Level	1	0	0.995	1.00	962
UpStream	917	0.92	Level	1	0	0.995	1.00	1002
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1826.40 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 4256 pc/h
V_3 or V_{av34} 3025 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = 4581 pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8243	Exhibit 25-7		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5543	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 46.7 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

M_S = 1.295 (Exibit 25-19)
S_R = 33.7 mph (Exhibit 25-19)
S_0 = 61.1 mph (Exhibit 25-19)
S = 39.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 881 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7327	0.92	Level	8	0	0.962	1.00	8283
Ramp	917	0.92	Level	1	0	0.995	1.00	1002
UpStream								
DownStream	881	0.92	Level	1	0	0.995	1.00	962

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.507 using Equation (Exhibit 25-12)
V_{12} = 4692 pc/h
V_3 or V_{av34} 3591 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 5583 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8283	Exhibit 25-14	7200	Yes
$V_{FO} = V_F - V_R$	7281	Exhibit 25-14	7200	Yes
V_R	1002	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4692	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 50.6 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

D_s = 0.388 (Exhibit 25-19)
S_R = 59.1 mph (Exhibit 25-19)
S_0 = 70.2 mph (Exhibit 25-19)
S = 62.3 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2000 ft
V_u = 619 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5989	0.92	Level	9	0	0.957	1.00	6803
Ramp	1338	0.92	Level	1	0	0.995	1.00	1462
UpStream	619	0.92	Level	6	0	0.971	1.00	693
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1844.43 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 3982 pc/h
V_3 or V_{av34} 2821 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = 4103 pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8265	Exhibit 25-7		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5565	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 46.5 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

M_S = 1.314 (Exibit 25-19)
S_R = 33.2 mph (Exhibit 25-19)
S_0 = 61.1 mph (Exhibit 25-19)
S = 39.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2000 ft
V_D = 1338 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6608	0.92	Level	9	0	0.957	1.00	7506
Ramp	619	0.92	Level	6	0	0.971	1.00	693
UpStream								
DownStream	1338	0.92	Level	1	0	0.995	1.00	1462

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.540 using Equation (Exhibit 25-12)
V_{12} = 4375 pc/h
V_3 or V_{av34} 3131 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = 4806 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7506	Exhibit 25-14	7200	Yes
$V_{FO} = V_F - V_R$	6813	Exhibit 25-14	7200	No
V_R	693	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4375	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 43.6 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

D_s = 0.360 (Exhibit 25-19)
S_R = 59.9 mph (Exhibit 25-19)
S_0 = 70.2 mph (Exhibit 25-19)
S = 63.2 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2075 ft
V_D = 1375 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6634	0.92	Level	8	0	0.962	1.00	7499
Ramp	1549	0.92	Level	1	0	0.995	1.00	1692
UpStream								
DownStream	1375	0.92	Level	1	0	0.995	1.00	1502

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.495 using Equation (Exhibit 25-12)
V_{12} = 4565 pc/h
V_3 or V_{av34} 2934 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = 4799 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7499	Exhibit 25-14	7200	Yes
$V_{FO} = V_F - V_R$	5807	Exhibit 25-14	7200	No
V_R	1692	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4565	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 43.5 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

D_s = 0.450 (Exhibit 25-19)
S_R= 57.4 mph (Exhibit 25-19)
S_0= 70.2 mph (Exhibit 25-19)
S = 61.4 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2075 ft
V_u = 1549 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5085	0.92	Level	10	0	0.952	1.00	5804
Ramp	1375	0.92	Level	1	0	0.995	1.00	1502
UpStream	1549	0.92	Level	1	0	0.995	1.00	1692
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1617.00 (Equation 25-2 or 25-3)
P_{FM} = 0.584 using Equation (Exhibit 25-5)
V_{12} = 3389 pc/h
V_3 or V_{av34} 2415 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7306	Exhibit 25-7		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4891	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 41.5 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

M_S = 0.819 (Exibit 25-19)
S_R = 47.1 mph (Exhibit 25-19)
S_0 = 62.8 mph (Exhibit 25-19)
S = 51.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2050 ft
V_D = 1805 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6460	0.92	Level	8	0	0.962	1.00	7303
Ramp	1723	0.92	Level	1	0	0.995	1.00	1882
UpStream								
DownStream	1805	0.92	Level	1	0	0.995	1.00	1972

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.491 using Equation (Exhibit 25-12)
V_{12} = 4543 pc/h
V_3 or V_{av34} 2760 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = 4603 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7303	Exhibit 25-14	7200	Yes
$V_{FO} = V_F - V_R$	5421	Exhibit 25-14	7200	No
V_R	1882	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4543	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 42.1 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

D_s = 0.467 (Exhibit 25-19)
S_R = 56.9 mph (Exhibit 25-19)
S_0 = 70.2 mph (Exhibit 25-19)
S = 61.2 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2050 ft
V_u = 1723 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4737	0.92	Level	11	0	0.948	1.00	5432
Ramp	1805	0.92	Level	1	0	0.995	1.00	1972
UpStream	1723	0.92	Level	1	0	0.995	1.00	1882
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1660.18 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 3180 pc/h
V_3 or V_{av34} 2252 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7404	Exhibit 25-7		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5152	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 43.0 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

M_S = 0.970 (Exibit 25-19)
S_R = 42.9 mph (Exhibit 25-19)
S_0 = 63.7 mph (Exhibit 25-19)
S = 47.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2620 ft
V_D = 576 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6542	0.92	Level	8	0	0.962	1.00	7395
Ramp	1069	0.92	Level	1	0	0.995	1.00	1168
UpStream								
DownStream	576	0.92	Level	2	0	0.990	1.00	632

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.521 using Equation (Exhibit 25-12)
V_{12} = 4415 pc/h
V_3 or V_{av34} 2980 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = 4695 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7395	Exhibit 25-14	7200	Yes
$V_{FO} = V_F - V_R$	6227	Exhibit 25-14	7200	No
V_R	1168	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4415	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 43.3 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

D_s = 0.403 (Exhibit 25-19)
S_R= 58.7 mph (Exhibit 25-19)
S_0= 70.2 mph (Exhibit 25-19)
S = 62.4 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2620 ft
V_u = 1069 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5473	0.92	Level	9	0	0.957	1.00	6217
Ramp	576	0.92	Level	2	0	0.990	1.00	632
UpStream	1069	0.92	Level	1	0	0.995	1.00	1168
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1550.29 (Equation 25-2 or 25-3)
P_{FM} = 0.586 using Equation (Exhibit 25-5)
V_{12} = 3643 pc/h
V_3 or V_{av34} 2574 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6849	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4275	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 36.6 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

M_S = 0.574 (Exibit 25-19)
S_R = 53.9 mph (Exhibit 25-19)
S_0 = 61.8 mph (Exhibit 25-19)
S = 56.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2250 ft
V_D = 614 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6049	0.92	Level	8	0	0.962	1.00	6838
Ramp	1042	0.92	Level	3	0	0.985	1.00	1150
UpStream								
DownStream	614	0.92	Level	2	0	0.990	1.00	674

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.536 using Equation (Exhibit 25-12)
V_{12} = 4200 pc/h
V_3 or V_{av34} 2638 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6838	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	5688	Exhibit 25-14	7200	No
V_R	1150	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4200	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 38.9 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.402 (Exhibit 25-19)
S_R = 58.8 mph (Exhibit 25-19)
S_0 = 70.4 mph (Exhibit 25-19)
S = 62.8 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2250 ft
V_u = 1042 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5007	0.92	Level	10	0	0.952	1.00	5715
Ramp	614	0.92	Level	2	0	0.990	1.00	674
UpStream	1042	0.92	Level	3	0	0.985	1.00	1150
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1531.77 (Equation 25-2 or 25-3)
P_{FM} = 0.591 using Equation (Exhibit 25-5)
V_{12} = 3377 pc/h
V_3 or V_{av34} 2338 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6389	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4051	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 33.8 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.502 (Exibit 25-19)
S_R = 55.9 mph (Exhibit 25-19)
S_0 = 63.2 mph (Exhibit 25-19)
S = 58.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2130 ft
V_u = 1161 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4471	0.92	Level	14	0	0.935	1.00	5200
Ramp	1321	0.92	Level	1	0	0.995	1.00	1443
UpStream	1161	0.92	Level	1	0	0.995	1.00	1268
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1728.20 (Equation 25-2 or 25-3)
P_{FM} = 0.600 using Equation (Exhibit 25-5)
V_{12} = 3119 pc/h
V_3 or V_{av34} 2081 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6643	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4562	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 35.4 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

M_S = 0.623 (Exibit 25-19)
S_R = 52.6 mph (Exhibit 25-19)
S_0 = 64.3 mph (Exhibit 25-19)
S = 55.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2130 ft
V_D = 1321 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5632	0.92	Level	11	0	0.948	1.00	6458
Ramp	1161	0.92	Level	1	0	0.995	1.00	1268
UpStream								
DownStream	1321	0.92	Level	1	0	0.995	1.00	1443

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.540 using Equation (Exhibit 25-12)
V_{12} = 4072 pc/h
V_3 or V_{av34} 2386 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6458	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	5190	Exhibit 25-14	7200	No
V_R	1268	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4072	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 37.2 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.412 (Exhibit 25-19)
S_R = 58.5 mph (Exhibit 25-19)
S_0 = 71.4 mph (Exhibit 25-19)
S = 62.7 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1650 ft
V_u = 2121 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4130	0.92	Level	14	0	0.935	1.00	4803
Ramp	1502	0.92	Level	2	0	0.990	1.00	1649
UpStream	2121	0.92	Level	1	0	0.995	1.00	2317
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1638.49 (Equation 25-2 or 25-3)
P_{FM} = 0.597 using Equation (Exhibit 25-5)
V_{12} = 2867 pc/h
V_3 or V_{av34} 1936 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6452	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4516	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 35.6 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

M_S = 0.616 (Exibit 25-19)
S_R = 52.8 mph (Exhibit 25-19)
S_0 = 64.8 mph (Exhibit 25-19)
S = 55.9 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1650 ft
V_D = 1502 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6251	0.92	Level	10	0	0.952	1.00	7134
Ramp	2121	0.92	Level	1	0	0.995	1.00	2317
UpStream								
DownStream	1502	0.92	Level	2	0	0.990	1.00	1649

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.475 using Equation (Exhibit 25-12)
V_{12} = 4605 pc/h
V_3 or V_{av34} 2529 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7134	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	4817	Exhibit 25-14	7200	No
V_R	2317	Exhibit 25-3	2100	Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4605	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 42.1 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

D_s = 0.507 (Exhibit 25-19)
S_R = 55.8 mph (Exhibit 25-19)
S_0 = 70.8 mph (Exhibit 25-19)
S = 60.4 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2100 ft
V_u = 737 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5290	0.92	Level	11	0	0.948	1.00	6066
Ramp	961	0.92	Level	1	0	0.995	1.00	1050
UpStream	737	0.92	Level	1	0	0.995	1.00	805
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1585.22 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 3546 pc/h
V_3 or V_{av34} 2520 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7116	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4596	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 39.3 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

M_S = 0.685 (Exibit 25-19)
S_R = 50.8 mph (Exhibit 25-19)
S_0 = 62.2 mph (Exhibit 25-19)
S = 54.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 961 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6027	0.92	Level	10	0	0.952	1.00	6879
Ramp	737	0.92	Level	1	0	0.995	1.00	805
UpStream								
DownStream	961	0.92	Level	1	0	0.995	1.00	1050

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.551 using Equation (Exhibit 25-12)
V_{12} = 4152 pc/h
V_3 or V_{av34} 2727 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = 4179 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6879	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	6074	Exhibit 25-14	7200	No
V_R	805	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4152	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 38.5 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.370 (Exhibit 25-19)
S_R= 59.6 mph (Exhibit 25-19)
S_0= 70.2 mph (Exhibit 25-19)
S = 63.4 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2000 ft
V_u = 752 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5031	0.92	Level	12	0	0.943	1.00	5797
Ramp	996	0.92	Level	3	0	0.985	1.00	1099
UpStream	752	0.92	Level	3	0	0.985	1.00	830
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1551.46 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 3393 pc/h
V_3 or V_{av34} 2404 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6896	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4492	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 38.3 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

M_S = 0.644 (Exibit 25-19)
S_R = 52.0 mph (Exhibit 25-19)
S_0 = 62.8 mph (Exhibit 25-19)
S = 55.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2000 ft
V_D = 996 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5783	0.92	Level	11	0	0.948	1.00	6632
Ramp	752	0.92	Level	3	0	0.985	1.00	830
UpStream								
DownStream	996	0.92	Level	3	0	0.985	1.00	1099

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.556 using Equation (Exhibit 25-12)
V_{12} = 4056 pc/h
V_3 or V_{av34} 2576 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6632	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	5802	Exhibit 25-14	7200	No
V_R	830	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4056	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 37.1 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.373 (Exhibit 25-19)
S_R= 59.6 mph (Exhibit 25-19)
S_0= 70.6 mph (Exhibit 25-19)
S = 63.4 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP

Project Description: Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off

L_{down} = 2075 ft

V_D = 1246 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5871	0.92	Level	8	0	0.962	1.00	6637
Ramp	1487	0.92	Level	1	0	0.995	1.00	1624
UpStream								
DownStream	1246	0.92	Level	0	0	1.000	1.00	1354

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.519 using Equation (Exhibit 25-12)

V_{12} = 4228 pc/h

V_3 or V_{av34} 2409 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6637	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	5013	Exhibit 25-14	7200	No
V_R	1624	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4228	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 38.6 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.444 (Exhibit 25-19)

S_R = 57.6 mph (Exhibit 25-19)

S_0 = 71.3 mph (Exhibit 25-19)

S = 61.9 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2075 ft
V_u = 1487 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4384	0.92	Level	10	0	0.952	1.00	5003
Ramp	1246	0.92	Level	0	0	1.000	1.00	1354
UpStream	1487	0.92	Level	1	0	0.995	1.00	1624
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1413.92 (Equation 25-2 or 25-3)
P_{FM} = 0.584 using Equation (Exhibit 25-5)
V_{12} = 2921 pc/h
V_3 or V_{av34} 2082 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6357	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4275	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 36.8 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

M_S = 0.581 (Exibit 25-19)
S_R = 53.7 mph (Exhibit 25-19)
S_0 = 64.3 mph (Exhibit 25-19)
S = 56.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP
Project Description	Lake Elsinore Walmart TIA (JN 08651)		

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft	S_{FF} = 70.0 mph S_{FR} = 45.0 mph	L_{down} = 2050 ft
V_u = veh/h	Sketch (show lanes, L_A, L_D, V_R, V_f)	V_D = 1645 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5630	0.92	Level	8	0	0.962	1.00	6364
Ramp	1397	0.92	Level	2	0	0.990	1.00	1534
UpStream								
DownStream	1645	0.92	Level	2	0	0.990	1.00	1806

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.530 using Equation (Exhibit 25-12)

V_{12} = 4096 pc/h

V_3 or V_{av34} 2268 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6364	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	4830	Exhibit 25-14	7200	No
V_R	1534	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4096	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 37.7 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.436 (Exhibit 25-19)

S_R = 57.8 mph (Exhibit 25-19)

S_0 = 71.8 mph (Exhibit 25-19)

S = 62.1 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2050 ft
V_u = 1397 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4233	0.92	Level	10	0	0.952	1.00	4831
Ramp	1645	0.92	Level	2	0	0.990	1.00	1806
UpStream	1397	0.92	Level	2	0	0.990	1.00	1534
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1496.04 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 2828 pc/h
V_3 or V_{av34} 2003 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6637	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4634	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 39.0 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

M_S = 0.697 (Exibit 25-19)
S_R = 50.5 mph (Exhibit 25-19)
S_0 = 64.6 mph (Exhibit 25-19)
S = 54.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP

Project Description: Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off

L_{down} = 2620 ft

V_D = 408 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5878	0.92	Level	8	0	0.962	1.00	6645
Ramp	739	0.92	Level	1	0	0.995	1.00	807
UpStream								
DownStream	408	0.92	Level	2	0	0.990	1.00	448

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.557 using Equation (Exhibit 25-12)

V_{12} = 4057 pc/h

V_3 or V_{av34} 2588 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6645	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	5838	Exhibit 25-14	7200	No
V_R	807	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4057	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 37.8 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.371 (Exhibit 25-19)

S_R = 59.6 mph (Exhibit 25-19)

S_0 = 70.6 mph (Exhibit 25-19)

S = 63.5 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2620 ft
V_u = 739 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5139	0.92	Level	9	0	0.957	1.00	5837
Ramp	408	0.92	Level	2	0	0.990	1.00	448
UpStream	739	0.92	Level	1	0	0.995	1.00	807
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1429.59 (Equation 25-2 or 25-3)
P_{FM} = 0.586 using Equation (Exhibit 25-5)
V_{12} = 3420 pc/h
V_3 or V_{av34} 2417 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6285	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3868	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 33.6 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.481 (Exibit 25-19)
S_R = 56.5 mph (Exhibit 25-19)
S_0 = 62.8 mph (Exhibit 25-19)
S = 58.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off

L_{down} = 2250 ft

V_D = 613 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5547	0.92	Level	9	0	0.957	1.00	6301
Ramp	975	0.92	Level	2	0	0.990	1.00	1070
UpStream								
DownStream	613	0.92	Level	2	0	0.990	1.00	673

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.553 using Equation (Exhibit 25-12)

V_{12} = 3964 pc/h

V_3 or V_{av34} 2337 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6301	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	5231	Exhibit 25-14	7200	No
V_R	1070	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3964	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 36.9 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.394 (Exhibit 25-19)

S_R = 59.0 mph (Exhibit 25-19)

S_0 = 71.6 mph (Exhibit 25-19)

S = 63.1 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2250 ft
V_u = 975 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4572	0.92	Level	10	0	0.952	1.00	5218
Ramp	613	0.92	Level	2	0	0.990	1.00	673
UpStream	975	0.92	Level	2	0	0.990	1.00	1070
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1425.19 (Equation 25-2 or 25-3)
P_{FM} = 0.591 using Equation (Exhibit 25-5)
V_{12} = 3084 pc/h
V_3 or V_{av34} 2134 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5891	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3757	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 31.5 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.445 (Exibit 25-19)
S_R = 57.5 mph (Exhibit 25-19)
S_0 = 64.1 mph (Exhibit 25-19)
S = 59.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2130 ft
V_u = 705 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4146	0.92	Level	14	0	0.935	1.00	4822
Ramp	1230	0.92	Level	1	0	0.995	1.00	1344
UpStream	705	0.92	Level	0	0	1.000	1.00	766
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1626.12 (Equation 25-2 or 25-3)
P_{FM} = 0.600 using Equation (Exhibit 25-5)
V_{12} = 2893 pc/h
V_3 or V_{av34} 1929 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6166	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4237	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 32.9 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.519 (Exibit 25-19)
S_R = 55.5 mph (Exhibit 25-19)
S_0 = 64.9 mph (Exhibit 25-19)
S = 58.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2130 ft
V_D = 1230 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4851	0.92	Level	12	0	0.943	1.00	5589
Ramp	705	0.92	Level	0	0	1.000	1.00	766
UpStream								
DownStream	1230	0.92	Level	1	0	0.995	1.00	1344

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.585 using Equation (Exhibit 25-12)
V_{12} = 3588 pc/h
V_3 or V_{av34} 2001 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5589	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	4823	Exhibit 25-14	7200	No
V_R	766	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3588	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 33.1 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.367 (Exhibit 25-19)
S_R = 59.7 mph (Exhibit 25-19)
S_0 = 72.9 mph (Exhibit 25-19)
S = 63.9 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1650 ft
V_u = 1908 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3420	0.92	Level	16	0	0.926	1.00	4015
Ramp	1431	0.92	Level	1	0	0.995	1.00	1563
UpStream	1908	0.92	Level	2	0	0.990	1.00	2095
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1451.45 (Equation 25-2 or 25-3)
P_{FM} = 0.597 using Equation (Exhibit 25-5)
V_{12} = 2396 pc/h
V_3 or V_{av34} 1619 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5578	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3959	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 31.3 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.463 (Exibit 25-19)
S_R = 57.0 mph (Exhibit 25-19)
S_0 = 66.0 mph (Exhibit 25-19)
S = 59.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1650 ft
V_D = 1431 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5328	0.92	Level	11	0	0.948	1.00	6110
Ramp	1908	0.92	Level	2	0	0.990	1.00	2095
UpStream								
DownStream	1431	0.92	Level	1	0	0.995	1.00	1563

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.511 using Equation (Exhibit 25-12)
V_{12} = 4146 pc/h
V_3 or V_{av34} 1964 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6110	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	4015	Exhibit 25-14	7200	No
V_R	2095	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4146	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 38.2 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.487 (Exhibit 25-19)
S_R= 56.4 mph (Exhibit 25-19)
S_0= 73.0 mph (Exhibit 25-19)
S = 60.8 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2100 ft
V_u = 471 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4772	0.92	Level	12	0	0.943	1.00	5498
Ramp	556	0.92	Level	0	0	1.000	1.00	604
UpStream	471	0.92	Level	1	0	0.995	1.00	515
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1368.23 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 3214 pc/h
V_3 or V_{av34} 2284 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6102	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3818	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 33.4 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.476 (Exibit 25-19)
S_R = 56.7 mph (Exhibit 25-19)
S_0 = 63.6 mph (Exhibit 25-19)
S = 59.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP

Project Description: Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp: ☐ Yes ☐ On ☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp: ☑ Yes ☑ On ☐ No ☐ Off

L_{down} = 2100 ft

V_D = 556 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5243	0.92	Level	11	0	0.948	1.00	6012
Ramp	471	0.92	Level	1	0	0.995	1.00	515
UpStream								
DownStream	556	0.92	Level	0	0	1.000	1.00	604

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.586 using Equation (Exhibit 25-12)

V_{12} = 3736 pc/h

V_3 or V_{av34} 2276 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6012	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	5497	Exhibit 25-14	7200	No
V_R	515	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3736	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 34.7 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.344 (Exhibit 25-19)

S_R = 60.4 mph (Exhibit 25-19)

S_0 = 71.8 mph (Exhibit 25-19)

S = 64.2 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2000 ft
V_u = 441 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3995	0.92	Level	14	0	0.935	1.00	4646
Ramp	1248	0.92	Level	2	0	0.990	1.00	1370
UpStream	441	0.92	Level	1	0	0.995	1.00	482
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1363.14 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 2719 pc/h
V_3 or V_{av34} 1927 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6016	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4089	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 35.0 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.529 (Exibit 25-19)
S_R = 55.2 mph (Exhibit 25-19)
S_0 = 64.9 mph (Exhibit 25-19)
S = 58.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2000 ft
V_D = 1248 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4436	0.92	Level	13	0	0.939	1.00	5135
Ramp	441	0.92	Level	1	0	0.995	1.00	482
UpStream								
DownStream	1248	0.92	Level	2	0	0.990	1.00	1370

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.609 using Equation (Exhibit 25-12)
V_{12} = 3318 pc/h
V_3 or V_{av34} 1817 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5135	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	4653	Exhibit 25-14	7200	No
V_R	482	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3318	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 30.8 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.341 (Exhibit 25-19)
S_R= 60.4 mph (Exhibit 25-19)
S_0= 73.6 mph (Exhibit 25-19)
S = 64.5 mph (Exhibit 25-15)

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APPENDIX 7.11

General Plan Buildout (Post-2035) Without Project Conditions
Intersection Operations Analysis Worksheets, with Improvements

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

Intersection #1 Lakeshore Drive / Riverside Drive (SR-74)

Cycle (sec):	120	Critical Vol./Cap.(X):	0.833
Loss Time (sec):	16	Average Delay (sec/veh):	45.4
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Ovl		
Min. Green:	10	25	25	10	33	33	10	31	31	10	31	31
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	3 0	1	2 0	3 0	1	1 0	4 0	1
Volume Module:												
Base Vol:	274	437	34	714	389	229	402	1752	409	82	729	317
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:	274	437	34	714	389	229	402	1752	409	82	729	317
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	288	460	36	752	409	241	423	1844	431	86	767	334
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	288	460	36	752	409	241	423	1844	431	86	767	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:	288	460	36	752	409	241	423	1844	431	86	767	334
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.98	0.85	0.95	0.94	0.85	0.95	0.94	0.85	0.98	0.94	0.85
Lanes:	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	1.00	4.00	1.00
Final Sat.:	3617	3729	1615	3617	5358	1615	3617	5358	1615	1865	7144	1615
Capacity Analysis Module:												
Vol/Sat:	0.08	0.12	0.02	0.21	0.08	0.15	0.12	0.34	0.27	0.05	0.11	0.21
Crit Moves:		****		****				****		****		
Green/Cycle:	0.10	0.21	0.21	0.22	0.33	0.46	0.14	0.36	0.46	0.08	0.30	0.52
Volume/Cap:	0.81	0.59	0.11	0.96	0.23	0.32	0.85	0.96	0.58	0.56	0.35	0.40
Delay/Veh:	65.7	44.1	38.6	69.3	29.6	20.5	63.5	50.1	25.3	57.2	32.6	17.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.7	44.1	38.6	69.3	29.6	20.5	63.5	50.1	25.3	57.2	32.6	17.7
LOS by Move:	E	D	D	E	C	C	E	D	C	E	C	B
HCM2kAvgQ:	7	9	1	19	4	6	10	30	12	4	6	7

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

Intersection #2 W. Graham Avenue / N. Main Street

Cycle (sec):	90	Critical Vol./Cap.(X):	0.565
Loss Time (sec):	12	Average Delay (sec/veh):	25.1
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	25	25	10	25	25	10	20	20	10	20	20
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	1	0	0 1	0	1	0	0 1	0
Volume Module:												
Base Vol:	11	18	26	124	17	134	146	393	31	13	376	132
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:	11	18	26	124	17	134	146	393	31	13	376	132
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	12	20	28	135	18	146	159	427	34	14	409	143
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	20	28	135	18	146	159	427	34	14	409	143
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:	12	20	28	135	18	146	159	427	34	14	409	143
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.88	0.88	0.88	0.73	0.87	0.87	0.95	0.99	0.99	0.95	0.96	0.96
Lanes:	0.20	0.33	0.47	1.00	0.11	0.89	1.00	0.93	0.07	1.00	0.74	0.26
Final Sat.:	336	549	794	1383	185	1462	1805	1742	137	1805	1351	474
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.10	0.10	0.10	0.09	0.25	0.25	0.01	0.30	0.30
Crit Moves:				****			****				****	
Green/Cycle:	0.28	0.28	0.28	0.28	0.28	0.28	0.13	0.41	0.41	0.18	0.46	0.46
Volume/Cap:	0.13	0.13	0.13	0.35	0.36	0.36	0.66	0.61	0.61	0.04	0.66	0.66
Delay/Veh:	24.5	24.5	24.5	26.6	26.6	26.6	43.9	22.5	22.5	30.3	21.1	21.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.5	24.5	24.5	26.6	26.6	26.6	43.9	22.5	22.5	30.3	21.1	21.1
LOS by Move:	C	C	C	C	C	C	D	C	C	C	C	C
HCM2kAvgQ:	1	1	1	3	4	4	5	11	11	0	13	13

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

Intersection #3 E. Lakeshore Drive/Mission Trail / Diamond Drive

Cycle (sec):	120	Critical Vol./Cap.(X):	0.833
Loss Time (sec):	16	Average Delay (sec/veh):	42.7
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Include			Ovl		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	3 0	1	2 0	3 0	2
Volume Module:												
Base Vol:	144	745	708	708	727	662	461	1268	113	583	1237	622
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:	144	745	708	708	727	662	461	1268	113	583	1237	622
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	157	810	770	770	790	720	501	1378	123	634	1345	676
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	157	810	770	770	790	720	501	1378	123	634	1345	676
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:	157	810	770	770	790	720	501	1378	123	634	1345	676
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.01	1.00	0.82	1.01	1.00	0.94	1.01	1.00	0.94	1.01	1.00	0.82
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	2.00
Final Sat.:	3852	5706	3127	3852	5706	1777	3852	5706	1777	3852	5706	3127
Capacity Analysis Module:												
Vol/Sat:	0.04	0.14	0.25	0.20	0.14	0.41	0.13	0.24	0.07	0.16	0.24	0.22
Crit Moves:	****					****		****		****		
Green/Cycle:	0.08	0.17	0.36	0.23	0.32	0.48	0.17	0.28	0.28	0.19	0.30	0.53
Volume/Cap:	0.49	0.86	0.69	0.86	0.44	0.84	0.78	0.87	0.25	0.87	0.78	0.40
Delay/Veh:	53.7	56.4	35.0	52.1	32.7	34.4	54.2	46.7	33.9	58.2	40.8	16.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.7	56.4	35.0	52.1	32.7	34.4	54.2	46.7	33.9	58.2	40.8	16.7
LOS by Move:	D	E	C	D	C	C	D	D	C	E	D	B
HCM2kAvgQ:	3	13	15	17	8	25	11	21	4	15	18	8

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

Intersection #4 Gunnerson Street / Riverside Drive (SR-74)

Cycle (sec):	120	Critical Vol./Cap.(X):	0.826
Loss Time (sec):	12	Average Delay (sec/veh):	21.1
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	15	15	15	15	15	15	10	30	30	10	30	30
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	5	5	35	94	5	9	103	2040	143	58	1341	135
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:	5	5	35	94	5	9	103	2040	143	58	1341	135
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	5	5	36	98	5	9	107	2118	148	60	1393	140
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	5	36	98	5	9	107	2118	148	60	1393	140
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:	5	5	36	98	5	9	107	2118	148	60	1393	140
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.89	0.89	0.85	0.72	0.72	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	0.50	0.50	1.00	0.95	0.05	1.00	1.00	1.87	0.13	1.00	1.82	0.18
Final Sat.:	849	849	1615	1293	69	1615	1805	3340	234	1805	3234	326
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.02	0.08	0.08	0.01	0.06	0.63	0.63	0.03	0.43	0.43
Crit Moves:					****			****		****		
Green/Cycle:	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.69	0.69	0.08	0.65	0.65
Volume/Cap:	0.05	0.05	0.18	0.60	0.60	0.05	0.47	0.92	0.92	0.40	0.66	0.66
Delay/Veh:	46.3	46.3	47.4	55.7	55.7	46.3	50.3	21.6	21.6	53.9	13.7	13.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.3	46.3	47.4	55.7	55.7	46.3	50.3	21.6	21.6	53.9	13.7	13.7
LOS by Move:	D	D	D	E	E	D	D	C	C	D	B	B
HCM2kAvgQ:	0	0	1	5	5	0	4	41	41	3	18	18

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

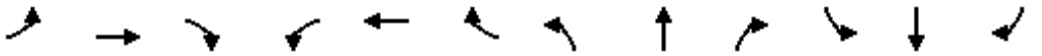
Intersection #5 Collier Avenue / Riverside Drive (SR-74)

Cycle (sec):	90	Critical Vol./Cap.(X):	0.663
Loss Time (sec):	16	Average Delay (sec/veh):	33.3
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ignore			Include		
Min. Green:	10	15	15	10	15	15	10	20	20	10	20	20
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	936	389	299	224	234	296	414	614	1066	263	456	182
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:	936	389	299	224	234	296	414	614	1066	263	456	182
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.00	0.98	0.98	0.98
PHF Volume:	954	397	305	228	239	302	422	626	0	268	465	186
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	954	397	305	228	239	302	422	626	0	268	465	186
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	954	397	305	228	239	302	422	626	0	268	465	186
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	1.01	0.85	0.98	1.01	0.85	0.98	0.97	1.00	0.98	0.97	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3736	3852	1615	3736	3852	1615	3736	5535	1900	3736	5535	1615
Capacity Analysis Module:												
Vol/Sat:	0.26	0.10	0.19	0.06	0.06	0.19	0.11	0.11	0.00	0.07	0.08	0.11
Crit Moves:	****				****		****					****
Green/Cycle:	0.30	0.28	0.40	0.19	0.17	0.30	0.13	0.24	0.00	0.12	0.22	0.22
Volume/Cap:	0.85	0.37	0.47	0.33	0.37	0.62	0.85	0.48	0.00	0.61	0.38	0.52
Delay/Veh:	35.9	26.2	20.6	32.0	33.7	29.7	51.2	29.8	0.0	40.1	29.9	32.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.9	26.2	20.6	32.0	33.7	29.7	51.2	29.8	0.0	40.1	29.9	32.1
LOS by Move:	D	C	C	C	C	C	D	C	A	D	C	C
HCM2kAvgQ:	16	5	7	3	3	8	9	6	0	5	4	5

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

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	163	566	58	618	648	1043	153	295	534	887	222	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	13	12	12	13	12	12	12
Total Lost time (s)	4.6	4.6	4.6	4.6	5.3	4.0	4.6	5.3	4.6	4.6	5.3	5.3
Lane Util. Factor	*1.00	*1.00	*1.00	*1.00	*1.00	*1.00	1.00	*1.00	*1.00	*1.00	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	3800	4957	1599	3519	3519	1937	1900	3800	3414	5700	3800	1866
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	3800	4957	1599	3519	3519	1937	1900	3800	3414	5700	3800	1866
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	173	602	62	657	689	1110	163	314	568	944	236	171
RTOR Reduction (vph)	0	0	45	0	0	0	0	0	54	0	0	121
Lane Group Flow (vph)	173	602	17	657	689	1110	163	314	514	944	236	50
Confl. Peds. (#/hr)			5			5						5
Heavy Vehicles (%)	0%	15%	0%	8%	8%	0%	0%	0%	15%	0%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases			4			Free			2			6
Actuated Green, G (s)	9.1	19.0	33.2	32.5	41.7	120.0	14.2	25.3	57.8	24.1	35.2	35.2
Effective Green, g (s)	9.1	19.0	33.2	32.5	41.7	120.0	14.2	25.3	57.8	24.1	35.2	35.2
Actuated g/C Ratio	0.08	0.16	0.28	0.27	0.35	1.00	0.12	0.21	0.48	0.20	0.29	0.29
Clearance Time (s)	4.6	4.6	4.6	4.6	5.3		4.6	5.3	4.6	4.6	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	288	784	503	953	1222	1937	224	801	1644	1144	1114	547
v/s Ratio Prot	0.05	c0.12	0.00	c0.19	0.20		0.09	0.08	0.08	c0.17	0.06	
v/s Ratio Perm			0.01			c0.57			0.07			0.03
v/c Ratio	0.60	0.77	0.03	0.69	0.56	0.57	0.73	0.39	0.31	0.83	0.21	0.09
Uniform Delay, d1	53.7	48.4	31.7	39.2	31.8	0.0	51.0	40.7	19.0	45.9	31.9	30.8
Progression Factor	1.00	1.00	1.00	0.97	0.86	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.4	4.1	0.0	1.9	0.2	0.6	9.6	1.4	0.5	4.7	0.4	0.3
Delay (s)	56.1	52.5	31.7	39.9	27.6	0.6	60.6	42.2	19.5	50.7	32.4	31.1
Level of Service	E	D	C	D	C	A	E	D	B	D	C	C
Approach Delay (s)		51.7			18.7			32.7			45.0	
Approach LOS		D			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	32.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

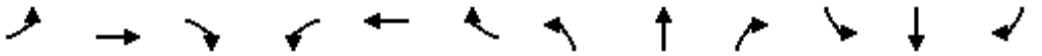
Intersection #107 Auto Center Drive / Diamond Drive

Cycle (sec):	120	Critical Vol./Cap.(X):	0.918
Loss Time (sec):	16	Average Delay (sec/veh):	42.7
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	2	2 0	2 0	2	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	454	519	643	398	570	493	750	927	1007	382	1494	706
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:	454	519	643	398	570	493	750	927	1007	382	1494	706
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:	454	519	643	398	570	493	750	927	1007	382	1494	706
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	454	519	643	398	570	493	750	927	1007	382	1494	706
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:	454	519	643	398	570	493	750	927	1007	382	1494	706
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.05	1.13	0.94	1.05	1.13	0.94	1.05	1.13	0.94	1.05	1.13	0.94
Lanes:	2.00	2.00	2.00	2.00	2.00	2.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3971	4305	3553	3971	4305	3553	3971	6458	1777	3971	6458	1777
Capacity Analysis Module:												
Vol/Sat:	0.11	0.12	0.18	0.10	0.13	0.14	0.19	0.14	0.57	0.10	0.23	0.40
Crit Moves:	****				****				****	****		
Green/Cycle:	0.12	0.15	0.25	0.12	0.14	0.38	0.23	0.49	0.62	0.10	0.37	0.49
Volume/Cap:	0.92	0.82	0.72	0.82	0.92	0.37	0.81	0.29	0.92	0.92	0.63	0.82
Delay/Veh:	74.0	58.1	43.9	62.2	69.3	27.3	49.2	18.1	32.3	78.2	32.0	32.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	74.0	58.1	43.9	62.2	69.3	27.3	49.2	18.1	32.3	78.2	32.0	32.2
LOS by Move:	E	E	D	E	E	C	D	B	C	E	C	C
HCM2kAvgQ:	12	11	11	9	14	3	14	1	37	10	10	7

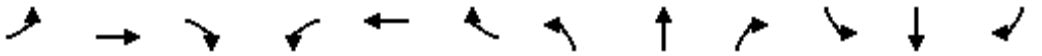
Note: Queue reported is the number of cars per lane.

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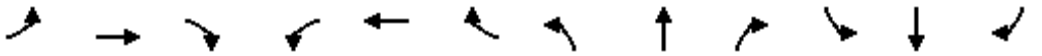
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1604	456	622	1131	0	0	0	0	466	0	748
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3	4.6	5.3					5.3		5.3
Lane Util. Factor		*1.00	1.00	*1.00	*1.00					*1.00		*1.00
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00		0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00		1.00
Frt		1.00	1.00	1.00	1.00					1.00		1.00
Flt Protected		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (prot)		5534	1738	3551	5481					3725		3551
Flt Permitted		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (perm)		5534	1738	3551	5481					3725		3551
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1743	496	676	1229	0	0	0	0	507	0	813
RTOR Reduction (vph)	0	0	279	0	0	0	0	0	0	0	0	152
Lane Group Flow (vph)	0	1743	217	676	1229	0	0	0	0	507	0	661
Confl. Peds. (#/hr)			5									5
Heavy Vehicles (%)	0%	3%	7%	7%	4%	0%	0%	0%	0%	2%	67%	5%
Turn Type		NA	Perm	Prot	NA					custom		custom
Protected Phases		2		1	6							
Permitted Phases			2							4		4
Actuated Green, G (s)		47.5	47.5	31.5	83.6					25.8		25.8
Effective Green, g (s)		47.5	47.5	31.5	83.6					25.8		25.8
Actuated g/C Ratio		0.40	0.40	0.26	0.70					0.22		0.22
Clearance Time (s)		5.3	5.3	4.6	5.3					5.3		5.3
Vehicle Extension (s)		2.0	2.0	2.0	2.0					2.0		2.0
Lane Grp Cap (vph)		2190	687	932	3818					800		763
v/s Ratio Prot		c0.31		c0.19	0.22							
v/s Ratio Perm			0.13							0.14		c0.19
v/c Ratio		0.80	0.32	0.73	0.32					0.63		0.87
Uniform Delay, d1		32.0	25.0	40.3	7.1					42.8		45.4
Progression Factor		1.00	1.00	0.63	1.10					1.00		1.00
Incremental Delay, d2		1.9	0.1	1.5	0.1					1.2		9.9
Delay (s)		33.9	25.1	27.0	7.9					44.0		55.3
Level of Service		C	C	C	A					D		E
Approach Delay (s)		32.0			14.7			0.0			51.0	
Approach LOS		C			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1240	747	780	1974	0	0	0	0	716	0	745
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	4.6	5.7					5.3		5.3
Lane Util. Factor		*1.00	*1.00	*1.00	*1.00					*1.00		*1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00					1.00		1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00		1.00
Frt		1.00	1.00	1.00	1.00					1.00		1.00
Flt Protected		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (prot)		5377	3654	3654	3689					3393		3551
Flt Permitted		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (perm)		5377	3654	3654	3689					3393		3551
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1348	812	848	2146	0	0	0	0	778	0	810
RTOR Reduction (vph)	0	0	425	0	0	0	0	0	0	0	0	49
Lane Group Flow (vph)	0	1348	387	848	2146	0	0	0	0	778	0	761
Confl. Peds. (#/hr)												5
Heavy Vehicles (%)	0%	6%	4%	4%	3%	0%	0%	0%	0%	12%	0%	7%
Turn Type		NA	Perm	Prot	NA					Prot		custom
Protected Phases		2		1	6					4		4
Permitted Phases			2									
Actuated Green, G (s)		42.9	42.9	30.6	78.1					30.9		30.9
Effective Green, g (s)		42.9	42.9	30.6	78.1					30.9		30.9
Actuated g/C Ratio		0.36	0.36	0.26	0.65					0.26		0.26
Clearance Time (s)		5.7	5.7	4.6	5.7					5.3		5.3
Vehicle Extension (s)		2.0	2.0	2.0	2.0					2.0		2.0
Lane Grp Cap (vph)		1922	1306	931	2400					873		914
v/s Ratio Prot		0.25		0.23	c0.58					c0.23		0.21
v/s Ratio Perm			0.11									
v/c Ratio		0.70	0.30	0.91	0.89					0.89		0.83
Uniform Delay, d1		33.1	27.7	43.4	17.5					42.9		42.1
Progression Factor		1.22	2.90	1.00	1.00					1.00		1.00
Incremental Delay, d2		1.8	0.5	12.6	5.7					11.0		6.3
Delay (s)		42.2	80.9	56.0	23.2					54.0		48.4
Level of Service		D	F	E	C					D		D
Approach Delay (s)		56.8			32.5			0.0			51.1	
Approach LOS		E			C			A			D	

Intersection Summary			
HCM 2000 Control Delay	44.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	90.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



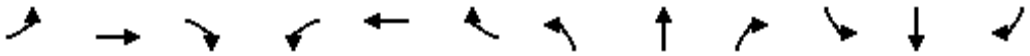
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	809	365	277	907	0	0	0	0	350	0	586
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3	4.6	5.3					5.3	5.3	5.3
Lane Util. Factor		*1.00	1.00	*1.00	*1.00					1.00	*1.00	*1.00
Frpb, ped/bikes		1.00	0.96	1.00	1.00					1.00	0.98	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Flt Protected		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Satd. Flow (prot)		3725	1797	3519	3689					1267	1871	1871
Flt Permitted		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Satd. Flow (perm)		3725	1797	3519	3689					1267	1871	1871
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	879	397	301	986	0	0	0	0	380	0	637
RTOR Reduction (vph)	0	0	264	0	0	0	0	0	0	0	43	43
Lane Group Flow (vph)	0	879	133	301	986	0	0	0	0	380	276	275
Confl. Peds. (#/hr)			5									5
Heavy Vehicles (%)	0%	2%	2%	8%	3%	0%	0%	0%	0%	50%	0%	0%
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		40.3	40.3	13.8	58.7					50.7	50.7	50.7
Effective Green, g (s)		40.3	40.3	13.8	58.7					50.7	50.7	50.7
Actuated g/C Ratio		0.34	0.34	0.12	0.49					0.42	0.42	0.42
Clearance Time (s)		5.3	5.3	4.6	5.3					5.3	5.3	5.3
Vehicle Extension (s)		2.0	2.0	2.0	2.0					2.0	2.0	2.0
Lane Grp Cap (vph)		1250	603	404	1804					535	790	790
v/s Ratio Prot		c0.24		c0.09	0.27					c0.30	0.15	
v/s Ratio Perm			0.07									0.15
v/c Ratio		0.70	0.22	0.75	0.55					0.71	0.35	0.35
Uniform Delay, d1		34.6	28.6	51.4	21.4					28.6	23.5	23.5
Progression Factor		1.00	1.00	0.68	0.46					1.00	1.00	1.00
Incremental Delay, d2		3.3	0.8	3.5	0.1					7.8	1.2	1.2
Delay (s)		38.0	29.4	38.3	9.9					36.4	24.7	24.7
Level of Service		D	C	D	A					D	C	C
Approach Delay (s)		35.3			16.5			0.0			29.1	
Approach LOS		D			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	26.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	78.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



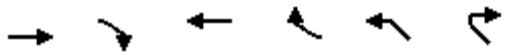
Movement	WBL	WBR	NBT	NBR	SBL2	SBL	SBT	SWL	SWR
Lane Configurations									
Volume (vph)	96	714	612	60	574	0	873	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0	6.0	6.0	4.5		6.0		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00		*1.00		
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00		1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		
Frt	1.00	1.00	1.00	1.00	1.00		1.00		
Flt Protected	1.00	1.00	1.00	1.00	1.00		1.00		
Satd. Flow (prot)	1863	3615	1925	1863	3725		3725		
Flt Permitted	1.00	1.00	1.00	1.00	1.00		1.00		
Satd. Flow (perm)	1863	3615	1925	1863	3725		3725		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	104	776	665	65	624	0	949	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	104	776	665	65	624	0	949	0	0
Confl. Peds. (#/hr)		5							
Turn Type	NA	Perm	NA	Perm	Prot		NA		
Protected Phases	8		2		1		6		
Permitted Phases		8		2					
Actuated Green, G (s)	30.3	30.3	49.7	49.7	23.5		77.7		
Effective Green, g (s)	30.3	30.3	49.7	49.7	23.5		77.7		
Actuated g/C Ratio	0.25	0.25	0.41	0.41	0.20		0.65		
Clearance Time (s)	6.0	6.0	6.0	6.0	4.5		6.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0		
Lane Grp Cap (vph)	470	912	797	771	729		2411		
v/s Ratio Prot	0.06		c0.35		c0.17		0.25		
v/s Ratio Perm		c0.21		0.03					
v/c Ratio	0.22	0.85	0.83	0.08	0.86		0.39		
Uniform Delay, d1	35.5	42.7	31.5	21.3	46.6		10.0		
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00		
Incremental Delay, d2	0.1	7.4	10.0	0.2	9.4		0.5		
Delay (s)	35.6	50.1	41.5	21.6	56.0		10.5		
Level of Service	D	D	D	C	E		B		
Approach Delay (s)	48.4		39.7				28.5	0.0	
Approach LOS	D		D				C	A	

Intersection Summary			
HCM 2000 Control Delay	36.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	607	1463	0	0	1468	554	285	0	947	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.3			5.3	5.3	5.3		5.3			
Lane Util. Factor	*1.00	*1.00			*1.00	1.00	1.00		*1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00		0.98			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00		1.00			
Frt	1.00	1.00			1.00	1.00	1.00		1.00			
Flt Protected	1.00	1.00			1.00	1.00	1.00		1.00			
Satd. Flow (prot)	3519	5644			5377	1841	1827		3736			
Flt Permitted	1.00	1.00			1.00	1.00	1.00		1.00			
Satd. Flow (perm)	3519	5644			5377	1841	1827		3736			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	660	1590	0	0	1596	602	310	0	1029	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	366	0	0	46	0	0	0
Lane Group Flow (vph)	660	1590	0	0	1596	236	310	0	983	0	0	0
Confl. Peds. (#/hr)						5			5			
Heavy Vehicles (%)	8%	1%	0%	0%	6%	1%	4%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	custom		custom			
Protected Phases	5	2			6							
Permitted Phases						6	8		8			
Actuated Green, G (s)	25.1	73.5			43.8	43.8	35.9		35.9			
Effective Green, g (s)	25.1	73.5			43.8	43.8	35.9		35.9			
Actuated g/C Ratio	0.21	0.61			0.36	0.36	0.30		0.30			
Clearance Time (s)	4.6	5.3			5.3	5.3	5.3		5.3			
Vehicle Extension (s)	2.0	2.0			2.0	2.0	2.0		2.0			
Lane Grp Cap (vph)	736	3456			1962	671	546		1117			
v/s Ratio Prot	c0.19	0.28			c0.30							
v/s Ratio Perm						0.13	0.17		c0.26			
v/c Ratio	0.90	0.46			0.81	0.35	0.57		0.88			
Uniform Delay, d1	46.2	12.5			34.4	27.7	35.5		40.0			
Progression Factor	0.81	0.48			1.00	1.00	1.00		1.00			
Incremental Delay, d2	9.2	0.3			3.8	1.4	4.2		10.0			
Delay (s)	46.4	6.3			38.2	29.2	39.7		50.0			
Level of Service	D	A			D	C	D		D			
Approach Delay (s)		18.1			35.8			47.6			0.0	
Approach LOS		B			D			D			A	

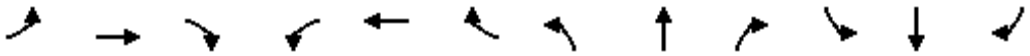
Intersection Summary			
HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR2	WBT	WBR	NWL	NWR2
Lane Configurations						
Volume (vph)	1630	326	1797	665	958	857
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.7		5.3	5.3
Lane Util. Factor	*1.00	1.00	*1.00		*1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	1.00	1.00	1.00		1.00	1.00
Satd. Flow (prot)	5327	1429	5411		3762	3689
Flt Permitted	1.00	1.00	1.00		1.00	1.00
Satd. Flow (perm)	5327	1429	5411		3762	3689
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1772	354	1953	723	1041	932
RTOR Reduction (vph)	0	140	74	0	0	29
Lane Group Flow (vph)	1772	214	2602	0	1041	903
Confl. Peds. (#/hr)				5		
Heavy Vehicles (%)	7%	13%	4%	7%	1%	3%
Turn Type	NA	Perm	NA		NA	Prot
Protected Phases	2		6		8	8
Permitted Phases		2				
Actuated Green, G (s)	54.3	54.3	54.3		24.7	24.7
Effective Green, g (s)	54.3	54.3	54.3		24.7	24.7
Actuated g/C Ratio	0.60	0.60	0.60		0.27	0.27
Clearance Time (s)	5.7	5.7	5.7		5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	3213	862	3264		1032	1012
v/s Ratio Prot	0.33		c0.48		c0.28	0.24
v/s Ratio Perm		0.15				
v/c Ratio	0.55	0.25	0.80		1.01	0.89
Uniform Delay, d1	10.6	8.3	13.6		32.6	31.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.7	0.7	2.1		30.2	9.8
Delay (s)	11.3	9.0	15.8		62.8	41.2
Level of Service	B	A	B		E	D
Approach Delay (s)	10.9		15.8		52.6	
Approach LOS	B		B		D	

Intersection Summary			
HCM 2000 Control Delay	25.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	740	419	0	0	768	141	416	0	501	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.3			5.3	5.3	5.3	5.3	5.3			
Lane Util. Factor	*1.00	*1.00			*1.00	*1.00	*1.00	*1.00	*1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	0.98	0.98			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	1.00			
Flt Protected	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Satd. Flow (prot)	3619	3725			3689	1054	1845	1870	1870			
Flt Permitted	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Satd. Flow (perm)	3619	3725			3689	1054	1845	1870	1870			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	804	455	0	0	835	153	452	0	545	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	117	0	159	159	0	0	0
Lane Group Flow (vph)	804	455	0	0	835	36	452	114	113	0	0	0
Confl. Peds. (#/hr)						5			5			
Heavy Vehicles (%)	5%	2%	0%	0%	3%	50%	3%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	26.4	59.4			28.4	28.4	50.0	50.0	50.0			
Effective Green, g (s)	26.4	59.4			28.4	28.4	50.0	50.0	50.0			
Actuated g/C Ratio	0.22	0.49			0.24	0.24	0.42	0.42	0.42			
Clearance Time (s)	4.6	5.3			5.3	5.3	5.3	5.3	5.3			
Vehicle Extension (s)	2.0	2.0			2.0	2.0	2.0	2.0	2.0			
Lane Grp Cap (vph)	796	1843			873	249	768	779	779			
v/s Ratio Prot	c0.22	0.12			c0.23		c0.25	0.06				
v/s Ratio Perm						0.03			0.06			
v/c Ratio	1.01	0.25			0.96	0.15	0.59	0.15	0.15			
Uniform Delay, d1	46.8	17.4			45.2	36.2	27.1	21.7	21.7			
Progression Factor	0.80	0.99			1.25	4.08	1.00	1.00	1.00			
Incremental Delay, d2	29.1	0.2			18.4	1.0	3.3	0.4	0.4			
Delay (s)	66.4	17.5			74.9	148.6	30.3	22.1	22.1			
Level of Service	E	B			E	F	C	C	C			
Approach Delay (s)		48.7			86.3			25.9			0.0	
Approach LOS		D			F			C			A	

Intersection Summary			
HCM 2000 Control Delay	53.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	78.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR	SBR2	NEL	NER
Lane Configurations									
Volume (vph)	0	0	141	256	530	0	1156	554	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	6.0	6.0		4.0	6.0	6.0
Lane Util. Factor			1.00	*1.00	*1.00		1.00	*1.00	1.00
Frpb, ped/bikes			1.00	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes			1.00	1.00	1.00		1.00	1.00	1.00
Frt			1.00	1.00	1.00		1.00	1.00	1.00
Flt Protected			1.00	1.00	1.00		1.00	1.00	1.00
Satd. Flow (prot)			1863	3725	3725		1863	3725	1827
Flt Permitted			1.00	1.00	1.00		1.00	1.00	1.00
Satd. Flow (perm)			1863	3725	3725		1863	3725	1827
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	153	278	576	0	1257	602	71
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	57
Lane Group Flow (vph)	0	0	153	278	576	0	1257	602	14
Confl. Peds. (#/hr)									5
Turn Type			Prot	NA	NA		Free	NA	Perm
Protected Phases			5	2	6			4	
Permitted Phases							Free		4
Actuated Green, G (s)			15.1	83.9	64.8		120.0	24.1	24.1
Effective Green, g (s)			15.1	83.9	64.8		120.0	24.1	24.1
Actuated g/C Ratio			0.13	0.70	0.54		1.00	0.20	0.20
Clearance Time (s)			4.0	6.0	6.0			6.0	6.0
Vehicle Extension (s)			3.0	2.0	2.0			2.0	2.0
Lane Grp Cap (vph)			234	2604	2011		1863	748	366
v/s Ratio Prot			0.08	0.07	0.15			0.16	
v/s Ratio Perm							c0.67		0.01
v/c Ratio			0.65	0.11	0.29		0.67	0.80	0.04
Uniform Delay, d1			50.0	5.9	15.0		0.0	45.7	38.6
Progression Factor			1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2			6.4	0.1	0.0		2.0	5.9	0.0
Delay (s)			56.4	6.0	15.0		2.0	51.7	38.6
Level of Service			E	A	B		A	D	D
Approach Delay (s)	0.0			23.9	6.1			50.3	
Approach LOS	A			C	A			D	

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

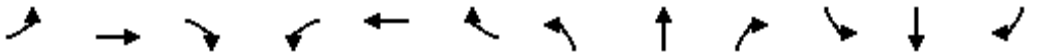
Intersection #16 Dexter Avenue / 11th Street

Cycle (sec):	60	Critical Vol./Cap.(X):	0.420
Loss Time (sec):	12	Average Delay (sec/veh):	18.9
Optimal Cycle:	OPTIMIZED	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	25	25	25	25	25	25	10	25	25	10	25	25
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	144	97	27	13	185	55	112	344	120	46	355	28
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:	144	97	27	13	185	55	112	344	120	46	355	28
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	157	105	29	14	201	60	122	374	130	50	386	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	157	105	29	14	201	60	122	374	130	50	386	30
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:	157	105	29	14	201	60	122	374	130	50	386	30
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.50	0.97	0.97	0.67	0.97	0.97	0.95	0.95	0.85	0.95	0.94	0.94
Lanes:	1.00	0.78	0.22	1.00	0.77	0.23	1.00	2.00	1.00	1.00	1.85	0.15
Final Sat.:	944	1437	400	1265	1415	421	1805	3610	1615	1805	3309	261
Capacity Analysis Module:												
Vol/Sat:	0.17	0.07	0.07	0.01	0.14	0.14	0.07	0.10	0.08	0.03	0.12	0.12
Crit Moves:	****						****				****	
Green/Cycle:	0.35	0.35	0.35	0.35	0.35	0.35	0.14	0.35	0.35	0.14	0.35	0.35
Volume/Cap:	0.48	0.21	0.21	0.03	0.41	0.41	0.49	0.30	0.23	0.20	0.34	0.34
Delay/Veh:	19.5	16.7	16.7	15.5	18.3	18.3	30.1	17.2	16.9	27.8	17.5	17.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.5	16.7	16.7	15.5	18.3	18.3	30.1	17.2	16.9	27.8	17.5	17.5
LOS by Move:	B	B	B	B	B	B	C	B	B	C	B	B
HCM2kAvgQ:	3	2	2	0	5	5	3	3	2	1	4	4

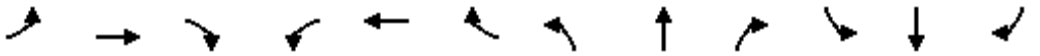
Note: Queue reported is the number of cars per lane.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑↑↑	↱			↱			↱
Volume (vph)	0	2022	465	0	1981	184	0	0	285	0	0	481
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7		5.7	5.7			5.3			5.3
Lane Util. Factor		*1.00	1.00		*1.00	1.00			1.00			1.00
Frpb, ped/bikes		1.00	0.98		1.00	0.98			0.98			0.98
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00			1.00
Frt		1.00	1.00		1.00	1.00			1.00			1.00
Flt Protected		1.00	1.00		1.00	1.00			1.00			1.00
Satd. Flow (prot)		5229	1866		7037	1866			1869			1870
Flt Permitted		1.00	1.00		1.00	1.00			1.00			1.00
Satd. Flow (perm)		5229	1866		7037	1866			1869			1870
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2198	505	0	2153	200	0	0	310	0	0	523
RTOR Reduction (vph)	0	0	241	0	0	95	0	0	18	0	0	18
Lane Group Flow (vph)	0	2198	264	0	2153	105	0	0	292	0	0	505
Confl. Peds. (#/hr)			5			5			5			5
Heavy Vehicles (%)	0%	9%	0%	0%	8%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA	Perm		NA	Perm			Perm			Perm
Protected Phases		2			6							
Permitted Phases			2			6			8			4
Actuated Green, G (s)		52.3	52.3		52.3	52.3			36.7			36.7
Effective Green, g (s)		52.3	52.3		52.3	52.3			36.7			36.7
Actuated g/C Ratio		0.52	0.52		0.52	0.52			0.37			0.37
Clearance Time (s)		5.7	5.7		5.7	5.7			5.3			5.3
Vehicle Extension (s)		2.0	2.0		2.0	2.0			2.0			2.0
Lane Grp Cap (vph)		2734	975		3680	975			685			686
v/s Ratio Prot		c0.42			0.31							
v/s Ratio Perm			0.14			0.06			0.16			c0.27
v/c Ratio		0.80	0.27		0.59	0.11			0.43			0.74
Uniform Delay, d1		19.6	13.3		16.4	12.1			23.7			27.4
Progression Factor		1.00	1.00		1.00	1.00			1.00			1.00
Incremental Delay, d2		2.6	0.7		0.7	0.2			1.9			6.9
Delay (s)		22.3	13.9		17.1	12.3			25.7			34.3
Level of Service		C	B		B	B			C			C
Approach Delay (s)		20.7			16.7			25.7			34.3	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	61	356	32	92	116	97	30	123	85	120	283	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.7		4.6	5.7		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flt Protected	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Satd. Flow (prot)	1900	1900		1900	1900		1900	1900		1900	1900	
Flt Permitted	1.00	1.00		1.00	1.00		0.47	1.00		0.61	1.00	
Satd. Flow (perm)	1900	1900		1900	1900		901	1900		1150	1900	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	387	35	100	126	105	33	134	92	130	308	41
RTOR Reduction (vph)	0	4	0	0	38	0	0	26	0	0	5	0
Lane Group Flow (vph)	66	418	0	100	193	0	33	200	0	130	344	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	6.3	21.3		7.2	22.2		35.5	35.5		35.5	35.5	
Effective Green, g (s)	6.3	21.3		7.2	22.2		35.5	35.5		35.5	35.5	
Actuated g/C Ratio	0.08	0.27		0.09	0.28		0.44	0.44		0.44	0.44	
Clearance Time (s)	4.6	5.7		4.6	5.7		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	149	505		171	527		399	843		510	843	
v/s Ratio Prot	0.03	c0.22		c0.05	0.10			0.11			c0.18	
v/s Ratio Perm							0.04			0.11		
v/c Ratio	0.44	0.83		0.58	0.37		0.08	0.24		0.25	0.41	
Uniform Delay, d1	35.2	27.6		35.0	23.2		12.8	13.8		14.0	15.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.71	0.72	
Incremental Delay, d2	0.8	10.2		3.3	0.2		0.4	0.7		1.1	1.4	
Delay (s)	35.9	37.8		38.2	23.4		13.3	14.5		11.0	12.3	
Level of Service	D	D		D	C		B	B		B	B	
Approach Delay (s)		37.5			27.9			14.3			12.0	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

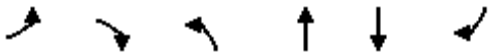
Intersection #21 Dexter Avenue / 2nd Street

Cycle (sec):	75	Critical Vol./Cap.(X):	0.553
Loss Time (sec):	12	Average Delay (sec/veh):	22.4
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	25	25	25	25	25	25	10	20	20	10	20	20
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	1	0 1	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	5	5	5	140	5	262	192	150	5	5	378	41
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	5	5	140	5	262	192	150	5	5	378	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	5	5	5	152	5	285	209	163	5	5	411	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	5	5	152	5	285	209	163	5	5	411	45
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	5	5	5	152	5	285	209	163	5	5	411	45
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	0.93	0.93	0.76	1.00	0.85	0.95	1.00	1.00	0.95	0.99	0.99
Lanes:	1.00	0.50	0.50	1.00	1.00	1.00	1.00	0.97	0.03	1.00	0.90	0.10
Final Sat.:	1454	879	879	1444	1900	1615	1805	1830	61	1805	1688	183
Capacity Analysis Module:												
Vol/Sat:	0.00	0.01	0.01	0.11	0.00	0.18	0.12	0.09	0.09	0.00	0.24	0.24
Crit Moves:				****			****				****	
Green/Cycle:	0.33	0.33	0.33	0.33	0.33	0.50	0.16	0.34	0.34	0.17	0.34	0.34
Volume/Cap:	0.01	0.02	0.02	0.32	0.01	0.36	0.71	0.26	0.26	0.02	0.71	0.71
Delay/Veh:	16.7	16.8	16.8	19.0	16.7	11.8	37.4	18.3	18.3	26.0	25.0	25.0
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:	16.7	16.8	16.8	19.0	16.7	11.8	37.4	18.3	18.3	26.0	25.0	25.0
LOS by Move:	B	B	B	B	B	B	D	B	B	C	C	C
HCM2kAvgQ:	0	0	0	3	0	4	6	3	3	0	10	10

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

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	353	567	647	192	167	262
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	5.3	5.3	5.3
Lane Util. Factor	1.00	1.00	*1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1881	1855	3800	1900	1900	1819
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1881	1855	3800	1900	1900	1819
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	384	616	703	209	182	285
RTOR Reduction (vph)	0	74	0	0	0	2
Lane Group Flow (vph)	384	542	703	209	182	283
Confl. Peds. (#/hr)		5				5
Heavy Vehicles (%)	1%	0%	0%	0%	0%	4%
Turn Type	NA	pm+ov	Prot	NA	NA	pm+ov
Protected Phases	2	3	3	8	4	2
Permitted Phases		2				4
Actuated Green, G (s)	59.4	88.2	28.8	50.0	15.9	75.3
Effective Green, g (s)	59.4	88.2	28.8	50.0	15.9	75.3
Actuated g/C Ratio	0.49	0.74	0.24	0.42	0.13	0.63
Clearance Time (s)	5.3	5.3	5.3	5.3	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	931	1445	912	791	251	1221
v/s Ratio Prot	c0.20	0.09	c0.18	0.11	c0.10	0.11
v/s Ratio Perm		0.20				0.04
v/c Ratio	0.41	0.38	0.77	0.26	0.73	0.23
Uniform Delay, d1	19.2	5.8	42.5	22.9	50.0	9.7
Progression Factor	0.62	0.73	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	0.1	3.7	0.8	8.5	0.0
Delay (s)	13.2	4.3	46.2	23.8	58.4	9.8
Level of Service	B	A	D	C	E	A
Approach Delay (s)	7.7			41.1	28.7	
Approach LOS	A			D	C	

Intersection Summary			
HCM 2000 Control Delay	24.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

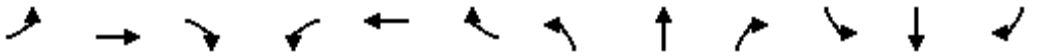
Intersection #123 Summerhill Drive/Grape Street / Railroad Canyon Road

Cycle (sec):	120	Critical Vol./Cap.(X):	0.694
Loss Time (sec):	16	Average Delay (sec/veh):	35.0
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	2	2 0	1 0	2	2 0	3 0	1	2 0	3 0	2
Volume Module:												
Base Vol:	320	175	426	555	242	578	250	1249	470	904	1684	515
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:	320	175	426	555	242	578	250	1249	470	904	1684	515
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:	320	175	426	555	242	578	250	1249	470	904	1684	515
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	320	175	426	555	242	578	250	1249	470	904	1684	515
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:	320	175	426	555	242	578	250	1249	470	904	1684	515
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.05	1.13	0.94	1.05	1.13	0.94	1.05	1.13	0.96	1.05	1.13	0.94
Lanes:	2.00	2.00	2.00	2.00	1.00	2.00	2.00	3.00	1.00	2.00	3.00	2.00
Final Sat.:	3971	4305	3553	3971	2153	3553	3971	6458	1830	3971	6458	3553
Capacity Analysis Module:												
Vol/Sat:	0.08	0.04	0.12	0.14	0.11	0.16	0.06	0.19	0.26	0.23	0.26	0.14
Crit Moves:		****		****				****		****		
Green/Cycle:	0.12	0.08	0.40	0.20	0.16	0.30	0.14	0.27	0.39	0.32	0.45	0.64
Volume/Cap:	0.68	0.49	0.30	0.72	0.70	0.54	0.44	0.72	0.66	0.72	0.59	0.23
Delay/Veh:	54.7	53.6	24.6	48.4	54.1	35.4	47.6	41.1	32.5	38.1	25.3	9.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.7	53.6	24.6	48.4	54.1	35.4	47.6	41.1	32.5	38.1	25.3	9.1
LOS by Move:	D	D	C	D	D	D	D	D	C	D	C	A
HCM2kAvgQ:	7	4	2	10	9	7	4	13	9	12	6	0

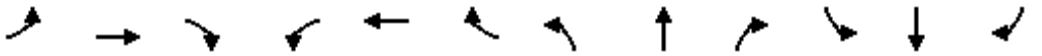
Note: Queue reported is the number of cars per lane.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	604	1392	211	305	1398	396	319	390	365	442	303	399
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	6.0	4.0	4.6	6.0	4.0	4.0	5.3	4.6	4.0	5.3	4.6
Lane Util. Factor	*1.00	*1.00	1.00	*1.00	*1.00	*1.00	*1.00	*1.00	1.00	*1.00	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	3800	5229	1879	3800	5327	1875	3800	1900	1878	3800	3800	1886
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	3800	5229	1879	3800	5327	1875	3800	1900	1878	3800	3800	1886
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	657	1513	229	332	1520	430	347	424	397	480	329	434
RTOR Reduction (vph)	0	0	49	0	0	61	0	0	66	0	0	45
Lane Group Flow (vph)	657	1513	180	332	1520	369	347	424	331	480	329	389
Confl. Peds. (#/hr)			5			5			5			5
Heavy Vehicles (%)	0%	9%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	20.6	40.4	69.5	14.7	34.5	50.1	29.1	29.4	44.1	15.6	15.9	36.5
Effective Green, g (s)	20.6	40.4	69.5	14.7	34.5	50.1	29.1	29.4	44.1	15.6	15.9	36.5
Actuated g/C Ratio	0.17	0.34	0.58	0.12	0.29	0.42	0.24	0.24	0.37	0.13	0.13	0.30
Clearance Time (s)	4.6	6.0	4.0	4.6	6.0	4.0	4.0	5.3	4.6	4.0	5.3	4.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	652	1760	1088	465	1531	782	921	465	690	494	503	573
v/s Ratio Prot	c0.17	0.29	0.04	0.09	c0.29	0.06	0.09	c0.22	0.06	c0.13	0.09	0.12
v/s Ratio Perm			0.06			0.14			0.12			0.09
v/c Ratio	1.01	0.86	0.17	0.71	0.99	0.47	0.38	0.91	0.48	0.97	0.65	0.68
Uniform Delay, d1	49.7	37.2	11.8	50.6	42.6	25.4	37.9	44.0	29.1	52.0	49.4	36.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	37.1	5.7	0.1	5.1	21.4	0.5	0.3	22.0	0.5	33.1	3.1	3.2
Delay (s)	86.8	42.9	11.8	55.8	64.0	25.8	38.1	66.1	29.7	85.1	52.5	39.8
Level of Service	F	D	B	E	E	C	D	E	C	F	D	D
Approach Delay (s)		52.0			55.6			45.4			60.7	
Approach LOS		D			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	53.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	493	36	32	41	95	283	22	298	21	81	550	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.7		4.6	5.7	5.7	4.6	5.7		4.6	5.7	5.7
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Satd. Flow (prot)	3686	1900		1900	1900	1615	1900	3610		1900	3610	1615
Flt Permitted	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Satd. Flow (perm)	3686	1900		1900	1900	1615	1900	3610		1900	3610	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	536	39	35	45	103	308	24	324	23	88	598	204
RTOR Reduction (vph)	0	25	0	0	0	212	0	4	0	0	0	112
Lane Group Flow (vph)	536	49	0	45	103	96	24	343	0	88	598	92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	18.6	28.3		3.8	13.5	13.5	2.4	39.8		7.5	44.9	44.9
Effective Green, g (s)	18.6	28.3		3.8	13.5	13.5	2.4	39.8		7.5	44.9	44.9
Actuated g/C Ratio	0.19	0.28		0.04	0.14	0.14	0.02	0.40		0.08	0.45	0.45
Clearance Time (s)	4.6	5.7		4.6	5.7	5.7	4.6	5.7		4.6	5.7	5.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0		2.0	3.0	3.0
Lane Grp Cap (vph)	685	537		72	256	218	45	1436		142	1620	725
v/s Ratio Prot	c0.15	0.03		0.02	0.05		0.01	0.09		c0.05	c0.17	
v/s Ratio Perm						c0.06						0.06
v/c Ratio	0.78	0.09		0.62	0.40	0.44	0.53	0.24		0.62	0.37	0.13
Uniform Delay, d1	38.8	26.4		47.4	39.6	39.8	48.2	20.0		44.9	18.2	16.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.4	0.0		11.5	0.4	0.5	6.0	0.4		5.6	0.6	0.4
Delay (s)	44.1	26.4		58.9	39.9	40.3	54.2	20.4		50.4	18.8	16.5
Level of Service	D	C		E	D	D	D	C		D	B	B
Approach Delay (s)		42.0			42.1			22.6			21.4	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions
Weekday AM Peak Hour

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

Intersection #29 Conard Avenue / Central Avenue (SR-74)

Cycle (sec):	75	Critical Vol./Cap.(X):	0.642
Loss Time (sec):	12	Average Delay (sec/veh):	16.9
Optimal Cycle:	OPTIMIZED	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	29	29	29	10	10	10	10	26	26	10	26	26
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	1 0	1 0	1	2 0	4 0	1	1 0	4 0	1
Volume Module:												
Base Vol:	60	24	12	101	26	355	437	1963	54	17	2128	134
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:	60	24	12	101	26	355	437	1963	54	17	2128	134
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	65	26	13	110	28	386	475	2134	59	18	2313	146
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	65	26	13	110	28	386	475	2134	59	18	2313	146
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:	65	26	13	110	28	386	475	2134	59	18	2313	146
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	0.77	0.77	0.81	1.00	0.85	0.92	0.91	0.85	0.95	0.91	0.85
Lanes:	0.62	0.25	0.13	1.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	913	365	183	1533	1900	1615	3502	6916	1615	1805	6916	1615
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.07	0.01	0.24	0.14	0.31	0.04	0.01	0.33	0.09
Crit Moves:				****			****				****	
Green/Cycle:	0.13	0.13	0.13	0.13	0.13	0.34	0.21	0.52	0.52	0.20	0.51	0.51
Volume/Cap:	0.55	0.55	0.55	0.55	0.11	0.71	0.66	0.60	0.07	0.05	0.66	0.18
Delay/Veh:	34.8	34.8	34.8	34.7	29.8	26.7	30.3	13.3	9.4	25.1	14.5	10.3
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:	34.8	34.8	34.8	34.7	29.8	26.7	30.3	13.3	9.4	25.1	14.5	10.3
LOS by Move:	C	C	C	C	C	C	C	B	A	C	B	B
HCM2kAvgQ:	3	3	3	3	1	9	7	10	1	0	12	2

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

Intersection #30 Rosetta Canyon Drive / Central Avenue (SR-74)

Cycle (sec):	85	Critical Vol./Cap.(X):	0.566
Loss Time (sec):	12	Average Delay (sec/veh):	21.9
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Protected		
Rights:	Ovl			Include			Ovl			Include		
Min. Green:	33	0	33	0	0	0	0	32	32	10	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	0	0 1	0	0	0 0	0	0	4 0 1	2	0	4 0 0
Volume Module:												
Base Vol:	387	0	408	0	0	0	0	1620	352	366	1904	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	387	0	408	0	0	0	0	1620	352	366	1904	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	421	0	443	0	0	0	0	1761	383	398	2070	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	421	0	443	0	0	0	0	1761	383	398	2070	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	421	0	443	0	0	0	0	1761	383	398	2070	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	1.00	0.91	0.85	0.92	0.91	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	0.00	4.00	1.00	2.00	4.00	0.00
Final Sat.:	3502	0	1615	0	0	0	0	6916	1615	3502	6916	0
Capacity Analysis Module:												
Vol/Sat:	0.12	0.00	0.27	0.00	0.00	0.00	0.00	0.25	0.24	0.11	0.30	0.00
Crit Moves:	****							****		****		
Green/Cycle:	0.48	0.00	0.60	0.00	0.00	0.00	0.00	0.37	0.85	0.11	0.48	0.00
Volume/Cap:	0.25	0.00	0.46	0.00	0.00	0.00	0.00	0.69	0.28	0.99	0.62	0.00
Delay/Veh:	13.2	0.0	10.0	0.0	0.0	0.0	0.0	24.2	1.3	80.2	17.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	13.2	0.0	10.0	0.0	0.0	0.0	0.0	24.2	1.3	80.2	17.0	0.0
LOS by Move:	B	A	A	A	A	A	A	C	A	F	B	A
HCM2kAvgQ:	3	0	7	0	0	0	0	12	2	10	12	0

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

Intersection #31 Riverside Street / Central Avenue (SR-74)

Cycle (sec): 115 Critical Vol./Cap.(X): 0.864
Loss Time (sec): 16 Average Delay (sec/veh): 42.9
Optimal Cycle: OPTIMIZED Level Of Service: D

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Ovl				Ovl			
Min. Green:	10	27	27		10	27	27		10	29	29		10	29	29	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	2	0 2	0 1		2	0 2	0 1		2	0 4	0 1		2	0 4	0 1	
Volume Module:																
Base Vol:	297	507	299		675	412	193		241	1605	345		213	1696	704	
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:	297	507	299		675	412	193		241	1605	345		213	1696	704	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.92	0.92	0.92		0.92	0.92	0.92		0.92	0.92	0.92		0.92	0.92	0.92	
PHF Volume:	323	551	325		734	448	210		262	1745	375		232	1843	765	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	323	551	325		734	448	210		262	1745	375		232	1843	765	
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:	323	551	325		734	448	210		262	1745	375		232	1843	765	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.92	0.95	0.85		0.92	0.95	0.85		0.92	0.94	0.85		0.92	0.94	0.85	
Lanes:	2.00	2.00	1.00		2.00	2.00	1.00		2.00	4.00	1.00		2.00	4.00	1.00	
Final Sat.:	3502	3610	1615		3502	3610	1615		3502	7144	1615		3502	7144	1615	
Capacity Analysis Module:																
Vol/Sat:	0.09	0.15	0.20		0.21	0.12	0.13		0.07	0.24	0.23		0.07	0.26	0.47	
Crit Moves:			****		****				****					****		
Green/Cycle:	0.13	0.23	0.23		0.24	0.34	0.34		0.09	0.29	0.42		0.10	0.30	0.54	
Volume/Cap:	0.69	0.65	0.86		0.87	0.36	0.38		0.86	0.85	0.55		0.67	0.87	0.88	
Delay/Veh:	51.7	41.5	59.5		51.3	28.6	29.0		73.0	42.5	26.2		55.1	42.3	33.4	
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:	51.7	41.5	59.5		51.3	28.6	29.0		73.0	42.5	26.2		55.1	42.3	33.4	
LOS by Move:	D	D	E		D	C	C		E	D	C		E	D	C	
HCM2kAvgQ:	7	10	14		16	6	6		7	19	10		5	20	27	

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

Intersection #32 Meadowbrook Avenue/Greenwald Avenue / Central Avenue (SR-74)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.929
Loss Time (sec):	12	Average Delay (sec/veh):	34.0
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Ovl			Include			Ovl			Include		
Min. Green:	34	34	34	10	10	10	10	25	25	10	25	25
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 0	1	1 0	1 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	274	31	267	371	25	78	226	1950	303	312	2271	120
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:	274	31	267	371	25	78	226	1950	303	312	2271	120
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	298	34	290	403	27	85	246	2120	329	339	2468	130
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	298	34	290	403	27	85	246	2120	329	339	2468	130
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:	298	34	290	403	27	85	246	2120	329	339	2468	130
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.75	1.00	0.85	0.74	1.00	0.85	0.92	0.94	0.85	0.92	0.94	0.85
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	1417	1900	1615	1406	1900	1615	3502	5358	1615	3502	5358	1615
Capacity Analysis Module:												
Vol/Sat:	0.21	0.02	0.18	0.29	0.01	0.05	0.07	0.40	0.20	0.10	0.46	0.08
Crit Moves:				****			****				****	
Green/Cycle:	0.30	0.30	0.42	0.30	0.30	0.30	0.10	0.46	0.46	0.12	0.48	0.48
Volume/Cap:	0.70	0.06	0.43	0.96	0.05	0.18	0.70	0.85	0.44	0.83	0.96	0.17
Delay/Veh:	36.3	25.0	21.2	67.6	24.9	26.1	49.8	26.9	18.5	56.1	34.8	14.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.3	25.0	21.2	67.6	24.9	26.1	49.8	26.9	18.5	56.1	34.8	14.8
LOS by Move:	D	C	C	E	C	C	D	C	B	E	C	B
HCM2kAvgQ:	9	1	6	17	1	2	5	24	7	8	33	2

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

Intersection #1 Lakeshore Drive / Riverside Drive (SR-74)

Cycle (sec):	120	Critical Vol./Cap.(X):	0.732
Loss Time (sec):	16	Average Delay (sec/veh):	45.5
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Ovl		
Min. Green:	10	25	25	10	33	33	10	31	31	10	31	31
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	3 0	1	2 0	3 0	1	1 0	4 0	1
Volume Module:												
Base Vol:	364	623	48	587	520	517	472	1578	343	75	1888	587
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:	364	623	48	587	520	517	472	1578	343	75	1888	587
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	390	667	51	628	557	554	505	1690	367	80	2021	628
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	390	667	51	628	557	554	505	1690	367	80	2021	628
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:	390	667	51	628	557	554	505	1690	367	80	2021	628
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.98	0.85	0.95	0.94	0.85	0.95	0.94	0.85	0.98	0.94	0.85
Lanes:	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	1.00	4.00	1.00
Final Sat.:	3617	3729	1615	3617	5358	1615	3617	5358	1615	1865	7144	1615
Capacity Analysis Module:												
Vol/Sat:	0.11	0.18	0.03	0.17	0.10	0.34	0.14	0.32	0.23	0.04	0.28	0.39
Crit Moves:	****			****			****				****	
Green/Cycle:	0.12	0.22	0.22	0.18	0.28	0.43	0.16	0.37	0.49	0.10	0.32	0.50
Volume/Cap:	0.90	0.83	0.15	0.97	0.38	0.80	0.90	0.85	0.46	0.44	0.90	0.79
Delay/Veh:	72.8	52.2	38.3	76.0	35.4	35.9	66.6	38.0	20.4	52.6	44.4	30.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	72.8	52.2	38.3	76.0	35.4	35.9	66.6	38.0	20.4	52.6	44.4	30.2
LOS by Move:	E	D	D	E	D	D	E	D	C	D	D	C
HCM2kAvgQ:	10	15	2	16	6	19	13	23	9	3	23	20

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

Intersection #2 W. Graham Avenue / N. Main Street

Cycle (sec): 110 Critical Vol./Cap.(X): 0.774
Loss Time (sec): 12 Average Delay (sec/veh): 35.1
Optimal Cycle: OPTIMIZED Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	25	25	10	25	25	10	20	20	10	20	20
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	1	0	0 1	0	1	0	0 1	0
Volume Module:												
Base Vol:	15	24	21	217	21	174	252	551	22	29	565	135
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:	15	24	21	217	21	174	252	551	22	29	565	135
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	16	26	23	235	23	188	273	596	24	31	611	146
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	26	23	235	23	188	273	596	24	31	611	146
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:	16	26	23	235	23	188	273	596	24	31	611	146
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.87	0.87	0.87	0.74	0.87	0.87	0.95	0.99	0.99	0.95	0.97	0.97
Lanes:	0.25	0.40	0.35	1.00	0.11	0.89	1.00	0.96	0.04	1.00	0.81	0.19
Final Sat.:	412	660	577	1410	177	1468	1805	1816	73	1805	1489	356
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.17	0.13	0.13	0.15	0.33	0.33	0.02	0.41	0.41
Crit Moves:					****		****				****	
Green/Cycle:	0.23	0.23	0.23	0.23	0.23	0.23	0.18	0.52	0.52	0.14	0.49	0.49
Volume/Cap:	0.17	0.17	0.17	0.73	0.56	0.56	0.85	0.63	0.63	0.12	0.85	0.85
Delay/Veh:	34.4	34.4	34.4	47.9	39.7	39.7	62.1	20.2	20.2	41.2	32.3	32.3
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:	34.4	34.4	34.4	47.9	39.7	39.7	62.1	20.2	20.2	41.2	32.3	32.3
LOS by Move:	C	C	C	D	D	D	E	C	C	D	C	C
HCM2kAvgQ:	2	2	2	9	7	7	12	15	15	1	25	25

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

Intersection #3 E. Lakeshore Drive/Mission Trail / Diamond Drive

Cycle (sec):	120	Critical Vol./Cap.(X):	0.979
Loss Time (sec):	16	Average Delay (sec/veh):	51.9
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Include			Ovl	
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	3 0	1	2 0	3 0	2
Volume Module:												
Base Vol:	232	1105	679	704	862	591	625	1222	102	973	1319	471
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:	232	1105	679	704	862	591	625	1222	102	973	1319	471
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
PHF Volume:	233	1112	683	708	867	595	629	1229	103	979	1327	474
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	233	1112	683	708	867	595	629	1229	103	979	1327	474
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:	233	1112	683	708	867	595	629	1229	103	979	1327	474
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.01	1.00	0.82	1.01	1.00	0.94	1.01	1.00	0.94	1.01	1.00	0.82
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	2.00
Final Sat.:	3852	5706	3127	3852	5706	1777	3852	5706	1777	3852	5706	3127
Capacity Analysis Module:												
Vol/Sat:	0.06	0.19	0.22	0.18	0.15	0.33	0.16	0.22	0.06	0.25	0.23	0.15
Crit Moves:		****		****				****		****		
Green/Cycle:	0.13	0.20	0.46	0.19	0.26	0.46	0.20	0.22	0.22	0.26	0.28	0.47
Volume/Cap:	0.48	0.98	0.48	0.98	0.58	0.73	0.83	0.98	0.26	0.98	0.83	0.32
Delay/Veh:	49.5	69.4	22.7	76.6	39.3	29.9	53.5	66.9	39.1	67.4	43.9	20.0
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:	49.5	69.4	22.7	76.6	39.3	29.9	53.5	66.9	39.1	67.4	43.9	20.0
LOS by Move:	D	E	C	E	D	C	D	E	D	E	D	C
HCM2kAvgQ:	5	20	10	18	11	19	14	22	3	24	19	6

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

Intersection #4 Gunnerson Street / Riverside Drive (SR-74)

Cycle (sec):	120	Critical Vol./Cap.(X):	0.887
Loss Time (sec):	12	Average Delay (sec/veh):	28.7
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	15	15	15	15	15	15	10	30	30	10	30	30
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	55	5	83	70	5	56	104	1997	109	32	2159	177
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:	55	5	83	70	5	56	104	1997	109	32	2159	177
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	57	5	86	73	5	58	108	2072	113	33	2240	184
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	57	5	86	73	5	58	108	2072	113	33	2240	184
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:	57	5	86	73	5	58	108	2072	113	33	2240	184
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.64	0.64	0.85	0.69	0.69	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	0.92	0.08	1.00	0.93	0.07	1.00	1.00	1.90	0.10	1.00	1.85	0.15
Final Sat.:	1120	102	1615	1217	87	1615	1805	3396	185	1805	3300	271
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.05	0.06	0.06	0.04	0.06	0.61	0.61	0.02	0.68	0.68
Crit Moves:					****		****				****	
Green/Cycle:	0.13	0.13	0.13	0.13	0.13	0.13	0.08	0.68	0.68	0.09	0.69	0.69
Volume/Cap:	0.41	0.41	0.43	0.48	0.48	0.29	0.72	0.89	0.89	0.20	0.98	0.98
Delay/Veh:	50.2	50.2	50.0	51.1	51.1	48.4	68.9	20.3	20.3	50.8	31.7	31.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.2	50.2	50.0	51.1	51.1	48.4	68.9	20.3	20.3	50.8	31.7	31.7
LOS by Move:	D	D	D	D	D	D	E	C	C	D	C	C
HCM2kAvgQ:	3	3	3	3	3	2	5	37	37	1	52	52

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

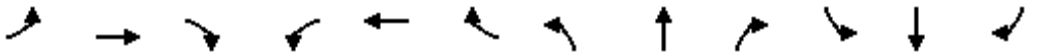
Intersection #5 Collier Avenue / Riverside Drive (SR-74)

Cycle (sec):	110	Critical Vol./Cap.(X):	0.944
Loss Time (sec):	16	Average Delay (sec/veh):	50.9
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ignore			Include		
Min. Green:	10	15	15	10	15	15	10	20	20	10	20	20
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	1111	842	324	211	631	438	375	851	1003	522	755	274
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:	1111	842	324	211	631	438	375	851	1003	522	755	274
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.00	0.94	0.94	0.94
PHF Volume:	1188	901	347	226	675	468	401	910	0	558	807	293
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1188	901	347	226	675	468	401	910	0	558	807	293
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	1188	901	347	226	675	468	401	910	0	558	807	293
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	1.01	0.85	0.98	1.01	0.85	0.98	0.97	1.00	0.98	0.97	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3736	3852	1615	3736	3852	1615	3736	5535	1900	3736	5535	1615
Capacity Analysis Module:												
Vol/Sat:	0.32	0.23	0.21	0.06	0.18	0.29	0.11	0.16	0.00	0.15	0.15	0.18
Crit Moves:	****			****			****			****		
Green/Cycle:	0.33	0.37	0.53	0.14	0.18	0.31	0.13	0.18	0.00	0.16	0.21	0.21
Volume/Cap:	0.96	0.63	0.41	0.42	0.96	0.94	0.85	0.90	0.00	0.96	0.69	0.85
Delay/Veh:	51.9	29.2	15.9	43.4	67.8	62.8	61.4	55.4	0.0	72.4	41.6	59.9
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:	51.9	29.2	15.9	43.4	67.8	62.8	61.4	55.4	0.0	72.4	41.6	59.9
LOS by Move:	D	C	B	D	E	E	E	E	A	E	D	E
HCM2kAvgQ:	25	13	7	4	16	20	10	15	0	14	10	12

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

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	379	1128	212	602	907	1043	190	680	731	1150	691	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	13	12	12	13	12	12	12
Total Lost time (s)	4.6	4.6	5.3	4.6	5.3	4.0	5.3	5.3	4.6	5.3	5.3	5.3
Lane Util. Factor	*1.00	*1.00	*1.00	*1.00	*1.00	*1.00	1.00	*1.00	*1.00	*1.00	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	3800	5534	1881	3654	3654	1937	1900	3800	3812	5700	3800	1866
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	3800	5534	1881	3654	3654	1937	1900	3800	3812	5700	3800	1866
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	408	1213	228	647	975	1122	204	731	786	1237	743	104
RTOR Reduction (vph)	0	0	98	0	0	0	0	0	72	0	0	75
Lane Group Flow (vph)	408	1213	130	647	975	1122	204	731	714	1237	743	29
Confl. Peds. (#/hr)			5			5						5
Heavy Vehicles (%)	0%	3%	0%	4%	4%	0%	0%	0%	3%	0%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases			4			Free			2			6
Actuated Green, G (s)	13.9	26.4	43.3	23.2	35.0	120.0	16.9	22.9	46.1	27.7	33.7	33.7
Effective Green, g (s)	13.9	26.4	43.3	23.2	35.0	120.0	16.9	22.9	46.1	27.7	33.7	33.7
Actuated g/C Ratio	0.12	0.22	0.36	0.19	0.29	1.00	0.14	0.19	0.38	0.23	0.28	0.28
Clearance Time (s)	4.6	4.6	5.3	4.6	5.3		5.3	5.3	4.6	5.3	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	440	1217	678	706	1065	1937	267	725	1464	1315	1067	524
v/s Ratio Prot	0.11	c0.22	0.03	c0.18	0.27		0.11	c0.19	0.09	c0.22	0.20	
v/s Ratio Perm			0.04			0.58			0.09			0.02
v/c Ratio	0.93	1.00	0.19	0.92	0.92	0.58	0.76	1.01	0.49	0.94	0.70	0.06
Uniform Delay, d1	52.5	46.8	26.3	47.4	41.1	0.0	49.6	48.5	28.0	45.3	38.6	31.5
Progression Factor	1.00	1.00	1.00	0.94	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.2	24.8	0.1	10.0	6.0	0.6	18.6	35.5	1.2	14.2	3.8	0.2
Delay (s)	77.8	71.6	26.4	54.8	48.4	0.6	68.2	84.0	29.2	59.5	42.3	31.7
Level of Service	E	E	C	D	D	A	E	F	C	E	D	C
Approach Delay (s)		67.4			30.4			57.1			52.0	
Approach LOS		E			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	49.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	96.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

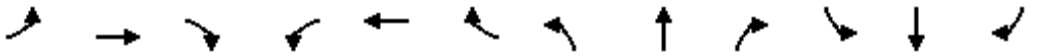
Intersection #107 Auto Center Drive / Diamond Drive

Cycle (sec):	120	Critical Vol./Cap.(X):	0.951
Loss Time (sec):	16	Average Delay (sec/veh):	49.6
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	2	2 0	2 0	2	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	301	956	643	485	750	696	809	1086	709	622	1765	266
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:	301	956	643	485	750	696	809	1086	709	622	1765	266
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:	301	956	643	485	750	696	809	1086	709	622	1765	266
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	301	956	643	485	750	696	809	1086	709	622	1765	266
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:	301	956	643	485	750	696	809	1086	709	622	1765	266
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.05	1.13	0.94	1.05	1.13	0.94	1.05	1.13	0.94	1.05	1.13	0.94
Lanes:	2.00	2.00	2.00	2.00	2.00	2.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3971	4305	3553	3971	4305	3553	3971	6458	1777	3971	6458	1777
Capacity Analysis Module:												
Vol/Sat:	0.08	0.22	0.18	0.12	0.17	0.20	0.20	0.17	0.40	0.16	0.27	0.15
Crit Moves:		****		****					****	****		
Green/Cycle:	0.12	0.23	0.40	0.13	0.24	0.46	0.21	0.33	0.45	0.16	0.28	0.41
Volume/Cap:	0.65	0.95	0.45	0.95	0.71	0.43	0.96	0.51	0.89	0.95	0.96	0.36
Delay/Veh:	53.8	63.0	26.8	79.8	43.7	22.2	68.6	32.4	42.2	73.3	55.1	24.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	53.8	63.0	26.8	79.8	43.7	22.2	68.6	32.4	42.2	73.3	55.1	24.6
LOS by Move:	D	E	C	E	D	C	E	C	D	E	E	C
HCM2kAvgQ:	6	22	4	13	12	2	19	7	17	15	26	3

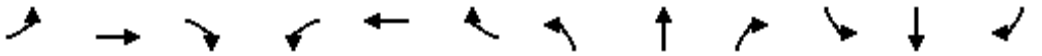
Note: Queue reported is the number of cars per lane.

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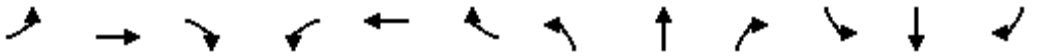
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1896	596	763	1583	0	0	0	0	839	0	710
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3	4.6	5.3					5.3		5.3
Lane Util. Factor		*1.00	1.00	*1.00	*1.00					*1.00		*1.00
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00		0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00		1.00
Frt		1.00	1.00	1.00	1.00					1.00		1.00
Flt Protected		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (prot)		5534	1823	3519	5644					3551		3589
Flt Permitted		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (perm)		5534	1823	3519	5644					3551		3589
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2061	648	829	1721	0	0	0	0	912	0	772
RTOR Reduction (vph)	0	0	311	0	0	0	0	0	0	0	0	47
Lane Group Flow (vph)	0	2061	337	829	1721	0	0	0	0	912	0	725
Confl. Peds. (#/hr)			5									5
Heavy Vehicles (%)	0%	3%	2%	8%	1%	0%	0%	0%	0%	7%	0%	4%
Turn Type		NA	Perm	Prot	NA					custom		custom
Protected Phases		2		1	6							
Permitted Phases			2							4		4
Actuated Green, G (s)		45.7	45.7	28.4	78.7					30.7		30.7
Effective Green, g (s)		45.7	45.7	28.4	78.7					30.7		30.7
Actuated g/C Ratio		0.38	0.38	0.24	0.66					0.26		0.26
Clearance Time (s)		5.3	5.3	4.6	5.3					5.3		5.3
Vehicle Extension (s)		2.0	2.0	2.0	2.0					2.0		2.0
Lane Grp Cap (vph)		2107	694	832	3701					908		918
v/s Ratio Prot		c0.37		c0.24	0.30							
v/s Ratio Perm			0.18							c0.26		0.20
v/c Ratio		0.98	0.48	1.00	0.47					1.00		0.79
Uniform Delay, d1		36.7	28.2	45.7	10.2					44.6		41.6
Progression Factor		1.00	1.00	0.55	0.70					1.00		1.00
Incremental Delay, d2		15.1	2.4	16.7	0.1					30.9		6.9
Delay (s)		51.7	30.6	41.7	7.2					75.6		48.5
Level of Service		D	C	D	A					E		D
Approach Delay (s)		46.7			18.5			0.0			63.2	
Approach LOS		D			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	40.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1971	1037	668	2050	0	0	0	0	799	0	842
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	4.6	5.7					5.3		5.3
Lane Util. Factor		*1.00	*1.00	*1.00	*1.00					*1.00		*1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00					1.00		1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00		1.00
Frt		1.00	1.00	1.00	1.00					1.00		1.00
Flt Protected		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (prot)		5644	3800	3762	3762					3725		3725
Flt Permitted		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (perm)		5644	3800	3762	3762					3725		3725
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	2075	1092	703	2158	0	0	0	0	841	0	886
RTOR Reduction (vph)	0	0	378	0	0	0	0	0	0	0	0	50
Lane Group Flow (vph)	0	2075	714	703	2158	0	0	0	0	841	0	836
Confl. Peds. (#/hr)												5
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	0%	0%	0%	2%	0%	2%
Turn Type		NA	Perm	Prot	NA					Prot		custom
Protected Phases		2		1	6					4		4
Permitted Phases			2									
Actuated Green, G (s)		50.2	50.2	25.0	79.8					29.2		29.2
Effective Green, g (s)		50.2	50.2	25.0	79.8					29.2		29.2
Actuated g/C Ratio		0.42	0.42	0.21	0.66					0.24		0.24
Clearance Time (s)		5.7	5.7	4.6	5.7					5.3		5.3
Vehicle Extension (s)		2.0	2.0	2.0	2.0					2.0		2.0
Lane Grp Cap (vph)		2361	1589	783	2501					906		906
v/s Ratio Prot		0.37		0.19	c0.57					c0.23		0.22
v/s Ratio Perm			0.19									
v/c Ratio		0.88	0.45	0.90	0.86					0.93		0.92
Uniform Delay, d1		32.1	25.0	46.3	15.8					44.4		44.3
Progression Factor		1.22	1.83	1.00	1.00					1.00		1.00
Incremental Delay, d2		2.7	0.5	12.7	4.2					15.0		14.4
Delay (s)		41.8	46.3	59.0	20.0					59.4		58.7
Level of Service		D	D	E	C					E		E
Approach Delay (s)		43.4			29.6			0.0			59.0	
Approach LOS		D			C			A			E	

Intersection Summary			
HCM 2000 Control Delay	41.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



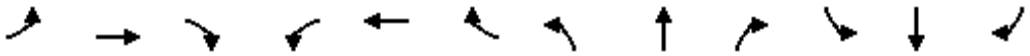
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	994	286	290	714	0	0	0	0	628	0	441
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3	4.6	5.3					5.3	5.3	5.3
Lane Util. Factor		*1.00	1.00	*1.00	*1.00					*1.00	*1.00	0.95
Frpb, ped/bikes		1.00	0.96	1.00	1.00					1.00	0.98	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	1.00	1.00	1.00					1.00	0.85	1.00
Flt Protected		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Satd. Flow (prot)		3725	1779	3725	3725					1667	1529	1709
Flt Permitted		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Satd. Flow (perm)		3725	1779	3725	3725					1667	1529	1709
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1080	311	315	776	0	0	0	0	683	0	479
RTOR Reduction (vph)	0	0	190	0	0	0	0	0	0	0	70	70
Lane Group Flow (vph)	0	1080	121	315	776	0	0	0	0	683	170	169
Confl. Peds. (#/hr)			5									5
Heavy Vehicles (%)	0%	2%	3%	2%	2%	0%	0%	0%	0%	14%	0%	4%
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		40.7	40.7	11.4	56.7					52.7	52.7	52.7
Effective Green, g (s)		40.7	40.7	11.4	56.7					52.7	52.7	52.7
Actuated g/C Ratio		0.34	0.34	0.10	0.47					0.44	0.44	0.44
Clearance Time (s)		5.3	5.3	4.6	5.3					5.3	5.3	5.3
Vehicle Extension (s)		2.0	2.0	2.0	2.0					2.0	2.0	2.0
Lane Grp Cap (vph)		1263	603	353	1760					732	671	750
v/s Ratio Prot		c0.29		c0.08	0.21					c0.41	0.11	
v/s Ratio Perm			0.07									0.10
v/c Ratio		0.86	0.20	0.89	0.44					0.93	0.25	0.23
Uniform Delay, d1		36.9	28.1	53.7	21.1					32.0	21.2	20.9
Progression Factor		1.00	1.00	1.16	1.21					1.00	1.00	1.00
Incremental Delay, d2		7.5	0.7	18.5	0.0					20.4	0.9	0.7
Delay (s)		44.4	28.9	80.7	25.6					52.4	22.1	21.6
Level of Service		D	C	F	C					D	C	C
Approach Delay (s)		41.0			41.5			0.0			39.8	
Approach LOS		D			D			A			D	

Intersection Summary			
HCM 2000 Control Delay	40.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



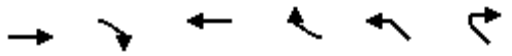
Movement	WBL	WBR	NBT	NBR	SBL2	SBL	SBT	SWL	SWR
Lane Configurations									
Volume (vph)	131	903	745	64	550	0	1094	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0	6.0	6.0	4.5		6.0		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00		*1.00		
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00		1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		
Frt	1.00	1.00	1.00	1.00	1.00		1.00		
Flt Protected	1.00	1.00	1.00	1.00	1.00		1.00		
Satd. Flow (prot)	1863	3620	1925	1863	3725		3725		
Flt Permitted	1.00	1.00	1.00	1.00	1.00		1.00		
Satd. Flow (perm)	1863	3620	1925	1863	3725		3725		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	142	982	810	70	598	0	1189	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	142	982	810	70	598	0	1189	0	0
Confl. Peds. (#/hr)		5							
Turn Type	NA	Perm	NA	Perm	Prot		NA		
Protected Phases	8		2		1		6		
Permitted Phases		8		2					
Actuated Green, G (s)	35.2	35.2	48.0	48.0	20.3		72.8		
Effective Green, g (s)	35.2	35.2	48.0	48.0	20.3		72.8		
Actuated g/C Ratio	0.29	0.29	0.40	0.40	0.17		0.61		
Clearance Time (s)	6.0	6.0	6.0	6.0	4.5		6.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0		
Lane Grp Cap (vph)	546	1061	770	745	630		2259		
v/s Ratio Prot	0.08		c0.42		c0.16		0.32		
v/s Ratio Perm		c0.27		0.04					
v/c Ratio	0.26	0.93	1.05	0.09	0.95		0.53		
Uniform Delay, d1	32.4	41.1	36.0	22.4	49.3		13.6		
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00		
Incremental Delay, d2	0.1	13.0	46.9	0.3	23.5		0.9		
Delay (s)	32.5	54.1	82.9	22.7	72.8		14.5		
Level of Service	C	D	F	C	E		B		
Approach Delay (s)	51.4		78.2				34.0	0.0	
Approach LOS	D		E				C	A	

Intersection Summary			
HCM 2000 Control Delay	49.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	100.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



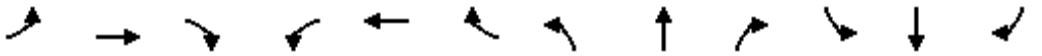
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	770	1965	0	0	1943	551	403	0	741	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.3			5.3	5.3	5.3		5.3			
Lane Util. Factor	*1.00	*1.00			*1.00	1.00	1.00		*1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00		0.98			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00		1.00			
Frt	1.00	1.00			1.00	1.00	1.00		1.00			
Flt Protected	1.00	1.00			1.00	1.00	1.00		1.00			
Satd. Flow (prot)	3654	5588			5588	1860	1863		3732			
Flt Permitted	1.00	1.00			1.00	1.00	1.00		1.00			
Satd. Flow (perm)	3654	5588			5588	1860	1863		3732			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	837	2136	0	0	2112	599	438	0	805	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	281	0	0	47	0	0	0
Lane Group Flow (vph)	837	2136	0	0	2112	318	438	0	758	0	0	0
Confl. Peds. (#/hr)						5			5			
Heavy Vehicles (%)	4%	2%	0%	0%	2%	0%	2%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	custom		custom			
Protected Phases	5	2			6							
Permitted Phases						6	8		8			
Actuated Green, G (s)	27.4	79.7			47.7	47.7	29.7		29.7			
Effective Green, g (s)	27.4	79.7			47.7	47.7	29.7		29.7			
Actuated g/C Ratio	0.23	0.66			0.40	0.40	0.25		0.25			
Clearance Time (s)	4.6	5.3			5.3	5.3	5.3		5.3			
Vehicle Extension (s)	2.0	2.0			2.0	2.0	2.0		2.0			
Lane Grp Cap (vph)	834	3711			2221	739	461		923			
v/s Ratio Prot	c0.23	0.38			c0.38							
v/s Ratio Perm						0.17	c0.24		0.20			
v/c Ratio	1.00	0.58			0.95	0.43	0.95		0.82			
Uniform Delay, d1	46.3	11.0			35.0	26.3	44.4		42.6			
Progression Factor	0.77	0.44			1.00	1.00	1.00		1.00			
Incremental Delay, d2	16.5	0.2			10.6	1.8	31.1		8.1			
Delay (s)	52.0	5.0			45.6	28.1	75.6		50.8			
Level of Service	D	A			D	C	E		D			
Approach Delay (s)		18.2			41.8			59.5			0.0	
Approach LOS		B			D			E			A	

Intersection Summary			
HCM 2000 Control Delay	34.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR2	WBT	WBR	NWL	NWR2
Lane Configurations						
Volume (vph)	2100	670	1605	749	1113	909
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.7		5.3	5.3
Lane Util. Factor	*1.00	1.00	*1.00		*1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	1.00	1.00	1.00		1.00	1.00
Satd. Flow (prot)	5588	1553	5540		3762	3725
Flt Permitted	1.00	1.00	1.00		1.00	1.00
Satd. Flow (perm)	5588	1553	5540		3762	3725
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	2165	691	1655	772	1147	937
RTOR Reduction (vph)	0	237	93	0	0	24
Lane Group Flow (vph)	2165	454	2334	0	1147	913
Confl. Peds. (#/hr)				5		
Heavy Vehicles (%)	2%	4%	1%	5%	1%	2%
Turn Type	NA	Perm	NA		NA	Prot
Protected Phases	2		6		8	8
Permitted Phases		2				
Actuated Green, G (s)	54.3	54.3	54.3		24.7	24.7
Effective Green, g (s)	54.3	54.3	54.3		24.7	24.7
Actuated g/C Ratio	0.60	0.60	0.60		0.27	0.27
Clearance Time (s)	5.7	5.7	5.7		5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	3371	936	3342		1032	1022
v/s Ratio Prot	0.39		c0.42		c0.30	0.25
v/s Ratio Perm		0.29				
v/c Ratio	0.64	0.48	0.70		1.11	0.89
Uniform Delay, d1	11.6	10.0	12.2		32.6	31.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.0	1.8	1.2		63.8	9.8
Delay (s)	12.5	11.8	13.5		96.5	41.2
Level of Service	B	B	B		F	D
Approach Delay (s)	12.3		13.5		71.6	
Approach LOS	B		B		E	

Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	546	1076	0	0	604	415	400	0	337	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.3			5.3	5.3	5.3	5.3	5.3			
Lane Util. Factor	*1.00	*1.00			*1.00	1.00	1.00	*1.00	*1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	0.98	0.98			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Flt Protected	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Satd. Flow (prot)	3619	3762			3725	1860	1845	1871	1871			
Flt Permitted	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Satd. Flow (perm)	3619	3762			3725	1860	1845	1871	1871			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	593	1170	0	0	657	451	435	0	366	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	343	0	38	38	0	0	0
Lane Group Flow (vph)	593	1170	0	0	657	108	435	145	145	0	0	0
Confl. Peds. (#/hr)						5			5			
Heavy Vehicles (%)	5%	1%	0%	0%	2%	0%	3%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	21.4	54.7			28.7	28.7	54.7	54.7	54.7			
Effective Green, g (s)	21.4	54.7			28.7	28.7	54.7	54.7	54.7			
Actuated g/C Ratio	0.18	0.46			0.24	0.24	0.46	0.46	0.46			
Clearance Time (s)	4.6	5.3			5.3	5.3	5.3	5.3	5.3			
Vehicle Extension (s)	2.0	2.0			2.0	2.0	2.0	2.0	2.0			
Lane Grp Cap (vph)	645	1714			890	444	841	852	852			
v/s Ratio Prot	c0.16	c0.31			0.18		c0.24	0.08				
v/s Ratio Perm						0.06			0.08			
v/c Ratio	0.92	0.68			0.74	0.24	0.52	0.17	0.17			
Uniform Delay, d1	48.5	25.8			42.2	36.9	23.2	19.3	19.3			
Progression Factor	0.70	0.61			0.74	2.18	1.00	1.00	1.00			
Incremental Delay, d2	9.3	1.0			4.5	1.1	2.3	0.4	0.4			
Delay (s)	43.1	16.8			35.9	81.6	25.5	19.7	19.7			
Level of Service	D	B			D	F	C	B	B			
Approach Delay (s)		25.6			54.5			22.9			0.0	
Approach LOS		C			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	33.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR	SBR2	NEL	NER
Lane Configurations									
Volume (vph)	0	0	95	622	903	0	851	652	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	6.0	6.0		4.0	6.0	6.0
Lane Util. Factor			1.00	*1.00	*1.00		1.00	*1.00	1.00
Frpb, ped/bikes			1.00	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes			1.00	1.00	1.00		1.00	1.00	1.00
Frt			1.00	1.00	1.00		1.00	1.00	1.00
Flt Protected			1.00	1.00	1.00		1.00	1.00	1.00
Satd. Flow (prot)			1863	3725	3725		1863	3725	1828
Flt Permitted			1.00	1.00	1.00		1.00	1.00	1.00
Satd. Flow (perm)			1863	3725	3725		1863	3725	1828
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	100	655	951	0	896	686	105
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	82
Lane Group Flow (vph)	0	0	100	655	951	0	896	686	23
Confl. Peds. (#/hr)									5
Turn Type			Prot	NA	NA		Free	NA	Perm
Protected Phases			5	2	6			4	
Permitted Phases							Free		4
Actuated Green, G (s)			11.7	81.4	65.7		120.0	26.6	26.6
Effective Green, g (s)			11.7	81.4	65.7		120.0	26.6	26.6
Actuated g/C Ratio			0.10	0.68	0.55		1.00	0.22	0.22
Clearance Time (s)			4.0	6.0	6.0			6.0	6.0
Vehicle Extension (s)			3.0	2.0	2.0			2.0	2.0
Lane Grp Cap (vph)			181	2526	2039		1863	825	405
v/s Ratio Prot			0.05	0.18	0.26			c0.18	
v/s Ratio Perm							c0.48		0.01
v/c Ratio			0.55	0.26	0.47		0.48	0.83	0.06
Uniform Delay, d1			51.7	7.5	16.5		0.0	44.6	36.8
Progression Factor			1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2			3.6	0.2	0.1		0.9	6.9	0.0
Delay (s)			55.3	7.8	16.6		0.9	51.4	36.8
Level of Service			E	A	B		A	D	D
Approach Delay (s)	0.0			14.1	9.0			49.5	
Approach LOS	A			B	A			D	

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

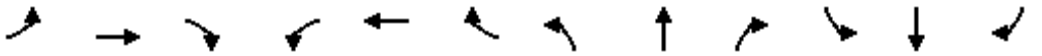
Intersection #16 Dexter Avenue / 11th Street

Cycle (sec):	60	Critical Vol./Cap.(X):	0.591
Loss Time (sec):	12	Average Delay (sec/veh):	22.1
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	25	25	25	25	25	25	10	25	25	10	25	25
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	292	154	32	12	61	80	96	643	406	43	568	13
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	154	32	12	61	80	96	643	406	43	568	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	317	167	35	13	66	87	104	699	441	47	617	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	317	167	35	13	66	87	104	699	441	47	617	14
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:	317	167	35	13	66	87	104	699	441	47	617	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.64	0.97	0.97	0.57	0.92	0.92	0.95	0.95	0.85	0.95	0.95	0.95
Lanes:	1.00	0.83	0.17	1.00	0.43	0.57	1.00	2.00	1.00	1.00	1.96	0.04
Final Sat.:	1224	1532	318	1093	752	986	1805	3610	1615	1805	3519	81
Capacity Analysis Module:												
Vol/Sat:	0.26	0.11	0.11	0.01	0.09	0.09	0.06	0.19	0.27	0.03	0.18	0.18
Crit Moves:	****						****				****	
Green/Cycle:	0.35	0.35	0.35	0.35	0.35	0.35	0.14	0.35	0.35	0.14	0.35	0.35
Volume/Cap:	0.75	0.31	0.31	0.03	0.25	0.25	0.42	0.56	0.79	0.19	0.51	0.51
Delay/Veh:	27.8	17.5	17.5	15.6	17.0	17.0	29.5	19.6	28.4	27.8	18.9	18.9
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:	27.8	17.5	17.5	15.6	17.0	17.0	29.5	19.6	28.4	27.8	18.9	18.9
LOS by Move:	C	B	B	B	B	B	C	B	C	C	B	B
HCM2kAvgQ:	8	3	3	0	3	3	3	7	11	1	6	6

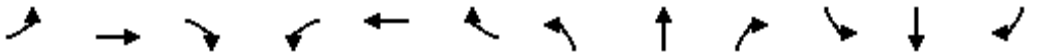
Note: Queue reported is the number of cars per lane.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑↑↑	↱			↱			↱
Volume (vph)	0	2399	610	0	1969	256	0	0	215	0	0	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	5.7			4.6			4.6
Lane Util. Factor		*1.00	1.00		*1.00	1.00			1.00			1.00
Frpb, ped/bikes		1.00	0.98		1.00	0.98			0.99			0.99
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00			1.00
Frt		1.00	1.00		1.00	1.00			1.00			1.00
Flt Protected		1.00	1.00		1.00	1.00			1.00			1.00
Satd. Flow (prot)		5534	1867		7379	1864			1874			1872
Flt Permitted		1.00	1.00		1.00	1.00			1.00			1.00
Satd. Flow (perm)		5534	1867		7379	1864			1874			1872
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2473	629	0	2030	264	0	0	222	0	0	397
RTOR Reduction (vph)	0	0	256	0	0	118	0	0	44	0	0	195
Lane Group Flow (vph)	0	2473	373	0	2030	146	0	0	178	0	0	202
Confl. Peds. (#/hr)			5			5			5			5
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA	custom		NA	Perm			custom			custom
Protected Phases		2	3		6				1			5
Permitted Phases			2			6			8			4
Actuated Green, G (s)		64.7	71.1		66.2	66.2			39.7			27.8
Effective Green, g (s)		64.7	71.1		66.2	66.2			39.7			27.8
Actuated g/C Ratio		0.54	0.59		0.55	0.55			0.33			0.23
Clearance Time (s)		5.7	4.0		5.7	5.7			4.6			4.6
Vehicle Extension (s)		2.0	3.0		2.0	2.0			2.0			2.0
Lane Grp Cap (vph)		2983	1106		4070	1028			691			433
v/s Ratio Prot		c0.45	0.02		c0.28				c0.01			c0.02
v/s Ratio Perm			0.18			0.08			0.08			0.09
v/c Ratio		0.83	0.34		0.50	0.14			0.26			0.47
Uniform Delay, d1		23.0	12.4		16.6	13.1			29.4			39.7
Progression Factor		1.00	1.00		0.57	0.39			1.00			1.00
Incremental Delay, d2		2.8	0.2		0.3	0.2			0.1			0.3
Delay (s)		25.9	12.6		9.8	5.4			29.4			40.0
Level of Service		C	B		A	A			C			D
Approach Delay (s)		23.2			9.3			29.4			40.0	
Approach LOS		C			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.6
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	184	30	139	543	30	34	197	208	211	322	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7		4.0	5.7		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flt Protected	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Satd. Flow (prot)	1900	1900		1900	1900		1900	1900		1900	1900	
Flt Permitted	1.00	1.00		1.00	1.00		0.33	1.00		0.36	1.00	
Satd. Flow (perm)	1900	1900		1900	1900		622	1900		680	1900	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	200	33	151	590	33	37	214	226	229	350	123
RTOR Reduction (vph)	0	6	0	0	2	0	0	29	0	0	9	0
Lane Group Flow (vph)	71	227	0	151	621	0	37	411	0	229	464	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	7.6	36.8		14.2	43.4		53.6	53.6		53.6	53.6	
Effective Green, g (s)	7.6	36.8		14.2	43.4		53.6	53.6		53.6	53.6	
Actuated g/C Ratio	0.06	0.31		0.12	0.36		0.45	0.45		0.45	0.45	
Clearance Time (s)	4.0	5.7		4.0	5.7		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	120	582		224	687		277	848		303	848	
v/s Ratio Prot	c0.04	0.12		0.08	c0.33			0.22			0.24	
v/s Ratio Perm							0.06			c0.34		
v/c Ratio	0.59	0.39		0.67	0.90		0.13	0.48		0.76	0.55	
Uniform Delay, d1	54.7	32.8		50.7	36.3		19.5	23.5		27.7	24.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.6	0.2		7.8	15.0		1.0	2.0		16.0	2.5	
Delay (s)	62.3	32.9		58.4	51.3		20.5	25.4		43.8	26.8	
Level of Service	E	C		E	D		C	C		D	C	
Approach Delay (s)		39.8			52.7			25.1			32.4	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	38.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

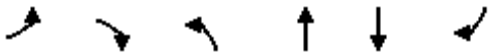
Intersection #21 Dexter Avenue / 2nd Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.629
Loss Time (sec):	12	Average Delay (sec/veh):	27.7
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	25	25	25	25	25	25	10	20	20	10	20	20
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	1	0 1	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	5	5	5	93	5	393	333	484	5	5	378	101
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:	5	5	5	93	5	393	333	484	5	5	378	101
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	5	5	5	101	5	427	362	526	5	5	411	110
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	5	5	101	5	427	362	526	5	5	411	110
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:	5	5	5	101	5	427	362	526	5	5	411	110
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	0.93	0.93	0.76	1.00	0.85	0.95	1.00	1.00	0.95	0.97	0.97
Lanes:	1.00	0.50	0.50	1.00	1.00	1.00	1.00	0.99	0.01	1.00	0.79	0.21
Final Sat.:	1454	879	879	1444	1900	1615	1805	1879	19	1805	1451	388
Capacity Analysis Module:												
Vol/Sat:	0.00	0.01	0.01	0.07	0.00	0.26	0.20	0.28	0.28	0.00	0.28	0.28
Crit Moves:				****			****				****	
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.51	0.26	0.46	0.46	0.17	0.37	0.37
Volume/Cap:	0.01	0.02	0.02	0.28	0.01	0.52	0.77	0.60	0.60	0.02	0.77	0.77
Delay/Veh:	28.2	28.3	28.3	30.7	28.2	16.8	41.6	21.1	21.1	34.9	33.1	33.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.2	28.3	28.3	30.7	28.2	16.8	41.6	21.1	21.1	34.9	33.1	33.1
LOS by Move:	C	C	C	C	C	B	D	C	C	C	C	C
HCM2kAvgQ:	0	0	0	3	0	9	12	12	12	0	16	16

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

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	530	883	527	139	340	492
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	5.3	5.3	5.3
Lane Util. Factor	1.00	1.00	*1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1900	1853	3800	1900	1900	1869
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1900	1853	3800	1900	1900	1869
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	570	949	567	149	366	529
RTOR Reduction (vph)	0	40	0	0	0	6
Lane Group Flow (vph)	570	909	567	149	366	523
Confl. Peds. (#/hr)		5				5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%
Turn Type	NA	pm+ov	Prot	NA	NA	pm+ov
Protected Phases	2	3	3	8	4	2
Permitted Phases		2				4
Actuated Green, G (s)	54.7	78.9	24.2	54.7	25.2	79.9
Effective Green, g (s)	54.7	78.9	24.2	54.7	25.2	79.9
Actuated g/C Ratio	0.46	0.66	0.20	0.46	0.21	0.67
Clearance Time (s)	5.3	5.3	5.3	5.3	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	866	1300	766	866	399	1326
v/s Ratio Prot	0.30	c0.14	0.15	0.08	c0.19	0.18
v/s Ratio Perm		0.35				0.10
v/c Ratio	0.66	0.70	0.74	0.17	0.92	0.39
Uniform Delay, d1	25.4	13.0	45.0	19.3	46.4	9.1
Progression Factor	0.49	0.65	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.2	1.1	3.4	0.4	25.1	0.1
Delay (s)	15.6	9.6	48.3	19.7	71.4	9.2
Level of Service	B	A	D	B	E	A
Approach Delay (s)	11.8			42.4	34.6	
Approach LOS	B			D	C	

Intersection Summary			
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

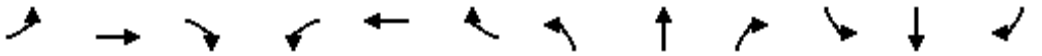
Intersection #123 Summerhill Drive/Grape Street / Railroad Canyon Road

Cycle (sec):	120	Critical Vol./Cap.(X):	0.961
Loss Time (sec):	16	Average Delay (sec/veh):	45.6
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	2	2 0	1 0	2	2 0	3 0	1	2 0	3 0	2
Volume Module:												
Base Vol:	442	320	739	624	541	587	467	1442	705	780	1624	723
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:	442	320	739	624	541	587	467	1442	705	780	1624	723
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:	442	320	739	624	541	587	467	1442	705	780	1624	723
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	442	320	739	624	541	587	467	1442	705	780	1624	723
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:	442	320	739	624	541	587	467	1442	705	780	1624	723
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.05	1.13	0.94	1.05	1.13	0.94	1.05	1.13	0.96	1.05	1.13	0.94
Lanes:	2.00	2.00	2.00	2.00	1.00	2.00	2.00	3.00	1.00	2.00	3.00	2.00
Final Sat.:	3971	4305	3553	3971	2153	3553	3971	6458	1830	3971	6458	3553
Capacity Analysis Module:												
Vol/Sat:	0.11	0.07	0.21	0.16	0.25	0.17	0.12	0.22	0.39	0.20	0.25	0.20
Crit Moves:	****				****				****	****		
Green/Cycle:	0.12	0.13	0.34	0.25	0.26	0.42	0.16	0.29	0.40	0.20	0.33	0.58
Volume/Cap:	0.96	0.57	0.62	0.64	0.96	0.40	0.75	0.78	0.96	0.96	0.75	0.35
Delay/Veh:	84.8	50.4	34.5	41.8	72.0	24.6	53.7	41.8	59.0	69.8	37.2	13.4
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:	84.8	50.4	34.5	41.8	72.0	24.6	53.7	41.8	59.0	69.8	37.2	13.4
LOS by Move:	F	D	C	D	E	C	D	D	E	E	D	B
HCM2kAvgQ:	12	6	9	9	24	3	9	16	28	19	15	1

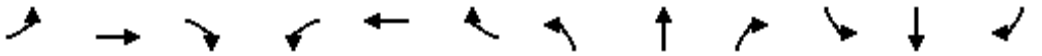
Note: Queue reported is the number of cars per lane.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	488	1580	246	342	1213	486	193	436	504	425	496	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	6.0	4.0	4.6	6.0	4.0	4.0	5.3	4.6	4.0	5.3	4.6
Lane Util. Factor	*1.00	*1.00	1.00	*1.00	*1.00	1.00	*1.00	*1.00	1.00	*1.00	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	3800	5534	1871	3800	5534	1875	3800	1900	1878	3800	3800	1881
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	3800	5534	1871	3800	5534	1875	3800	1900	1878	3800	3800	1881
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	508	1646	256	356	1264	506	201	454	525	443	517	573
RTOR Reduction (vph)	0	0	45	0	0	41	0	0	39	0	0	35
Lane Group Flow (vph)	508	1646	211	356	1264	465	201	454	486	443	517	538
Confl. Peds. (#/hr)			5			5			5			5
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	19.4	38.7	49.1	16.0	35.3	50.3	10.4	30.4	46.4	15.0	35.0	54.4
Effective Green, g (s)	19.4	38.7	49.1	16.0	35.3	50.3	10.4	30.4	46.4	15.0	35.0	54.4
Actuated g/C Ratio	0.16	0.32	0.41	0.13	0.29	0.42	0.09	0.25	0.39	0.12	0.29	0.45
Clearance Time (s)	4.6	6.0	4.0	4.6	6.0	4.0	4.0	5.3	4.6	4.0	5.3	4.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	614	1784	765	506	1627	785	329	481	726	475	1108	852
v/s Ratio Prot	c0.13	c0.30	0.02	0.09	0.23	0.07	0.05	c0.24	0.09	c0.12	0.14	0.10
v/s Ratio Perm			0.09			0.17			0.17			0.18
v/c Ratio	0.83	0.92	0.28	0.70	0.78	0.59	0.61	0.94	0.67	0.93	0.47	0.63
Uniform Delay, d1	48.7	39.2	23.6	49.7	38.7	26.9	52.8	44.0	30.4	52.0	34.8	25.1
Progression Factor	0.78	0.51	0.42	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.5	6.1	0.1	4.4	3.7	1.2	3.3	27.3	2.3	25.4	0.3	1.5
Delay (s)	43.4	26.1	10.0	54.1	42.5	28.1	56.2	71.3	32.8	77.4	35.2	26.7
Level of Service	D	C	B	D	D	C	E	E	C	E	D	C
Approach Delay (s)		28.1			41.0			51.6			44.2	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	39.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	475	83	45	29	107	204	45	642	49	256	368	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.7		4.6	5.7	5.7	4.6	5.7		4.6	5.7	5.7
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Satd. Flow (prot)	3686	1900		1900	1900	1615	1900	3610		1900	3610	1615
Flt Permitted	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Satd. Flow (perm)	3686	1900		1900	1900	1615	1900	3610		1900	3610	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	516	90	49	32	116	222	49	698	53	278	400	609
RTOR Reduction (vph)	0	22	0	0	0	192	0	5	0	0	0	334
Lane Group Flow (vph)	516	117	0	32	116	30	49	746	0	278	400	275
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	15.3	25.6		3.4	13.7	13.7	5.2	32.2		18.2	45.2	45.2
Effective Green, g (s)	15.3	25.6		3.4	13.7	13.7	5.2	32.2		18.2	45.2	45.2
Actuated g/C Ratio	0.15	0.26		0.03	0.14	0.14	0.05	0.32		0.18	0.45	0.45
Clearance Time (s)	4.6	5.7		4.6	5.7	5.7	4.6	5.7		4.6	5.7	5.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0		2.0	3.0	3.0
Lane Grp Cap (vph)	563	486		64	260	221	98	1162		345	1631	729
v/s Ratio Prot	c0.14	0.06		0.02	c0.06		0.03	c0.21		c0.15	0.11	
v/s Ratio Perm						0.02						0.17
v/c Ratio	0.92	0.24		0.50	0.45	0.14	0.50	0.64		0.81	0.25	0.38
Uniform Delay, d1	41.7	29.5		47.5	39.7	38.0	46.1	29.0		39.2	16.9	18.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	19.4	0.1		2.2	0.4	0.1	1.5	2.7		12.2	0.4	1.5
Delay (s)	61.1	29.6		49.7	40.1	38.1	47.6	31.7		51.4	17.2	19.6
Level of Service	E	C		D	D	D	D	C		D	B	B
Approach Delay (s)		54.4			39.7			32.7			25.7	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	35.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions
Weekday PM Peak Hour

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

Intersection #29 Conard Avenue / Central Avenue (SR-74)

Cycle (sec):	75	Critical Vol./Cap.(X):	0.727
Loss Time (sec):	12	Average Delay (sec/veh):	20.5
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	29	29	29	10	10	10	10	26	26	10	26	26
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	1 0	1 0	1	2 0	4 0	1	1 0	4 0	1
Volume Module:												
Base Vol:	63	39	26	188	33	484	516	3046	70	18	2391	158
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:	63	39	26	188	33	484	516	3046	70	18	2391	158
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	64	40	26	191	34	493	525	3102	71	18	2435	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	64	40	26	191	34	493	525	3102	71	18	2435	161
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:	64	40	26	191	34	493	525	3102	71	18	2435	161
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.83	0.83	0.70	1.00	0.85	0.92	0.91	0.85	0.95	0.91	0.85
Lanes:	0.50	0.30	0.20	1.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	781	483	322	1324	1900	1615	3502	6916	1615	1805	6916	1615
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.08	0.14	0.02	0.31	0.15	0.45	0.04	0.01	0.35	0.10
Crit Moves:						****		****		****		
Green/Cycle:	0.18	0.18	0.18	0.18	0.18	0.38	0.20	0.53	0.53	0.13	0.46	0.46
Volume/Cap:	0.45	0.45	0.45	0.79	0.10	0.80	0.76	0.85	0.08	0.08	0.76	0.22
Delay/Veh:	29.1	29.1	29.1	45.6	26.2	28.6	34.1	17.3	8.9	29.6	18.2	12.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.1	29.1	29.1	45.6	26.2	28.6	34.1	17.3	8.9	29.6	18.2	12.5
LOS by Move:	C	C	C	D	C	C	C	B	A	C	B	B
HCM2kAvgQ:	3	3	3	7	1	13	8	20	1	0	15	2

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

Intersection #30 Rosetta Canyon Drive / Central Avenue (SR-74)

Cycle (sec):	100	Critical Vol./Cap.(X):	1.013
Loss Time (sec):	12	Average Delay (sec/veh):	35.0
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Protected		
Rights:	Ovl			Include			Ovl			Include		
Min. Green:	33	0	33	0	0	0	0	32	32	10	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	0	0 1	0 0	0	0 0	0 0	4	0 1	2 0	4	0 0
Volume Module:												
Base Vol:	454	0	570	0	0	0	0	2741	640	438	1908	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	454	0	570	0	0	0	0	2741	640	438	1908	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	463	0	581	0	0	0	0	2794	652	446	1945	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	463	0	581	0	0	0	0	2794	652	446	1945	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	463	0	581	0	0	0	0	2794	652	446	1945	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	1.00	0.91	0.85	0.92	0.91	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	0.00	4.00	1.00	2.00	4.00	0.00
Final Sat.:	3502	0	1615	0	0	0	0	6916	1615	3502	6916	0
Capacity Analysis Module:												
Vol/Sat:	0.13	0.00	0.36	0.00	0.00	0.00	0.00	0.40	0.40	0.13	0.28	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.36	0.00	0.48	0.00	0.00	0.00	0.00	0.40	0.75	0.13	0.52	0.00
Volume/Cap:	0.37	0.00	0.75	0.00	0.00	0.00	0.00	1.01	0.54	1.01	0.54	0.00
Delay/Veh:	24.1	0.0	25.1	0.0	0.0	0.0	0.0	50.4	5.5	89.8	15.9	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:	24.1	0.0	25.1	0.0	0.0	0.0	0.0	50.4	5.5	89.8	15.9	0.0
LOS by Move:	C	A	C	A	A	A	A	D	A	F	B	A
HCM2kAvgQ:	6	0	16	0	0	0	0	32	9	12	11	0

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

Intersection #31 Riverside Street / Central Avenue (SR-74)

Cycle (sec): 115 Critical Vol./Cap.(X): 0.987
Loss Time (sec): 16 Average Delay (sec/veh): 51.7
Optimal Cycle: OPTIMIZED Level Of Service: D

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Ovl				Ovl			
Min. Green:	10	27	27		10	27	27		10	29	29		10	29	29	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	2	0 2	0 1		2	0 2	0 1		2	0 4	0 1		2	0 4	0 1	
Volume Module:																
Base Vol:	301	745	272		475	994	273		358	2493	429		356	1888	544	
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:	301	745	272		475	994	273		358	2493	429		356	1888	544	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.96	0.96	0.96		0.96	0.96	0.96		0.96	0.96	0.96		0.96	0.96	0.96	
PHF Volume:	315	779	285		497	1040	286		374	2608	449		372	1975	569	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	315	779	285		497	1040	286		374	2608	449		372	1975	569	
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:	315	779	285		497	1040	286		374	2608	449		372	1975	569	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.92	0.95	0.85		0.92	0.95	0.85		0.92	0.94	0.85		0.92	0.94	0.85	
Lanes:	2.00	2.00	1.00		2.00	2.00	1.00		2.00	4.00	1.00		2.00	4.00	1.00	
Final Sat.:	3502	3610	1615		3502	3610	1615		3502	7144	1615		3502	7144	1615	
Capacity Analysis Module:																
Vol/Sat:	0.09	0.22	0.18		0.14	0.29	0.18		0.11	0.37	0.28		0.11	0.28	0.35	
Crit Moves:	****					****				****				****		
Green/Cycle:	0.09	0.24	0.24		0.14	0.29	0.29		0.13	0.37	0.46		0.11	0.34	0.49	
Volume/Cap:	0.99	0.90	0.74		0.98	0.99	0.61		0.80	0.99	0.60		0.99	0.80	0.72	
Delay/Veh:	98.8	55.3	47.8		84.6	64.9	37.3		58.0	50.4	24.5		93.8	36.1	26.5	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	98.8	55.3	47.8		84.6	64.9	37.3		58.0	50.4	24.5		93.8	36.1	26.5	
LOS by Move:	F	E	D		F	E	D		E	D	C		F	D	C	
HCM2kAvgQ:	10	18	11		14	25	9		9	32	12		11	19	17	

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions
Weekday PM Peak Hour

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

Intersection #32 Meadowbrook Avenue/Greenwald Avenue / Central Avenue (SR-74)

Cycle (sec):	120	Critical Vol./Cap.(X):	0.923
Loss Time (sec):	12	Average Delay (sec/veh):	43.9
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Ovl			Include			Ovl			Include		
Min. Green:	34	34	34	10	10	10	10	25	25	10	25	25
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 0	1	1 0	1 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	251	32	375	51	25	199	32	2713	337	392	2148	190
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:	251	32	375	51	25	199	32	2713	337	392	2148	190
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	273	35	408	55	27	216	35	2949	366	426	2335	207
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	273	35	408	55	27	216	35	2949	366	426	2335	207
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:	273	35	408	55	27	216	35	2949	366	426	2335	207
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.75	1.00	0.85	0.74	1.00	0.85	0.92	1.00	0.85	0.92	1.00	0.85
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	1417	1900	1615	1404	1900	1615	3502	5706	1615	3502	5706	1615
Capacity Analysis Module:												
Vol/Sat:	0.19	0.02	0.25	0.04	0.01	0.13	0.01	0.52	0.23	0.12	0.41	0.13
Crit Moves:	****							****		****		
Green/Cycle:	0.28	0.28	0.40	0.28	0.28	0.28	0.10	0.50	0.50	0.12	0.51	0.51
Volume/Cap:	0.68	0.06	0.63	0.14	0.05	0.47	0.10	1.04	0.45	1.04	0.80	0.25
Delay/Veh:	42.8	31.4	30.8	32.2	31.3	36.4	48.7	56.9	19.9	106.8	25.8	16.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.8	31.4	30.8	32.2	31.3	36.4	48.7	56.9	19.9	106.8	25.8	16.5
LOS by Move:	D	C	C	C	C	D	D	E	B	F	C	B
HCM2kAvgQ:	10	1	13	2	1	7	1	50	9	13	27	4

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

Intersection #1 Lakeshore Drive / Riverside Drive (SR-74)

Cycle (sec):	110	Critical Vol./Cap.(X):	0.722
Loss Time (sec):	16	Average Delay (sec/veh):	36.8
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Ovl		
Min. Green:	10	25	25	10	33	33	10	31	31	10	31	31
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	3 0	1	2 0	3 0	1	1 0	4 0	1
Volume Module:												
Base Vol:	295	426	98	547	475	448	402	1091	301	88	1600	473
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:	295	426	98	547	475	448	402	1091	301	88	1600	473
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	303	438	101	562	488	460	413	1121	309	90	1644	486
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	303	438	101	562	488	460	413	1121	309	90	1644	486
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:	303	438	101	562	488	460	413	1121	309	90	1644	486
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.98	0.85	0.95	0.94	0.85	0.95	0.94	0.85	0.98	0.94	0.85
Lanes:	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	1.00	4.00	1.00
Final Sat.:	3617	3729	1615	3617	5358	1615	3617	5358	1615	1865	7144	1615
Capacity Analysis Module:												
Vol/Sat:	0.08	0.12	0.06	0.16	0.09	0.29	0.11	0.21	0.19	0.05	0.23	0.30
Crit Moves:		****			****			****			****	
Green/Cycle:	0.10	0.23	0.23	0.20	0.32	0.47	0.14	0.33	0.43	0.11	0.29	0.48
Volume/Cap:	0.85	0.52	0.27	0.80	0.28	0.61	0.80	0.64	0.45	0.46	0.80	0.62
Delay/Veh:	66.6	37.8	35.4	48.5	27.7	23.3	54.0	32.3	23.0	48.0	38.4	22.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	66.6	37.8	35.4	48.5	27.7	23.3	54.0	32.3	23.0	48.0	38.4	22.5
LOS by Move:	E	D	D	D	C	C	D	C	C	D	D	C
HCM2kAvgQ:	8	7	3	11	4	12	9	12	8	3	16	13

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

Intersection #2 W. Graham Avenue / N. Main Street

Cycle (sec):	95	Critical Vol./Cap.(X):	0.682
Loss Time (sec):	12	Average Delay (sec/veh):	29.7
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	25	25	10	25	25	10	20	20	10	20	20
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	1	0	0 1	0	1	0	0 1	0
Volume Module:												
Base Vol:	17	38	12	176	25	167	243	452	40	23	500	113
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	38	12	176	25	167	243	452	40	23	500	113
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	17	39	12	180	26	171	248	462	41	24	511	116
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	17	39	12	180	26	171	248	462	41	24	511	116
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:	17	39	12	180	26	171	248	462	41	24	511	116
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.89	0.89	0.89	0.73	0.87	0.87	0.95	0.99	0.99	0.95	0.97	0.97
Lanes:	0.25	0.57	0.18	1.00	0.13	0.87	1.00	0.92	0.08	1.00	0.82	0.18
Final Sat.:	431	963	304	1389	215	1436	1805	1725	153	1805	1506	340
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.13	0.12	0.12	0.14	0.27	0.27	0.01	0.34	0.34
Crit Moves:					****		****				****	
Green/Cycle:	0.26	0.26	0.26	0.26	0.26	0.26	0.18	0.44	0.44	0.17	0.43	0.43
Volume/Cap:	0.15	0.15	0.15	0.49	0.45	0.45	0.78	0.61	0.61	0.08	0.78	0.78
Delay/Veh:	27.0	27.0	27.0	30.7	30.0	30.0	49.2	21.8	21.8	33.1	28.0	28.0
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:	27.0	27.0	27.0	30.7	30.0	30.0	49.2	21.8	21.8	33.1	28.0	28.0
LOS by Move:	C	C	C	C	C	C	D	C	C	C	C	C
HCM2kAvgQ:	2	2	2	5	5	5	9	12	12	1	17	17

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

Intersection #3 E. Lakeshore Drive/Mission Trail / Diamond Drive

Cycle (sec):	120	Critical Vol./Cap.(X):	0.973
Loss Time (sec):	16	Average Delay (sec/veh):	51.4
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Include			Ovl	
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	3 0	1	2 0	3 0	2
Volume Module:												
Base Vol:	245	933	969	775	633	422	554	1213	74	860	1046	457
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:	245	933	969	775	633	422	554	1213	74	860	1046	457
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	258	983	1021	817	667	445	584	1278	78	906	1102	482
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	258	983	1021	817	667	445	584	1278	78	906	1102	482
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:	258	983	1021	817	667	445	584	1278	78	906	1102	482
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.01	1.00	0.82	1.01	1.00	0.94	1.01	1.00	0.94	1.01	1.00	0.82
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	2.00
Final Sat.:	3852	5706	3127	3852	5706	1777	3852	5706	1777	3852	5706	3127
Capacity Analysis Module:												
Vol/Sat:	0.07	0.17	0.33	0.21	0.12	0.25	0.15	0.22	0.04	0.24	0.19	0.15
Crit Moves:		****		****				****		****		
Green/Cycle:	0.16	0.18	0.42	0.22	0.23	0.44	0.21	0.23	0.23	0.24	0.26	0.48
Volume/Cap:	0.41	0.97	0.78	0.97	0.51	0.57	0.73	0.97	0.19	0.97	0.73	0.32
Delay/Veh:	45.3	71.1	33.2	71.2	40.6	26.3	47.9	64.6	37.4	68.2	42.1	19.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.3	71.1	33.2	71.2	40.6	26.3	47.9	64.6	37.4	68.2	42.1	19.1
LOS by Move:	D	E	C	E	D	C	D	E	D	E	D	B
HCM2kAvgQ:	5	18	20	20	8	12	12	22	2	22	15	6

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

Intersection #4 Gunnerson Street / Riverside Drive (SR-74)

Cycle (sec):	120	Critical Vol./Cap.(X):	0.827
Loss Time (sec):	12	Average Delay (sec/veh):	21.2
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	15	15	15	15	15	15	10	30	30	10	30	30
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	105	5	71	25	5	67	131	1327	171	26	1882	27
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:	105	5	71	25	5	67	131	1327	171	26	1882	27
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	114	5	77	27	5	73	142	1441	186	28	2043	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	114	5	77	27	5	73	142	1441	186	28	2043	29
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:	114	5	77	27	5	73	142	1441	186	28	2043	29
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.70	0.70	0.85	0.69	0.69	0.85	0.95	0.93	0.93	0.95	0.95	0.95
Lanes:	0.95	0.05	1.00	0.83	0.17	1.00	1.00	1.77	0.23	1.00	1.97	0.03
Final Sat.:	1268	60	1615	1099	220	1615	1805	3144	405	1805	3552	51
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.05	0.02	0.02	0.05	0.08	0.46	0.46	0.02	0.58	0.58
Crit Moves:	****						****				****	
Green/Cycle:	0.13	0.13	0.13	0.13	0.13	0.13	0.09	0.66	0.66	0.12	0.68	0.68
Volume/Cap:	0.72	0.72	0.38	0.20	0.20	0.36	0.84	0.70	0.70	0.13	0.84	0.84
Delay/Veh:	64.7	64.7	49.4	47.7	47.7	49.2	83.8	14.1	14.1	47.6	17.2	17.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	64.7	64.7	49.4	47.7	47.7	49.2	83.8	14.1	14.1	47.6	17.2	17.2
LOS by Move:	E	E	D	D	D	D	F	B	B	D	B	B
HCM2kAvgQ:	6	6	3	1	1	3	8	20	20	1	32	32

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

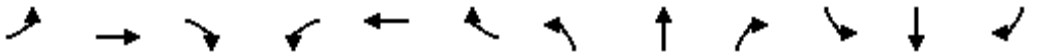
Intersection #5 Collier Avenue / Riverside Drive (SR-74)

Cycle (sec):	110	Critical Vol./Cap.(X):	0.933
Loss Time (sec):	16	Average Delay (sec/veh):	49.8
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ignore			Include		
Min. Green:	10	15	15	10	15	15	10	20	20	10	20	20
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	1115	881	222	372	688	289	175	675	917	410	863	343
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:	1115	881	222	372	688	289	175	675	917	410	863	343
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.00	0.92	0.92	0.92
PHF Volume:	1208	954	241	403	745	313	190	731	0	444	935	372
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1208	954	241	403	745	313	190	731	0	444	935	372
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	1208	954	241	403	745	313	190	731	0	444	935	372
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	1.01	0.85	0.98	1.01	0.85	0.98	0.97	1.00	0.98	0.97	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3736	3852	1615	3736	3852	1615	3736	5535	1900	3736	5535	1615
Capacity Analysis Module:												
Vol/Sat:	0.32	0.25	0.15	0.11	0.19	0.19	0.05	0.13	0.00	0.12	0.17	0.23
Crit Moves:	****				****		****					****
Green/Cycle:	0.33	0.37	0.50	0.16	0.20	0.29	0.09	0.20	0.00	0.13	0.24	0.24
Volume/Cap:	0.98	0.67	0.30	0.67	0.98	0.67	0.56	0.67	0.00	0.92	0.72	0.98
Delay/Veh:	56.9	30.5	16.6	46.5	71.0	38.3	50.0	42.5	0.0	70.6	40.7	82.0
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:	56.9	30.5	16.6	46.5	71.0	38.3	50.0	42.5	0.0	70.6	40.7	82.0
LOS by Move:	E	C	B	D	E	D	D	D	A	E	D	F
HCM2kAvgQ:	27	15	5	8	18	10	4	9	0	11	12	18

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

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	405	1092	237	316	1026	1027	179	510	165	1137	480	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	13	12	12	13	12	12	12
Total Lost time (s)	4.6	4.6	5.3	4.6	5.3	4.0	5.3	5.3	4.6	5.3	5.3	5.3
Lane Util. Factor	*1.00	*1.00	*1.00	*1.00	*1.00	*1.00	1.00	*1.00	*1.00	*1.00	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	3800	5327	1880	3585	3585	1937	1900	3800	3636	5700	3800	1866
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	3800	5327	1880	3585	3585	1937	1900	3800	3636	5700	3800	1866
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	440	1187	258	343	1115	1116	195	554	179	1236	522	161
RTOR Reduction (vph)	0	0	62	0	0	0	0	0	83	0	0	121
Lane Group Flow (vph)	440	1187	196	343	1115	1116	195	554	96	1236	522	40
Confl. Peds. (#/hr)			5			5						5
Heavy Vehicles (%)	0%	7%	0%	6%	6%	0%	0%	0%	8%	0%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases			4			Free			2			6
Actuated Green, G (s)	14.4	36.7	53.2	16.9	38.5	120.0	16.5	17.7	34.6	28.9	30.1	30.1
Effective Green, g (s)	14.4	36.7	53.2	16.9	38.5	120.0	16.5	17.7	34.6	28.9	30.1	30.1
Actuated g/C Ratio	0.12	0.31	0.44	0.14	0.32	1.00	0.14	0.15	0.29	0.24	0.25	0.25
Clearance Time (s)	4.6	4.6	5.3	4.6	5.3		5.3	5.3	4.6	5.3	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	456	1629	833	504	1150	1937	261	560	1048	1372	953	468
v/s Ratio Prot	c0.12	0.22	0.03	0.10	c0.31		0.10	c0.15	0.01	c0.22	0.14	
v/s Ratio Perm			0.07			c0.58			0.01			0.02
v/c Ratio	0.96	0.73	0.24	0.68	0.97	0.58	0.75	0.99	0.09	0.90	0.55	0.09
Uniform Delay, d1	52.5	37.2	20.8	49.0	40.2	0.0	49.7	51.1	31.2	44.2	39.0	34.4
Progression Factor	1.00	1.00	1.00	0.98	1.05	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	32.8	1.4	0.1	4.8	14.5	0.8	17.6	35.5	0.2	9.8	2.3	0.4
Delay (s)	85.3	38.6	20.8	53.0	56.8	0.8	67.4	86.5	31.4	53.9	41.3	34.8
Level of Service	F	D	C	D	E	A	E	F	C	D	D	C
Approach Delay (s)		47.1			32.0			71.9			48.9	
Approach LOS		D			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	45.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

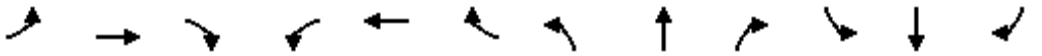
Intersection #107 Auto Center Drive / Diamond Drive

Cycle (sec):	120	Critical Vol./Cap.(X):	0.986
Loss Time (sec):	16	Average Delay (sec/veh):	47.9
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	2	2 0	2 0	2	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	198	478	522	573	462	577	908	1179	869	692	1588	248
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:	198	478	522	573	462	577	908	1179	869	692	1588	248
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:	198	478	522	573	462	577	908	1179	869	692	1588	248
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	198	478	522	573	462	577	908	1179	869	692	1588	248
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:	198	478	522	573	462	577	908	1179	869	692	1588	248
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.05	1.13	0.94	1.05	1.13	0.94	1.05	1.13	0.96	1.05	1.13	0.94
Lanes:	2.00	2.00	2.00	2.00	2.00	2.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3971	4305	3553	3971	4305	3553	3971	6458	1830	3971	6458	1777
Capacity Analysis Module:												
Vol/Sat:	0.05	0.11	0.15	0.14	0.11	0.16	0.23	0.18	0.47	0.17	0.25	0.14
Crit Moves:		****		****					****	****		
Green/Cycle:	0.11	0.11	0.29	0.15	0.15	0.42	0.28	0.40	0.51	0.18	0.30	0.44
Volume/Cap:	0.44	0.99	0.51	0.99	0.74	0.38	0.83	0.46	0.93	0.99	0.83	0.31
Delay/Veh:	50.4	90.3	35.9	84.8	53.6	24.1	46.0	26.8	42.8	79.6	42.4	21.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.4	90.3	35.9	84.8	53.6	24.1	46.0	26.8	42.8	79.6	42.4	21.8
LOS by Move:	D	F	D	F	D	C	D	C	D	E	D	C
HCM2kAvgQ:	4	13	6	15	9	3	16	5	7	18	18	2

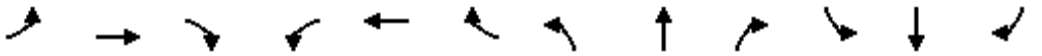
Note: Queue reported is the number of cars per lane.

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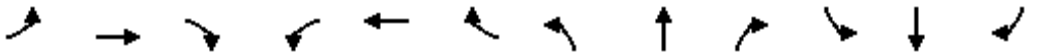
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1741	543	679	1341	0	0	0	0	747	0	740
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3	4.6	5.3					5.3		5.3
Lane Util. Factor		*1.00	1.00	*1.00	*1.00					*1.00		*1.00
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00		0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00		1.00
Frt		1.00	1.00	1.00	1.00					1.00		1.00
Flt Protected		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (prot)		5481	1841	3800	5700					3486		3696
Flt Permitted		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (perm)		5481	1841	3800	5700					3486		3696
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1852	578	722	1427	0	0	0	0	795	0	787
RTOR Reduction (vph)	0	0	303	0	0	0	0	0	0	0	0	84
Lane Group Flow (vph)	0	1852	275	722	1427	0	0	0	0	795	0	703
Confl. Peds. (#/hr)			5									5
Heavy Vehicles (%)	0%	4%	1%	0%	0%	0%	0%	0%	0%	9%	0%	1%
Turn Type		NA	Perm	Prot	NA					custom		custom
Protected Phases		2		1	6							
Permitted Phases			2							4		4
Actuated Green, G (s)		47.7	47.7	25.4	77.7					31.7		31.7
Effective Green, g (s)		47.7	47.7	25.4	77.7					31.7		31.7
Actuated g/C Ratio		0.40	0.40	0.21	0.65					0.26		0.26
Clearance Time (s)		5.3	5.3	4.6	5.3					5.3		5.3
Vehicle Extension (s)		2.0	2.0	2.0	2.0					2.0		2.0
Lane Grp Cap (vph)		2178	731	804	3690					920		976
v/s Ratio Prot		c0.34		c0.19	0.25							
v/s Ratio Perm			0.15							c0.23		0.19
v/c Ratio		0.85	0.38	0.90	0.39					0.86		0.72
Uniform Delay, d1		32.9	25.6	46.0	9.9					42.1		40.1
Progression Factor		1.00	1.00	0.56	0.78					1.00		1.00
Incremental Delay, d2		4.4	1.5	8.3	0.2					10.6		4.6
Delay (s)		37.3	27.1	34.2	7.9					52.7		44.7
Level of Service		D	C	C	A					D		D
Approach Delay (s)		34.9			16.8			0.0			48.7	
Approach LOS		C			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	32.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	88.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1502	892	609	1839	0	0	0	0	546	0	731
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	4.6	5.7					5.3		5.3
Lane Util. Factor		*1.00	*1.00	*1.00	*1.00					*1.00		*1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00					1.00		1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00		1.00
Frt		1.00	1.00	1.00	1.00					1.00		1.00
Flt Protected		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (prot)		5588	3725	3725	3762					3725		3689
Flt Permitted		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (perm)		5588	3725	3725	3762					3725		3689
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1533	910	621	1877	0	0	0	0	557	0	746
RTOR Reduction (vph)	0	0	382	0	0	0	0	0	0	0	0	52
Lane Group Flow (vph)	0	1533	528	621	1877	0	0	0	0	557	0	694
Confl. Peds. (#/hr)												5
Heavy Vehicles (%)	0%	2%	2%	2%	1%	0%	0%	0%	0%	2%	0%	3%
Turn Type		NA	Perm	Prot	NA					Prot		custom
Protected Phases		2		1	6					4		4
Permitted Phases			2									
Actuated Green, G (s)		53.9	53.9	24.4	82.9					26.1		26.1
Effective Green, g (s)		53.9	53.9	24.4	82.9					26.1		26.1
Actuated g/C Ratio		0.45	0.45	0.20	0.69					0.22		0.22
Clearance Time (s)		5.7	5.7	4.6	5.7					5.3		5.3
Vehicle Extension (s)		2.0	2.0	2.0	2.0					2.0		2.0
Lane Grp Cap (vph)		2509	1673	757	2598					810		802
v/s Ratio Prot		0.27		c0.17	c0.50					0.15		c0.19
v/s Ratio Perm			0.14									
v/c Ratio		0.61	0.32	0.82	0.72					0.69		0.87
Uniform Delay, d1		25.1	21.2	45.7	11.4					43.2		45.3
Progression Factor		1.24	2.61	1.00	1.00					1.00		1.00
Incremental Delay, d2		0.7	0.3	6.8	1.8					1.9		9.4
Delay (s)		31.7	55.8	52.5	13.2					45.1		54.6
Level of Service		C	E	D	B					D		D
Approach Delay (s)		40.7			23.0			0.0			50.6	
Approach LOS		D			C			A			D	

Intersection Summary			
HCM 2000 Control Delay	35.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	844	166	242	410	0	0	0	0	497	0	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3	4.6	5.3					5.3	5.3	5.3
Lane Util. Factor		*1.00	1.00	*1.00	*1.00					*1.00	*1.00	0.95
Frpb, ped/bikes		1.00	0.96	1.00	1.00					1.00	0.98	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	1.00	1.00	1.00					1.00	0.85	1.00
Flt Protected		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Satd. Flow (prot)		3762	1762	3654	3725					1900	1544	1725
Flt Permitted		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Satd. Flow (perm)		3762	1762	3654	3725					1900	1544	1725
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	879	173	252	427	0	0	0	0	518	0	252
RTOR Reduction (vph)	0	0	113	0	0	0	0	0	0	0	73	73
Lane Group Flow (vph)	0	879	60	252	427	0	0	0	0	518	53	53
Confl. Peds. (#/hr)			5									5
Heavy Vehicles (%)	0%	1%	4%	4%	2%	0%	0%	0%	0%	0%	0%	3%
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		41.7	41.7	12.2	58.5					50.9	50.9	50.9
Effective Green, g (s)		41.7	41.7	12.2	58.5					50.9	50.9	50.9
Actuated g/C Ratio		0.35	0.35	0.10	0.49					0.42	0.42	0.42
Clearance Time (s)		5.3	5.3	4.6	5.3					5.3	5.3	5.3
Vehicle Extension (s)		2.0	2.0	2.0	2.0					2.0	2.0	2.0
Lane Grp Cap (vph)		1307	612	371	1815					805	654	731
v/s Ratio Prot		c0.23		c0.07	0.11					c0.27	0.03	
v/s Ratio Perm			0.03									0.03
v/c Ratio		0.67	0.10	0.68	0.24					0.64	0.08	0.07
Uniform Delay, d1		33.3	26.4	52.0	17.8					27.4	20.6	20.5
Progression Factor		1.00	1.00	0.96	0.77					1.00	1.00	1.00
Incremental Delay, d2		2.8	0.3	3.3	0.0					3.9	0.2	0.2
Delay (s)		36.1	26.8	53.3	13.7					31.3	20.9	20.7
Level of Service		D	C	D	B					C	C	C
Approach Delay (s)		34.6			28.4			0.0			27.9	
Approach LOS		C			C			A			C	

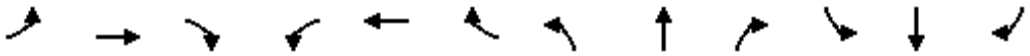
Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	WBL	WBR	NBT	NBR	SBL2	SBL	SBT	SWL	SWR
Lane Configurations									
Volume (vph)	127	776	665	96	517	0	1030	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0	6.0	6.0	4.5		6.0		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00		*1.00		
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00		1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		
Frt	1.00	1.00	1.00	1.00	1.00		1.00		
Flt Protected	1.00	1.00	1.00	1.00	1.00		1.00		
Satd. Flow (prot)	1863	3615	1925	1863	3725		3725		
Flt Permitted	1.00	1.00	1.00	1.00	1.00		1.00		
Satd. Flow (perm)	1863	3615	1925	1863	3725		3725		
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	130	792	679	98	528	0	1051	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	130	792	679	98	528	0	1051	0	0
Confl. Peds. (#/hr)		5							
Turn Type	NA	Perm	NA	Perm	Prot		NA		
Protected Phases	8		2		1		6		
Permitted Phases		8		2					
Actuated Green, G (s)	30.7	30.7	52.5	52.5	20.3		77.3		
Effective Green, g (s)	30.7	30.7	52.5	52.5	20.3		77.3		
Actuated g/C Ratio	0.26	0.26	0.44	0.44	0.17		0.64		
Clearance Time (s)	6.0	6.0	6.0	6.0	4.5		6.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0		
Lane Grp Cap (vph)	476	924	842	815	630		2399		
v/s Ratio Prot	0.07		c0.35		c0.14		0.28		
v/s Ratio Perm		c0.22		0.05					
v/c Ratio	0.27	0.86	0.81	0.12	0.84		0.44		
Uniform Delay, d1	35.7	42.6	29.3	20.0	48.3		10.6		
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00		
Incremental Delay, d2	0.1	7.6	8.1	0.3	9.1		0.6		
Delay (s)	35.8	50.2	37.5	20.3	57.4		11.2		
Level of Service	D	D	D	C	E		B		
Approach Delay (s)	48.2		35.3				26.6	0.0	
Approach LOS	D		D				C	A	

Intersection Summary			
HCM 2000 Control Delay	34.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



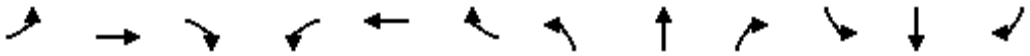
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	817	1671	0	0	1644	413	376	0	305	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.3			5.3	5.3	5.3		5.3			
Lane Util. Factor	*1.00	*1.00			*1.00	1.00	1.00		*1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00		0.98			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00		1.00			
Frt	1.00	1.00			1.00	1.00	1.00		1.00			
Flt Protected	1.00	1.00			1.00	1.00	1.00		1.00			
Satd. Flow (prot)	3800	5481			5700	1722	1900		3733			
Flt Permitted	1.00	1.00			1.00	1.00	1.00		1.00			
Satd. Flow (perm)	3800	5481			5700	1722	1900		3733			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	834	1705	0	0	1678	421	384	0	311	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	242	0	0	46	0	0	0
Lane Group Flow (vph)	834	1705	0	0	1678	179	384	0	265	0	0	0
Confl. Peds. (#/hr)						5			5			
Heavy Vehicles (%)	0%	4%	5%	0%	0%	8%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	custom		custom			
Protected Phases	5	2			6							
Permitted Phases						6	8		8			
Actuated Green, G (s)	29.3	77.7			43.8	43.8	31.7		31.7			
Effective Green, g (s)	29.3	77.7			43.8	43.8	31.7		31.7			
Actuated g/C Ratio	0.24	0.65			0.36	0.36	0.26		0.26			
Clearance Time (s)	4.6	5.3			5.3	5.3	5.3		5.3			
Vehicle Extension (s)	2.0	2.0			2.0	2.0	2.0		2.0			
Lane Grp Cap (vph)	927	3548			2080	628	501		986			
v/s Ratio Prot	c0.22	0.31			c0.29							
v/s Ratio Perm						0.10	c0.20		0.07			
v/c Ratio	0.90	0.48			0.81	0.29	0.77		0.27			
Uniform Delay, d1	43.9	10.8			34.3	27.0	40.7		35.0			
Progression Factor	0.73	0.40			1.00	1.00	1.00		1.00			
Incremental Delay, d2	6.0	0.2			3.5	1.1	10.7		0.7			
Delay (s)	38.1	4.6			37.8	28.1	51.4		35.6			
Level of Service	D	A			D	C	D		D			
Approach Delay (s)		15.6			35.8			44.4			0.0	
Approach LOS		B			D			D			A	

Intersection Summary			
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	88.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR2	WBT	WBR	NWL	NWR2
Lane Configurations						
Volume (vph)	1617	431	1570	880	878	886
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.7		5.3	5.3
Lane Util. Factor	*1.00	1.00	*1.00		*1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	1.00	1.00	1.00		1.00	1.00
Satd. Flow (prot)	5588	1615	5585		3689	3725
Flt Permitted	1.00	1.00	1.00		1.00	1.00
Satd. Flow (perm)	5588	1615	5585		3689	3725
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1650	440	1602	898	896	904
RTOR Reduction (vph)	0	182	105	0	0	28
Lane Group Flow (vph)	1650	258	2395	0	896	876
Confl. Peds. (#/hr)				5		
Heavy Vehicles (%)	2%	0%	1%	2%	3%	2%
Turn Type	NA	Perm	NA		NA	Prot
Protected Phases	2		6		8	8
Permitted Phases		2				
Actuated Green, G (s)	52.7	52.7	52.7		26.3	26.3
Effective Green, g (s)	52.7	52.7	52.7		26.3	26.3
Actuated g/C Ratio	0.59	0.59	0.59		0.29	0.29
Clearance Time (s)	5.7	5.7	5.7		5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	3272	945	3270		1078	1088
v/s Ratio Prot	0.30		c0.43		c0.24	0.24
v/s Ratio Perm		0.16				
v/c Ratio	0.50	0.27	0.73		0.83	0.81
Uniform Delay, d1	11.0	9.2	13.5		29.8	29.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.6	0.7	1.5		5.3	4.2
Delay (s)	11.5	9.9	15.0		35.1	33.7
Level of Service	B	A	B		D	C
Approach Delay (s)	11.2		15.0		34.4	
Approach LOS	B		B		C	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	536	805	0	0	420	20	233	0	238	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.3			5.3	5.3	5.3	5.3	5.3			
Lane Util. Factor	*1.00	*1.00			*1.00	1.00	1.00	*1.00	*1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	0.99	0.99			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Flt Protected	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Satd. Flow (prot)	3725	3762			3762	1860	1845	1853	1853			
Flt Permitted	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Satd. Flow (perm)	3725	3762			3762	1860	1845	1853	1853			
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	576	866	0	0	452	22	251	0	256	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	18	0	32	32	0	0	0
Lane Group Flow (vph)	576	866	0	0	452	4	251	96	96	0	0	0
Confl. Peds. (#/hr)						5			5			
Heavy Vehicles (%)	2%	1%	0%	0%	1%	0%	3%	0%	1%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	19.5	45.2			21.1	21.1	64.2	64.2	64.2			
Effective Green, g (s)	19.5	45.2			21.1	21.1	64.2	64.2	64.2			
Actuated g/C Ratio	0.16	0.38			0.18	0.18	0.54	0.54	0.54			
Clearance Time (s)	4.6	5.3			5.3	5.3	5.3	5.3	5.3			
Vehicle Extension (s)	2.0	2.0			2.0	2.0	2.0	2.0	2.0			
Lane Grp Cap (vph)	605	1417			661	327	987	991	991			
v/s Ratio Prot	c0.15	c0.23			0.12		c0.14	0.05				
v/s Ratio Perm						0.00			0.05			
v/c Ratio	0.95	0.61			0.68	0.01	0.25	0.10	0.10			
Uniform Delay, d1	49.8	30.3			46.3	40.8	15.0	13.7	13.7			
Progression Factor	0.70	0.51			0.69	1.00	1.00	1.00	1.00			
Incremental Delay, d2	20.9	1.5			5.3	0.1	0.6	0.2	0.2			
Delay (s)	55.6	16.9			37.2	40.9	15.6	13.9	13.9			
Level of Service	E	B			D	D	B	B	B			
Approach Delay (s)		32.4			37.4			14.7			0.0	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL2	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations									
Volume (vph)	376	65	107	0	990	1125	1069	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0		6.0	6.0	4.0		
Lane Util. Factor	*1.00	1.00	1.00		*1.00	*1.00	1.00		
Frpb, ped/bikes	1.00	0.98	1.00		1.00	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00		
Frt	1.00	1.00	1.00		1.00	1.00	1.00		
Flt Protected	1.00	1.00	1.00		1.00	1.00	1.00		
Satd. Flow (prot)	3725	1821	1863		3725	3725	1863		
Flt Permitted	1.00	1.00	1.00		1.00	1.00	1.00		
Satd. Flow (perm)	3725	1821	1863		3725	3725	1863		
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	396	68	113	0	1042	1184	1125	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	396	68	113	0	1042	1184	1125	0	0
Confl. Peds. (#/hr)		5							
Turn Type	NA	Perm	Prot		NA	NA	Free		
Protected Phases	4!		5		2	6			
Permitted Phases		4!					Free!		
Actuated Green, G (s)	17.1	17.1	12.6		90.9	74.3	120.0		
Effective Green, g (s)	17.1	17.1	12.6		90.9	74.3	120.0		
Actuated g/C Ratio	0.14	0.14	0.10		0.76	0.62	1.00		
Clearance Time (s)	6.0	6.0	4.0		6.0	6.0			
Vehicle Extension (s)	2.0	2.0	3.0		2.0	2.0			
Lane Grp Cap (vph)	530	259	195		2821	2306	1863		
v/s Ratio Prot	0.11		0.06		0.28	0.32			
v/s Ratio Perm		0.04					c0.60		
v/c Ratio	0.75	0.26	0.58		0.37	0.51	0.60		
Uniform Delay, d1	49.4	45.8	51.2		4.9	12.8	0.0		
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00		
Incremental Delay, d2	5.0	0.2	4.1		0.4	0.1	1.5		
Delay (s)	54.4	46.0	55.3		5.3	12.8	1.5		
Level of Service	D	D	E		A	B	A		
Approach Delay (s)	53.2				10.2	7.3		0.0	
Approach LOS	D				B	A		A	

Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

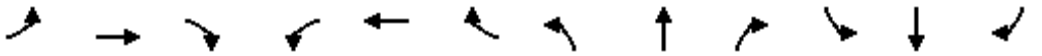
Intersection #16 Dexter Avenue / 11th Street

Cycle (sec):	60	Critical Vol./Cap.(X):	0.595
Loss Time (sec):	12	Average Delay (sec/veh):	21.0
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	25	25	25	25	25	25	10	25	25	10	25	25
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	277	146	30	16	81	107	72	482	305	26	575	7
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:	277	146	30	16	81	107	72	482	305	26	575	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	301	159	33	17	88	116	78	524	332	28	625	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	301	159	33	17	88	116	78	524	332	28	625	8
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:	301	159	33	17	88	116	78	524	332	28	625	8
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.57	0.98	0.98	0.59	0.92	0.92	0.95	0.95	0.85	0.95	0.95	0.95
Lanes:	1.00	0.83	0.17	1.00	0.43	0.57	1.00	2.00	1.00	1.00	1.98	0.02
Final Sat.:	1089	1537	316	1121	749	989	1805	3610	1615	1805	3559	43
Capacity Analysis Module:												
Vol/Sat:	0.28	0.10	0.10	0.02	0.12	0.12	0.04	0.15	0.21	0.02	0.18	0.18
Crit Moves:	****						****				****	
Green/Cycle:	0.35	0.35	0.35	0.35	0.35	0.35	0.14	0.35	0.35	0.14	0.35	0.35
Volume/Cap:	0.80	0.30	0.30	0.04	0.34	0.34	0.31	0.42	0.59	0.11	0.51	0.51
Delay/Veh:	32.4	17.4	17.4	15.6	17.7	17.7	28.6	18.2	21.0	27.3	18.9	18.9
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:	32.4	17.4	17.4	15.6	17.7	17.7	28.6	18.2	21.0	27.3	18.9	18.9
LOS by Move:	C	B	B	B	B	B	C	B	C	C	B	B
HCM2kAvgQ:	8	3	3	0	4	4	2	5	7	1	6	6

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

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	2073	430	0	2006	216	0	0	104	0	0	444
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7		5.7	5.7			5.3			5.3
Lane Util. Factor		*1.00	1.00		*1.00	1.00			1.00			1.00
Frpb, ped/bikes		1.00	0.98		1.00	0.98			0.98			0.98
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00			1.00
Frt		1.00	1.00		1.00	1.00			1.00			1.00
Flt Protected		1.00	1.00		1.00	1.00			1.00			1.00
Satd. Flow (prot)		5534	1866		7451	1866			1869			1870
Flt Permitted		1.00	1.00		1.00	1.00			1.00			1.00
Satd. Flow (perm)		5534	1866		7451	1866			1869			1870
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	2115	439	0	2047	220	0	0	106	0	0	453
RTOR Reduction (vph)	0	0	209	0	0	105	0	0	18	0	0	18
Lane Group Flow (vph)	0	2115	230	0	2047	115	0	0	88	0	0	435
Confl. Peds. (#/hr)			5			5			5			5
Heavy Vehicles (%)	0%	3%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA	Perm		NA	Perm			Perm			Perm
Protected Phases		2			6							
Permitted Phases			2			6			8			4
Actuated Green, G (s)		52.3	52.3		52.3	52.3			36.7			36.7
Effective Green, g (s)		52.3	52.3		52.3	52.3			36.7			36.7
Actuated g/C Ratio		0.52	0.52		0.52	0.52			0.37			0.37
Clearance Time (s)		5.7	5.7		5.7	5.7			5.3			5.3
Vehicle Extension (s)		2.0	2.0		2.0	2.0			2.0			2.0
Lane Grp Cap (vph)		2894	975		3896	975			685			686
v/s Ratio Prot		c0.38			0.27							
v/s Ratio Perm			0.12			0.06			0.05			c0.23
v/c Ratio		0.73	0.24		0.53	0.12			0.13			0.63
Uniform Delay, d1		18.4	13.0		15.7	12.1			21.0			26.1
Progression Factor		1.00	1.00		1.00	1.00			1.00			1.00
Incremental Delay, d2		1.7	0.6		0.5	0.2			0.4			4.4
Delay (s)		20.1	13.5		16.2	12.4			21.4			30.5
Level of Service		C	B		B	B			C			C
Approach Delay (s)		19.0			15.8			21.4			30.5	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	31	156	23	111	634	69	24	117	141	194	357	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7		4.0	5.7		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flt Protected	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Satd. Flow (prot)	1900	1900		1900	1900		1900	1900		1900	1900	
Flt Permitted	1.00	1.00		1.00	1.00		0.30	1.00		0.51	1.00	
Satd. Flow (perm)	1900	1900		1900	1900		573	1900		962	1900	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	164	24	117	667	73	25	123	148	204	376	85
RTOR Reduction (vph)	0	5	0	0	3	0	0	32	0	0	6	0
Lane Group Flow (vph)	33	183	0	117	737	0	25	239	0	204	455	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	4.7	44.5		11.9	51.7		48.2	48.2		48.2	48.2	
Effective Green, g (s)	4.7	44.5		11.9	51.7		48.2	48.2		48.2	48.2	
Actuated g/C Ratio	0.04	0.37		0.10	0.43		0.40	0.40		0.40	0.40	
Clearance Time (s)	4.0	5.7		4.0	5.7		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	74	704		188	818		230	763		386	763	
v/s Ratio Prot	c0.02	0.10		0.06	c0.39			0.13			c0.24	
v/s Ratio Perm							0.04			0.21		
v/c Ratio	0.45	0.26		0.62	0.90		0.11	0.31		0.53	0.60	
Uniform Delay, d1	56.4	26.3		51.9	31.8		22.5	24.6		27.3	28.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.2	0.1		6.3	12.7		1.0	1.1		5.1	3.4	
Delay (s)	60.6	26.4		58.2	44.5		23.4	25.6		32.4	31.7	
Level of Service	E	C		E	D		C	C		C	C	
Approach Delay (s)		31.5			46.3			25.4			31.9	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	37.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

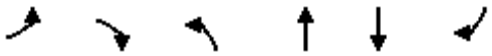
Intersection #21 Dexter Avenue / 2nd Street

Cycle (sec):	120	Critical Vol./Cap.(X):	0.685
Loss Time (sec):	12	Average Delay (sec/veh):	39.9
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	25	25	25	25	25	25	10	20	20	10	20	20
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	1	0 1	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	5	5	7	35	15	441	257	5	5	5	756	19
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:	5	5	7	35	15	441	257	5	5	5	756	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	5	5	7	37	16	472	275	5	5	5	809	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	5	7	37	16	472	275	5	5	5	809	20
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:	5	5	7	37	16	472	275	5	5	5	809	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	0.91	0.91	0.76	1.00	0.85	0.95	0.93	0.93	0.95	1.00	1.00
Lanes:	1.00	0.42	0.58	1.00	1.00	1.00	1.00	0.50	0.50	1.00	0.98	0.02
Final Sat.:	1435	723	1012	1440	1900	1615	1805	879	879	1805	1846	46
Capacity Analysis Module:												
Vol/Sat:	0.00	0.01	0.01	0.03	0.01	0.29	0.15	0.01	0.01	0.00	0.44	0.44
Crit Moves:				****			****				****	
Green/Cycle:	0.21	0.21	0.21	0.21	0.21	0.39	0.18	0.46	0.46	0.23	0.51	0.51
Volume/Cap:	0.02	0.04	0.04	0.12	0.04	0.76	0.85	0.01	0.01	0.01	0.85	0.85
Delay/Veh:	37.8	37.9	37.9	38.8	38.0	37.2	67.2	17.5	17.5	35.6	32.8	32.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	37.8	37.9	37.9	38.8	38.0	37.2	67.2	17.5	17.5	35.6	32.8	32.8
LOS by Move:	D	D	D	D	D	D	E	B	B	D	C	C
HCM2kAvgQ:	0	0	0	1	0	16	13	0	0	0	29	29

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

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	485	557	199	139	680	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	5.3	5.3	5.3
Lane Util. Factor	1.00	1.00	*1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1881	1846	3725	1900	1900	1861
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1881	1846	3725	1900	1900	1861
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	527	605	216	151	739	261
RTOR Reduction (vph)	0	50	0	0	0	8
Lane Group Flow (vph)	527	555	216	151	739	253
Confl. Peds. (#/hr)		5				5
Heavy Vehicles (%)	1%	0%	2%	0%	0%	1%
Turn Type	NA	pm+ov	Prot	NA	NA	pm+ov
Protected Phases	2	3	3	8	4	2
Permitted Phases		2				4
Actuated Green, G (s)	45.2	56.2	11.0	64.2	47.9	93.1
Effective Green, g (s)	45.2	56.2	11.0	64.2	47.9	93.1
Actuated g/C Ratio	0.38	0.47	0.09	0.54	0.40	0.78
Clearance Time (s)	5.3	5.3	5.3	5.3	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	708	946	341	1016	758	1526
v/s Ratio Prot	c0.28	c0.05	0.06	0.08	c0.39	0.06
v/s Ratio Perm		0.25				0.07
v/c Ratio	0.74	0.59	0.63	0.15	0.97	0.17
Uniform Delay, d1	32.4	23.4	52.6	14.1	35.5	3.5
Progression Factor	0.36	0.25	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.2	0.5	2.8	0.3	26.3	0.0
Delay (s)	18.0	6.4	55.4	14.4	61.7	3.5
Level of Service	B	A	E	B	E	A
Approach Delay (s)	11.8			38.5	46.5	
Approach LOS	B			D	D	

Intersection Summary			
HCM 2000 Control Delay	29.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

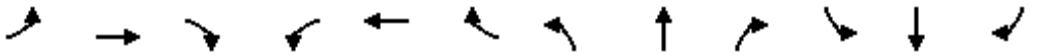
Intersection #123 Summerhill Drive/Grape Street / Railroad Canyon Road

Cycle (sec):	120	Critical Vol./Cap.(X):	0.965
Loss Time (sec):	16	Average Delay (sec/veh):	46.0
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	2	2 0	1 0	2	2 0	3 0	1	2 0	3 0	2
Volume Module:												
Base Vol:	551	349	679	384	470	509	471	1372	814	687	1468	405
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:	551	349	679	384	470	509	471	1372	814	687	1468	405
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:	551	349	679	384	470	509	471	1372	814	687	1468	405
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	551	349	679	384	470	509	471	1372	814	687	1468	405
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:	551	349	679	384	470	509	471	1372	814	687	1468	405
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.05	1.13	0.94	1.05	1.13	0.94	1.05	1.13	0.96	1.05	1.13	0.94
Lanes:	2.00	2.00	2.00	2.00	1.00	2.00	2.00	3.00	1.00	2.00	3.00	2.00
Final Sat.:	3971	4305	3553	3971	2153	3553	3971	6458	1830	3971	6458	3553
Capacity Analysis Module:												
Vol/Sat:	0.14	0.08	0.19	0.10	0.22	0.14	0.12	0.21	0.44	0.17	0.23	0.11
Crit Moves:	****				****				****	****		
Green/Cycle:	0.14	0.17	0.35	0.20	0.23	0.40	0.17	0.32	0.46	0.18	0.33	0.53
Volume/Cap:	0.96	0.47	0.55	0.49	0.96	0.36	0.70	0.67	0.96	0.96	0.70	0.22
Delay/Veh:	80.0	45.3	31.8	43.1	77.7	25.7	50.1	36.4	54.1	74.1	36.3	15.3
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:	80.0	45.3	31.8	43.1	77.7	25.7	50.1	36.4	54.1	74.1	36.3	15.3
LOS by Move:	E	D	C	D	E	C	D	D	D	E	D	B
HCM2kAvgQ:	14	5	7	6	22	3	9	12	28	17	13	0

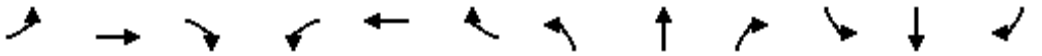
Note: Queue reported is the number of cars per lane.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	580	929	369	477	1216	386	309	580	254	335	248	558
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	6.0	4.0	4.6	6.0	4.0	4.0	5.3	4.6	4.0	5.3	4.6
Lane Util. Factor	*1.00	*1.00	1.00	*1.00	*1.00	*1.00	*1.00	*1.00	1.00	*1.00	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	3800	5481	1875	3800	5534	1873	3800	1900	1878	3800	3800	1881
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	3800	5481	1875	3800	5534	1873	3800	1900	1878	3800	3800	1881
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	611	978	388	502	1280	406	325	611	267	353	261	587
RTOR Reduction (vph)	0	0	111	0	0	72	0	0	69	0	0	58
Lane Group Flow (vph)	611	978	277	502	1280	334	325	611	198	353	261	529
Confl. Peds. (#/hr)			5			5			5			5
Heavy Vehicles (%)	0%	4%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	19.4	32.7	47.4	18.7	32.0	43.0	14.7	37.7	56.4	11.0	34.0	53.4
Effective Green, g (s)	19.4	32.7	47.4	18.7	32.0	43.0	14.7	37.7	56.4	11.0	34.0	53.4
Actuated g/C Ratio	0.16	0.27	0.39	0.16	0.27	0.36	0.12	0.31	0.47	0.09	0.28	0.44
Clearance Time (s)	4.6	6.0	4.0	4.6	6.0	4.0	4.0	5.3	4.6	4.0	5.3	4.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	614	1493	740	592	1475	733	465	596	882	348	1076	837
v/s Ratio Prot	c0.16	0.18	0.05	0.13	c0.23	0.04	0.09	c0.32	0.03	c0.09	0.07	0.10
v/s Ratio Perm			0.10			0.14			0.07			0.18
v/c Ratio	1.00	0.66	0.37	0.85	0.87	0.46	0.70	1.03	0.22	1.01	0.24	0.63
Uniform Delay, d1	50.3	38.7	25.8	49.3	42.0	29.5	50.5	41.1	18.8	54.5	33.1	25.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	34.9	2.3	0.3	10.9	7.2	0.5	4.6	43.4	0.1	51.9	0.1	1.6
Delay (s)	85.1	40.9	26.1	60.2	49.1	30.0	55.1	84.6	19.0	106.4	33.2	27.3
Level of Service	F	D	C	E	D	C	E	F	B	F	C	C
Approach Delay (s)		51.7			48.1			62.0			51.8	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	52.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	96.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	395	62	34	22	386	253	34	595	37	192	482	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.7		4.6	5.7	5.7	4.6	5.7		4.6	5.7	5.7
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Satd. Flow (prot)	3686	1900		1900	1900	1615	1900	3610		1900	3610	1615
Flt Permitted	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Satd. Flow (perm)	3686	1900		1900	1900	1615	1900	3610		1900	3610	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	429	67	37	24	420	275	37	647	40	209	524	457
RTOR Reduction (vph)	0	20	0	0	0	187	0	5	0	0	0	229
Lane Group Flow (vph)	429	84	0	24	420	88	37	682	0	209	524	228
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	11.5	33.7		2.1	24.3	24.3	2.5	22.4		11.2	31.1	31.1
Effective Green, g (s)	11.5	33.7		2.1	24.3	24.3	2.5	22.4		11.2	31.1	31.1
Actuated g/C Ratio	0.13	0.37		0.02	0.27	0.27	0.03	0.25		0.12	0.35	0.35
Clearance Time (s)	4.6	5.7		4.6	5.7	5.7	4.6	5.7		4.6	5.7	5.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0		2.0	3.0	3.0
Lane Grp Cap (vph)	470	711		44	513	436	52	898		236	1247	558
v/s Ratio Prot	c0.12	0.04		0.01	c0.22		0.02	c0.19		c0.11	0.15	
v/s Ratio Perm						0.05						0.14
v/c Ratio	0.91	0.12		0.55	0.82	0.20	0.71	0.76		0.89	0.42	0.41
Uniform Delay, d1	38.8	18.4		43.5	30.8	25.4	43.4	31.3		38.8	22.5	22.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	21.6	0.0		7.2	9.4	0.1	31.6	6.0		29.4	1.0	2.2
Delay (s)	60.4	18.5		50.7	40.1	25.4	75.0	37.3		68.2	23.6	24.7
Level of Service	E	B		D	D	C	E	D		E	C	C
Approach Delay (s)		52.2			34.9			39.2			31.8	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	37.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions
Saturday Mid-Day Peak Hour

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

Intersection #29 Conard Avenue / Central Avenue (SR-74)

Cycle (sec):	75	Critical Vol./Cap.(X):	0.851
Loss Time (sec):	12	Average Delay (sec/veh):	23.6
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	29	29	29	10	10	10	10	26	26	10	26	26
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	1 0	1 0	1	2 0	4 0	1	1 0	4 0	1
Volume Module:												
Base Vol:	56	78	17	207	33	598	272	1953	66	90	2243	96
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:	56	78	17	207	33	598	272	1953	66	90	2243	96
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	58	81	18	214	34	618	281	2020	68	93	2320	99
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	81	18	214	34	618	281	2020	68	93	2320	99
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:	58	81	18	214	34	618	281	2020	68	93	2320	99
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.88	0.88	0.88	0.68	1.00	0.85	0.92	0.91	0.85	0.95	0.91	0.85
Lanes:	0.37	0.52	0.11	1.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	620	863	188	1292	1900	1615	3502	6916	1615	1805	6916	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.09	0.17	0.02	0.38	0.08	0.29	0.04	0.05	0.34	0.06
Crit Moves:						****	****				****	
Green/Cycle:	0.31	0.31	0.31	0.31	0.31	0.44	0.13	0.39	0.39	0.15	0.41	0.41
Volume/Cap:	0.30	0.30	0.30	0.54	0.06	0.88	0.62	0.75	0.11	0.35	0.82	0.15
Delay/Veh:	20.7	20.7	20.7	23.6	18.9	31.7	34.3	21.6	15.1	30.2	22.5	14.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.7	20.7	20.7	23.6	18.9	31.7	34.3	21.6	15.1	30.2	22.5	14.5
LOS by Move:	C	C	C	C	B	C	C	C	B	C	C	B
HCM2kAvgQ:	3	3	3	5	1	17	4	13	1	2	16	2

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

Intersection #30 Rosetta Canyon Drive / Central Avenue (SR-74)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.575
Loss Time (sec):	12	Average Delay (sec/veh):	20.3
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Protected		
Rights:	Ovl			Include			Ovl			Include		
Min. Green:	33	0	33	0	0	0	0	32	32	10	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	0	0 1	0	0	0 0	0	0	4 0 1	2 0	4 0	0
Volume Module:												
Base Vol:	458	0	228	0	0	0	0	1738	473	337	1856	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	458	0	228	0	0	0	0	1738	473	337	1856	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	485	0	241	0	0	0	0	1839	501	357	1964	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	485	0	241	0	0	0	0	1839	501	357	1964	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	485	0	241	0	0	0	0	1839	501	357	1964	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	1.00	0.91	0.85	0.92	0.91	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	0.00	4.00	1.00	2.00	4.00	0.00
Final Sat.:	3502	0	1615	0	0	0	0	6916	1615	3502	6916	0
Capacity Analysis Module:												
Vol/Sat:	0.14	0.00	0.15	0.00	0.00	0.00	0.00	0.27	0.31	0.10	0.28	0.00
Crit Moves:	****							****		****		
Green/Cycle:	0.33	0.00	0.48	0.00	0.00	0.00	0.00	0.40	0.73	0.15	0.55	0.00
Volume/Cap:	0.42	0.00	0.31	0.00	0.00	0.00	0.00	0.67	0.43	0.67	0.52	0.00
Delay/Veh:	26.3	0.0	16.0	0.0	0.0	0.0	0.0	25.4	5.6	43.3	14.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.3	0.0	16.0	0.0	0.0	0.0	0.0	25.4	5.6	43.3	14.3	0.0
LOS by Move:	C	A	B	A	A	A	A	C	A	D	B	A
HCM2kAvgQ:	6	0	5	0	0	0	0	13	6	7	10	0

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

Intersection #31 Riverside Street / Central Avenue (SR-74)

Cycle (sec):	95	Critical Vol./Cap.(X):	0.831
Loss Time (sec):	16	Average Delay (sec/veh):	36.5
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	10	27	27	10	27	27	10	29	29	10	29	29
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	4 0	1	2 0	4 0	1
Volume Module:												
Base Vol:	365	902	329	356	746	205	231	1608	277	304	1610	464
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:	365	902	329	356	746	205	231	1608	277	304	1610	464
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	380	940	343	371	777	214	241	1675	289	317	1677	483
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	380	940	343	371	777	214	241	1675	289	317	1677	483
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:	380	940	343	371	777	214	241	1675	289	317	1677	483
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.94	0.85	0.92	0.94	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	4.00	1.00	2.00	4.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	7144	1615	3502	7144	1615
Capacity Analysis Module:												
Vol/Sat:	0.11	0.26	0.21	0.11	0.22	0.13	0.07	0.23	0.18	0.09	0.23	0.30
Crit Moves:		****			****			****			****	
Green/Cycle:	0.12	0.30	0.30	0.12	0.30	0.30	0.11	0.31	0.42	0.11	0.31	0.43
Volume/Cap:	0.93	0.87	0.71	0.87	0.71	0.43	0.65	0.77	0.42	0.86	0.77	0.70
Delay/Veh:	69.9	39.3	34.4	58.2	31.4	27.1	45.0	31.7	19.8	59.8	31.7	25.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	69.9	39.3	34.4	58.2	31.4	27.1	45.0	31.7	19.8	59.8	31.7	25.5
LOS by Move:	E	D	C	E	C	C	D	C	B	E	C	C
HCM2kAvgQ:	9	17	10	8	12	5	5	14	6	7	14	13

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) Without Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

Intersection #32 Meadowbrook Avenue/Greenwald Avenue / Central Avenue (SR-74)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.767
Loss Time (sec):	12	Average Delay (sec/veh):	28.4
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Ovl			Include			Ovl			Include		
Min. Green:	34	34	34	10	10	10	10	25	25	10	25	25
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 0	1	1 0	1 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	330	24	405	35	27	307	225	1692	287	274	1615	315
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:	330	24	405	35	27	307	225	1692	287	274	1615	315
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	355	26	435	38	29	330	242	1819	309	295	1737	339
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	355	26	435	38	29	330	242	1819	309	295	1737	339
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:	355	26	435	38	29	330	242	1819	309	295	1737	339
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.74	1.00	0.85	0.75	1.00	0.85	0.92	0.94	0.85	0.92	0.94	0.85
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	1414	1900	1615	1419	1900	1615	3502	5358	1615	3502	5358	1615
Capacity Analysis Module:												
Vol/Sat:	0.25	0.01	0.27	0.03	0.02	0.20	0.07	0.34	0.19	0.08	0.32	0.21
Crit Moves:	****							****		****		
Green/Cycle:	0.34	0.34	0.45	0.34	0.34	0.34	0.13	0.43	0.43	0.11	0.41	0.41
Volume/Cap:	0.74	0.04	0.60	0.08	0.04	0.60	0.54	0.78	0.44	0.78	0.79	0.51
Delay/Veh:	35.0	22.1	22.4	22.4	22.1	29.2	42.3	26.2	20.3	53.9	27.4	22.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.0	22.1	22.4	22.4	22.1	29.2	42.3	26.2	20.3	53.9	27.4	22.5
LOS by Move:	D	C	C	C	C	C	D	C	C	D	C	C
HCM2kAvgQ:	11	1	11	1	1	9	4	19	7	7	19	8

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

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APPENDIX 7.12

General Plan Buildout (Post-2035) With Project Conditions
Ramp Queuing Analysis Worksheets, with Improvements

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

Intersection #1 Lakeshore Drive / Riverside Drive (SR-74)

Cycle (sec):	120	Critical Vol./Cap.(X):	0.871
Loss Time (sec):	16	Average Delay (sec/veh):	50.0
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Ovl		
Min. Green:	10	25	25	10	33	33	10	31	31	10	31	31
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	3 0	1	2 0	3 0	1	1 0	4 0	1
Volume Module:												
Base Vol:	274	437	34	714	389	229	402	1752	409	82	729	317
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:	274	437	34	714	389	229	402	1752	409	82	729	317
Added Vol:	0	0	10	10	0	0	0	10	0	8	8	8
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	274	437	44	724	389	229	402	1762	409	90	737	325
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	288	460	46	762	409	241	423	1855	431	95	776	342
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	288	460	46	762	409	241	423	1855	431	95	776	342
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:	288	460	46	762	409	241	423	1855	431	95	776	342
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.95	0.91	0.85
Lanes:	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	1.00	4.00	1.00
Final Sat.:	3502	3610	1615	3502	5187	1615	3502	5187	1615	1805	6916	1615
Capacity Analysis Module:												
Vol/Sat:	0.08	0.13	0.03	0.22	0.08	0.15	0.12	0.36	0.27	0.05	0.11	0.21
Crit Moves:		****		****				****		****		
Green/Cycle:	0.10	0.21	0.21	0.22	0.33	0.47	0.14	0.36	0.46	0.08	0.30	0.52
Volume/Cap:	0.83	0.61	0.14	1.00	0.24	0.32	0.86	1.00	0.58	0.63	0.37	0.41
Delay/Veh:	68.6	44.6	38.9	79.6	29.6	20.3	64.7	59.5	25.4	61.5	33.2	18.0
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:	68.6	44.6	38.9	79.6	29.6	20.3	64.7	59.5	25.4	61.5	33.2	18.0
LOS by Move:	E	D	D	E	C	C	E	E	C	E	C	B
HCM2kAvgQ:	8	9	1	20	4	5	11	32	12	4	6	8

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

Intersection #2 W. Graham Avenue / N. Main Street

Cycle (sec): 90 Critical Vol./Cap.(X): 0.576
Loss Time (sec): 12 Average Delay (sec/veh): 25.3
Optimal Cycle: OPTIMIZED Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	25	25	25	25	25	25	10	20	20	10	20	20
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	1	0	0 1	0	1	0	0 1	0
Volume Module:												
Base Vol:	11	18	26	124	17	134	146	393	31	13	376	132
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:	11	18	26	124	17	134	146	393	31	13	376	132
Added Vol:	0	0	0	7	0	0	0	14	0	0	10	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	18	26	131	17	134	146	407	31	13	386	137
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	12	20	28	142	18	146	159	442	34	14	420	149
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	20	28	142	18	146	159	442	34	14	420	149
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:	12	20	28	142	18	146	159	442	34	14	420	149
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.88	0.88	0.88	0.73	0.87	0.87	0.95	0.99	0.99	0.95	0.96	0.96
Lanes:	0.20	0.33	0.47	1.00	0.11	0.89	1.00	0.93	0.07	1.00	0.74	0.26
Final Sat.:	336	549	794	1383	185	1462	1805	1746	133	1805	1348	478
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.10	0.10	0.10	0.09	0.25	0.25	0.01	0.31	0.31
Crit Moves:					****		****				****	
Green/Cycle:	0.28	0.28	0.28	0.28	0.28	0.28	0.13	0.41	0.41	0.18	0.46	0.46
Volume/Cap:	0.13	0.13	0.13	0.37	0.36	0.36	0.68	0.62	0.62	0.04	0.68	0.68
Delay/Veh:	24.5	24.5	24.5	26.8	26.6	26.6	45.1	22.6	22.6	30.6	21.4	21.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.5	24.5	24.5	26.8	26.6	26.6	45.1	22.6	22.6	30.6	21.4	21.4
LOS by Move:	C	C	C	C	C	C	D	C	C	C	C	C
HCM2kAvgQ:	1	1	1	3	4	4	6	11	11	0	13	13

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

Intersection #3 E. Lakeshore Drive/Mission Trail / Diamond Drive

Cycle (sec):	120	Critical Vol./Cap.(X):	0.857
Loss Time (sec):	16	Average Delay (sec/veh):	43.6
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Include			Ovl	
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	3 0	1	2 0	3 0	2
Volume Module:												
Base Vol:	144	745	708	708	727	662	461	1268	113	583	1237	622
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:	144	745	708	708	727	662	461	1268	113	583	1237	622
Added Vol:	0	3	7	0	3	0	0	7	0	5	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	144	748	715	708	730	662	461	1275	113	588	1242	622
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	157	813	777	770	793	720	501	1386	123	639	1350	676
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	157	813	777	770	793	720	501	1386	123	639	1350	676
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:	157	813	777	770	793	720	501	1386	123	639	1350	676
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.03	0.88	0.95	1.03	0.88	0.95	1.03	0.85	0.98	1.03	0.85
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	2.00
Final Sat.:	3610	5888	3337	3610	5888	1668	3610	5888	1615	3729	5888	3230
Capacity Analysis Module:												
Vol/Sat:	0.04	0.14	0.23	0.21	0.13	0.43	0.14	0.24	0.08	0.17	0.23	0.21
Crit Moves:	****					****		****		****		
Green/Cycle:	0.08	0.16	0.35	0.25	0.33	0.50	0.17	0.26	0.26	0.19	0.28	0.53
Volume/Cap:	0.52	0.85	0.66	0.85	0.41	0.86	0.81	0.89	0.29	0.89	0.81	0.39
Delay/Veh:	54.3	56.6	34.1	51.0	31.5	35.7	55.5	49.5	35.6	60.8	43.0	16.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.3	56.6	34.1	51.0	31.5	35.7	55.5	49.5	35.6	60.8	43.0	16.7
LOS by Move:	D	E	C	D	C	D	E	D	D	E	D	B
HCM2kAvgQ:	3	12	12	16	7	24	11	19	3	14	16	3

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

Intersection #4 Gunnerson Street / Riverside Drive (SR-74)

Cycle (sec):	120	Critical Vol./Cap.(X):	0.850
Loss Time (sec):	12	Average Delay (sec/veh):	22.3
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	15	15	15	15	15	15	10	30	30	10	30	30
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	5	5	35	94	5	9	103	2040	143	58	1341	135
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:	5	5	35	94	5	9	103	2040	143	58	1341	135
Added Vol:	0	0	10	10	0	0	0	34	0	8	26	8
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	5	45	104	5	9	103	2074	143	66	1367	143
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	5	5	47	108	5	9	107	2154	148	69	1420	148
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	5	47	108	5	9	107	2154	148	69	1420	148
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:	5	5	47	108	5	9	107	2154	148	69	1420	148
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.89	0.89	0.85	0.72	0.72	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	0.50	0.50	1.00	0.95	0.05	1.00	1.00	1.87	0.13	1.00	1.81	0.19
Final Sat.:	847	847	1615	1300	62	1615	1805	3343	231	1805	3222	337
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.03	0.08	0.08	0.01	0.06	0.64	0.64	0.04	0.44	0.44
Crit Moves:					****			****		****		
Green/Cycle:	0.13	0.13	0.13	0.13	0.13	0.13	0.12	0.69	0.69	0.08	0.65	0.65
Volume/Cap:	0.05	0.05	0.23	0.66	0.66	0.05	0.48	0.93	0.93	0.46	0.68	0.68
Delay/Veh:	46.3	46.3	47.9	59.6	59.6	46.3	50.7	23.2	23.2	54.6	13.8	13.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.3	46.3	47.9	59.6	59.6	46.3	50.7	23.2	23.2	54.6	13.8	13.8
LOS by Move:	D	D	D	E	E	D	D	C	C	D	B	B
HCM2kAvgQ:	0	0	2	5	5	0	4	43	43	3	19	19

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

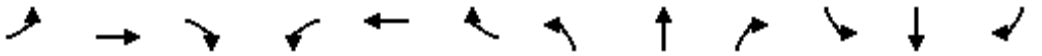
Intersection #5 Collier Avenue / Riverside Drive (SR-74)

Cycle (sec):	95	Critical Vol./Cap.(X):	0.676
Loss Time (sec):	16	Average Delay (sec/veh):	34.2
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ignore			Include		
Min. Green:	10	15	15	10	15	15	10	20	20	10	20	20
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	936	389	299	224	234	296	414	614	1066	263	456	182
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:	936	389	299	224	234	296	414	614	1066	263	456	182
Added Vol:	41	8	0	0	10	0	0	0	54	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	977	397	299	224	244	296	414	614	1120	263	456	182
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.00	0.98	0.98	0.98
PHF Volume:	996	405	305	228	249	302	422	626	0	268	465	186
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	996	405	305	228	249	302	422	626	0	268	465	186
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	996	405	305	228	249	302	422	626	0	268	465	186
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	1.03	0.85	0.95	1.03	0.85	0.95	1.03	1.00	0.95	1.03	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3729	3925	1615	3610	3925	1615	3610	5888	1900	3610	5888	1615
Capacity Analysis Module:												
Vol/Sat:	0.27	0.10	0.19	0.06	0.06	0.19	0.12	0.11	0.00	0.07	0.08	0.11
Crit Moves:	****				****		****					****
Green/Cycle:	0.32	0.29	0.41	0.19	0.16	0.30	0.14	0.23	0.00	0.12	0.21	0.21
Volume/Cap:	0.83	0.36	0.47	0.33	0.40	0.63	0.83	0.45	0.00	0.63	0.37	0.55
Delay/Veh:	34.7	27.0	21.2	33.4	36.4	31.3	50.6	31.4	0.0	43.1	32.3	35.3
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:	34.7	27.0	21.2	33.4	36.4	31.3	50.6	31.4	0.0	43.1	32.3	35.3
LOS by Move:	C	C	C	C	D	C	D	C	A	D	C	D
HCM2kAvgQ:	16	5	7	3	4	8	9	6	0	5	4	6

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

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	163	573	58	623	653	1094	153	295	541	955	222	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	13	12	12	13	12	12	12
Total Lost time (s)	4.6	4.6	4.6	4.6	5.3	4.0	4.6	5.3	4.6	4.6	5.3	5.3
Lane Util. Factor	*1.00	*1.00	*1.00	*1.00	*1.00	*1.00	1.00	*1.00	*1.00	*1.00	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	3800	4957	1599	3519	3519	1937	1900	3800	3414	5700	3800	1866
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	3800	4957	1599	3519	3519	1937	1900	3800	3414	5700	3800	1866
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	173	610	62	663	695	1164	163	314	576	1016	236	171
RTOR Reduction (vph)	0	0	45	0	0	0	0	0	56	0	0	121
Lane Group Flow (vph)	173	610	17	663	695	1164	163	314	520	1016	236	50
Confl. Peds. (#/hr)			5			5						5
Heavy Vehicles (%)	0%	15%	0%	8%	8%	0%	0%	0%	15%	0%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases			4			Free			2			6
Actuated Green, G (s)	9.1	19.2	33.4	32.4	41.8	120.0	14.2	23.9	56.3	25.4	35.1	35.1
Effective Green, g (s)	9.1	19.2	33.4	32.4	41.8	120.0	14.2	23.9	56.3	25.4	35.1	35.1
Actuated g/C Ratio	0.08	0.16	0.28	0.27	0.35	1.00	0.12	0.20	0.47	0.21	0.29	0.29
Clearance Time (s)	4.6	4.6	4.6	4.6	5.3		4.6	5.3	4.6	4.6	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	288	793	506	950	1225	1937	224	756	1601	1206	1111	545
v/s Ratio Prot	0.05	c0.12	0.00	c0.19	0.20		0.09	0.08	0.09	c0.18	0.06	
v/s Ratio Perm			0.01			c0.60			0.06			0.03
v/c Ratio	0.60	0.77	0.03	0.70	0.57	0.60	0.73	0.42	0.32	0.84	0.21	0.09
Uniform Delay, d1	53.7	48.3	31.5	39.4	31.8	0.0	51.0	42.0	19.9	45.4	32.0	30.9
Progression Factor	1.00	1.00	1.00	0.99	0.86	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.4	4.1	0.0	1.8	0.2	0.6	9.6	1.7	0.5	5.3	0.4	0.3
Delay (s)	56.1	52.4	31.6	40.9	27.4	0.6	60.6	43.6	20.5	50.7	32.5	31.2
Level of Service	E	D	C	D	C	A	E	D	C	D	C	C
Approach Delay (s)		51.6			18.6			33.6			45.3	
Approach LOS		D			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	32.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

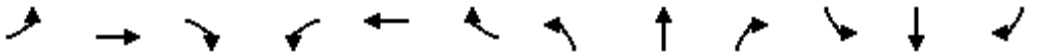
Intersection #107 Auto Center Drive / Diamond Drive

Cycle (sec):	120	Critical Vol./Cap.(X):	0.998
Loss Time (sec):	16	Average Delay (sec/veh):	50.8
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	2	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	454	519	643	398	570	493	750	927	1007	382	1494	706
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:	454	519	643	398	570	493	750	927	1007	382	1494	706
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Project:	10	0	21	0	0	0	0	13	0	0	0	0
Initial Fut:	464	519	664	398	570	493	750	940	1007	382	1494	706
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:	464	519	664	398	570	493	750	940	1007	382	1494	706
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	464	519	664	398	570	493	750	940	1007	382	1494	706
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:	464	519	664	398	570	493	750	940	1007	382	1494	706
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.01	1.07	0.96	1.01	1.07	0.96	1.01	1.07	1.02	1.01	1.07	0.96
Lanes:	2.00	2.00	1.00	2.00	2.00	2.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3852	4055	1830	3852	4055	3660	3852	6082	1938	3852	6082	1830
Capacity Analysis Module:												
Vol/Sat:	0.12	0.13	0.36	0.10	0.14	0.13	0.19	0.15	0.52	0.10	0.25	0.39
Crit Moves:			****	****					****	****		
Green/Cycle:	0.17	0.26	0.36	0.10	0.20	0.40	0.20	0.40	0.57	0.10	0.30	0.40
Volume/Cap:	0.71	0.48	1.00	1.00	0.71	0.34	0.96	0.39	0.91	1.00	0.83	0.97
Delay/Veh:	50.7	37.6	72.7	98.4	47.9	25.0	69.3	25.7	34.5	99.6	42.9	60.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.7	37.6	72.7	98.4	47.9	25.0	69.3	25.7	34.5	99.6	42.9	60.6
LOS by Move:	D	D	E	F	D	C	E	C	C	F	D	E
HCM2kAvgQ:	9	6	31	12	10	3	18	4	37	11	17	29

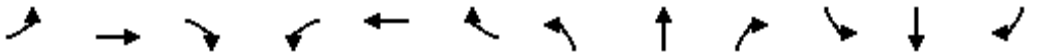
Note: Queue reported is the number of cars per lane.

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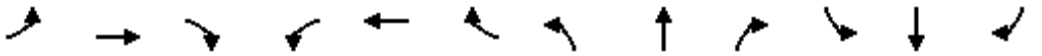
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1604	466	625	1139	0	0	0	0	466	0	748
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3	4.6	5.3					5.3		5.3
Lane Util. Factor		*1.00	1.00	*1.00	*1.00					*1.00		*1.00
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00		0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00		1.00
Frt		1.00	1.00	1.00	1.00					1.00		1.00
Flt Protected		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (prot)		5534	1738	3551	5481					3725		3551
Flt Permitted		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (perm)		5534	1738	3551	5481					3725		3551
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1743	507	679	1238	0	0	0	0	507	0	813
RTOR Reduction (vph)	0	0	284	0	0	0	0	0	0	0	0	149
Lane Group Flow (vph)	0	1743	223	679	1238	0	0	0	0	507	0	664
Confl. Peds. (#/hr)			5									5
Heavy Vehicles (%)	0%	3%	7%	7%	4%	0%	0%	0%	0%	2%	67%	5%
Turn Type		NA	Perm	Prot	NA					Perm		Perm
Protected Phases		2		1	6							
Permitted Phases			2							4		4
Actuated Green, G (s)		47.7	47.7	31.3	83.6					25.8		25.8
Effective Green, g (s)		47.7	47.7	31.3	83.6					25.8		25.8
Actuated g/C Ratio		0.40	0.40	0.26	0.70					0.22		0.22
Clearance Time (s)		5.3	5.3	4.6	5.3					5.3		5.3
Vehicle Extension (s)		2.0	2.0	2.0	2.0					2.0		2.0
Lane Grp Cap (vph)		2199	690	926	3818					800		763
v/s Ratio Prot		c0.31		c0.19	0.23							
v/s Ratio Perm			0.13							0.14		c0.19
v/c Ratio		0.79	0.32	0.73	0.32					0.63		0.87
Uniform Delay, d1		31.8	25.0	40.5	7.1					42.8		45.5
Progression Factor		1.00	1.00	0.64	1.10					1.00		1.00
Incremental Delay, d2		1.9	0.1	1.6	0.1					1.2		10.3
Delay (s)		33.7	25.1	27.5	8.0					44.0		55.8
Level of Service		C	C	C	A					D		E
Approach Delay (s)		31.8			14.9			0.0			51.3	
Approach LOS		C			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1321	747	841	2035	0	0	0	0	784	0	745
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	4.6	5.7					5.3		5.3
Lane Util. Factor		*1.00	*1.00	*1.00	*1.00					*1.00		*1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00					1.00		1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00		1.00
Frt		1.00	1.00	1.00	1.00					1.00		1.00
Flt Protected		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (prot)		5377	3654	3654	3689					3393		3551
Flt Permitted		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (perm)		5377	3654	3654	3689					3393		3551
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1436	812	914	2212	0	0	0	0	852	0	810
RTOR Reduction (vph)	0	0	410	0	0	0	0	0	0	0	0	48
Lane Group Flow (vph)	0	1436	402	914	2212	0	0	0	0	852	0	762
Confl. Peds. (#/hr)												5
Heavy Vehicles (%)	0%	6%	4%	4%	3%	0%	0%	0%	0%	12%	0%	7%
Turn Type		NA	Perm	Prot	NA					Prot		Prot
Protected Phases		2		1	6					4		4
Permitted Phases			2									
Actuated Green, G (s)		40.6	40.6	31.7	76.9					32.1		32.1
Effective Green, g (s)		40.6	40.6	31.7	76.9					32.1		32.1
Actuated g/C Ratio		0.34	0.34	0.26	0.64					0.27		0.27
Clearance Time (s)		5.7	5.7	4.6	5.7					5.3		5.3
Vehicle Extension (s)		2.0	2.0	2.0	2.0					2.0		2.0
Lane Grp Cap (vph)		1819	1236	965	2364					907		949
v/s Ratio Prot		0.27		0.25	c0.60					c0.25		0.21
v/s Ratio Perm			0.11									
v/c Ratio		0.79	0.33	0.95	0.94					0.94		0.80
Uniform Delay, d1		35.8	29.5	43.3	19.3					43.0		41.0
Progression Factor		1.21	2.59	1.00	1.00					1.00		1.00
Incremental Delay, d2		2.9	0.6	17.3	8.6					16.7		4.7
Delay (s)		46.2	76.9	60.6	27.9					59.7		45.7
Level of Service		D	E	E	C					E		D
Approach Delay (s)		57.3			37.5			0.0			52.9	
Approach LOS		E			D			A			D	

Intersection Summary			
HCM 2000 Control Delay	47.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



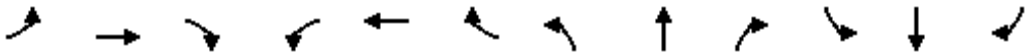
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	836	365	277	928	0	0	0	0	350	0	586
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3	4.6	5.3					5.3	5.3	5.3
Lane Util. Factor		*1.00	1.00	*1.00	*1.00					1.00	*1.00	*1.00
Frpb, ped/bikes		1.00	0.96	1.00	1.00					1.00	0.98	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Flt Protected		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Satd. Flow (prot)		3725	1797	3519	3689					1267	1871	1871
Flt Permitted		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Satd. Flow (perm)		3725	1797	3519	3689					1267	1871	1871
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	909	397	301	1009	0	0	0	0	380	0	637
RTOR Reduction (vph)	0	0	264	0	0	0	0	0	0	0	40	40
Lane Group Flow (vph)	0	909	133	301	1009	0	0	0	0	380	279	278
Confl. Peds. (#/hr)			5									5
Heavy Vehicles (%)	0%	2%	2%	8%	3%	0%	0%	0%	0%	50%	0%	0%
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		40.3	40.3	13.8	58.7					50.7	50.7	50.7
Effective Green, g (s)		40.3	40.3	13.8	58.7					50.7	50.7	50.7
Actuated g/C Ratio		0.34	0.34	0.12	0.49					0.42	0.42	0.42
Clearance Time (s)		5.3	5.3	4.6	5.3					5.3	5.3	5.3
Vehicle Extension (s)		2.0	2.0	2.0	2.0					2.0	2.0	2.0
Lane Grp Cap (vph)		1250	603	404	1804					535	790	790
v/s Ratio Prot		c0.24		c0.09	0.27					c0.30	0.15	
v/s Ratio Perm			0.07									0.15
v/c Ratio		0.73	0.22	0.75	0.56					0.71	0.35	0.35
Uniform Delay, d1		35.0	28.6	51.4	21.6					28.6	23.5	23.5
Progression Factor		1.00	1.00	0.67	0.46					1.00	1.00	1.00
Incremental Delay, d2		3.7	0.8	3.3	0.1					7.8	1.2	1.2
Delay (s)		38.7	29.4	37.6	10.1					36.4	24.7	24.7
Level of Service		D	C	D	B					D	C	C
Approach Delay (s)		35.9			16.4			0.0			29.1	
Approach LOS		D			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



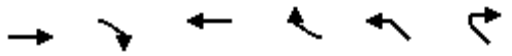
Movement	WBL	WBR	NBT	NBR	SBL2	SBL	SBT	SWL	SWR
Lane Configurations									
Volume (vph)	99	742	615	60	574	0	873	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0	6.0	6.0	4.5		6.0		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00		*1.00		
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00		1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		
Frt	1.00	1.00	1.00	1.00	1.00		1.00		
Flt Protected	1.00	1.00	1.00	1.00	1.00		1.00		
Satd. Flow (prot)	1863	3616	1925	1863	3725		3725		
Flt Permitted	1.00	1.00	1.00	1.00	1.00		1.00		
Satd. Flow (perm)	1863	3616	1925	1863	3725		3725		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	108	807	668	65	624	0	949	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	108	807	668	65	624	0	949	0	0
Confl. Peds. (#/hr)		5							
Turn Type	Prot	Perm	NA	Perm	Prot		NA		
Protected Phases	8		2		1		6		
Permitted Phases		8		2					
Actuated Green, G (s)	31.1	31.1	49.1	49.1	23.3		76.9		
Effective Green, g (s)	31.1	31.1	49.1	49.1	23.3		76.9		
Actuated g/C Ratio	0.26	0.26	0.41	0.41	0.19		0.64		
Clearance Time (s)	6.0	6.0	6.0	6.0	4.5		6.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0		
Lane Grp Cap (vph)	482	937	787	762	723		2387		
v/s Ratio Prot	0.06		c0.35		c0.17		0.25		
v/s Ratio Perm		c0.22		0.03					
v/c Ratio	0.22	0.86	0.85	0.09	0.86		0.40		
Uniform Delay, d1	35.0	42.4	32.1	21.7	46.8		10.4		
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00		
Incremental Delay, d2	0.1	7.9	11.0	0.2	10.1		0.5		
Delay (s)	35.0	50.3	43.1	21.9	56.9		10.9		
Level of Service	D	D	D	C	E		B		
Approach Delay (s)	48.5		41.3				29.1	0.0	
Approach LOS	D		D				C	A	

Intersection Summary			
HCM 2000 Control Delay	37.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



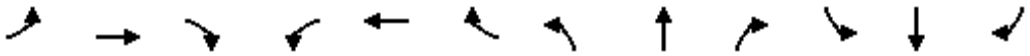
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	607	1463	0	0	1471	554	293	0	950	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.3			5.3	5.3	5.3		5.3			
Lane Util. Factor	*1.00	*1.00			*1.00	1.00	1.00		*1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00		0.98			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00		1.00			
Frt	1.00	1.00			1.00	1.00	1.00		1.00			
Flt Protected	1.00	1.00			1.00	1.00	1.00		1.00			
Satd. Flow (prot)	3519	5644			5377	1841	1827		3736			
Flt Permitted	1.00	1.00			1.00	1.00	1.00		1.00			
Satd. Flow (perm)	3519	5644			5377	1841	1827		3736			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	660	1590	0	0	1599	602	318	0	1033	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	366	0	0	46	0	0	0
Lane Group Flow (vph)	660	1590	0	0	1599	236	318	0	987	0	0	0
Confl. Peds. (#/hr)						5			5			
Heavy Vehicles (%)	8%	1%	0%	0%	6%	1%	4%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Perm		Perm			
Protected Phases	5	2			6							
Permitted Phases						6	8		8			
Actuated Green, G (s)	25.1	73.5			43.8	43.8	35.9		35.9			
Effective Green, g (s)	25.1	73.5			43.8	43.8	35.9		35.9			
Actuated g/C Ratio	0.21	0.61			0.36	0.36	0.30		0.30			
Clearance Time (s)	4.6	5.3			5.3	5.3	5.3		5.3			
Vehicle Extension (s)	2.0	2.0			2.0	2.0	2.0		2.0			
Lane Grp Cap (vph)	736	3456			1962	671	546		1117			
v/s Ratio Prot	c0.19	0.28			c0.30							
v/s Ratio Perm						0.13	0.17		c0.26			
v/c Ratio	0.90	0.46			0.81	0.35	0.58		0.88			
Uniform Delay, d1	46.2	12.5			34.4	27.8	35.7		40.1			
Progression Factor	0.81	0.48			1.00	1.00	1.00		1.00			
Incremental Delay, d2	9.2	0.3			3.9	1.5	4.5		10.3			
Delay (s)	46.5	6.3			38.3	29.2	40.2		50.3			
Level of Service	D	A			D	C	D		D			
Approach Delay (s)		18.1			35.8			47.9			0.0	
Approach LOS		B			D			D			A	

Intersection Summary			
HCM 2000 Control Delay	31.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR2	WBT	WBR	NWL	NWR2
Lane Configurations						
Volume (vph)	1779	326	1920	716	958	938
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.7		5.3	5.3
Lane Util. Factor	*1.00	1.00	*1.00		*1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	1.00	1.00	1.00		1.00	1.00
Satd. Flow (prot)	5327	1429	5410		3762	3689
Flt Permitted	1.00	1.00	1.00		1.00	1.00
Satd. Flow (perm)	5327	1429	5410		3762	3689
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1934	354	2087	778	1041	1020
RTOR Reduction (vph)	0	136	75	0	0	24
Lane Group Flow (vph)	1934	218	2790	0	1041	996
Confl. Peds. (#/hr)				5		
Heavy Vehicles (%)	7%	13%	4%	7%	1%	3%
Turn Type	NA	Perm	NA		Prot	Prot
Protected Phases	2		6		8	8
Permitted Phases		2				
Actuated Green, G (s)	54.3	54.3	54.3		24.7	24.7
Effective Green, g (s)	54.3	54.3	54.3		24.7	24.7
Actuated g/C Ratio	0.60	0.60	0.60		0.27	0.27
Clearance Time (s)	5.7	5.7	5.7		5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	3213	862	3264		1032	1012
v/s Ratio Prot	0.36		c0.52		c0.28	0.27
v/s Ratio Perm		0.15				
v/c Ratio	0.60	0.25	0.85		1.01	0.98
Uniform Delay, d1	11.1	8.4	14.6		32.6	32.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.8	0.7	3.1		30.2	24.2
Delay (s)	12.0	9.1	17.7		62.8	56.7
Level of Service	B	A	B		E	E
Approach Delay (s)	11.5		17.7		59.8	
Approach LOS	B		B		E	

Intersection Summary			
HCM 2000 Control Delay	27.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	740	446	0	0	789	141	416	0	501	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.3			5.3	5.3	5.3	5.3	5.3			
Lane Util. Factor	*1.00	*1.00			*1.00	*1.00	*1.00	*1.00	*1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	0.98	0.98			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	1.00			
Flt Protected	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Satd. Flow (prot)	3619	3725			3689	1054	1845	1870	1870			
Flt Permitted	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Satd. Flow (perm)	3619	3725			3689	1054	1845	1870	1870			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	804	485	0	0	858	153	452	0	545	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	117	0	159	159	0	0	0
Lane Group Flow (vph)	804	485	0	0	858	36	452	114	113	0	0	0
Confl. Peds. (#/hr)						5			5			
Heavy Vehicles (%)	5%	2%	0%	0%	3%	50%	3%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	26.4	59.4			28.4	28.4	50.0	50.0	50.0			
Effective Green, g (s)	26.4	59.4			28.4	28.4	50.0	50.0	50.0			
Actuated g/C Ratio	0.22	0.49			0.24	0.24	0.42	0.42	0.42			
Clearance Time (s)	4.6	5.3			5.3	5.3	5.3	5.3	5.3			
Vehicle Extension (s)	2.0	2.0			2.0	2.0	2.0	2.0	2.0			
Lane Grp Cap (vph)	796	1843			873	249	768	779	779			
v/s Ratio Prot	c0.22	0.13			c0.23		c0.25	0.06				
v/s Ratio Perm						0.03			0.06			
v/c Ratio	1.01	0.26			0.98	0.15	0.59	0.15	0.15			
Uniform Delay, d1	46.8	17.6			45.6	36.2	27.1	21.7	21.7			
Progression Factor	0.79	0.99			1.24	3.97	1.00	1.00	1.00			
Incremental Delay, d2	28.7	0.2			23.2	1.0	3.3	0.4	0.4			
Delay (s)	65.7	17.7			79.8	144.6	30.3	22.1	22.1			
Level of Service	E	B			E	F	C	C	C			
Approach Delay (s)		47.6			89.6			25.9			0.0	
Approach LOS		D			F			C			A	

Intersection Summary			
HCM 2000 Control Delay	53.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR	SBR2	NEL	NER
Lane Configurations									
Volume (vph)	0	0	148	256	535	0	1189	554	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	6.0	6.0		4.0	6.0	6.0
Lane Util. Factor			1.00	*1.00	*1.00		1.00	*1.00	1.00
Frpb, ped/bikes			1.00	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes			1.00	1.00	1.00		1.00	1.00	1.00
Frt			1.00	1.00	1.00		1.00	1.00	1.00
Flt Protected			1.00	1.00	1.00		1.00	1.00	1.00
Satd. Flow (prot)			1863	3725	3725		1863	3725	1827
Flt Permitted			1.00	1.00	1.00		1.00	1.00	1.00
Satd. Flow (perm)			1863	3725	3725		1863	3725	1827
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	161	278	582	0	1292	602	71
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	57
Lane Group Flow (vph)	0	0	161	278	582	0	1292	602	14
Confl. Peds. (#/hr)									5
Turn Type			Prot	NA	NA		Free	Prot	Perm
Protected Phases			5	2	6			4	
Permitted Phases							Free		4
Actuated Green, G (s)			15.7	83.9	64.2		120.0	24.1	24.1
Effective Green, g (s)			15.7	83.9	64.2		120.0	24.1	24.1
Actuated g/C Ratio			0.13	0.70	0.54		1.00	0.20	0.20
Clearance Time (s)			4.0	6.0	6.0			6.0	6.0
Vehicle Extension (s)			3.0	2.0	2.0			2.0	2.0
Lane Grp Cap (vph)			243	2604	1992		1863	748	366
v/s Ratio Prot			0.09	0.07	0.16			0.16	
v/s Ratio Perm							c0.69		0.01
v/c Ratio			0.66	0.11	0.29		0.69	0.80	0.04
Uniform Delay, d1			49.6	5.9	15.4		0.0	45.7	38.6
Progression Factor			1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2			6.6	0.1	0.0		2.2	5.9	0.0
Delay (s)			56.3	6.0	15.4		2.2	51.7	38.6
Level of Service			E	A	B		A	D	D
Approach Delay (s)	0.0			24.4	6.3			50.3	
Approach LOS	A			C	A			D	

Intersection Summary			
HCM 2000 Control Delay	18.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

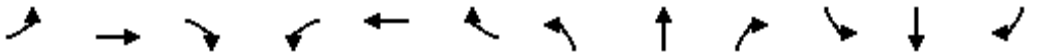
Intersection #16 Dexter Avenue / 11th Street

Cycle (sec):	60	Critical Vol./Cap.(X):	0.423
Loss Time (sec):	12	Average Delay (sec/veh):	19.0
Optimal Cycle:	OPTIMIZED	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	25	25	25	25	25	25	10	25	25	10	25	25
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	144	97	27	13	185	55	112	344	120	46	355	28
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:	144	97	27	13	185	55	112	344	120	46	355	28
Added Vol:	0	5	8	0	7	0	0	0	0	10	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	144	102	35	13	192	55	112	344	120	56	355	28
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	157	111	38	14	209	60	122	374	130	61	386	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	157	111	38	14	209	60	122	374	130	61	386	30
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:	157	111	38	14	209	60	122	374	130	61	386	30
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.49	0.96	0.96	0.65	0.97	0.97	0.95	0.95	0.85	0.95	0.94	0.94
Lanes:	1.00	0.74	0.26	1.00	0.78	0.22	1.00	2.00	1.00	1.00	1.85	0.15
Final Sat.:	927	1361	467	1235	1428	409	1805	3610	1615	1805	3309	261
Capacity Analysis Module:												
Vol/Sat:	0.17	0.08	0.08	0.01	0.15	0.15	0.07	0.10	0.08	0.03	0.12	0.12
Crit Moves:	****						****				****	
Green/Cycle:	0.35	0.35	0.35	0.35	0.35	0.35	0.14	0.35	0.35	0.14	0.35	0.35
Volume/Cap:	0.49	0.23	0.23	0.03	0.42	0.42	0.49	0.30	0.23	0.24	0.34	0.34
Delay/Veh:	19.6	16.9	16.9	15.5	18.4	18.4	30.1	17.2	16.9	28.1	17.5	17.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.6	16.9	16.9	15.5	18.4	18.4	30.1	17.2	16.9	28.1	17.5	17.5
LOS by Move:	B	B	B	B	B	B	C	B	B	C	B	B
HCM2kAvgQ:	3	2	2	0	5	5	3	3	2	1	4	4

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

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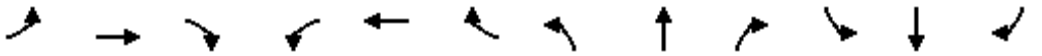
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑↑↑	↱			↱			↱
Volume (vph)	0	2236	481	0	2155	197	0	0	298	0	0	481
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7		5.7	5.7			5.3			5.3
Lane Util. Factor		*1.00	1.00		*1.00	1.00			1.00			1.00
Frpb, ped/bikes		1.00	0.98		1.00	0.98			0.98			0.98
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00			1.00
Frt		1.00	1.00		1.00	1.00			1.00			1.00
Flt Protected		1.00	1.00		1.00	1.00			1.00			1.00
Satd. Flow (prot)		5229	1866		7037	1866			1869			1869
Flt Permitted		1.00	1.00		1.00	1.00			1.00			1.00
Satd. Flow (perm)		5229	1866		7037	1866			1869			1869
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2430	523	0	2342	214	0	0	324	0	0	523
RTOR Reduction (vph)	0	0	239	0	0	98	0	0	19	0	0	19
Lane Group Flow (vph)	0	2430	284	0	2342	116	0	0	305	0	0	504
Confl. Peds. (#/hr)			5			5			5			5
Heavy Vehicles (%)	0%	9%	0%	0%	8%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA	Perm		NA	Perm			Perm			Perm
Protected Phases		2			6							
Permitted Phases			2			6			8			4
Actuated Green, G (s)		54.3	54.3		54.3	54.3			34.7			34.7
Effective Green, g (s)		54.3	54.3		54.3	54.3			34.7			34.7
Actuated g/C Ratio		0.54	0.54		0.54	0.54			0.35			0.35
Clearance Time (s)		5.7	5.7		5.7	5.7			5.3			5.3
Vehicle Extension (s)		2.0	2.0		2.0	2.0			2.0			2.0
Lane Grp Cap (vph)		2839	1013		3821	1013			648			648
v/s Ratio Prot		c0.46			0.33							
v/s Ratio Perm			0.15			0.06			0.16			c0.27
v/c Ratio		0.86	0.28		0.61	0.11			0.47			0.78
Uniform Delay, d1		19.5	12.3		15.7	11.1			25.5			29.2
Progression Factor		1.00	1.00		1.00	1.00			1.00			1.00
Incremental Delay, d2		3.6	0.7		0.7	0.2			2.4			8.9
Delay (s)		23.1	13.0		16.4	11.4			27.9			38.1
Level of Service		C	B		B	B			C			D
Approach Delay (s)		21.3			16.0			27.9			38.1	
Approach LOS		C			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	5	7	71	5	10	10	283	17	97	382	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7			5.7		4.6	5.7	5.7	4.6	5.7	5.7
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.96			0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98			0.96		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1781			1796		1805	1900	1615	1805	1900	1615
Flt Permitted		0.86			0.74		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1565			1390		1805	1900	1615	1805	1900	1615
Peak-hour factor, PHF	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Adj. Flow (vph)	14	7	9	96	7	14	14	382	23	131	516	7
RTOR Reduction (vph)	0	8	0	0	7	0	0	0	10	0	0	2
Lane Group Flow (vph)	0	22	0	0	110	0	14	382	13	131	516	5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Actuated Green, G (s)		10.8			10.8		0.8	45.1	45.1	8.1	52.4	52.4
Effective Green, g (s)		10.8			10.8		0.8	45.1	45.1	8.1	52.4	52.4
Actuated g/C Ratio		0.14			0.14		0.01	0.56	0.56	0.10	0.65	0.65
Clearance Time (s)		5.7			5.7		4.6	5.7	5.7	4.6	5.7	5.7
Vehicle Extension (s)		2.0			2.0		2.0	3.0	3.0	2.0	3.0	3.0
Lane Grp Cap (vph)		211			187		18	1071	910	182	1244	1057
v/s Ratio Prot							0.01	0.20		c0.07	c0.27	
v/s Ratio Perm		0.01			c0.08				0.01			0.00
v/c Ratio		0.11			0.59		0.78	0.36	0.01	0.72	0.41	0.00
Uniform Delay, d1		30.4			32.5		39.5	9.5	7.7	34.8	6.5	4.8
Progression Factor		1.00			1.00		1.02	0.89	1.00	0.99	0.95	1.00
Incremental Delay, d2		0.1			3.0		99.9	0.9	0.0	10.8	1.0	0.0
Delay (s)		30.4			35.5		140.2	9.4	7.7	45.2	7.2	4.8
Level of Service		C			D		F	A	A	D	A	A
Approach Delay (s)		30.4			35.5			13.7			14.8	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	61	356	32	92	116	97	30	150	85	120	303	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.7		4.6	5.7		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flt Protected	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Satd. Flow (prot)	1900	1900		1900	1900		1900	1900		1900	1900	
Flt Permitted	1.00	1.00		1.00	1.00		0.45	1.00		0.57	1.00	
Satd. Flow (perm)	1900	1900		1900	1900		860	1900		1089	1900	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	387	35	100	126	105	33	163	92	130	329	41
RTOR Reduction (vph)	0	4	0	0	38	0	0	22	0	0	5	0
Lane Group Flow (vph)	66	418	0	100	193	0	33	233	0	130	365	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	6.3	21.3		7.2	22.2		35.5	35.5		35.5	35.5	
Effective Green, g (s)	6.3	21.3		7.2	22.2		35.5	35.5		35.5	35.5	
Actuated g/C Ratio	0.08	0.27		0.09	0.28		0.44	0.44		0.44	0.44	
Clearance Time (s)	4.6	5.7		4.6	5.7		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	149	505		171	527		381	843		483	843	
v/s Ratio Prot	0.03	c0.22		c0.05	0.10			0.12			c0.19	
v/s Ratio Perm							0.04			0.12		
v/c Ratio	0.44	0.83		0.58	0.37		0.09	0.28		0.27	0.43	
Uniform Delay, d1	35.2	27.6		35.0	23.2		12.9	14.1		14.1	15.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.75	0.78	
Incremental Delay, d2	0.8	10.2		3.3	0.2		0.4	0.8		1.3	1.5	
Delay (s)	35.9	37.8		38.2	23.4		13.3	14.9		11.9	13.5	
Level of Service	D	D		D	C		B	B		B	B	
Approach Delay (s)		37.5			27.9			14.7			13.1	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

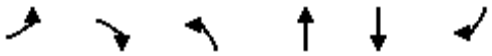
Intersection #21 Dexter Avenue / 2nd Street

Cycle (sec): 80 Critical Vol./Cap.(X): 0.565
Loss Time (sec): 12 Average Delay (sec/veh): 23.2
Optimal Cycle: OPTIMIZED Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	25	25	25	25	25	25	10	20	20	10	20	20
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	1	0 1	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	5	5	5	140	5	262	192	150	5	5	378	41
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	5	5	140	5	262	192	150	5	5	378	41
Added Vol:	0	0	0	0	0	21	27	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	5	5	140	5	283	219	150	5	5	378	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	5	5	5	152	5	308	238	163	5	5	411	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	5	5	152	5	308	238	163	5	5	411	45
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	5	5	5	152	5	308	238	163	5	5	411	45
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	0.93	0.93	0.76	1.00	0.85	0.95	1.00	1.00	0.95	0.99	0.99
Lanes:	1.00	0.50	0.50	1.00	1.00	1.00	1.00	0.97	0.03	1.00	0.90	0.10
Final Sat.:	1454	879	879	1444	1900	1615	1805	1830	61	1805	1688	183
Capacity Analysis Module:												
Vol/Sat:	0.00	0.01	0.01	0.11	0.00	0.19	0.13	0.09	0.09	0.00	0.24	0.24
Crit Moves:				****			****				****	
Green/Cycle:	0.31	0.31	0.31	0.31	0.31	0.50	0.19	0.36	0.36	0.18	0.35	0.35
Volume/Cap:	0.01	0.02	0.02	0.34	0.01	0.38	0.70	0.25	0.25	0.02	0.70	0.70
Delay/Veh:	19.0	19.0	19.0	21.6	19.0	12.6	36.6	18.3	18.3	27.1	25.8	25.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.0	19.0	19.0	21.6	19.0	12.6	36.6	18.3	18.3	27.1	25.8	25.8
LOS by Move:	B	B	B	C	B	B	D	B	B	C	C	C
HCM2kAvgQ:	0	0	0	3	0	5	7	3	3	0	11	11

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

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to URBAN CROSSROADS, IRVINE



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	380	567	647	192	167	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	5.3	5.3	5.3
Lane Util. Factor	1.00	1.00	*1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1881	1855	3800	1900	1900	1819
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1881	1855	3800	1900	1900	1819
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	413	616	703	209	182	308
RTOR Reduction (vph)	0	74	0	0	0	2
Lane Group Flow (vph)	413	542	703	209	182	306
Confl. Peds. (#/hr)		5				5
Heavy Vehicles (%)	1%	0%	0%	0%	0%	4%
Turn Type	Prot	pm+ov	Prot	NA	NA	pm+ov
Protected Phases	2	3	3	8	4	2
Permitted Phases		2				4
Actuated Green, G (s)	59.4	88.2	28.8	50.0	15.9	75.3
Effective Green, g (s)	59.4	88.2	28.8	50.0	15.9	75.3
Actuated g/C Ratio	0.49	0.74	0.24	0.42	0.13	0.63
Clearance Time (s)	5.3	5.3	5.3	5.3	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	931	1445	912	791	251	1221
v/s Ratio Prot	c0.22	0.09	c0.18	0.11	c0.10	0.12
v/s Ratio Perm		0.20				0.04
v/c Ratio	0.44	0.38	0.77	0.26	0.73	0.25
Uniform Delay, d1	19.6	5.8	42.5	22.9	50.0	9.9
Progression Factor	0.63	0.77	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.1	3.7	0.8	8.5	0.0
Delay (s)	13.9	4.5	46.2	23.8	58.4	9.9
Level of Service	B	A	D	C	E	A
Approach Delay (s)	8.3			41.1	27.9	
Approach LOS	A			D	C	

Intersection Summary			
HCM 2000 Control Delay	24.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

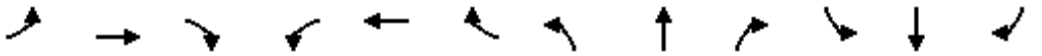
Intersection #123 Summerhill Drive/Grape Street / Railroad Canyon Road

Cycle (sec):	120	Critical Vol./Cap.(X):	0.692
Loss Time (sec):	16	Average Delay (sec/veh):	35.2
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 2	2	0 1	0 2	2	0 3	0 1	2	0 3	0 2
Volume Module:												
Base Vol:	320	175	426	555	242	578	250	1249	470	904	1684	515
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:	320	175	426	555	242	578	250	1249	470	904	1684	515
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Project:	0	0	0	0	7	0	5	8	21	10	0	0
Initial Fut:	320	175	426	555	249	578	255	1257	491	914	1684	515
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:	320	175	426	555	249	578	255	1257	491	914	1684	515
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	320	175	426	555	249	578	255	1257	491	914	1684	515
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:	320	175	426	555	249	578	255	1257	491	914	1684	515
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.05	1.10	0.94	1.05	1.10	0.94	1.08	1.13	0.94	1.08	1.13	0.94
Lanes:	2.00	2.00	2.00	2.00	1.00	2.00	2.00	3.00	1.00	2.00	3.00	2.00
Final Sat.:	3971	4180	3553	3971	2090	3553	4090	6458	1777	4090	6458	3553
Capacity Analysis Module:												
Vol/Sat:	0.08	0.04	0.12	0.14	0.12	0.16	0.06	0.19	0.28	0.22	0.26	0.14
Crit Moves:		****		****				****		****		
Green/Cycle:	0.12	0.08	0.40	0.20	0.16	0.31	0.14	0.27	0.39	0.31	0.44	0.64
Volume/Cap:	0.70	0.50	0.30	0.71	0.72	0.53	0.44	0.71	0.71	0.71	0.59	0.23
Delay/Veh:	55.9	53.8	24.9	48.2	55.0	34.9	47.6	40.7	34.5	38.3	25.3	9.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	55.9	53.8	24.9	48.2	55.0	34.9	47.6	40.7	34.5	38.3	25.3	9.1
LOS by Move:	E	D	C	D	D	C	D	D	C	D	C	A
HCM2kAvgQ:	7	4	2	10	10	7	4	13	10	13	6	0

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

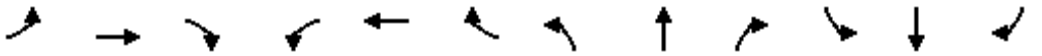
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	616	1431	324	359	1398	396	494	395	367	442	327	399
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	6.0	4.0	4.6	6.0	4.0	4.0	5.3	4.6	4.0	5.3	4.6
Lane Util. Factor	*1.00	*1.00	1.00	*1.00	*1.00	1.00	*1.00	*1.00	1.00	*1.00	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	3800	5229	1879	3800	5327	1875	3800	1900	1878	3800	3800	1886
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	3800	5229	1879	3800	5327	1875	3800	1900	1878	3800	3800	1886
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	670	1555	352	390	1520	430	537	429	399	480	355	434
RTOR Reduction (vph)	0	0	27	0	0	90	0	0	66	0	0	77
Lane Group Flow (vph)	670	1555	325	390	1520	340	537	429	333	480	355	357
Confl. Peds. (#/hr)			5			5			5			5
Heavy Vehicles (%)	0%	9%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5!
Permitted Phases			2			6			8			4
Actuated Green, G (s)	21.0	39.7	68.2	15.4	34.1	49.5	28.5	29.6	45.0	15.4	16.5	37.5
Effective Green, g (s)	21.0	39.7	68.2	15.4	34.1	49.5	28.5	29.6	45.0	15.4	16.5	37.5
Actuated g/C Ratio	0.18	0.33	0.57	0.13	0.28	0.41	0.24	0.25	0.38	0.13	0.14	0.31
Clearance Time (s)	4.6	6.0	4.0	4.6	6.0	4.0	4.0	5.3	4.6	4.0	5.3	4.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	665	1729	1067	487	1513	773	902	468	704	487	522	589
v/s Ratio Prot	c0.18	0.30	0.07	0.10	c0.29	0.06	0.14	c0.23	0.06	c0.13	0.09	0.11
v/s Ratio Perm			0.10			0.12			0.12			0.08
v/c Ratio	1.01	0.90	0.30	0.80	1.00	0.44	0.60	0.92	0.47	0.99	0.68	0.61
Uniform Delay, d1	49.5	38.2	13.5	50.8	43.0	25.3	40.6	44.0	28.5	52.2	49.2	35.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	36.8	7.9	0.2	9.2	24.3	0.4	1.1	22.6	0.5	36.7	3.6	1.8
Delay (s)	86.3	46.2	13.7	60.0	67.2	25.7	41.7	66.6	29.0	88.9	52.9	36.8
Level of Service	F	D	B	E	E	C	D	E	C	F	D	D
Approach Delay (s)		52.2			58.4			45.8			61.0	
Approach LOS		D			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	54.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	99.9%	ICU Level of Service	F
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	493	36	32	41	95	286	22	298	21	84	550	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.7		4.6	5.7	5.7	4.6	5.7		4.6	5.7	5.7
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Satd. Flow (prot)	3686	1900		1900	1900	1615	1900	3610		1900	3610	1615
Flt Permitted	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Satd. Flow (perm)	3686	1900		1900	1900	1615	1900	3610		1900	3610	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	536	39	35	45	103	311	24	324	23	91	598	204
RTOR Reduction (vph)	0	25	0	0	0	228	0	4	0	0	0	112
Lane Group Flow (vph)	536	49	0	45	103	83	24	343	0	91	598	92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	18.4	28.0		3.8	13.4	13.4	2.4	39.8		7.8	45.2	45.2
Effective Green, g (s)	18.4	28.0		3.8	13.4	13.4	2.4	39.8		7.8	45.2	45.2
Actuated g/C Ratio	0.18	0.28		0.04	0.13	0.13	0.02	0.40		0.08	0.45	0.45
Clearance Time (s)	4.6	5.7		4.6	5.7	5.7	4.6	5.7		4.6	5.7	5.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0		2.0	3.0	3.0
Lane Grp Cap (vph)	678	532		72	254	216	45	1436		148	1631	729
v/s Ratio Prot	c0.15	0.03		0.02	c0.05		0.01	0.09		c0.05	c0.17	
v/s Ratio Perm						0.05						0.06
v/c Ratio	0.79	0.09		0.62	0.41	0.39	0.53	0.24		0.61	0.37	0.13
Uniform Delay, d1	39.0	26.6		47.4	39.7	39.5	48.2	20.0		44.6	18.0	15.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.9	0.0		11.5	0.4	0.4	6.0	0.4		5.2	0.6	0.4
Delay (s)	44.8	26.6		58.9	40.0	40.0	54.2	20.4		49.9	18.6	16.3
Level of Service	D	C		E	D	D	D	C		D	B	B
Approach Delay (s)		42.6			41.8			22.6			21.3	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

Intersection #29 Conard Avenue / Central Avenue (SR-74)

Cycle (sec):	75	Critical Vol./Cap.(X):	0.664
Loss Time (sec):	12	Average Delay (sec/veh):	17.1
Optimal Cycle:	OPTIMIZED	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	29	29	29	10	10	10	10	26	26	10	26	26
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	1 0	1 0	1	2 0	4 0	1	1 0	4 0	1
Volume Module:												
Base Vol:	60	24	12	101	26	355	437	1963	54	17	2128	134
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:	60	24	12	101	26	355	437	1963	54	17	2128	134
Added Vol:	3	0	0	0	0	7	5	33	3	0	44	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	63	24	12	101	26	362	442	1996	57	17	2172	134
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	68	26	13	110	28	393	480	2170	62	18	2361	146
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	26	13	110	28	393	480	2170	62	18	2361	146
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:	68	26	13	110	28	393	480	2170	62	18	2361	146
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.81	0.81	0.81	0.70	1.00	0.85	0.92	0.91	0.85	0.95	0.91	0.85
Lanes:	0.64	0.24	0.12	1.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	979	373	187	1336	1900	1615	3502	6916	1615	1805	6916	1615
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.08	0.01	0.24	0.14	0.31	0.04	0.01	0.34	0.09
Crit Moves:				****			****				****	
Green/Cycle:	0.13	0.13	0.13	0.13	0.13	0.33	0.20	0.52	0.52	0.20	0.51	0.51
Volume/Cap:	0.54	0.54	0.54	0.63	0.11	0.73	0.67	0.61	0.07	0.05	0.67	0.18
Delay/Veh:	34.3	34.3	34.3	39.2	29.8	27.5	30.7	13.5	9.4	25.1	14.6	10.3
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:	34.3	34.3	34.3	39.2	29.8	27.5	30.7	13.5	9.4	25.1	14.6	10.3
LOS by Move:	C	C	C	D	C	C	C	B	A	C	B	B
HCM2kAvgQ:	3	3	3	4	1	10	7	10	1	0	12	2

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

Intersection #30 Rosetta Canyon Drive / Central Avenue (SR-74)

Cycle (sec): 85 Critical Vol./Cap.(X): 0.575
Loss Time (sec): 12 Average Delay (sec/veh): 22.1
Optimal Cycle: OPTIMIZED Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Permitted				Protected			
Rights:		Ovl				Include				Ovl				Include		
Min. Green:	33	0	33		0	0	0		0	32	32		10	10	0	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	2	0 0	0	1	0	0 0	0	0	0	0 0	4	0 1	2	0 4	0	0
Volume Module:																
Base Vol:	387	0	408		0	0	0		0	1620	352		366	1904	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	387	0	408		0	0	0		0	1620	352		366	1904	0	
Added Vol:	10	0	0		0	0	0		0	26	8		0	34	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	397	0	408		0	0	0		0	1646	360		366	1938	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.92	0.92	0.92		0.92	0.92	0.92		0.92	0.92	0.92		0.92	0.92	0.92	
PHF Volume:	432	0	443		0	0	0		0	1789	391		398	2107	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	432	0	443		0	0	0		0	1789	391		398	2107	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	432	0	443		0	0	0		0	1789	391		398	2107	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.92	1.00	0.85		1.00	1.00	1.00		1.00	0.91	0.85		0.92	0.91	1.00	
Lanes:	2.00	0.00	1.00		0.00	0.00	0.00		0.00	4.00	1.00		2.00	4.00	0.00	
Final Sat.:	3502	0	1615		0	0	0		0	6916	1615		3502	6916	0	
Capacity Analysis Module:																
Vol/Sat:	0.12	0.00	0.27		0.00	0.00	0.00		0.00	0.26	0.24		0.11	0.30	0.00	
Crit Moves:	****									****				****		
Green/Cycle:	0.48	0.00	0.59		0.00	0.00	0.00		0.00	0.37	0.85		0.11	0.48	0.00	
Volume/Cap:	0.26	0.00	0.46		0.00	0.00	0.00		0.00	0.70	0.29		0.99	0.63	0.00	
Delay/Veh:	13.6	0.0	10.3		0.0	0.0	0.0		0.0	24.4	1.5		80.2	17.1	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	13.6	0.0	10.3		0.0	0.0	0.0		0.0	24.4	1.5		80.2	17.1	0.0	
LOS by Move:	B	A	B		A	A	A		A	C	A		F	B	A	
HCM2kAvgQ:	4	0	7		0	0	0		0	12	2		10	12	0	

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

Intersection #31 Riverside Street / Central Avenue (SR-74)

Cycle (sec):	115	Critical Vol./Cap.(X):	0.868
Loss Time (sec):	16	Average Delay (sec/veh):	43.1
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	10	27	27	10	27	27	10	29	29	10	29	29
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	4 0	1	2 0	4 0	1
Volume Module:												
Base Vol:	297	507	299	675	412	193	241	1605	345	213	1696	704
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:	297	507	299	675	412	193	241	1605	345	213	1696	704
Added Vol:	7	0	0	0	0	0	0	18	5	0	24	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	304	507	299	675	412	193	241	1623	350	213	1720	704
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	330	551	325	734	448	210	262	1764	380	232	1870	765
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	330	551	325	734	448	210	262	1764	380	232	1870	765
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:	330	551	325	734	448	210	262	1764	380	232	1870	765
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.94	0.85	0.92	0.94	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	4.00	1.00	2.00	4.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	7144	1615	3502	7144	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.15	0.20	0.21	0.12	0.13	0.07	0.25	0.24	0.07	0.26	0.47
Crit Moves:			****	****			****				****	
Green/Cycle:	0.14	0.23	0.23	0.24	0.34	0.34	0.09	0.29	0.42	0.10	0.30	0.54
Volume/Cap:	0.69	0.65	0.86	0.87	0.37	0.38	0.86	0.86	0.56	0.67	0.87	0.88
Delay/Veh:	51.8	41.5	59.5	52.1	28.9	29.4	73.0	42.7	26.0	54.9	42.6	33.4
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:	51.8	41.5	59.5	52.1	28.9	29.4	73.0	42.7	26.0	54.9	42.6	33.4
LOS by Move:	D	D	E	D	C	C	E	D	C	D	D	C
HCM2kAvgQ:	7	10	14	16	6	6	7	19	10	5	20	27

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday AM Peak Hour

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

Intersection #32 Meadowbrook Avenue/Greenwald Avenue / Central Avenue (SR-74)

Cycle (sec):	120	Critical Vol./Cap.(X):	0.882
Loss Time (sec):	12	Average Delay (sec/veh):	34.7
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	34	34	34	10	10	10	10	25	25	10	25	25
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 0	1	1 0	1 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	274	31	267	371	25	78	226	1950	303	312	2271	120
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:	274	31	267	371	25	78	226	1950	303	312	2271	120
Added Vol:	7	0	0	0	0	0	0	8	5	0	10	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	281	31	267	371	25	78	226	1958	308	312	2281	120
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	305	34	290	403	27	85	246	2128	335	339	2479	130
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	305	34	290	403	27	85	246	2128	335	339	2479	130
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:	305	34	290	403	27	85	246	2128	335	339	2479	130
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.03	0.88	0.76	1.03	0.88	0.95	0.97	0.88	0.95	0.97	0.88
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	1464	1963	1668	1452	1963	1668	3617	5535	1668	3617	5535	1668
Capacity Analysis Module:												
Vol/Sat:	0.21	0.02	0.17	0.28	0.01	0.05	0.07	0.38	0.20	0.09	0.45	0.08
Crit Moves:				****			****				****	
Green/Cycle:	0.31	0.31	0.31	0.31	0.31	0.31	0.08	0.47	0.47	0.12	0.50	0.50
Volume/Cap:	0.67	0.05	0.56	0.89	0.04	0.16	0.81	0.81	0.42	0.81	0.89	0.16
Delay/Veh:	39.6	28.9	35.7	58.1	28.8	30.0	69.7	29.2	21.3	63.5	30.6	16.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.6	28.9	35.7	58.1	28.8	30.0	69.7	29.2	21.3	63.5	30.6	16.1
LOS by Move:	D	C	D	E	C	C	E	C	C	E	C	B
HCM2kAvgQ:	11	1	9	17	1	2	7	26	8	8	33	3

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

Intersection #1 Lakeshore Drive / Riverside Drive (SR-74)

Cycle (sec): 120 Critical Vol./Cap.(X): 0.931
Loss Time (sec): 16 Average Delay (sec/veh): 48.6
Optimal Cycle: OPTIMIZED Level Of Service: D

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected						Protected						Protected					
Rights:	Include						Ovl						Ovl						Ovl					
Min. Green:	10	25	25				10	33	33				10	31	31				10	31	31			
Y+R:	4.0	4.0	4.0				4.0	4.0	4.0				4.0	4.0	4.0				4.0	4.0	4.0			
Lanes:	2	0	2	0	1		2	0	3	0	1		2	0	3	0	1		1	0	4	0	1	
Volume Module:																								
Base Vol:	364	623	48				587	520	517				472	1578	343				75	1888	587			
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:	364	623	48				587	520	517				472	1578	343				75	1888	587			
Added Vol:	0	0	12				12	0	0				0	12	0				13	13	13			
PasserByVol:	0	0	0				0	0	0				0	0	0				0	0	0			
Initial Fut:	364	623	60				599	520	517				472	1590	343				88	1901	600			
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	0.93	0.93	0.93				0.93	0.93	0.93				0.93	0.93	0.93				0.93	0.93	0.93			
PHF Volume:	390	667	64				641	557	554				505	1702	367				94	2035	642			
Reduct Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
Reduced Vol:	390	667	64				641	557	554				505	1702	367				94	2035	642			
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:	390	667	64				641	557	554				505	1702	367				94	2035	642			
Saturation Flow Module:																								
Sat/Lane:	1900	1900	1900				1900	1900	1900				1900	1900	1900				1900	1900	1900			
Adjustment:	0.92	0.95	0.85				0.92	0.91	0.85				0.92	0.91	0.85				0.95	0.91	0.85			
Lanes:	2.00	2.00	1.00				2.00	3.00	1.00				2.00	3.00	1.00				1.00	4.00	1.00			
Final Sat.:	3502	3610	1615				3502	5187	1615				3502	5187	1615				1805	6916	1615			
Capacity Analysis Module:																								
Vol/Sat:	0.11	0.18	0.04				0.18	0.11	0.34				0.14	0.33	0.23				0.05	0.29	0.40			
Crit Moves:		****					****						****							****				
Green/Cycle:	0.12	0.21	0.21				0.19	0.29	0.44				0.15	0.37	0.49				0.09	0.31	0.51			
Volume/Cap:	0.96	0.89	0.19				0.94	0.37	0.78				0.94	0.89	0.47				0.56	0.94	0.79			
Delay/Veh:	87.1	58.5	39.4				69.6	34.4	34.3				76.0	40.8	20.9				56.0	49.7	29.5			
User DelAdj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
AdjDel/Veh:	87.1	58.5	39.4				69.6	34.4	34.3				76.0	40.8	20.9				56.0	49.7	29.5			
LOS by Move:	F		E		D		E		C		C		E		D		C		E		D		C	
HCM2kAvgQ:	11		16		2		16		6		19		13		25		9		4		25		21	

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

Intersection #2 W. Graham Avenue / N. Main Street

Cycle (sec):	110	Critical Vol./Cap.(X):	0.841
Loss Time (sec):	12	Average Delay (sec/veh):	36.4
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	25	25	25	25	25	25	10	20	20	10	20	20
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	1	0	0 1	0	1	0	1	0 0 1 0
Volume Module:												
Base Vol:	15	24	21	217	21	174	252	551	22	29	565	135
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:	15	24	21	217	21	174	252	551	22	29	565	135
Added Vol:	0	0	0	8	0	0	0	17	0	0	17	8
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	24	21	225	21	174	252	568	22	29	582	143
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	16	26	23	244	23	188	273	615	24	31	630	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	26	23	244	23	188	273	615	24	31	630	155
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:	16	26	23	244	23	188	273	615	24	31	630	155
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.87	0.87	0.87	0.74	0.87	0.87	0.95	0.99	0.99	0.95	0.97	0.97
Lanes:	0.25	0.40	0.35	1.00	0.11	0.89	1.00	0.96	0.04	1.00	0.80	0.20
Final Sat.:	412	660	577	1410	177	1468	1805	1818	70	1805	1479	364
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.17	0.13	0.13	0.15	0.34	0.34	0.02	0.43	0.43
Crit Moves:				****			****				****	
Green/Cycle:	0.23	0.23	0.23	0.23	0.23	0.23	0.17	0.52	0.52	0.14	0.49	0.49
Volume/Cap:	0.17	0.17	0.17	0.76	0.56	0.56	0.87	0.65	0.65	0.12	0.87	0.87
Delay/Veh:	34.4	34.4	34.4	49.8	39.7	39.7	66.2	20.4	20.4	41.6	34.0	34.0
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:	34.4	34.4	34.4	49.8	39.7	39.7	66.2	20.4	20.4	41.6	34.0	34.0
LOS by Move:	C	C	C	D	D	D	E	C	C	D	C	C
HCM2kAvgQ:	2	2	2	9	7	7	12	16	16	1	26	26

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

Intersection #3 E. Lakeshore Drive/Mission Trail / Diamond Drive

Cycle (sec):	120	Critical Vol./Cap.(X):	0.993
Loss Time (sec):	16	Average Delay (sec/veh):	53.8
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Include			Ovl	
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	3 0	1	2 0	3 0	2
Volume Module:												
Base Vol:	232	1105	679	704	862	591	625	1222	102	973	1319	471
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:	232	1105	679	704	862	591	625	1222	102	973	1319	471
Added Vol:	0	4	8	0	4	0	0	8	0	8	8	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	232	1109	687	704	866	591	625	1230	102	981	1327	471
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
PHF Volume:	233	1116	691	708	871	595	629	1237	103	987	1335	474
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	233	1116	691	708	871	595	629	1237	103	987	1335	474
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:	233	1116	691	708	871	595	629	1237	103	987	1335	474
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.03	0.88	0.95	1.03	0.88	0.95	1.03	0.85	0.98	1.03	0.85
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	2.00
Final Sat.:	3610	5888	3337	3610	5888	1668	3610	5888	1615	3729	5888	3230
Capacity Analysis Module:												
Vol/Sat:	0.06	0.19	0.21	0.20	0.15	0.36	0.17	0.21	0.06	0.26	0.23	0.15
Crit Moves:		****		****				****		****		
Green/Cycle:	0.12	0.19	0.46	0.20	0.27	0.47	0.21	0.21	0.21	0.27	0.27	0.47
Volume/Cap:	0.53	0.99	0.45	0.99	0.56	0.75	0.84	0.99	0.30	0.99	0.84	0.31
Delay/Veh:	50.7	73.5	22.5	79.9	38.3	29.8	53.9	70.9	40.3	70.6	45.4	20.0
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:	50.7	73.5	22.5	79.9	38.3	29.8	53.9	70.9	40.3	70.6	45.4	20.0
LOS by Move:	D	E	C	E	D	C	D	E	D	E	D	C
HCM2kAvgQ:	5	19	7	18	9	17	13	21	3	24	17	3

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

Intersection #4 Gunnerson Street / Riverside Drive (SR-74)

Cycle (sec):	120	Critical Vol./Cap.(X):	0.916
Loss Time (sec):	12	Average Delay (sec/veh):	32.4
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	15	15	15	15	15	15	10	30	30	10	30	30
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	55	5	83	70	5	56	104	1997	109	32	2159	177
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:	55	5	83	70	5	56	104	1997	109	32	2159	177
Added Vol:	0	0	12	12	0	0	0	41	0	13	42	13
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	55	5	95	82	5	56	104	2038	109	45	2201	190
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	57	5	99	85	5	58	108	2114	113	47	2283	197
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	57	5	99	85	5	58	108	2114	113	47	2283	197
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:	57	5	99	85	5	58	108	2114	113	47	2283	197
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.60	0.60	0.85	0.68	0.68	0.85	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	0.92	0.08	1.00	0.94	0.06	1.00	1.00	1.90	0.10	1.00	1.84	0.16
Final Sat.:	1048	95	1615	1223	75	1615	1805	3399	182	1805	3283	283
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.06	0.07	0.07	0.04	0.06	0.62	0.62	0.03	0.70	0.70
Crit Moves:					****		****				****	
Green/Cycle:	0.13	0.13	0.13	0.13	0.13	0.13	0.08	0.68	0.68	0.09	0.69	0.69
Volume/Cap:	0.44	0.44	0.49	0.56	0.56	0.29	0.72	0.91	0.91	0.28	1.01	1.01
Delay/Veh:	50.7	50.7	50.8	53.6	53.6	48.4	68.9	21.5	21.5	51.8	37.9	37.9
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:	50.7	50.7	50.8	53.6	53.6	48.4	68.9	21.5	21.5	51.8	37.9	37.9
LOS by Move:	D	D	D	D	D	D	E	C	C	D	D	D
HCM2kAvgQ:	3	3	4	4	4	2	5	40	40	2	57	57

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

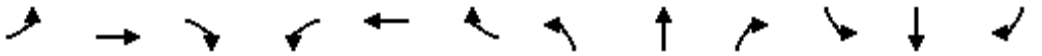
Intersection #5 Collier Avenue / Riverside Drive (SR-74)

Cycle (sec):	110	Critical Vol./Cap.(X):	0.962
Loss Time (sec):	16	Average Delay (sec/veh):	53.8
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ignore			Include		
Min. Green:	10	15	15	10	15	15	10	20	20	10	20	20
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	1111	842	324	211	631	438	375	851	1003	522	755	274
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:	1111	842	324	211	631	438	375	851	1003	522	755	274
Added Vol:	67	13	0	0	12	0	0	0	66	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1178	855	324	211	643	438	375	851	1069	522	755	274
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.00	0.94	0.94	0.94
PHF Volume:	1260	914	347	226	688	468	401	910	0	558	807	293
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1260	914	347	226	688	468	401	910	0	558	807	293
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	1260	914	347	226	688	468	401	910	0	558	807	293
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	1.03	0.85	0.95	1.03	0.85	0.95	1.03	1.00	0.95	1.03	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3729	3925	1615	3610	3925	1615	3610	5888	1900	3610	5888	1615
Capacity Analysis Module:												
Vol/Sat:	0.34	0.23	0.21	0.06	0.18	0.29	0.11	0.15	0.00	0.15	0.14	0.18
Crit Moves:	****				****			****		****		
Green/Cycle:	0.34	0.37	0.53	0.15	0.18	0.30	0.13	0.18	0.00	0.16	0.21	0.21
Volume/Cap:	0.99	0.63	0.41	0.43	0.99	0.95	0.87	0.85	0.00	0.99	0.65	0.87
Delay/Veh:	59.5	29.2	15.9	43.4	77.4	66.3	62.9	50.2	0.0	82.3	41.1	62.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	59.5	29.2	15.9	43.4	77.4	66.3	62.9	50.2	0.0	82.3	41.1	62.2
LOS by Move:	E	C	B	D	E	E	E	D	A	F	D	E
HCM2kAvgQ:	28	13	7	4	17	20	9	13	0	14	9	12

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

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	379	1136	212	610	915	1126	190	680	739	1232	691	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	13	12	12	13	12	12	12
Total Lost time (s)	4.6	4.6	5.3	4.6	5.3	4.0	5.3	5.3	4.6	5.3	5.3	5.3
Lane Util. Factor	*1.00	*1.00	*1.00	*1.00	*1.00	*1.00	1.00	*1.00	*1.00	*1.00	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	3800	5534	1881	3654	3654	1937	1900	3800	3812	5700	3800	1866
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	3800	5534	1881	3654	3654	1937	1900	3800	3812	5700	3800	1866
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	408	1222	228	656	984	1211	204	731	795	1325	743	104
RTOR Reduction (vph)	0	0	98	0	0	0	0	0	72	0	0	75
Lane Group Flow (vph)	408	1222	130	656	984	1211	204	731	723	1325	743	29
Confl. Peds. (#/hr)			5			5						5
Heavy Vehicles (%)	0%	3%	0%	4%	4%	0%	0%	0%	3%	0%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases			4			Free			2			6
Actuated Green, G (s)	13.9	26.4	43.3	23.2	35.0	120.0	16.9	22.9	46.1	27.7	33.7	33.7
Effective Green, g (s)	13.9	26.4	43.3	23.2	35.0	120.0	16.9	22.9	46.1	27.7	33.7	33.7
Actuated g/C Ratio	0.12	0.22	0.36	0.19	0.29	1.00	0.14	0.19	0.38	0.23	0.28	0.28
Clearance Time (s)	4.6	4.6	5.3	4.6	5.3		5.3	5.3	4.6	5.3	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	440	1217	678	706	1065	1937	267	725	1464	1315	1067	524
v/s Ratio Prot	0.11	c0.22	0.03	c0.18	0.27		0.11	c0.19	0.10	c0.23	0.20	
v/s Ratio Perm			0.04			0.63			0.09			0.02
v/c Ratio	0.93	1.00	0.19	0.93	0.92	0.63	0.76	1.01	0.49	1.01	0.70	0.06
Uniform Delay, d1	52.5	46.8	26.3	47.6	41.2	0.0	49.6	48.5	28.1	46.1	38.6	31.5
Progression Factor	1.00	1.00	1.00	0.92	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.2	26.8	0.1	10.1	5.9	0.6	18.6	35.5	1.2	26.7	3.8	0.2
Delay (s)	77.8	73.6	26.4	54.0	47.7	0.6	68.2	84.0	29.3	72.8	42.3	31.7
Level of Service	E	E	C	D	D	A	E	F	C	E	D	C
Approach Delay (s)		68.7			29.2			57.0			60.4	
Approach LOS		E			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	51.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	98.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

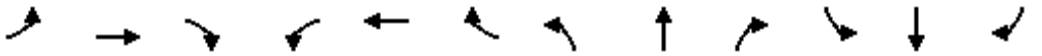
Intersection #107 Auto Center Drive / Diamond Drive

Cycle (sec):	120	Critical Vol./Cap.(X):	0.995
Loss Time (sec):	16	Average Delay (sec/veh):	53.8
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	2	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	301	956	643	485	750	696	809	1086	709	622	1765	266
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:	301	956	643	485	750	696	809	1086	709	622	1765	266
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Project:	17	0	33	0	0	0	0	16	0	0	0	0
Initial Fut:	318	956	676	485	750	696	809	1102	709	622	1765	266
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:	318	956	676	485	750	696	809	1102	709	622	1765	266
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	318	956	676	485	750	696	809	1102	709	622	1765	266
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:	318	956	676	485	750	696	809	1102	709	622	1765	266
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.01	1.07	0.96	1.01	1.07	0.96	1.01	1.07	1.02	1.01	1.07	0.96
Lanes:	2.00	2.00	1.00	2.00	2.00	2.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3852	4055	1830	3852	4055	3660	3852	6082	1938	3852	6082	1830
Capacity Analysis Module:												
Vol/Sat:	0.08	0.24	0.37	0.13	0.18	0.19	0.21	0.18	0.37	0.16	0.29	0.15
Crit Moves:		****			****			****			****	
Green/Cycle:	0.11	0.24	0.42	0.13	0.25	0.46	0.21	0.32	0.43	0.18	0.29	0.42
Volume/Cap:	0.73	0.99	0.88	0.99	0.74	0.41	0.99	0.57	0.84	0.88	0.99	0.35
Delay/Veh:	57.7	73.3	43.5	91.6	44.2	21.6	77.4	34.2	38.2	60.6	62.4	24.0
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:	57.7	73.3	43.5	91.6	44.2	21.6	77.4	34.2	38.2	60.6	62.4	24.0
LOS by Move:	E	E	D	F	D	C	E	C	D	E	E	C
HCM2kAvgQ:	7	23	19	13	12	2	20	8	16	14	28	3

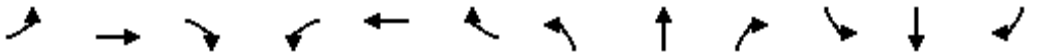
Note: Queue reported is the number of cars per lane.

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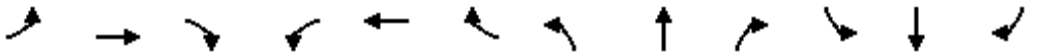
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1896	608	767	1596	0	0	0	0	839	0	710
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3	4.6	5.3					5.3		5.3
Lane Util. Factor		*1.00	1.00	*1.00	*1.00					*1.00		*1.00
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00		0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00		1.00
Frt		1.00	1.00	1.00	1.00					1.00		1.00
Flt Protected		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (prot)		5534	1823	3519	5644					3551		3589
Flt Permitted		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (perm)		5534	1823	3519	5644					3551		3589
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2061	661	834	1735	0	0	0	0	912	0	772
RTOR Reduction (vph)	0	0	318	0	0	0	0	0	0	0	0	47
Lane Group Flow (vph)	0	2061	343	834	1735	0	0	0	0	912	0	725
Confl. Peds. (#/hr)			5									5
Heavy Vehicles (%)	0%	3%	2%	8%	1%	0%	0%	0%	0%	7%	0%	4%
Turn Type		NA	Perm	Prot	NA					Perm		Perm
Protected Phases		2		1	6							
Permitted Phases			2							4		4
Actuated Green, G (s)		45.7	45.7	28.4	78.7					30.7		30.7
Effective Green, g (s)		45.7	45.7	28.4	78.7					30.7		30.7
Actuated g/C Ratio		0.38	0.38	0.24	0.66					0.26		0.26
Clearance Time (s)		5.3	5.3	4.6	5.3					5.3		5.3
Vehicle Extension (s)		2.0	2.0	2.0	2.0					2.0		2.0
Lane Grp Cap (vph)		2107	694	832	3701					908		918
v/s Ratio Prot		c0.37		c0.24	0.31							
v/s Ratio Perm			0.19							c0.26		0.20
v/c Ratio		0.98	0.49	1.00	0.47					1.00		0.79
Uniform Delay, d1		36.7	28.3	45.8	10.3					44.6		41.6
Progression Factor		1.00	1.00	0.55	0.69					1.00		1.00
Incremental Delay, d2		15.1	2.5	17.9	0.1					30.9		6.9
Delay (s)		51.7	30.9	43.2	7.2					75.6		48.5
Level of Service		D	C	D	A					E		D
Approach Delay (s)		46.7			18.9			0.0			63.2	
Approach LOS		D			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	40.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	96.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	2070	1037	768	2150	0	0	0	0	881	0	842
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	4.6	5.7					5.3		5.3
Lane Util. Factor		*1.00	*1.00	*1.00	*1.00					*1.00		*1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00					1.00		1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00		1.00
Frt		1.00	1.00	1.00	1.00					1.00		1.00
Flt Protected		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (prot)		5644	3800	3762	3762					3725		3725
Flt Permitted		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (perm)		5644	3800	3762	3762					3725		3725
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	2179	1092	808	2263	0	0	0	0	927	0	886
RTOR Reduction (vph)	0	0	370	0	0	0	0	0	0	0	0	50
Lane Group Flow (vph)	0	2179	722	808	2263	0	0	0	0	927	0	836
Confl. Peds. (#/hr)												5
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	0%	0%	0%	2%	0%	2%
Turn Type		NA	Perm	Prot	NA					Prot		Prot
Protected Phases		2		1	6					4		4
Permitted Phases			2									
Actuated Green, G (s)		48.3	48.3	26.4	79.3					29.7		29.7
Effective Green, g (s)		48.3	48.3	26.4	79.3					29.7		29.7
Actuated g/C Ratio		0.40	0.40	0.22	0.66					0.25		0.25
Clearance Time (s)		5.7	5.7	4.6	5.7					5.3		5.3
Vehicle Extension (s)		2.0	2.0	2.0	2.0					2.0		2.0
Lane Grp Cap (vph)		2271	1529	827	2486					921		921
v/s Ratio Prot		c0.39		0.21	c0.60					c0.25		0.22
v/s Ratio Perm			0.19									
v/c Ratio		0.96	0.47	0.98	0.91					1.01		0.91
Uniform Delay, d1		34.9	26.4	46.5	17.3					45.1		43.8
Progression Factor		1.20	1.74	1.00	1.00					1.00		1.00
Incremental Delay, d2		6.3	0.5	25.4	6.3					31.3		12.2
Delay (s)		48.4	46.6	71.9	23.7					76.4		56.0
Level of Service		D	D	E	C					E		E
Approach Delay (s)		47.8			36.3			0.0			66.5	
Approach LOS		D			D			A			E	

Intersection Summary			
HCM 2000 Control Delay	47.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	99.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1027	286	290	747	0	0	0	0	628	0	441
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3	4.6	5.3					5.3	5.3	5.3
Lane Util. Factor		*1.00	1.00	*1.00	*1.00					*1.00	*1.00	0.95
Frpb, ped/bikes		1.00	0.96	1.00	1.00					1.00	0.98	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	1.00	1.00	1.00					1.00	0.85	1.00
Flt Protected		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Satd. Flow (prot)		3725	1779	3725	3725					1667	1529	1709
Flt Permitted		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Satd. Flow (perm)		3725	1779	3725	3725					1667	1529	1709
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1116	311	315	812	0	0	0	0	683	0	479
RTOR Reduction (vph)	0	0	184	0	0	0	0	0	0	0	63	63
Lane Group Flow (vph)	0	1116	127	315	812	0	0	0	0	683	177	176
Confl. Peds. (#/hr)			5									5
Heavy Vehicles (%)	0%	2%	3%	2%	2%	0%	0%	0%	0%	14%	0%	4%
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		40.7	40.7	11.4	56.7					52.7	52.7	52.7
Effective Green, g (s)		40.7	40.7	11.4	56.7					52.7	52.7	52.7
Actuated g/C Ratio		0.34	0.34	0.10	0.47					0.44	0.44	0.44
Clearance Time (s)		5.3	5.3	4.6	5.3					5.3	5.3	5.3
Vehicle Extension (s)		2.0	2.0	2.0	2.0					2.0	2.0	2.0
Lane Grp Cap (vph)		1263	603	353	1760					732	671	750
v/s Ratio Prot		c0.30		c0.08	0.22					c0.41	0.12	
v/s Ratio Perm			0.07									0.10
v/c Ratio		0.88	0.21	0.89	0.46					0.93	0.26	0.23
Uniform Delay, d1		37.4	28.2	53.7	21.3					32.0	21.3	21.0
Progression Factor		1.00	1.00	1.14	1.18					1.00	1.00	1.00
Incremental Delay, d2		9.2	0.8	18.0	0.1					20.4	1.0	0.7
Delay (s)		46.6	29.0	79.3	25.2					52.4	22.3	21.8
Level of Service		D	C	E	C					D	C	C
Approach Delay (s)		42.8			40.3			0.0			39.9	
Approach LOS		D			D			A			D	

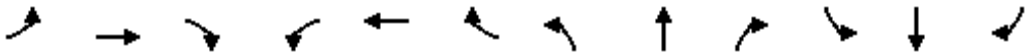
Intersection Summary			
HCM 2000 Control Delay	41.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL2	SBL	SBT	SWL	SWR
Lane Configurations									
Volume (vph)	131	901	749	64	550	0	1094	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0	6.0	6.0	4.5		6.0		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00		*1.00		
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00		1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		
Frt	1.00	1.00	1.00	1.00	1.00		1.00		
Flt Protected	1.00	1.00	1.00	1.00	1.00		1.00		
Satd. Flow (prot)	1863	3620	1925	1863	3725		3725		
Flt Permitted	1.00	1.00	1.00	1.00	1.00		1.00		
Satd. Flow (perm)	1863	3620	1925	1863	3725		3725		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	142	979	814	70	598	0	1189	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	142	979	814	70	598	0	1189	0	0
Confl. Peds. (#/hr)		5							
Turn Type	Prot	Perm	NA	Perm	Prot		NA		
Protected Phases	8		2		1		6		
Permitted Phases		8		2					
Actuated Green, G (s)	35.2	35.2	48.0	48.0	20.3		72.8		
Effective Green, g (s)	35.2	35.2	48.0	48.0	20.3		72.8		
Actuated g/C Ratio	0.29	0.29	0.40	0.40	0.17		0.61		
Clearance Time (s)	6.0	6.0	6.0	6.0	4.5		6.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0		
Lane Grp Cap (vph)	546	1061	770	745	630		2259		
v/s Ratio Prot	0.08		c0.42		c0.16		0.32		
v/s Ratio Perm		c0.27		0.04					
v/c Ratio	0.26	0.92	1.06	0.09	0.95		0.53		
Uniform Delay, d1	32.4	41.1	36.0	22.4	49.3		13.6		
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00		
Incremental Delay, d2	0.1	12.7	48.6	0.3	23.5		0.9		
Delay (s)	32.5	53.8	84.6	22.7	72.8		14.5		
Level of Service	C	D	F	C	E		B		
Approach Delay (s)	51.1		79.7				34.0	0.0	
Approach LOS	D		E				C	A	

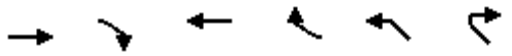
Intersection Summary			
HCM 2000 Control Delay	49.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



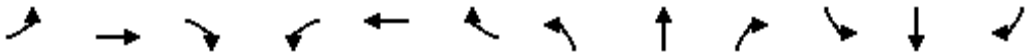
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	770	1965	0	0	1947	551	416	0	745	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.3			5.3	5.3	5.3		5.3			
Lane Util. Factor	*1.00	*1.00			*1.00	1.00	1.00		*1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00		0.98			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00		1.00			
Frt	1.00	1.00			1.00	1.00	1.00		1.00			
Flt Protected	1.00	1.00			1.00	1.00	1.00		1.00			
Satd. Flow (prot)	3654	5588			5588	1860	1863		3732			
Flt Permitted	1.00	1.00			1.00	1.00	1.00		1.00			
Satd. Flow (perm)	3654	5588			5588	1860	1863		3732			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	837	2136	0	0	2116	599	452	0	810	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	280	0	0	47	0	0	0
Lane Group Flow (vph)	837	2136	0	0	2116	319	452	0	763	0	0	0
Confl. Peds. (#/hr)						5			5			
Heavy Vehicles (%)	4%	2%	0%	0%	2%	0%	2%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Perm		Perm			
Protected Phases	5	2			6							
Permitted Phases						6	8		8			
Actuated Green, G (s)	27.4	79.7			47.7	47.7	29.7		29.7			
Effective Green, g (s)	27.4	79.7			47.7	47.7	29.7		29.7			
Actuated g/C Ratio	0.23	0.66			0.40	0.40	0.25		0.25			
Clearance Time (s)	4.6	5.3			5.3	5.3	5.3		5.3			
Vehicle Extension (s)	2.0	2.0			2.0	2.0	2.0		2.0			
Lane Grp Cap (vph)	834	3711			2221	739	461		923			
v/s Ratio Prot	c0.23	0.38			c0.38							
v/s Ratio Perm						0.17	c0.24		0.20			
v/c Ratio	1.00	0.58			0.95	0.43	0.98		0.83			
Uniform Delay, d1	46.3	11.0			35.1	26.3	44.9		42.7			
Progression Factor	0.77	0.44			1.00	1.00	1.00		1.00			
Incremental Delay, d2	16.5	0.2			10.8	1.8	37.3		8.4			
Delay (s)	52.0	5.0			45.9	28.1	82.2		51.1			
Level of Service	D	A			D	C	F		D			
Approach Delay (s)		18.2			42.0			62.2			0.0	
Approach LOS		B			D			E			A	

Intersection Summary			
HCM 2000 Control Delay	35.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	96.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR2	WBT	WBR	NWL	NWR2
Lane Configurations						
Volume (vph)	2281	670	1805	832	1113	1008
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.7		5.3	5.3
Lane Util. Factor	*1.00	1.00	*1.00		*1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	1.00	1.00	1.00		1.00	1.00
Satd. Flow (prot)	5588	1553	5541		3762	3725
Flt Permitted	1.00	1.00	1.00		1.00	1.00
Satd. Flow (perm)	5588	1553	5541		3762	3725
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	2352	691	1861	858	1147	1039
RTOR Reduction (vph)	0	219	92	0	0	24
Lane Group Flow (vph)	2352	472	2627	0	1147	1015
Confl. Peds. (#/hr)				5		
Heavy Vehicles (%)	2%	4%	1%	5%	1%	2%
Turn Type	NA	Perm	NA		Prot	Prot
Protected Phases	2		6		8	8
Permitted Phases		2				
Actuated Green, G (s)	54.3	54.3	54.3		24.7	24.7
Effective Green, g (s)	54.3	54.3	54.3		24.7	24.7
Actuated g/C Ratio	0.60	0.60	0.60		0.27	0.27
Clearance Time (s)	5.7	5.7	5.7		5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	3371	936	3343		1032	1022
v/s Ratio Prot	0.42		c0.47		c0.30	0.27
v/s Ratio Perm		0.30				
v/c Ratio	0.70	0.50	0.79		1.11	0.99
Uniform Delay, d1	12.2	10.2	13.5		32.6	32.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.2	1.9	1.9		63.8	26.3
Delay (s)	13.4	12.1	15.4		96.5	58.9
Level of Service	B	B	B		F	E
Approach Delay (s)	13.1		15.4		78.6	
Approach LOS	B		B		E	

Intersection Summary			
HCM 2000 Control Delay	31.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	546	1109	0	0	637	415	400	0	337	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.3			5.3	5.3	5.3	5.3	5.3			
Lane Util. Factor	*1.00	*1.00			*1.00	1.00	1.00	*1.00	*1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	0.98	0.98			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Flt Protected	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Satd. Flow (prot)	3619	3762			3725	1860	1845	1871	1871			
Flt Permitted	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Satd. Flow (perm)	3619	3762			3725	1860	1845	1871	1871			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	593	1205	0	0	692	451	435	0	366	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	339	0	38	38	0	0	0
Lane Group Flow (vph)	593	1205	0	0	692	112	435	145	145	0	0	0
Confl. Peds. (#/hr)						5			5			
Heavy Vehicles (%)	5%	1%	0%	0%	2%	0%	3%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	20.4	54.7			29.7	29.7	54.7	54.7	54.7			
Effective Green, g (s)	20.4	54.7			29.7	29.7	54.7	54.7	54.7			
Actuated g/C Ratio	0.17	0.46			0.25	0.25	0.46	0.46	0.46			
Clearance Time (s)	4.6	5.3			5.3	5.3	5.3	5.3	5.3			
Vehicle Extension (s)	2.0	2.0			2.0	2.0	2.0	2.0	2.0			
Lane Grp Cap (vph)	615	1714			921	460	841	852	852			
v/s Ratio Prot	c0.16	c0.32			0.19		c0.24	0.08				
v/s Ratio Perm						0.06			0.08			
v/c Ratio	0.96	0.70			0.75	0.24	0.52	0.17	0.17			
Uniform Delay, d1	49.4	26.1			41.7	36.1	23.2	19.3	19.3			
Progression Factor	0.73	0.67			0.75	2.09	1.00	1.00	1.00			
Incremental Delay, d2	15.4	1.0			4.6	1.0	2.3	0.4	0.4			
Delay (s)	51.5	18.4			36.1	76.4	25.5	19.7	19.7			
Level of Service	D	B			D	E	C	B	B			
Approach Delay (s)		29.3			52.0			22.9			0.0	
Approach LOS		C			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	34.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR	SBR2	NEL	NER
Lane Configurations									
Volume (vph)	0	0	103	622	911	0	891	652	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	6.0	6.0		4.0	6.0	6.0
Lane Util. Factor			1.00	*1.00	*1.00		1.00	*1.00	1.00
Frpb, ped/bikes			1.00	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes			1.00	1.00	1.00		1.00	1.00	1.00
Frt			1.00	1.00	1.00		1.00	1.00	1.00
Flt Protected			1.00	1.00	1.00		1.00	1.00	1.00
Satd. Flow (prot)			1863	3725	3725		1863	3725	1828
Flt Permitted			1.00	1.00	1.00		1.00	1.00	1.00
Satd. Flow (perm)			1863	3725	3725		1863	3725	1828
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	108	655	959	0	938	686	105
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	82
Lane Group Flow (vph)	0	0	108	655	959	0	938	686	23
Confl. Peds. (#/hr)									5
Turn Type			Prot	NA	NA		Free	Prot	Perm
Protected Phases			5	2	6			4	
Permitted Phases							Free		4
Actuated Green, G (s)			12.3	81.4	65.1		120.0	26.6	26.6
Effective Green, g (s)			12.3	81.4	65.1		120.0	26.6	26.6
Actuated g/C Ratio			0.10	0.68	0.54		1.00	0.22	0.22
Clearance Time (s)			4.0	6.0	6.0			6.0	6.0
Vehicle Extension (s)			3.0	2.0	2.0			2.0	2.0
Lane Grp Cap (vph)			190	2526	2020		1863	825	405
v/s Ratio Prot			0.06	0.18	0.26			c0.18	
v/s Ratio Perm							c0.50		0.01
v/c Ratio			0.57	0.26	0.47		0.50	0.83	0.06
Uniform Delay, d1			51.3	7.5	16.9		0.0	44.6	36.8
Progression Factor			1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2			3.9	0.2	0.1		1.0	6.9	0.0
Delay (s)			55.2	7.8	17.0		1.0	51.4	36.8
Level of Service			E	A	B		A	D	D
Approach Delay (s)	0.0			14.5	9.1			49.5	
Approach LOS	A			B	A			D	

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

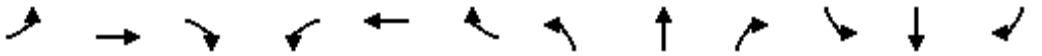
Intersection #16 Dexter Avenue / 11th Street

Cycle (sec):	60	Critical Vol./Cap.(X):	0.598
Loss Time (sec):	12	Average Delay (sec/veh):	22.3
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	25	25	25	25	25	25	10	25	25	10	25	25
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	292	154	32	12	61	80	96	643	406	43	568	13
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	154	32	12	61	80	96	643	406	43	568	13
Added Vol:	0	8	13	0	8	0	0	0	0	12	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	292	162	45	12	69	80	96	643	406	55	568	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	317	176	49	13	75	87	104	699	441	60	617	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	317	176	49	13	75	87	104	699	441	60	617	14
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:	317	176	49	13	75	87	104	699	441	60	617	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.63	0.97	0.97	0.54	0.92	0.92	0.95	0.95	0.85	0.95	0.95	0.95
Lanes:	1.00	0.78	0.22	1.00	0.46	0.54	1.00	2.00	1.00	1.00	1.96	0.04
Final Sat.:	1199	1438	399	1034	809	938	1805	3610	1615	1805	3519	81
Capacity Analysis Module:												
Vol/Sat:	0.26	0.12	0.12	0.01	0.09	0.09	0.06	0.19	0.27	0.03	0.18	0.18
Crit Moves:	****						****				****	
Green/Cycle:	0.35	0.35	0.35	0.35	0.35	0.35	0.14	0.35	0.35	0.14	0.35	0.35
Volume/Cap:	0.76	0.35	0.35	0.04	0.27	0.27	0.42	0.56	0.79	0.24	0.51	0.51
Delay/Veh:	29.0	17.8	17.8	15.6	17.1	17.1	29.5	19.6	28.4	28.1	18.9	18.9
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:	29.0	17.8	17.8	15.6	17.1	17.1	29.5	19.6	28.4	28.1	18.9	18.9
LOS by Move:	C	B	B	B	B	B	C	B	C	C	B	B
HCM2kAvgQ:	8	4	4	0	3	3	3	7	11	1	6	6

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

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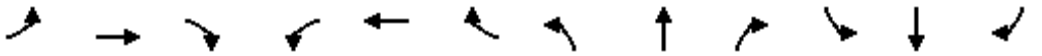
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑↑↑	↱			↱			↱
Volume (vph)	0	2660	630	0	2253	277	0	0	236	0	0	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7		5.7	5.7			5.3			5.3
Lane Util. Factor		*1.00	1.00		*1.00	1.00			1.00			1.00
Frpb, ped/bikes		1.00	0.98		1.00	0.98			0.98			0.98
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00			1.00
Frt		1.00	1.00		1.00	1.00			1.00			1.00
Flt Protected		1.00	1.00		1.00	1.00			1.00			1.00
Satd. Flow (prot)		5534	1867		7379	1867			1869			1869
Flt Permitted		1.00	1.00		1.00	1.00			1.00			1.00
Satd. Flow (perm)		5534	1867		7379	1867			1869			1869
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2742	649	0	2323	286	0	0	243	0	0	397
RTOR Reduction (vph)	0	0	296	0	0	132	0	0	20	0	0	20
Lane Group Flow (vph)	0	2742	353	0	2323	154	0	0	223	0	0	377
Confl. Peds. (#/hr)			5			5			5			5
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA	Perm		NA	Perm			Perm			Perm
Protected Phases		2			6							
Permitted Phases			2			6			8			4
Actuated Green, G (s)		51.0	51.0		51.0	51.0			33.0			33.0
Effective Green, g (s)		51.0	51.0		51.0	51.0			33.0			33.0
Actuated g/C Ratio		0.54	0.54		0.54	0.54			0.35			0.35
Clearance Time (s)		5.7	5.7		5.7	5.7			5.3			5.3
Vehicle Extension (s)		2.0	2.0		2.0	2.0			2.0			2.0
Lane Grp Cap (vph)		2970	1002		3961	1002			649			649
v/s Ratio Prot		c0.50			0.31							
v/s Ratio Perm			0.19			0.08			0.12			c0.20
v/c Ratio		0.92	0.35		0.59	0.15			0.34			0.58
Uniform Delay, d1		20.2	12.6		14.9	11.1			23.0			25.3
Progression Factor		1.00	1.00		1.00	1.00			1.00			1.00
Incremental Delay, d2		6.2	1.0		0.6	0.3			1.4			3.8
Delay (s)		26.4	13.5		15.5	11.4			24.4			29.1
Level of Service		C	B		B	B			C			C
Approach Delay (s)		23.9			15.1			24.4			29.1	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	5	25	144	5	23	55	224	44	143	510	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7			5.7		4.6	5.7	5.7	4.6	5.7	5.7
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.93			0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98			0.96		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1729			1791		1805	1900	1615	1805	1900	1615
Flt Permitted		0.89			0.72		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1557			1349		1805	1900	1615	1805	1900	1615
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	18	6	30	171	6	27	65	267	52	170	607	12
RTOR Reduction (vph)	0	24	0	0	7	0	0	0	28	0	0	6
Lane Group Flow (vph)	0	30	0	0	197	0	65	267	24	170	607	6
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Actuated Green, G (s)		15.7			15.7		5.1	37.3	37.3	11.0	43.2	43.2
Effective Green, g (s)		15.7			15.7		5.1	37.3	37.3	11.0	43.2	43.2
Actuated g/C Ratio		0.20			0.20		0.06	0.47	0.47	0.14	0.54	0.54
Clearance Time (s)		5.7			5.7		4.6	5.7	5.7	4.6	5.7	5.7
Vehicle Extension (s)		2.0			2.0		2.0	3.0	3.0	2.0	3.0	3.0
Lane Grp Cap (vph)		305			264		115	885	752	248	1026	872
v/s Ratio Prot							0.04	0.14		c0.09	c0.32	
v/s Ratio Perm		0.02			c0.15				0.02			0.00
v/c Ratio		0.10			0.75		0.57	0.30	0.03	0.69	0.59	0.01
Uniform Delay, d1		26.3			30.3		36.4	13.3	11.6	32.9	12.4	8.5
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	0.99	1.00
Incremental Delay, d2		0.1			9.6		3.8	0.9	0.1	6.1	2.5	0.0
Delay (s)		26.4			39.8		40.1	14.1	11.6	38.9	14.8	8.5
Level of Service		C			D		D	B	B	D	B	A
Approach Delay (s)		26.4			39.8			18.2			19.9	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	184	30	139	543	30	34	230	208	211	355	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7		4.0	5.7		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flt Protected	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Satd. Flow (prot)	1900	1900		1900	1900		1900	1900		1900	1900	
Flt Permitted	1.00	1.00		1.00	1.00		0.29	1.00		0.32	1.00	
Satd. Flow (perm)	1900	1900		1900	1900		559	1900		617	1900	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	200	33	151	590	33	37	250	226	229	386	123
RTOR Reduction (vph)	0	6	0	0	2	0	0	24	0	0	9	0
Lane Group Flow (vph)	71	227	0	151	621	0	37	452	0	229	500	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	7.6	36.8		14.2	43.4		53.6	53.6		53.6	53.6	
Effective Green, g (s)	7.6	36.8		14.2	43.4		53.6	53.6		53.6	53.6	
Actuated g/C Ratio	0.06	0.31		0.12	0.36		0.45	0.45		0.45	0.45	
Clearance Time (s)	4.0	5.7		4.0	5.7		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	120	582		224	687		249	848		275	848	
v/s Ratio Prot	c0.04	0.12		0.08	c0.33			0.24			0.26	
v/s Ratio Perm							0.07			c0.37		
v/c Ratio	0.59	0.39		0.67	0.90		0.15	0.53		0.83	0.59	
Uniform Delay, d1	54.7	32.8		50.7	36.3		19.7	24.1		29.3	24.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.6	0.2		7.8	15.0		1.3	2.4		24.6	3.0	
Delay (s)	62.3	32.9		58.4	51.3		20.9	26.5		53.8	27.9	
Level of Service	E	C		E	D		C	C		D	C	
Approach Delay (s)		39.8			52.7			26.1			36.0	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	39.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

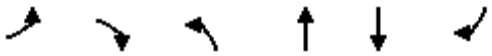
Intersection #21 Dexter Avenue / 2nd Street

Cycle (sec): 105 Critical Vol./Cap.(X): 0.647
Loss Time (sec): 12 Average Delay (sec/veh): 28.6
Optimal Cycle: OPTIMIZED Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	25	25	25	25	25	25	10	20	20	10	20	20
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	1	0 1	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	5	5	5	93	5	393	333	484	5	5	378	101
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:	5	5	5	93	5	393	333	484	5	5	378	101
Added Vol:	0	0	0	0	0	33	33	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	5	5	93	5	426	366	484	5	5	378	101
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	5	5	5	101	5	463	398	526	5	5	411	110
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	5	5	101	5	463	398	526	5	5	411	110
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:	5	5	5	101	5	463	398	526	5	5	411	110
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	0.93	0.93	0.76	1.00	0.85	0.95	1.00	1.00	0.95	0.97	0.97
Lanes:	1.00	0.50	0.50	1.00	1.00	1.00	1.00	0.99	0.01	1.00	0.79	0.21
Final Sat.:	1454	879	879	1444	1900	1615	1805	1879	19	1805	1451	388
Capacity Analysis Module:												
Vol/Sat:	0.00	0.01	0.01	0.07	0.00	0.29	0.22	0.28	0.28	0.00	0.28	0.28
Crit Moves:				****			****				****	
Green/Cycle:	0.24	0.24	0.24	0.24	0.24	0.52	0.28	0.48	0.48	0.16	0.36	0.36
Volume/Cap:	0.02	0.03	0.03	0.29	0.01	0.55	0.78	0.58	0.58	0.02	0.78	0.78
Delay/Veh:	30.6	30.7	30.7	33.2	30.6	17.6	42.0	20.4	20.4	36.8	35.4	35.4
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:	30.6	30.7	30.7	33.2	30.6	17.6	42.0	20.4	20.4	36.8	35.4	35.4
LOS by Move:	C	C	C	C	C	B	D	C	C	D	D	D
HCM2kAvgQ:	0	0	0	3	0	10	14	12	12	0	16	16

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

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	563	883	527	139	340	525
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	5.3	5.3	5.3
Lane Util. Factor	1.00	1.00	*1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1900	1853	3800	1900	1900	1869
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1900	1853	3800	1900	1900	1869
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	605	949	567	149	366	565
RTOR Reduction (vph)	0	40	0	0	0	6
Lane Group Flow (vph)	605	909	567	149	366	559
Confl. Peds. (#/hr)		5				5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%
Turn Type	Prot	pm+ov	Prot	NA	NA	pm+ov
Protected Phases	2	3	3	8	4	2
Permitted Phases		2				4
Actuated Green, G (s)	54.7	78.9	24.2	54.7	25.2	79.9
Effective Green, g (s)	54.7	78.9	24.2	54.7	25.2	79.9
Actuated g/C Ratio	0.46	0.66	0.20	0.46	0.21	0.67
Clearance Time (s)	5.3	5.3	5.3	5.3	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	866	1300	766	866	399	1326
v/s Ratio Prot	0.32	c0.14	0.15	0.08	c0.19	0.19
v/s Ratio Perm		0.35				0.11
v/c Ratio	0.70	0.70	0.74	0.17	0.92	0.42
Uniform Delay, d1	26.1	13.0	45.0	19.3	46.4	9.3
Progression Factor	0.48	0.65	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.8	1.1	3.4	0.4	25.1	0.1
Delay (s)	16.4	9.6	48.3	19.7	71.4	9.4
Level of Service	B	A	D	B	E	A
Approach Delay (s)	12.3			42.4	33.8	
Approach LOS	B			D	C	

Intersection Summary			
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

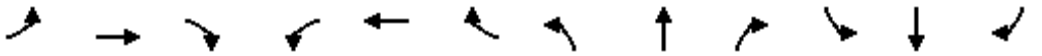
Intersection #123 Summerhill Drive/Grape Street / Railroad Canyon Road

Cycle (sec): 120 Critical Vol./Cap.(X): 0.980
Loss Time (sec): 16 Average Delay (sec/veh): 46.5
Optimal Cycle: OPTIMIZED Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	2	2 0	1 0	2	2 0	3 0	1	2 0	3 0	2
Volume Module:												
Base Vol:	442	320	739	624	541	587	467	1442	705	780	1624	723
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:	442	320	739	624	541	587	467	1442	705	780	1624	723
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Project:	0	0	0	0	8	0	8	13	28	12	0	0
Initial Fut:	442	320	739	624	549	587	475	1455	733	792	1624	723
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:	442	320	739	624	549	587	475	1455	733	792	1624	723
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	442	320	739	624	549	587	475	1455	733	792	1624	723
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:	442	320	739	624	549	587	475	1455	733	792	1624	723
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.08	1.13	0.96	1.08	1.13	0.96	1.08	1.13	0.96	1.08	1.13	0.96
Lanes:	2.00	2.00	2.00	2.00	1.00	2.00	2.00	3.00	1.00	2.00	3.00	2.00
Final Sat.:	4090	4305	3660	4090	2153	3660	4090	6458	1830	4090	6458	3660
Capacity Analysis Module:												
Vol/Sat:	0.11	0.07	0.20	0.15	0.26	0.16	0.12	0.23	0.40	0.19	0.25	0.20
Crit Moves:	****				****				****	****		
Green/Cycle:	0.11	0.13	0.33	0.24	0.26	0.42	0.16	0.30	0.41	0.20	0.34	0.58
Volume/Cap:	0.98	0.57	0.61	0.64	0.98	0.38	0.74	0.75	0.98	0.98	0.74	0.34
Delay/Veh:	90.2	50.3	34.9	42.3	76.9	24.5	52.9	39.9	62.8	74.5	36.4	13.3
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:	90.2	50.3	34.9	42.3	76.9	24.5	52.9	39.9	62.8	74.5	36.4	13.3
LOS by Move:	F	D	C	D	E	C	D	D	E	E	D	B
HCM2kAvgQ:	12	6	9	9	26	3	9	15	31	20	14	1

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

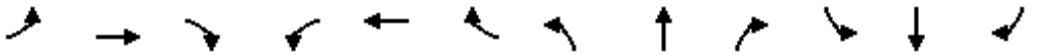
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	508	1643	383	408	1213	486	478	444	508	425	525	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	6.0	4.0	4.6	6.0	4.0	4.0	5.3	4.6	4.0	5.3	4.6
Lane Util. Factor	*1.00	*1.00	1.00	*1.00	*1.00	*1.00	*1.00	*1.00	1.00	*1.00	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	3800	5534	1876	3800	5534	1875	3800	1900	1878	3800	3800	1883
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	3800	5534	1876	3800	5534	1875	3800	1900	1878	3800	3800	1883
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	529	1711	399	425	1264	506	498	462	529	443	547	573
RTOR Reduction (vph)	0	0	58	0	0	66	0	0	80	0	0	63
Lane Group Flow (vph)	529	1711	341	425	1264	440	498	462	449	443	547	510
Confl. Peds. (#/hr)			5			5			5			5
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5!
Permitted Phases			2			6			8			4
Actuated Green, G (s)	20.1	38.5	57.0	15.7	34.1	49.4	18.5	30.6	46.3	15.3	27.4	47.5
Effective Green, g (s)	20.1	38.5	57.0	15.7	34.1	49.4	18.5	30.6	46.3	15.3	27.4	47.5
Actuated g/C Ratio	0.17	0.32	0.48	0.13	0.28	0.41	0.15	0.26	0.39	0.13	0.23	0.40
Clearance Time (s)	4.6	6.0	4.0	4.6	6.0	4.0	4.0	5.3	4.6	4.0	5.3	4.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	636	1775	891	497	1572	834	585	484	724	484	867	745
v/s Ratio Prot	0.14	c0.31	0.06	0.11	c0.23	0.07	0.13	c0.24	0.08	c0.12	0.14	0.11
v/s Ratio Perm			0.12			0.17			0.16			0.16
v/c Ratio	0.83	0.96	0.38	0.86	0.80	0.53	0.85	0.95	0.62	0.92	0.63	0.68
Uniform Delay, d1	48.3	40.1	20.2	51.0	39.9	26.5	49.4	44.0	29.8	51.7	41.7	30.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.1	14.4	0.3	13.5	4.5	0.6	11.4	29.4	1.7	21.9	1.5	2.6
Delay (s)	57.4	54.4	20.5	64.5	44.3	27.1	60.8	73.5	31.4	73.6	43.2	32.6
Level of Service	E	D	C	E	D	C	E	E	C	E	D	C
Approach Delay (s)		49.9			44.3			54.3			48.0	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	48.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	102.2%	ICU Level of Service	G
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	475	83	45	29	107	208	45	642	49	260	368	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.7		4.6	5.7	5.7	4.6	5.7		4.6	5.7	5.7
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Satd. Flow (prot)	3686	1900		1900	1900	1615	1900	3610		1900	3610	1615
Flt Permitted	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Satd. Flow (perm)	3686	1900		1900	1900	1615	1900	3610		1900	3610	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	516	90	49	32	116	226	49	698	53	283	400	609
RTOR Reduction (vph)	0	22	0	0	0	195	0	5	0	0	0	334
Lane Group Flow (vph)	516	117	0	32	116	31	49	746	0	283	400	275
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	15.3	25.6		3.4	13.7	13.7	5.2	31.9		18.5	45.2	45.2
Effective Green, g (s)	15.3	25.6		3.4	13.7	13.7	5.2	31.9		18.5	45.2	45.2
Actuated g/C Ratio	0.15	0.26		0.03	0.14	0.14	0.05	0.32		0.18	0.45	0.45
Clearance Time (s)	4.6	5.7		4.6	5.7	5.7	4.6	5.7		4.6	5.7	5.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0		2.0	3.0	3.0
Lane Grp Cap (vph)	563	486		64	260	221	98	1151		351	1631	729
v/s Ratio Prot	c0.14	0.06		0.02	c0.06		0.03	c0.21		c0.15	0.11	
v/s Ratio Perm						0.02						0.17
v/c Ratio	0.92	0.24		0.50	0.45	0.14	0.50	0.65		0.81	0.25	0.38
Uniform Delay, d1	41.7	29.5		47.5	39.7	38.0	46.1	29.2		39.0	16.9	18.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	19.4	0.1		2.2	0.4	0.1	1.5	2.8		12.0	0.4	1.5
Delay (s)	61.1	29.6		49.7	40.1	38.1	47.6	32.1		51.0	17.2	19.6
Level of Service	E	C		D	D	D	D	C		D	B	B
Approach Delay (s)		54.4			39.7			33.0			25.8	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	35.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

Intersection #29 Conard Avenue / Central Avenue (SR-74)

Cycle (sec):	75	Critical Vol./Cap.(X):	0.740
Loss Time (sec):	12	Average Delay (sec/veh):	20.9
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	29	29	29	10	10	10	10	26	26	10	26	26
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	1 0	1 0	1	2 0	4 0	1	1 0	4 0	1
Volume Module:												
Base Vol:	63	39	26	188	33	484	516	3046	70	18	2391	158
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:	63	39	26	188	33	484	516	3046	70	18	2391	158
Added Vol:	4	0	0	0	0	8	8	54	4	0	54	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	67	39	26	188	33	492	524	3100	74	18	2445	158
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	68	40	26	191	34	501	534	3157	75	18	2490	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	40	26	191	34	501	534	3157	75	18	2490	161
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:	68	40	26	191	34	501	534	3157	75	18	2490	161
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	0.83	0.83	0.70	1.00	0.85	0.92	0.91	0.85	0.95	0.91	0.85
Lanes:	0.51	0.29	0.20	1.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	798	464	310	1322	1900	1615	3502	6916	1615	1805	6916	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.09	0.14	0.02	0.31	0.15	0.46	0.05	0.01	0.36	0.10
Crit Moves:						****		****		****		
Green/Cycle:	0.18	0.18	0.18	0.18	0.18	0.38	0.20	0.53	0.53	0.13	0.46	0.46
Volume/Cap:	0.47	0.47	0.47	0.79	0.10	0.82	0.78	0.86	0.09	0.08	0.78	0.21
Delay/Veh:	29.3	29.3	29.3	45.8	26.2	29.8	34.9	17.9	8.9	29.6	18.5	12.4
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:	29.3	29.3	29.3	45.8	26.2	29.8	34.9	17.9	8.9	29.6	18.5	12.4
LOS by Move:	C	C	C	D	C	C	C	B	A	C	B	B
HCM2kAvgQ:	3	3	3	7	1	13	8	21	1	0	15	2

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

Intersection #30 Rosetta Canyon Drive / Central Avenue (SR-74)

Cycle (sec):	120	Critical Vol./Cap.(X):	0.997
Loss Time (sec):	12	Average Delay (sec/veh):	36.8
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Protected		
Rights:	Ovl			Include			Ovl			Include		
Min. Green:	33	0	33	0	0	0	0	32	32	10	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	0	0 1	0	0	0 0	0	0	4 0 1	2 0	4 0	0
Volume Module:												
Base Vol:	454	0	570	0	0	0	0	2741	640	438	1908	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	454	0	570	0	0	0	0	2741	640	438	1908	0
Added Vol:	12	0	0	0	0	0	0	42	13	0	41	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	466	0	570	0	0	0	0	2783	653	438	1949	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	475	0	581	0	0	0	0	2837	666	446	1987	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	475	0	581	0	0	0	0	2837	666	446	1987	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	475	0	581	0	0	0	0	2837	666	446	1987	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	1.00	0.91	0.85	0.92	0.91	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	0.00	4.00	1.00	2.00	4.00	0.00
Final Sat.:	3502	0	1615	0	0	0	0	6916	1615	3502	6916	0
Capacity Analysis Module:												
Vol/Sat:	0.14	0.00	0.36	0.00	0.00	0.00	0.00	0.41	0.41	0.13	0.29	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.36	0.00	0.49	0.00	0.00	0.00	0.00	0.41	0.77	0.13	0.54	0.00
Volume/Cap:	0.38	0.00	0.74	0.00	0.00	0.00	0.00	1.00	0.53	1.00	0.53	0.00
Delay/Veh:	28.6	0.0	28.1	0.0	0.0	0.0	0.0	51.5	5.8	94.0	18.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.6	0.0	28.1	0.0	0.0	0.0	0.0	51.5	5.8	94.0	18.0	0.0
LOS by Move:	C	A	C	A	A	A	A	D	A	F	B	A
HCM2kAvgQ:	7	0	18	0	0	0	0	36	10	13	13	0

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

Intersection #31 Riverside Street / Central Avenue (SR-74)

Cycle (sec): 115 Critical Vol./Cap.(X): 0.994
Loss Time (sec): 16 Average Delay (sec/veh): 52.6
Optimal Cycle: OPTIMIZED Level Of Service: D

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Ovl				Ovl			
Min. Green:	10	27	27		10	27	27		10	29	29		10	29	29	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	2	0 2	0	1	2	0 2	0	1	2	0 4	0	1	2	0 4	0	1
Volume Module:																
Base Vol:	301	745	272		475	994	273		358	2493	429		356	1888	544	
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:	301	745	272		475	994	273		358	2493	429		356	1888	544	
Added Vol:	8	0	0		0	0	0		0	29	8		0	29	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	309	745	272		475	994	273		358	2522	437		356	1917	544	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.96	0.96	0.96		0.96	0.96	0.96		0.96	0.96	0.96		0.96	0.96	0.96	
PHF Volume:	323	779	285		497	1040	286		374	2638	457		372	2005	569	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	323	779	285		497	1040	286		374	2638	457		372	2005	569	
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:	323	779	285		497	1040	286		374	2638	457		372	2005	569	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.92	0.95	0.85		0.92	0.95	0.85		0.92	0.94	0.85		0.92	0.94	0.85	
Lanes:	2.00	2.00	1.00		2.00	2.00	1.00		2.00	4.00	1.00		2.00	4.00	1.00	
Final Sat.:	3502	3610	1615		3502	3610	1615		3502	7144	1615		3502	7144	1615	
Capacity Analysis Module:																
Vol/Sat:	0.09	0.22	0.18		0.14	0.29	0.18		0.11	0.37	0.28		0.11	0.28	0.35	
Crit Moves:	****					****				****				****		
Green/Cycle:	0.09	0.24	0.24		0.14	0.29	0.29		0.13	0.37	0.46		0.11	0.35	0.49	
Volume/Cap:	0.99	0.91	0.74		0.98	0.99	0.61		0.81	0.99	0.61		0.99	0.81	0.72	
Delay/Veh:	100.4	55.5	47.9		85.1	67.1	37.6		58.9	52.1	24.5		96.2	36.3	26.2	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	100.4	55.5	47.9		85.1	67.1	37.6		58.9	52.1	24.5		96.2	36.3	26.2	
LOS by Move:	F	E	D		F	E	D		E	D	C		F	D	C	
HCM2kAvgQ:	10	18	11		14	26	9		9	32	12		11	19	17	

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Weekday PM Peak Hour

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

Intersection #32 Meadowbrook Avenue/Greenwald Avenue / Central Avenue (SR-74)

Cycle (sec):	120	Critical Vol./Cap.(X):	0.997
Loss Time (sec):	12	Average Delay (sec/veh):	49.1
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	34	34	34	10	10	10	10	25	25	10	25	25
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 0	1	1 0	1 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	251	32	375	51	25	199	32	2713	337	392	2148	190
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:	251	32	375	51	25	199	32	2713	337	392	2148	190
Added Vol:	8	0	0	0	0	0	0	13	8	0	12	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	259	32	375	51	25	199	32	2726	345	392	2160	190
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	282	35	408	55	27	216	35	2963	375	426	2348	207
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	282	35	408	55	27	216	35	2963	375	426	2348	207
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:	282	35	408	55	27	216	35	2963	375	426	2348	207
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.03	0.88	0.76	1.03	0.88	0.95	0.97	0.88	0.95	0.97	0.88
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	1464	1963	1668	1450	1963	1668	3617	5535	1668	3617	5535	1668
Capacity Analysis Module:												
Vol/Sat:	0.19	0.02	0.24	0.04	0.01	0.13	0.01	0.54	0.22	0.12	0.42	0.12
Crit Moves:			****					****		****		
Green/Cycle:	0.28	0.28	0.28	0.28	0.28	0.28	0.10	0.51	0.51	0.11	0.52	0.52
Volume/Cap:	0.68	0.06	0.86	0.13	0.05	0.46	0.09	1.06	0.44	1.06	0.82	0.24
Delay/Veh:	42.6	31.4	55.8	32.2	31.3	36.1	49.0	65.0	19.3	114.7	26.5	16.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.6	31.4	55.8	32.2	31.3	36.1	49.0	65.0	19.3	114.7	26.5	16.2
LOS by Move:	D	C	E	C	C	D	D	E	B	F	C	B
HCM2kAvgQ:	10	1	17	2	1	7	1	52	9	13	28	4

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

Intersection #1 Lakeshore Drive / Riverside Drive (SR-74)

Cycle (sec):	105	Critical Vol./Cap.(X):	0.762
Loss Time (sec):	16	Average Delay (sec/veh):	37.8
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Ovl			Ovl			Ovl		
Min. Green:	10	25	25	10	33	33	10	31	31	10	31	31
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	3 0	1	2 0	3 0	1	1 0	4 0	1
Volume Module:												
Base Vol:	295	426	98	547	475	448	402	1091	301	88	1600	473
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:	295	426	98	547	475	448	402	1091	301	88	1600	473
Added Vol:	0	0	18	18	0	0	0	18	0	18	18	18
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	295	426	116	565	475	448	402	1109	301	106	1618	491
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	303	438	119	581	488	460	413	1140	309	109	1663	505
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	303	438	119	581	488	460	413	1140	309	109	1663	505
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:	303	438	119	581	488	460	413	1140	309	109	1663	505
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.91	0.85	0.92	0.91	0.85	0.95	0.91	0.85
Lanes:	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	1.00	4.00	1.00
Final Sat.:	3502	3610	1615	3502	5187	1615	3502	5187	1615	1805	6916	1615
Capacity Analysis Module:												
Vol/Sat:	0.09	0.12	0.07	0.17	0.09	0.29	0.12	0.22	0.19	0.06	0.24	0.31
Crit Moves:		****		****			****				****	
Green/Cycle:	0.10	0.24	0.24	0.18	0.32	0.45	0.13	0.32	0.42	0.10	0.30	0.48
Volume/Cap:	0.88	0.51	0.31	0.90	0.29	0.63	0.90	0.68	0.46	0.58	0.81	0.65
Delay/Veh:	69.2	35.2	33.4	58.0	26.6	23.6	65.9	32.1	22.3	49.4	37.0	22.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	69.2	35.2	33.4	58.0	26.6	23.6	65.9	32.1	22.3	49.4	37.0	22.7
LOS by Move:	E	D	C	E	C	C	E	C	C	D	D	C
HCM2kAvgQ:	8	7	3	13	4	12	10	13	7	4	16	13

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

Intersection #2 W. Graham Avenue / N. Main Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.722
Loss Time (sec):	12	Average Delay (sec/veh):	30.6
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	25	25	25	25	25	25	10	20	20	10	20	20
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	1	0	0 1	0	1	0	0 1	0
Volume Module:												
Base Vol:	17	38	12	176	25	167	243	452	40	23	500	113
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	38	12	176	25	167	243	452	40	23	500	113
Added Vol:	0	0	0	12	0	0	0	24	0	0	24	12
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	17	38	12	188	25	167	243	476	40	23	524	125
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
PHF Volume:	17	39	12	192	26	171	248	487	41	24	536	128
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	17	39	12	192	26	171	248	487	41	24	536	128
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:	17	39	12	192	26	171	248	487	41	24	536	128
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.89	0.89	0.89	0.74	0.87	0.87	0.95	0.99	0.99	0.95	0.97	0.97
Lanes:	0.25	0.57	0.18	1.00	0.13	0.87	1.00	0.92	0.08	1.00	0.81	0.19
Final Sat.:	430	961	304	1397	215	1436	1805	1732	146	1805	1490	355
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.14	0.12	0.12	0.14	0.28	0.28	0.01	0.36	0.36
Crit Moves:				****			****				****	
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.17	0.46	0.46	0.17	0.46	0.46
Volume/Cap:	0.16	0.16	0.16	0.55	0.48	0.48	0.79	0.60	0.60	0.08	0.79	0.79
Delay/Veh:	29.5	29.5	29.5	34.5	32.8	32.8	52.1	21.1	21.1	35.4	28.2	28.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.5	29.5	29.5	34.5	32.8	32.8	52.1	21.1	21.1	35.4	28.2	28.2
LOS by Move:	C	C	C	C	C	C	D	C	C	D	C	C
HCM2kAvgQ:	2	2	2	6	6	6	9	12	12	1	19	19

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

Intersection #3 E. Lakeshore Drive/Mission Trail / Diamond Drive

Cycle (sec):	120	Critical Vol./Cap.(X):	0.992
Loss Time (sec):	16	Average Delay (sec/veh):	53.6
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Include			Ovl	
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	2	2 0	3 0	1	2 0	3 0	1	2 0	3 0	2
Volume Module:												
Base Vol:	245	933	969	775	633	422	554	1213	74	860	1046	457
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:	245	933	969	775	633	422	554	1213	74	860	1046	457
Added Vol:	0	6	12	0	6	0	0	12	0	12	12	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	245	939	981	775	639	422	554	1225	74	872	1058	457
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	258	989	1034	817	673	445	584	1291	78	919	1115	482
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	258	989	1034	817	673	445	584	1291	78	919	1115	482
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:	258	989	1034	817	673	445	584	1291	78	919	1115	482
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.03	0.88	0.95	1.03	0.88	0.95	1.03	0.85	0.98	1.03	0.85
Lanes:	2.00	3.00	2.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	2.00
Final Sat.:	3610	5888	3337	3610	5888	1668	3610	5888	1615	3729	5888	3230
Capacity Analysis Module:												
Vol/Sat:	0.07	0.17	0.31	0.23	0.11	0.27	0.16	0.22	0.05	0.25	0.19	0.15
Crit Moves:		****		****				****		****		
Green/Cycle:	0.17	0.17	0.42	0.23	0.23	0.45	0.22	0.22	0.22	0.25	0.25	0.48
Volume/Cap:	0.43	0.99	0.74	0.99	0.50	0.60	0.75	0.99	0.22	0.99	0.75	0.31
Delay/Veh:	45.3	76.3	31.7	75.6	40.5	26.4	48.0	69.6	38.6	72.6	43.4	19.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.3	76.3	31.7	75.6	40.5	26.4	48.0	69.6	38.6	72.6	43.4	19.1
LOS by Move:	D	E	C	E	D	C	D	E	D	E	D	B
HCM2kAvgQ:	4	17	16	21	7	11	11	21	2	23	13	3

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

Intersection #4 Gunnerson Street / Riverside Drive (SR-74)

Cycle (sec):	120	Critical Vol./Cap.(X):	0.856
Loss Time (sec):	12	Average Delay (sec/veh):	22.6
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Permitted				Permitted				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	15	15	15		15	15	15		10	30	30		10	30	30	
Y+R:	4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0		4.0	4.0	4.0	
Lanes:	0	1	0	0	1	0	1	0	0	1	1	0	1	0	1	1	0
Volume Module:																
Base Vol:	105	5	71		25	5	67		131	1327	171		26	1882	27	
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:	105	5	71		25	5	67		131	1327	171		26	1882	27	
Added Vol:	0	0	18		18	0	0		0	60	0		18	60	18	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	105	5	89		43	5	67		131	1387	171		44	1942	45	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	0.92	0.92	0.92		0.92	0.92	0.92		0.92	0.92	0.92		0.92	0.92	0.92	
PHF Volume:	114	5	97		47	5	73		142	1506	186		48	2109	49	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	114	5	97		47	5	73		142	1506	186		48	2109	49	
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:	114	5	97		47	5	73		142	1506	186		48	2109	49	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.69	0.69	0.85		0.54	0.54	0.85		0.95	0.93	0.93		0.95	0.95	0.95	
Lanes:	0.95	0.05	1.00		0.90	0.10	1.00		1.00	1.78	0.22		1.00	1.95	0.05	
Final Sat.:	1242	59	1615		917	107	1615		1805	3162	390		1805	3518	82	
Capacity Analysis Module:																
Vol/Sat:	0.09	0.09	0.06		0.05	0.05	0.05		0.08	0.48	0.48		0.03	0.60	0.60	
Crit Moves:	****								****					****		
Green/Cycle:	0.13	0.13	0.13		0.13	0.13	0.13		0.09	0.66	0.66		0.12	0.68	0.68	
Volume/Cap:	0.73	0.73	0.48		0.41	0.41	0.36		0.88	0.72	0.72		0.23	0.88	0.88	
Delay/Veh:	66.4	66.4	50.6		50.5	50.5	49.2		91.3	14.4	14.4		48.8	18.7	18.7	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	66.4	66.4	50.6		50.5	50.5	49.2		91.3	14.4	14.4		48.8	18.7	18.7	
LOS by Move:	E	E	D		D	D	D		F	B	B		D	B	B	
HCM2kAvgQ:	6	6	4		2	2	3		8	22	22		2	35	35	

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

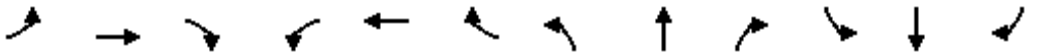
Intersection #5 Collier Avenue / Riverside Drive (SR-74)

Cycle (sec):	115	Critical Vol./Cap.(X):	0.963
Loss Time (sec):	16	Average Delay (sec/veh):	54.0
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ignore			Include		
Min. Green:	10	15	15	10	15	15	10	20	20	10	20	20
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	1115	881	222	372	688	289	175	675	917	410	863	343
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:	1115	881	222	372	688	289	175	675	917	410	863	343
Added Vol:	96	18	0	0	18	0	0	0	96	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1211	899	222	372	706	289	175	675	1013	410	863	343
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.00	0.92	0.92	0.92
PHF Volume:	1312	974	241	403	765	313	190	731	0	444	935	372
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1312	974	241	403	765	313	190	731	0	444	935	372
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	1312	974	241	403	765	313	190	731	0	444	935	372
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	1.03	0.85	0.95	1.03	0.85	0.95	1.03	1.00	0.95	1.03	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3729	3925	1615	3610	3925	1615	3610	5888	1900	3610	5888	1615
Capacity Analysis Module:												
Vol/Sat:	0.35	0.25	0.15	0.11	0.19	0.19	0.05	0.12	0.00	0.12	0.16	0.23
Crit Moves:	****				****		****					****
Green/Cycle:	0.35	0.38	0.51	0.17	0.19	0.28	0.09	0.19	0.00	0.13	0.23	0.23
Volume/Cap:	1.00	0.66	0.29	0.66	1.00	0.69	0.60	0.67	0.00	0.94	0.69	1.00
Delay/Veh:	63.1	30.9	16.6	47.4	79.8	41.3	53.9	45.2	0.0	76.3	42.2	92.0
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:	63.1	30.9	16.6	47.4	79.8	41.3	53.9	45.2	0.0	76.3	42.2	92.0
LOS by Move:	E	C	B	D	E	D	D	D	A	E	D	F
HCM2kAvgQ:	30	15	5	8	19	11	4	9	0	11	11	19

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

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	405	1104	237	328	1038	1147	179	510	177	1257	480	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	13	12	12	13	12	12	12
Total Lost time (s)	4.6	4.6	5.3	4.6	5.3	4.0	5.3	5.3	4.6	5.3	5.3	5.3
Lane Util. Factor	*1.00	*1.00	*1.00	*1.00	*1.00	*1.00	1.00	*1.00	*1.00	*1.00	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	3800	5327	1880	3585	3585	1937	1900	3800	3636	5700	3800	1866
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	3800	5327	1880	3585	3585	1937	1900	3800	3636	5700	3800	1866
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	440	1200	258	357	1128	1247	195	554	192	1366	522	161
RTOR Reduction (vph)	0	0	62	0	0	0	0	0	83	0	0	121
Lane Group Flow (vph)	440	1200	196	357	1128	1247	195	554	109	1366	522	40
Confl. Peds. (#/hr)			5			5						5
Heavy Vehicles (%)	0%	7%	0%	6%	6%	0%	0%	0%	8%	0%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	Free	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2	3	1	6	
Permitted Phases			4			Free			2			6
Actuated Green, G (s)	14.4	36.9	53.2	16.9	38.7	120.0	16.3	17.7	34.6	28.7	30.1	30.1
Effective Green, g (s)	14.4	36.9	53.2	16.9	38.7	120.0	16.3	17.7	34.6	28.7	30.1	30.1
Actuated g/C Ratio	0.12	0.31	0.44	0.14	0.32	1.00	0.14	0.15	0.29	0.24	0.25	0.25
Clearance Time (s)	4.6	4.6	5.3	4.6	5.3		5.3	5.3	4.6	5.3	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	456	1638	833	504	1156	1937	258	560	1048	1363	953	468
v/s Ratio Prot	c0.12	0.23	0.03	0.10	c0.31		0.10	c0.15	0.01	c0.24	0.14	
v/s Ratio Perm			0.07			c0.64			0.02			0.02
v/c Ratio	0.96	0.73	0.24	0.71	0.98	0.64	0.76	0.99	0.10	1.00	0.55	0.09
Uniform Delay, d1	52.5	37.1	20.8	49.2	40.2	0.0	49.9	51.1	31.3	45.6	39.0	34.4
Progression Factor	1.00	1.00	1.00	0.96	1.06	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	32.8	1.5	0.1	5.0	14.9	1.0	18.5	35.5	0.2	24.9	2.3	0.4
Delay (s)	85.3	38.6	20.8	52.0	57.3	1.0	68.4	86.5	31.5	70.6	41.3	34.8
Level of Service	F	D	C	D	E	A	E	F	C	E	D	C
Approach Delay (s)		47.0			30.9			71.6			60.3	
Approach LOS		D			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	47.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	95.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

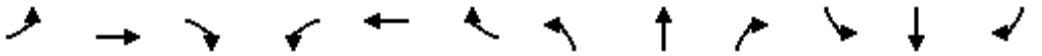
Intersection #107 Auto Center Drive / Diamond Drive

Cycle (sec):	110	Critical Vol./Cap.(X):	0.996
Loss Time (sec):	16	Average Delay (sec/veh):	49.8
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	2	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	198	478	522	573	462	577	908	1179	869	692	1588	248
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:	198	478	522	573	462	577	908	1179	869	692	1588	248
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Project:	24	0	48	0	0	0	0	24	0	0	0	0
Initial Fut:	222	478	570	573	462	577	908	1203	869	692	1588	248
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:	222	478	570	573	462	577	908	1203	869	692	1588	248
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	222	478	570	573	462	577	908	1203	869	692	1588	248
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:	222	478	570	573	462	577	908	1203	869	692	1588	248
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.01	1.07	0.96	1.01	1.07	0.96	1.01	1.07	1.02	1.01	1.07	0.96
Lanes:	2.00	2.00	1.00	2.00	2.00	2.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3852	4055	1830	3852	4055	3660	3852	6082	1938	3852	6082	1830
Capacity Analysis Module:												
Vol/Sat:	0.06	0.12	0.31	0.15	0.11	0.16	0.24	0.20	0.45	0.18	0.26	0.14
Crit Moves:			****	****					****	****		
Green/Cycle:	0.13	0.13	0.31	0.15	0.16	0.41	0.26	0.36	0.48	0.18	0.28	0.43
Volume/Cap:	0.46	0.89	1.00	1.00	0.73	0.38	0.92	0.55	0.93	1.00	0.92	0.31
Delay/Veh:	45.4	63.7	74.2	83.2	48.4	22.7	53.3	28.5	41.3	78.1	46.8	20.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	45.4	63.7	74.2	83.2	48.4	22.7	53.3	28.5	41.3	78.1	46.8	20.7
LOS by Move:	D	E	E	F	D	C	D	C	D	E	D	C
HCM2kAvgQ:	4	11	26	15	8	3	18	7	15	17	20	2

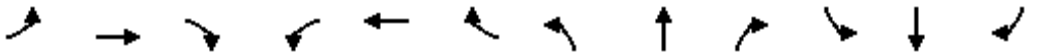
Note: Queue reported is the number of cars per lane.

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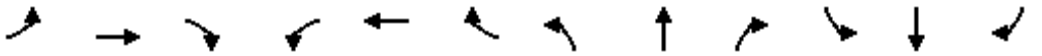
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1741	561	685	1359	0	0	0	0	747	0	740
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3	4.6	5.3					5.3		5.3
Lane Util. Factor		*1.00	1.00	*1.00	*1.00					*1.00		*1.00
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00		0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00		1.00
Frt		1.00	1.00	1.00	1.00					1.00		1.00
Flt Protected		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (prot)		5481	1841	3800	5700					3486		3696
Flt Permitted		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (perm)		5481	1841	3800	5700					3486		3696
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1852	597	729	1446	0	0	0	0	795	0	787
RTOR Reduction (vph)	0	0	314	0	0	0	0	0	0	0	0	80
Lane Group Flow (vph)	0	1852	283	729	1446	0	0	0	0	795	0	707
Confl. Peds. (#/hr)			5									5
Heavy Vehicles (%)	0%	4%	1%	0%	0%	0%	0%	0%	0%	9%	0%	1%
Turn Type		NA	Perm	Prot	NA					Perm		Perm
Protected Phases		2		1	6							
Permitted Phases			2							4		4
Actuated Green, G (s)		47.6	47.6	25.5	77.7					31.7		31.7
Effective Green, g (s)		47.6	47.6	25.5	77.7					31.7		31.7
Actuated g/C Ratio		0.40	0.40	0.21	0.65					0.26		0.26
Clearance Time (s)		5.3	5.3	4.6	5.3					5.3		5.3
Vehicle Extension (s)		2.0	2.0	2.0	2.0					2.0		2.0
Lane Grp Cap (vph)		2174	730	807	3690					920		976
v/s Ratio Prot		c0.34		c0.19	0.25							
v/s Ratio Perm			0.15							c0.23		0.19
v/c Ratio		0.85	0.39	0.90	0.39					0.86		0.72
Uniform Delay, d1		33.0	25.8	46.0	10.0					42.1		40.2
Progression Factor		1.00	1.00	0.57	0.77					1.00		1.00
Incremental Delay, d2		4.5	1.6	8.7	0.2					10.6		4.7
Delay (s)		37.5	27.4	35.0	7.9					52.7		44.8
Level of Service		D	C	D	A					D		D
Approach Delay (s)		35.0			17.0			0.0			48.8	
Approach LOS		C			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	32.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1646	892	753	1983	0	0	0	0	666	0	731
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	4.6	5.7					5.3		5.3
Lane Util. Factor		*1.00	*1.00	*1.00	*1.00					*1.00		*1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00					1.00		1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00		1.00
Frt		1.00	1.00	1.00	1.00					1.00		1.00
Flt Protected		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (prot)		5588	3725	3725	3762					3725		3689
Flt Permitted		1.00	1.00	1.00	1.00					1.00		1.00
Satd. Flow (perm)		5588	3725	3725	3762					3725		3689
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1680	910	768	2023	0	0	0	0	680	0	746
RTOR Reduction (vph)	0	0	369	0	0	0	0	0	0	0	0	52
Lane Group Flow (vph)	0	1680	541	768	2023	0	0	0	0	680	0	694
Confl. Peds. (#/hr)												5
Heavy Vehicles (%)	0%	2%	2%	2%	1%	0%	0%	0%	0%	2%	0%	3%
Turn Type		NA	Perm	Prot	NA					Prot		Prot
Protected Phases		2		1	6					4		4
Permitted Phases			2									
Actuated Green, G (s)		50.1	50.1	28.2	82.9					26.1		26.1
Effective Green, g (s)		50.1	50.1	28.2	82.9					26.1		26.1
Actuated g/C Ratio		0.42	0.42	0.23	0.69					0.22		0.22
Clearance Time (s)		5.7	5.7	4.6	5.7					5.3		5.3
Vehicle Extension (s)		2.0	2.0	2.0	2.0					2.0		2.0
Lane Grp Cap (vph)		2332	1555	875	2598					810		802
v/s Ratio Prot		0.30		c0.21	c0.54					0.18		c0.19
v/s Ratio Perm			0.15									
v/c Ratio		0.72	0.35	0.88	0.78					0.84		0.87
Uniform Delay, d1		29.1	23.8	44.2	12.4					44.9		45.3
Progression Factor		1.20	2.12	1.00	1.00					1.00		1.00
Incremental Delay, d2		1.1	0.3	9.6	2.4					7.3		9.4
Delay (s)		36.0	50.9	53.9	14.8					52.3		54.6
Level of Service		D	D	D	B					D		D
Approach Delay (s)		41.2			25.5			0.0			53.5	
Approach LOS		D			C			A			D	

Intersection Summary			
HCM 2000 Control Delay	37.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



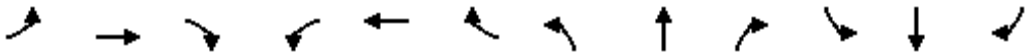
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	892	166	242	458	0	0	0	0	497	0	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3	4.6	5.3					5.3	5.3	5.3
Lane Util. Factor		*1.00	1.00	*1.00	*1.00					*1.00	*1.00	0.95
Frpb, ped/bikes		1.00	0.96	1.00	1.00					1.00	0.98	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	1.00	1.00	1.00					1.00	0.85	1.00
Flt Protected		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Satd. Flow (prot)		3762	1762	3654	3725					1900	1544	1725
Flt Permitted		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Satd. Flow (perm)		3762	1762	3654	3725					1900	1544	1725
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	929	173	252	477	0	0	0	0	518	0	252
RTOR Reduction (vph)	0	0	113	0	0	0	0	0	0	0	73	73
Lane Group Flow (vph)	0	929	60	252	477	0	0	0	0	518	53	53
Confl. Peds. (#/hr)			5									5
Heavy Vehicles (%)	0%	1%	4%	4%	2%	0%	0%	0%	0%	0%	0%	3%
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		2		1	6					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		41.7	41.7	12.2	58.5					50.9	50.9	50.9
Effective Green, g (s)		41.7	41.7	12.2	58.5					50.9	50.9	50.9
Actuated g/C Ratio		0.35	0.35	0.10	0.49					0.42	0.42	0.42
Clearance Time (s)		5.3	5.3	4.6	5.3					5.3	5.3	5.3
Vehicle Extension (s)		2.0	2.0	2.0	2.0					2.0	2.0	2.0
Lane Grp Cap (vph)		1307	612	371	1815					805	654	731
v/s Ratio Prot		c0.25		c0.07	0.13					c0.27	0.03	
v/s Ratio Perm			0.03									0.03
v/c Ratio		0.71	0.10	0.68	0.26					0.64	0.08	0.07
Uniform Delay, d1		33.9	26.4	52.0	18.1					27.4	20.6	20.5
Progression Factor		1.00	1.00	0.92	0.71					1.00	1.00	1.00
Incremental Delay, d2		3.3	0.3	3.1	0.0					3.9	0.2	0.2
Delay (s)		37.2	26.8	51.2	12.8					31.3	20.9	20.7
Level of Service		D	C	D	B					C	C	C
Approach Delay (s)		35.6			26.1			0.0			27.9	
Approach LOS		D			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL2	SBL	SBT	SWL	SWR
Lane Configurations									
Volume (vph)	133	842	671	96	517	0	1030	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	13	12	12	12	12	12	12
Total Lost time (s)	6.0	6.0	6.0	6.0	4.5		6.0		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00		*1.00		
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00		1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00		
Frt	1.00	1.00	1.00	1.00	1.00		1.00		
Flt Protected	1.00	1.00	1.00	1.00	1.00		1.00		
Satd. Flow (prot)	1863	3617	1925	1863	3725		3725		
Flt Permitted	1.00	1.00	1.00	1.00	1.00		1.00		
Satd. Flow (perm)	1863	3617	1925	1863	3725		3725		
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	136	859	685	98	528	0	1051	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	136	859	685	98	528	0	1051	0	0
Confl. Peds. (#/hr)		5							
Turn Type	Prot	Perm	NA	Perm	Prot		NA		
Protected Phases	8		2		1		6		
Permitted Phases		8		2					
Actuated Green, G (s)	32.5	32.5	51.3	51.3	19.7		75.5		
Effective Green, g (s)	32.5	32.5	51.3	51.3	19.7		75.5		
Actuated g/C Ratio	0.27	0.27	0.43	0.43	0.16		0.63		
Clearance Time (s)	6.0	6.0	6.0	6.0	4.5		6.0		
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0		
Lane Grp Cap (vph)	504	979	822	796	611		2343		
v/s Ratio Prot	0.07		c0.36		c0.14		0.28		
v/s Ratio Perm		c0.24		0.05					
v/c Ratio	0.27	0.88	0.83	0.12	0.86		0.45		
Uniform Delay, d1	34.4	41.8	30.5	20.8	48.8		11.5		
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00		
Incremental Delay, d2	0.1	8.7	9.7	0.3	11.8		0.6		
Delay (s)	34.5	50.6	40.2	21.1	60.6		12.1		
Level of Service	C	D	D	C	E		B		
Approach Delay (s)	48.4		37.8				28.3	0.0	
Approach LOS	D		D				C	A	

Intersection Summary			
HCM 2000 Control Delay	36.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	93.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



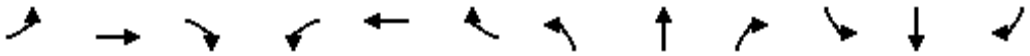
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	817	1671	0	0	1650	413	394	0	311	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.3			5.3	5.3	5.3		5.3			
Lane Util. Factor	*1.00	*1.00			*1.00	1.00	1.00		*1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00		0.98			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00		1.00			
Frt	1.00	1.00			1.00	1.00	1.00		1.00			
Flt Protected	1.00	1.00			1.00	1.00	1.00		1.00			
Satd. Flow (prot)	3800	5481			5700	1722	1900		3733			
Flt Permitted	1.00	1.00			1.00	1.00	1.00		1.00			
Satd. Flow (perm)	3800	5481			5700	1722	1900		3733			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	834	1705	0	0	1684	421	402	0	317	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	241	0	0	46	0	0	0
Lane Group Flow (vph)	834	1705	0	0	1684	180	402	0	271	0	0	0
Confl. Peds. (#/hr)						5			5			
Heavy Vehicles (%)	0%	4%	5%	0%	0%	8%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Perm		Perm			
Protected Phases	5	2			6							
Permitted Phases						6	8		8			
Actuated Green, G (s)	29.3	77.7			43.8	43.8	31.7		31.7			
Effective Green, g (s)	29.3	77.7			43.8	43.8	31.7		31.7			
Actuated g/C Ratio	0.24	0.65			0.36	0.36	0.26		0.26			
Clearance Time (s)	4.6	5.3			5.3	5.3	5.3		5.3			
Vehicle Extension (s)	2.0	2.0			2.0	2.0	2.0		2.0			
Lane Grp Cap (vph)	927	3548			2080	628	501		986			
v/s Ratio Prot	c0.22	0.31			c0.30							
v/s Ratio Perm						0.10	c0.21		0.07			
v/c Ratio	0.90	0.48			0.81	0.29	0.80		0.27			
Uniform Delay, d1	43.9	10.8			34.3	27.0	41.2		35.0			
Progression Factor	0.73	0.40			1.00	1.00	1.00		1.00			
Incremental Delay, d2	6.0	0.2			3.5	1.1	12.8		0.7			
Delay (s)	38.0	4.5			37.9	28.2	54.0		35.7			
Level of Service	D	A			D	C	D		D			
Approach Delay (s)		15.5			35.9			45.9			0.0	
Approach LOS		B			D			D			A	

Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR2	WBT	WBR	NWL	NWR2
Lane Configurations						
Volume (vph)	1882	431	1859	1000	878	1030
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.7		5.3	5.3
Lane Util. Factor	*1.00	1.00	*1.00		*1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	1.00	1.00	1.00		1.00	1.00
Satd. Flow (prot)	5588	1615	5587		3689	3725
Flt Permitted	1.00	1.00	1.00		1.00	1.00
Satd. Flow (perm)	5588	1615	5587		3689	3725
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1920	440	1897	1020	896	1051
RTOR Reduction (vph)	0	166	105	0	0	23
Lane Group Flow (vph)	1920	274	2812	0	896	1028
Confl. Peds. (#/hr)				5		
Heavy Vehicles (%)	2%	0%	1%	2%	3%	2%
Turn Type	NA	Perm	NA		Prot	Prot
Protected Phases	2		6		8	8
Permitted Phases		2				
Actuated Green, G (s)	51.3	51.3	51.3		27.7	27.7
Effective Green, g (s)	51.3	51.3	51.3		27.7	27.7
Actuated g/C Ratio	0.57	0.57	0.57		0.31	0.31
Clearance Time (s)	5.7	5.7	5.7		5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	3185	920	3184		1135	1146
v/s Ratio Prot	0.34		c0.50		0.24	c0.28
v/s Ratio Perm		0.17				
v/c Ratio	0.60	0.30	0.88		0.79	0.90
Uniform Delay, d1	12.7	10.0	16.8		28.5	29.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.9	0.8	4.0		3.4	9.2
Delay (s)	13.5	10.8	20.7		31.9	39.0
Level of Service	B	B	C		C	D
Approach Delay (s)	13.0		20.7		35.7	
Approach LOS	B		C		D	

Intersection Summary			
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	536	853	0	0	468	20	233	0	238	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.3			5.3	5.3	5.3	5.3	5.3			
Lane Util. Factor	*1.00	*1.00			*1.00	1.00	1.00	*1.00	*1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	0.99	0.99			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Flt Protected	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Satd. Flow (prot)	3725	3762			3762	1860	1845	1853	1853			
Flt Permitted	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Satd. Flow (perm)	3725	3762			3762	1860	1845	1853	1853			
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	576	917	0	0	503	22	251	0	256	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	18	0	32	32	0	0	0
Lane Group Flow (vph)	576	917	0	0	503	4	251	96	96	0	0	0
Confl. Peds. (#/hr)						5			5			
Heavy Vehicles (%)	2%	1%	0%	0%	1%	0%	3%	0%	1%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	18.9	45.2			21.7	21.7	64.2	64.2	64.2			
Effective Green, g (s)	18.9	45.2			21.7	21.7	64.2	64.2	64.2			
Actuated g/C Ratio	0.16	0.38			0.18	0.18	0.54	0.54	0.54			
Clearance Time (s)	4.6	5.3			5.3	5.3	5.3	5.3	5.3			
Vehicle Extension (s)	2.0	2.0			2.0	2.0	2.0	2.0	2.0			
Lane Grp Cap (vph)	586	1417			680	336	987	991	991			
v/s Ratio Prot	c0.15	0.24			c0.13		c0.14	0.05				
v/s Ratio Perm						0.00			0.05			
v/c Ratio	0.98	0.65			0.74	0.01	0.25	0.10	0.10			
Uniform Delay, d1	50.4	30.8			46.5	40.3	15.0	13.7	13.7			
Progression Factor	0.68	0.49			0.73	1.00	1.00	1.00	1.00			
Incremental Delay, d2	27.5	1.7			6.7	0.1	0.6	0.2	0.2			
Delay (s)	61.7	16.8			40.4	40.4	15.6	13.9	13.9			
Level of Service	E	B			D	D	B	B	B			
Approach Delay (s)		34.1			40.4			14.7			0.0	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	31.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL2	NBL	NBT	SBT	SBR	NEL	NER
Lane Configurations									
Volume (vph)	376	65	119	0	990	1137	1129	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0		6.0	6.0	4.0		
Lane Util. Factor	*1.00	1.00	1.00		*1.00	*1.00	1.00		
Frpb, ped/bikes	1.00	0.98	1.00		1.00	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00		
Frt	1.00	1.00	1.00		1.00	1.00	1.00		
Flt Protected	1.00	1.00	1.00		1.00	1.00	1.00		
Satd. Flow (prot)	3725	1821	1863		3725	3725	1863		
Flt Permitted	1.00	1.00	1.00		1.00	1.00	1.00		
Satd. Flow (perm)	3725	1821	1863		3725	3725	1863		
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	396	68	125	0	1042	1197	1188	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	396	68	125	0	1042	1197	1188	0	0
Confl. Peds. (#/hr)		5							
Turn Type	Prot	Perm	Prot		NA	NA	Free		
Protected Phases	4!		5		2	6			
Permitted Phases		4!					Free!		
Actuated Green, G (s)	17.1	17.1	13.3		90.9	73.6	120.0		
Effective Green, g (s)	17.1	17.1	13.3		90.9	73.6	120.0		
Actuated g/C Ratio	0.14	0.14	0.11		0.76	0.61	1.00		
Clearance Time (s)	6.0	6.0	4.0		6.0	6.0			
Vehicle Extension (s)	2.0	2.0	3.0		2.0	2.0			
Lane Grp Cap (vph)	530	259	206		2821	2284	1863		
v/s Ratio Prot	0.11		0.07		0.28	0.32			
v/s Ratio Perm		0.04					c0.64		
v/c Ratio	0.75	0.26	0.61		0.37	0.52	0.64		
Uniform Delay, d1	49.4	45.8	50.9		4.9	13.2	0.0		
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00		
Incremental Delay, d2	5.0	0.2	5.0		0.4	0.1	1.7		
Delay (s)	54.4	46.0	55.8		5.3	13.3	1.7		
Level of Service	D	D	E		A	B	A		
Approach Delay (s)	53.2				10.7	7.5		0.0	
Approach LOS	D				B	A		A	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

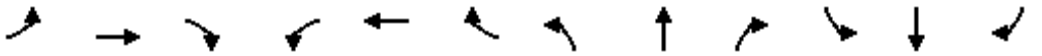
Intersection #16 Dexter Avenue / 11th Street

Cycle (sec):	60	Critical Vol./Cap.(X):	0.605
Loss Time (sec):	12	Average Delay (sec/veh):	21.4
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	25	25	25	25	25	25	10	25	25	10	25	25
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	277	146	30	16	81	107	72	482	305	26	575	7
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:	277	146	30	16	81	107	72	482	305	26	575	7
Added Vol:	0	12	18	0	12	0	0	0	0	18	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	277	158	48	16	93	107	72	482	305	44	575	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	301	172	52	17	101	116	78	524	332	48	625	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	301	172	52	17	101	116	78	524	332	48	625	8
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:	301	172	52	17	101	116	78	524	332	48	625	8
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.56	0.97	0.97	0.55	0.92	0.92	0.95	0.95	0.85	0.95	0.95	0.95
Lanes:	1.00	0.77	0.23	1.00	0.47	0.53	1.00	2.00	1.00	1.00	1.98	0.02
Final Sat.:	1055	1406	427	1037	813	935	1805	3610	1615	1805	3559	43
Capacity Analysis Module:												
Vol/Sat:	0.29	0.12	0.12	0.02	0.12	0.12	0.04	0.15	0.21	0.03	0.18	0.18
Crit Moves:	****						****				****	
Green/Cycle:	0.35	0.35	0.35	0.35	0.35	0.35	0.14	0.35	0.35	0.14	0.35	0.35
Volume/Cap:	0.82	0.35	0.35	0.05	0.36	0.36	0.31	0.42	0.59	0.19	0.51	0.51
Delay/Veh:	35.3	17.8	17.8	15.7	17.9	17.9	28.6	18.2	21.0	27.8	18.9	18.9
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:	35.3	17.8	17.8	15.7	17.9	17.9	28.6	18.2	21.0	27.8	18.9	18.9
LOS by Move:	D	B	B	B	B	B	C	B	C	C	B	B
HCM2kAvgQ:	9	4	4	0	4	4	2	5	7	1	6	6

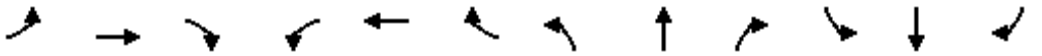
Note: Queue reported is the number of cars per lane.

Traffix 8.0.0715 (c) 2008 Dowling Assoc. Licensed to URBAN CROSSROADS, IRVINE



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱		↑↑↑↑	↱			↱			↱
Volume (vph)	0	2454	459	0	2415	246	0	0	134	0	0	444
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7		5.7	5.7			5.3			5.3
Lane Util. Factor		*1.00	1.00		*1.00	1.00			1.00			1.00
Frpb, ped/bikes		1.00	0.98		1.00	0.98			0.98			0.98
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00			1.00
Frt		1.00	1.00		1.00	1.00			1.00			1.00
Flt Protected		1.00	1.00		1.00	1.00			1.00			1.00
Satd. Flow (prot)		5534	1866		7451	1866			1869			1869
Flt Permitted		1.00	1.00		1.00	1.00			1.00			1.00
Satd. Flow (perm)		5534	1866		7451	1866			1869			1869
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	2504	468	0	2464	251	0	0	137	0	0	453
RTOR Reduction (vph)	0	0	209	0	0	112	0	0	19	0	0	19
Lane Group Flow (vph)	0	2504	259	0	2464	139	0	0	118	0	0	434
Confl. Peds. (#/hr)			5			5			5			5
Heavy Vehicles (%)	0%	3%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA	Perm		NA	Perm			Perm			Perm
Protected Phases		2			6							
Permitted Phases			2			6			8			4
Actuated Green, G (s)		55.3	55.3		55.3	55.3			33.7			33.7
Effective Green, g (s)		55.3	55.3		55.3	55.3			33.7			33.7
Actuated g/C Ratio		0.55	0.55		0.55	0.55			0.34			0.34
Clearance Time (s)		5.7	5.7		5.7	5.7			5.3			5.3
Vehicle Extension (s)		2.0	2.0		2.0	2.0			2.0			2.0
Lane Grp Cap (vph)		3060	1031		4120	1031			629			629
v/s Ratio Prot		c0.45			0.33							
v/s Ratio Perm			0.14			0.07			0.06			c0.23
v/c Ratio		0.82	0.25		0.60	0.13			0.19			0.69
Uniform Delay, d1		18.2	11.6		14.9	10.8			23.5			28.6
Progression Factor		1.00	1.00		1.00	1.00			1.00			1.00
Incremental Delay, d2		2.6	0.6		0.6	0.3			0.7			6.1
Delay (s)		20.8	12.2		15.6	11.1			24.1			34.7
Level of Service		C	B		B	B			C			C
Approach Delay (s)		19.5			15.2			24.1			34.7	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	16	5	80	203	5	30	95	90	80	63	383	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7			5.7		4.6	5.7	5.7	4.6	5.7	5.7
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.89			0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99			0.96		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1683			1791		1805	1900	1615	1805	1900	1615
Flt Permitted		0.94			0.72		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1587			1348		1805	1900	1615	1805	1900	1615
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	18	5	88	223	5	33	104	99	88	69	421	63
RTOR Reduction (vph)	0	68	0	0	7	0	0	0	45	0	0	33
Lane Group Flow (vph)	0	43	0	0	254	0	104	99	43	69	421	30
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8					2			6
Actuated Green, G (s)		18.4			18.4		7.9	39.1	39.1	6.5	37.7	37.7
Effective Green, g (s)		18.4			18.4		7.9	39.1	39.1	6.5	37.7	37.7
Actuated g/C Ratio		0.23			0.23		0.10	0.49	0.49	0.08	0.47	0.47
Clearance Time (s)		5.7			5.7		4.6	5.7	5.7	4.6	5.7	5.7
Vehicle Extension (s)		2.0			2.0		2.0	3.0	3.0	2.0	3.0	3.0
Lane Grp Cap (vph)		365			310		178	928	789	146	895	761
v/s Ratio Prot							c0.06	0.05		0.04	c0.22	
v/s Ratio Perm		0.03			c0.19				0.03			0.02
v/c Ratio		0.12			0.82		0.58	0.11	0.05	0.47	0.47	0.04
Uniform Delay, d1		24.4			29.2		34.5	11.0	10.7	35.1	14.4	11.4
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	0.95
Incremental Delay, d2		0.1			14.7		3.1	0.2	0.1	0.9	1.8	0.1
Delay (s)		24.4			43.9		37.6	11.3	10.9	36.0	16.1	10.9
Level of Service		C			D		D	B	B	D	B	B
Approach Delay (s)		24.4			43.9			20.6			18.0	
Approach LOS		C			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	31	156	23	111	634	69	24	165	141	194	405	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7		4.0	5.7		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flt Protected	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Satd. Flow (prot)	1900	1900		1900	1900		1900	1900		1900	1900	
Flt Permitted	1.00	1.00		1.00	1.00		0.25	1.00		0.45	1.00	
Satd. Flow (perm)	1900	1900		1900	1900		477	1900		853	1900	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	164	24	117	667	73	25	174	148	204	426	85
RTOR Reduction (vph)	0	5	0	0	3	0	0	23	0	0	5	0
Lane Group Flow (vph)	33	183	0	117	737	0	25	299	0	204	506	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	4.7	44.5		11.9	51.7		48.2	48.2		48.2	48.2	
Effective Green, g (s)	4.7	44.5		11.9	51.7		48.2	48.2		48.2	48.2	
Actuated g/C Ratio	0.04	0.37		0.10	0.43		0.40	0.40		0.40	0.40	
Clearance Time (s)	4.0	5.7		4.0	5.7		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	2.0		3.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	74	704		188	818		191	763		342	763	
v/s Ratio Prot	c0.02	0.10		0.06	c0.39			0.16			c0.27	
v/s Ratio Perm							0.05			0.24		
v/c Ratio	0.45	0.26		0.62	0.90		0.13	0.39		0.60	0.66	
Uniform Delay, d1	56.4	26.3		51.9	31.8		22.7	25.5		28.2	29.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.2	0.1		6.3	12.7		1.4	1.5		7.5	4.5	
Delay (s)	60.6	26.4		58.2	44.5		24.1	27.0		35.7	33.8	
Level of Service	E	C		E	D		C	C		D	C	
Approach Delay (s)		31.5			46.3			26.8			34.3	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	37.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	88.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

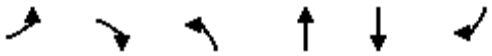
Intersection #21 Dexter Avenue / 2nd Street

Cycle (sec): 120 Critical Vol./Cap.(X): 0.717
Loss Time (sec): 12 Average Delay (sec/veh): 44.1
Optimal Cycle: OPTIMIZED Level Of Service: D

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Permitted						Permitted						Protected						Protected					
Rights:	Include						Ovl						Include						Include					
Min. Green:	25	25	25	25	25	25	10	20	20	10	20	20												
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0												
Lanes:	1	0	0	1	0		1	0	1	0	1		1	0	0	1	0		1	0	0	1	0	
Volume Module:																								
Base Vol:	5	5	7	35	15	441	257	5	5	5	756	19												
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:	5	5	7	35	15	441	257	5	5	5	756	19												
Added Vol:	0	0	0	0	0	48	48	0	0	0	0	0												
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0												
Initial Fut:	5	5	7	35	15	489	305	5	5	5	756	19												
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00												
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93												
PHF Volume:	5	5	7	37	16	524	327	5	5	5	809	20												
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0												
Reduced Vol:	5	5	7	37	16	524	327	5	5	5	809	20												
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:	5	5	7	37	16	524	327	5	5	5	809	20												
Saturation Flow Module:																								
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900												
Adjustment:	0.76	0.91	0.91	0.76	1.00	0.85	0.95	0.93	0.93	0.95	1.00	1.00												
Lanes:	1.00	0.42	0.58	1.00	1.00	1.00	1.00	0.50	0.50	1.00	0.98	0.02												
Final Sat.:	1435	723	1012	1440	1900	1615	1805	879	879	1805	1846	46												
Capacity Analysis Module:																								
Vol/Sat:	0.00	0.01	0.01	0.03	0.01	0.32	0.18	0.01	0.01	0.00	0.44	0.44												
Crit Moves:				****			****				****													
Green/Cycle:	0.21	0.21	0.21	0.21	0.21	0.41	0.20	0.46	0.46	0.23	0.49	0.49												
Volume/Cap:	0.02	0.04	0.04	0.12	0.04	0.79	0.90	0.01	0.01	0.01	0.90	0.90												
Delay/Veh:	37.8	37.9	37.9	38.8	38.0	37.2	70.1	17.5	17.5	35.6	39.0	39.0												
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:	37.8	37.9	37.9	38.8	38.0	37.2	70.1	17.5	17.5	35.6	39.0	39.0												
LOS by Move:	D	D	D	D	D	D	E	B	B	D	D	D												
HCM2kAvgQ:	0	0	0	1	0	18	15	0	0	0	31	31												

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

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	533	557	199	139	680	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3	5.3	5.3	5.3	5.3
Lane Util. Factor	1.00	1.00	*1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1881	1846	3725	1900	1900	1861
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1881	1846	3725	1900	1900	1861
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	579	605	216	151	739	313
RTOR Reduction (vph)	0	47	0	0	0	11
Lane Group Flow (vph)	579	558	216	151	739	302
Confl. Peds. (#/hr)		5				5
Heavy Vehicles (%)	1%	0%	2%	0%	0%	1%
Turn Type	Prot	pm+ov	Prot	NA	NA	pm+ov
Protected Phases	2	3	3	8	4	2
Permitted Phases		2				4
Actuated Green, G (s)	45.2	56.6	11.4	64.2	47.5	92.7
Effective Green, g (s)	45.2	56.6	11.4	64.2	47.5	92.7
Actuated g/C Ratio	0.38	0.47	0.10	0.54	0.40	0.77
Clearance Time (s)	5.3	5.3	5.3	5.3	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	708	952	353	1016	752	1519
v/s Ratio Prot	c0.31	c0.06	0.06	0.08	c0.39	0.07
v/s Ratio Perm		0.25				0.09
v/c Ratio	0.82	0.59	0.61	0.15	0.98	0.20
Uniform Delay, d1	33.7	23.1	52.2	14.1	35.8	3.7
Progression Factor	0.35	0.23	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.9	0.5	2.2	0.3	28.3	0.0
Delay (s)	20.7	5.8	54.4	14.4	64.1	3.7
Level of Service	C	A	D	B	E	A
Approach Delay (s)	13.1			37.9	46.2	
Approach LOS	B			D	D	

Intersection Summary			
HCM 2000 Control Delay	30.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.5
Intersection Capacity Utilization	84.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

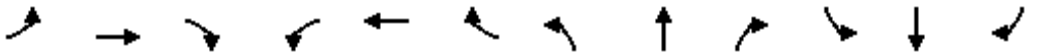
Intersection #123 Summerhill Drive/Grape Street / Railroad Canyon Road

Cycle (sec):	120	Critical Vol./Cap.(X):	0.997
Loss Time (sec):	16	Average Delay (sec/veh):	48.4
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	10	10	10	10	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	2	2 0	1 0	2	2 0	3 0	1	2 0	3 0	2
Volume Module:												
Base Vol:	551	349	679	384	470	509	471	1372	814	687	1468	405
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:	551	349	679	384	470	509	471	1372	814	687	1468	405
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Project:	0	0	0	0	12	0	12	18	42	18	0	0
Initial Fut:	551	349	679	384	482	509	483	1390	856	705	1468	405
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:	551	349	679	384	482	509	483	1390	856	705	1468	405
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	551	349	679	384	482	509	483	1390	856	705	1468	405
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:	551	349	679	384	482	509	483	1390	856	705	1468	405
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.08	1.13	0.96	1.08	1.13	0.96	1.08	1.13	0.96	1.08	1.13	0.96
Lanes:	2.00	2.00	2.00	2.00	1.00	2.00	2.00	3.00	1.00	2.00	3.00	2.00
Final Sat.:	4090	4305	3660	4090	2153	3660	4090	6458	1830	4090	6458	3660
Capacity Analysis Module:												
Vol/Sat:	0.13	0.08	0.19	0.09	0.22	0.14	0.12	0.22	0.47	0.17	0.23	0.11
Crit Moves:	****				****				****	****		
Green/Cycle:	0.14	0.17	0.34	0.19	0.22	0.40	0.17	0.33	0.47	0.17	0.33	0.52
Volume/Cap:	1.00	0.48	0.54	0.49	1.00	0.35	0.68	0.64	1.00	1.00	0.68	0.21
Delay/Veh:	89.3	45.6	32.4	43.9	86.6	25.4	49.2	34.6	61.7	82.6	35.4	15.3
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:	89.3	45.6	32.4	43.9	86.6	25.4	49.2	34.6	61.7	82.6	35.4	15.3
LOS by Move:	F	D	C	D	F	C	D	C	E	F	D	B
HCM2kAvgQ:	15	5	7	6	24	3	9	11	37	18	12	0

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

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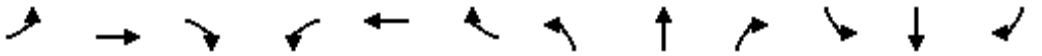


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	609	1020	570	573	1216	386	720	592	260	335	290	558
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	6.0	4.0	4.6	6.0	4.0	4.0	5.3	4.6	4.0	5.3	4.6
Lane Util. Factor	*1.00	*1.00	1.00	*1.00	*1.00	1.00	*1.00	*1.00	1.00	*1.00	*1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	3800	5481	1882	3800	5534	1874	3800	1900	1878	3800	3800	1885
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	3800	5481	1882	3800	5534	1874	3800	1900	1878	3800	3800	1885
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	641	1074	600	603	1280	406	758	623	274	353	305	587
RTOR Reduction (vph)	0	0	32	0	0	64	0	0	33	0	0	67
Lane Group Flow (vph)	641	1074	569	603	1280	342	758	623	241	353	305	520
Confl. Peds. (#/hr)			5			5			5			5
Heavy Vehicles (%)	0%	4%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5!
Permitted Phases			2			6			8			4
Actuated Green, G (s)	20.4	30.4	60.0	20.4	30.4	42.4	29.6	37.3	57.7	12.0	19.7	40.1
Effective Green, g (s)	20.4	30.4	60.0	20.4	30.4	42.4	29.6	37.3	57.7	12.0	19.7	40.1
Actuated g/C Ratio	0.17	0.25	0.50	0.17	0.25	0.35	0.25	0.31	0.48	0.10	0.16	0.33
Clearance Time (s)	4.6	6.0	4.0	4.6	6.0	4.0	4.0	5.3	4.6	4.0	5.3	4.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	646	1388	941	646	1401	662	937	590	903	380	623	629
v/s Ratio Prot	c0.17	0.20	0.15	0.16	c0.23	0.05	0.20	c0.33	0.05	c0.09	0.08	0.14
v/s Ratio Perm			0.15			0.13			0.08			0.14
v/c Ratio	0.99	0.77	0.60	0.93	0.91	0.52	0.81	1.06	0.27	0.93	0.49	0.83
Uniform Delay, d1	49.7	41.6	21.5	49.1	43.5	30.7	42.5	41.4	18.6	53.6	45.6	36.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	33.3	4.3	1.1	20.6	10.7	0.7	5.2	52.7	0.2	28.5	0.6	8.8
Delay (s)	83.0	45.9	22.6	69.7	54.2	31.4	47.8	94.0	18.7	82.1	46.2	45.5
Level of Service	F	D	C	E	D	C	D	F	B	F	D	D
Approach Delay (s)		50.1			54.2			60.4			56.1	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	54.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	112.5%	ICU Level of Service	H
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	395	62	34	22	386	259	34	595	37	198	482	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	5.7		4.6	5.7	5.7	4.6	5.7		4.6	5.7	5.7
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Satd. Flow (prot)	3686	1900		1900	1900	1615	1900	3610		1900	3610	1615
Flt Permitted	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Satd. Flow (perm)	3686	1900		1900	1900	1615	1900	3610		1900	3610	1615
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	429	67	37	24	420	282	37	647	40	215	524	457
RTOR Reduction (vph)	0	19	0	0	0	192	0	5	0	0	0	248
Lane Group Flow (vph)	429	85	0	24	420	90	37	682	0	215	524	209
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8						6
Actuated Green, G (s)	13.9	39.2		2.1	27.4	27.4	2.4	24.6		13.5	35.7	35.7
Effective Green, g (s)	13.9	39.2		2.1	27.4	27.4	2.4	24.6		13.5	35.7	35.7
Actuated g/C Ratio	0.14	0.39		0.02	0.27	0.27	0.02	0.25		0.14	0.36	0.36
Clearance Time (s)	4.6	5.7		4.6	5.7	5.7	4.6	5.7		4.6	5.7	5.7
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	3.0		2.0	3.0	3.0
Lane Grp Cap (vph)	512	744		39	520	442	45	888		256	1288	576
v/s Ratio Prot	c0.12	0.04		0.01	c0.22		0.02	c0.19		c0.11	0.15	
v/s Ratio Perm						0.06						0.13
v/c Ratio	0.84	0.11		0.62	0.81	0.20	0.82	0.77		0.84	0.41	0.36
Uniform Delay, d1	42.0	19.4		48.5	33.8	27.9	48.6	35.1		42.2	24.2	23.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	11.0	0.0		18.5	8.5	0.1	67.7	6.3		20.0	1.0	1.8
Delay (s)	52.9	19.4		67.1	42.3	28.0	116.3	41.4		62.2	25.1	25.5
Level of Service	D	B		E	D	C	F	D		E	C	C
Approach Delay (s)		46.4			37.6			45.2			31.9	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	38.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

Intersection #29 Conard Avenue / Central Avenue (SR-74)

Cycle (sec): 75 Critical Vol./Cap.(X): 0.874
Loss Time (sec): 12 Average Delay (sec/veh): 24.4
Optimal Cycle: OPTIMIZED Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	29	29	29	10	10	10	10	26	26	10	26	26
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	1 0	1 0	1	2 0	4 0	1	1 0	4 0	1
Volume Module:												
Base Vol:	56	78	17	207	33	598	272	1953	66	90	2243	96
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:	56	78	17	207	33	598	272	1953	66	90	2243	96
Added Vol:	6	0	0	0	0	12	12	78	6	0	78	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	62	78	17	207	33	610	284	2031	72	90	2321	96
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	64	81	18	214	34	631	294	2100	74	93	2400	99
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	64	81	18	214	34	631	294	2100	74	93	2400	99
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:	64	81	18	214	34	631	294	2100	74	93	2400	99
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.87	0.87	0.87	0.68	1.00	0.85	0.92	0.91	0.85	0.95	0.91	0.85
Lanes:	0.39	0.50	0.11	1.00	1.00	1.00	2.00	4.00	1.00	1.00	4.00	1.00
Final Sat.:	653	821	179	1290	1900	1615	3502	6916	1615	1805	6916	1615
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.10	0.17	0.02	0.39	0.08	0.30	0.05	0.05	0.35	0.06
Crit Moves:						****	****				****	
Green/Cycle:	0.31	0.31	0.31	0.31	0.31	0.44	0.13	0.39	0.39	0.15	0.41	0.41
Volume/Cap:	0.32	0.32	0.32	0.54	0.06	0.90	0.65	0.78	0.12	0.35	0.85	0.15
Delay/Veh:	20.9	20.9	20.9	23.7	18.9	34.1	35.0	22.2	15.2	30.1	23.3	14.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.9	20.9	20.9	23.7	18.9	34.1	35.0	22.2	15.2	30.1	23.3	14.5
LOS by Move:	C	C	C	C	B	C	D	C	B	C	C	B
HCM2kAvgQ:	3	3	3	5	1	18	5	14	1	2	17	2

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

Intersection #30 Rosetta Canyon Drive / Central Avenue (SR-74)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.592
Loss Time (sec):	12	Average Delay (sec/veh):	20.5
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Protected		
Rights:	Ovl			Include			Ovl			Include		
Min. Green:	33	0	33	0	0	0	0	32	32	10	10	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	0	0 1	0	0	0 0	0	0	4 0 1	2	0	4 0 0
Volume Module:												
Base Vol:	458	0	228	0	0	0	0	1738	473	337	1856	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	458	0	228	0	0	0	0	1738	473	337	1856	0
Added Vol:	18	0	0	0	0	0	0	60	18	0	60	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	476	0	228	0	0	0	0	1798	491	337	1916	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	504	0	241	0	0	0	0	1903	520	357	2028	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	504	0	241	0	0	0	0	1903	520	357	2028	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	504	0	241	0	0	0	0	1903	520	357	2028	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.85	1.00	1.00	1.00	1.00	0.91	0.85	0.92	0.91	1.00
Lanes:	2.00	0.00	1.00	0.00	0.00	0.00	0.00	4.00	1.00	2.00	4.00	0.00
Final Sat.:	3502	0	1615	0	0	0	0	6916	1615	3502	6916	0
Capacity Analysis Module:												
Vol/Sat:	0.14	0.00	0.15	0.00	0.00	0.00	0.00	0.28	0.32	0.10	0.29	0.00
Crit Moves:	****							****		****		
Green/Cycle:	0.33	0.00	0.48	0.00	0.00	0.00	0.00	0.40	0.73	0.15	0.55	0.00
Volume/Cap:	0.44	0.00	0.31	0.00	0.00	0.00	0.00	0.69	0.44	0.69	0.53	0.00
Delay/Veh:	26.5	0.0	16.2	0.0	0.0	0.0	0.0	25.4	5.6	44.1	14.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.5	0.0	16.2	0.0	0.0	0.0	0.0	25.4	5.6	44.1	14.5	0.0
LOS by Move:	C	A	B	A	A	A	A	C	A	D	B	A
HCM2kAvgQ:	6	0	5	0	0	0	0	14	6	7	11	0

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

Intersection #31 Riverside Street / Central Avenue (SR-74)

Cycle (sec):	95	Critical Vol./Cap.(X):	0.838
Loss Time (sec):	16	Average Delay (sec/veh):	36.8
Optimal Cycle:	OPTIMIZED	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	10	27	27	10	27	27	10	29	29	10	29	29
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	4 0	1	2 0	4 0	1
Volume Module:												
Base Vol:	365	902	329	356	746	205	231	1608	277	304	1610	464
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:	365	902	329	356	746	205	231	1608	277	304	1610	464
Added Vol:	12	0	0	0	0	0	0	42	12	0	42	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	377	902	329	356	746	205	231	1650	289	304	1652	464
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	393	940	343	371	777	214	241	1719	301	317	1721	483
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	393	940	343	371	777	214	241	1719	301	317	1721	483
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:	393	940	343	371	777	214	241	1719	301	317	1721	483
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.85	0.92	0.95	0.85	0.92	0.94	0.85	0.92	0.94	0.85
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	4.00	1.00	2.00	4.00	1.00
Final Sat.:	3502	3610	1615	3502	3610	1615	3502	7144	1615	3502	7144	1615
Capacity Analysis Module:												
Vol/Sat:	0.11	0.26	0.21	0.11	0.22	0.13	0.07	0.24	0.19	0.09	0.24	0.30
Crit Moves:		****			****			****			****	
Green/Cycle:	0.12	0.30	0.30	0.12	0.30	0.30	0.11	0.31	0.42	0.11	0.31	0.43
Volume/Cap:	0.94	0.87	0.71	0.87	0.71	0.44	0.65	0.79	0.44	0.86	0.79	0.70
Delay/Veh:	71.1	39.3	34.4	58.2	31.7	27.3	45.0	32.2	19.8	59.8	32.2	25.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	71.1	39.3	34.4	58.2	31.7	27.3	45.0	32.2	19.8	59.8	32.2	25.5
LOS by Move:	E	D	C	E	C	C	D	C	B	E	C	C
HCM2kAvgQ:	10	17	10	8	12	5	5	15	6	7	15	13

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

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LAKE ELSINORE WALMART TIA (JN 08651)
General Plan Buildout (Post-2035) With Project Conditions WITH IMPROVEMENTS
Saturday Mid-Day Peak Hour

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

Intersection #32 Meadowbrook Avenue/Greenwald Avenue / Central Avenue (SR-74)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.767
Loss Time (sec):	12	Average Delay (sec/veh):	29.0
Optimal Cycle:	OPTIMIZED	Level Of Service:	C

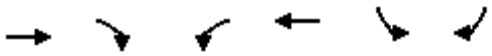
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	34	34	34	10	10	10	10	25	25	10	25	25
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1 0	1	1 0	1 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	330	24	405	35	27	307	225	1692	287	274	1615	315
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:	330	24	405	35	27	307	225	1692	287	274	1615	315
Added Vol:	12	0	0	0	0	0	0	18	12	0	18	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	342	24	405	35	27	307	225	1710	299	274	1633	315
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	368	26	435	38	29	330	242	1839	322	295	1756	339
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	368	26	435	38	29	330	242	1839	322	295	1756	339
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:	368	26	435	38	29	330	242	1839	322	295	1756	339
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.03	0.88	0.77	1.03	0.88	0.95	0.97	0.88	0.95	0.97	0.88
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	1460	1963	1668	1466	1963	1668	3617	5535	1668	3617	5535	1668
Capacity Analysis Module:												
Vol/Sat:	0.25	0.01	0.26	0.03	0.01	0.20	0.07	0.33	0.19	0.08	0.32	0.20
Crit Moves:			****					****		****		
Green/Cycle:	0.34	0.34	0.34	0.34	0.34	0.34	0.13	0.43	0.43	0.11	0.41	0.41
Volume/Cap:	0.74	0.04	0.77	0.08	0.04	0.58	0.52	0.77	0.44	0.77	0.77	0.49
Delay/Veh:	34.9	22.1	35.7	22.4	22.1	28.6	41.6	25.6	20.3	52.5	27.2	22.4
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:	34.9	22.1	35.7	22.4	22.1	28.6	41.6	25.6	20.3	52.5	27.2	22.4
LOS by Move:	C	C	D	C	C	C	D	C	C	D	C	C
HCM2kAvgQ:	11	1	14	1	1	9	4	19	7	6	18	8

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

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APPENDIX 7.13

General Plan Buildout (Post-2035) With Project Conditions
Ramp Queuing Analysis Worksheets, with Improvements



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	1743	507	679	1238	507	813
v/c Ratio	0.79	0.52	0.73	0.32	0.63	0.89
Control Delay	35.2	5.3	29.7	8.3	46.3	47.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.2	5.3	29.7	8.3	46.3	47.4
Queue Length 50th (ft)	389	17	105	103	176	237
Queue Length 95th (ft)	453	93	227	160	228	309
Internal Link Dist (ft)	271			602		
Turn Bay Length (ft)			255			500
Base Capacity (vph)	2199	974	925	3817	890	994
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.52	0.73	0.32	0.57	0.82

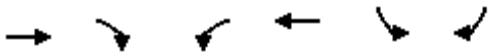
Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	660	1590	1599	602	318	1033
v/c Ratio	0.90	0.46	0.82	0.58	0.58	0.89
Control Delay	48.5	6.3	38.9	5.4	40.8	48.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	6.3	38.9	5.4	40.8	48.1
Queue Length 50th (ft)	170	99	377	13	209	361
Queue Length 95th (ft)	#293	110	435	98	306	#472
Internal Link Dist (ft)		602	750			
Turn Bay Length (ft)	255					500
Base Capacity (vph)	780	3456	1960	1036	546	1163
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.46	0.82	0.58	0.58	0.89

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	1436	812	914	2212	852	810
v/c Ratio	0.79	0.49	0.95	0.94	0.94	0.81
Control Delay	46.9	19.3	62.1	28.7	61.6	45.0
Queue Delay	0.0	0.0	0.0	44.9	0.0	0.0
Total Delay	46.9	19.3	62.1	73.6	61.6	45.0
Queue Length 50th (ft)	288	117	345	724	321	270
Queue Length 95th (ft)	338	150	#462	#899	#436	343
Internal Link Dist (ft)	622			516		
Turn Bay Length (ft)		180	210			355
Base Capacity (vph)	1817	1645	986	2363	924	1015
Starvation Cap Reductn	0	0	0	424	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.49	0.93	1.14	0.92	0.80

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

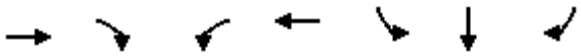


Lane Group	EBT	EBR2	WBT	NWL	NWR2
Lane Group Flow (vph)	1934	354	2865	1041	1020
v/c Ratio	0.60	0.35	0.86	1.01	0.98
Control Delay	12.1	2.1	17.0	64.0	57.1
Queue Delay	0.2	0.0	46.6	0.0	0.0
Total Delay	12.4	2.1	63.6	64.0	57.1
Queue Length 50th (ft)	209	2	386	~300	280
Queue Length 95th (ft)	248	35	456	#432	#412
Internal Link Dist (ft)	516		165	1244	
Turn Bay Length (ft)		130		464	150
Base Capacity (vph)	3213	998	3338	1032	1036
Starvation Cap Reductn	501	0	1128	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.71	0.35	1.30	1.01	0.98

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	909	397	301	1009	380	319	318
v/c Ratio	0.73	0.46	0.75	0.56	0.71	0.38	0.38
Control Delay	39.4	4.7	40.5	10.7	37.4	19.9	19.8
Queue Delay	0.0	0.0	0.0	1.2	0.0	0.0	0.0
Total Delay	39.4	4.7	40.5	11.9	37.4	19.9	19.8
Queue Length 50th (ft)	311	0	86	289	239	129	128
Queue Length 95th (ft)	389	68	m101	m308	363	203	202
Internal Link Dist (ft)	434			411		861	
Turn Bay Length (ft)			200				200
Base Capacity (vph)	1252	867	451	1804	535	830	830
Starvation Cap Reductn	0	0	0	528	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.46	0.67	0.79	0.71	0.38	0.38

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	804	485	858	153	452	273	272
v/c Ratio	1.01	0.26	0.98	0.42	0.59	0.29	0.28
Control Delay	66.5	17.8	79.2	27.0	30.9	2.3	2.2
Queue Delay	0.0	0.0	47.6	12.2	0.0	0.3	0.3
Total Delay	66.5	17.8	126.8	39.2	30.9	2.6	2.5
Queue Length 50th (ft)	~320	143	351	63	266	0	0
Queue Length 95th (ft)	#453	182	#474	m103	376	34	34
Internal Link Dist (ft)		411	54			879	
Turn Bay Length (ft)	200						
Base Capacity (vph)	796	1843	873	366	768	957	957
Starvation Cap Reductn	0	0	593	184	0	0	0
Spillback Cap Reductn	0	68	0	0	2	264	264
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.27	3.06	0.84	0.59	0.39	0.39

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBR	NBT	NBR	SBL2	SBT
Lane Group Flow (vph)	108	807	668	65	624	949
v/c Ratio	0.22	0.86	0.85	0.09	0.86	0.40
Control Delay	35.0	52.2	45.0	24.0	60.1	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.0	52.2	45.0	24.0	60.1	11.5
Queue Length 50th (ft)	66	298	481	32	229	165
Queue Length 95th (ft)	108	348	#725	64	#347	234
Internal Link Dist (ft)	1131		952			974
Turn Bay Length (ft)		500			300	
Base Capacity (vph)	574	1116	787	762	728	2386
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.72	0.85	0.09	0.86	0.40

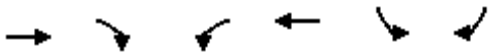
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	NBL	NBT	SBT	SBR2	NEL	NER
Lane Group Flow (vph)	161	278	582	1292	602	71
v/c Ratio	0.66	0.11	0.29	0.69	0.81	0.17
Control Delay	62.4	6.4	17.1	2.2	54.4	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.4	6.4	17.1	2.2	54.4	9.2
Queue Length 50th (ft)	120	31	119	0	224	0
Queue Length 95th (ft)	184	53	189	0	271	37
Internal Link Dist (ft)		1166	912		1382	
Turn Bay Length (ft)	250				940	690
Base Capacity (vph)	403	2605	1994	1863	1210	643
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.11	0.29	0.69	0.50	0.11

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	2061	661	834	1735	912	772
v/c Ratio	0.98	0.65	1.00	0.47	1.00	0.80
Control Delay	52.0	9.9	45.2	7.3	75.7	45.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	9.9	45.2	7.3	75.7	45.5
Queue Length 50th (ft)	519	77	~272	258	~357	259
Queue Length 95th (ft)	#628	209	m#354	m254	#493	331
Internal Link Dist (ft)	271			602		
Turn Bay Length (ft)			255			500
Base Capacity (vph)	2107	1011	832	3701	908	965
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.65	1.00	0.47	1.00	0.80

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



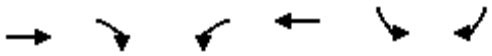
Lane Group	EBL	EBT	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	837	2136	2116	599	452	810
v/c Ratio	1.00	0.58	0.95	0.59	0.98	0.83
Control Delay	53.0	5.0	46.2	8.6	82.7	48.1
Queue Delay	0.0	0.7	0.0	0.0	0.0	0.0
Total Delay	53.0	5.7	46.2	8.6	82.7	48.1
Queue Length 50th (ft)	~295	216	523	67	350	277
Queue Length 95th (ft)	m#314	m209	#626	176	#563	351
Internal Link Dist (ft)		602	750			
Turn Bay Length (ft)	255					500
Base Capacity (vph)	834	3711	2221	1019	461	971
Starvation Cap Reductn	0	1080	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.00	0.81	0.95	0.59	0.98	0.83

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	2179	1092	808	2263	927	886
v/c Ratio	0.96	0.58	0.98	0.91	1.01	0.91
Control Delay	48.3	20.0	72.9	24.3	76.4	55.1
Queue Delay	3.7	0.0	0.0	45.7	0.0	0.0
Total Delay	52.0	20.0	72.9	70.0	76.4	55.1
Queue Length 50th (ft)	595	261	313	685	~364	313
Queue Length 95th (ft)	m604	m268	#438	821	#499	#426
Internal Link Dist (ft)	622			516		
Turn Bay Length (ft)		180	210			355
Base Capacity (vph)	2271	1899	827	2486	921	971
Starvation Cap Reductn	67	0	0	474	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.58	0.98	1.12	1.01	0.91

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

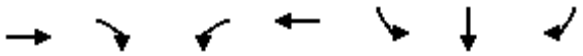


Lane Group	EBT	EBR2	WBT	NWL	NWR2
Lane Group Flow (vph)	2352	691	2719	1147	1039
v/c Ratio	0.70	0.60	0.79	1.11	0.99
Control Delay	13.6	4.5	14.4	96.1	59.1
Queue Delay	0.6	0.2	47.0	0.0	0.0
Total Delay	14.2	4.6	61.4	96.1	59.1
Queue Length 50th (ft)	279	32	329	~377	286
Queue Length 95th (ft)	328	97	389	#497	#421
Internal Link Dist (ft)	516		165	1244	
Turn Bay Length (ft)		130		464	150
Base Capacity (vph)	3371	1155	3435	1032	1046
Starvation Cap Reductn	538	69	1269	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.83	0.64	1.26	1.11	0.99

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1116	311	315	812	683	240	239
v/c Ratio	0.88	0.40	0.89	0.46	0.93	0.33	0.29
Control Delay	47.0	6.5	82.4	26.0	53.3	12.7	12.2
Queue Delay	0.0	0.0	0.0	2.4	0.0	0.0	0.0
Total Delay	47.0	6.5	82.4	28.4	53.3	12.7	12.2
Queue Length 50th (ft)	406	17	127	327	493	59	61
Queue Length 95th (ft)	#500	82	m#194	395	#741	120	121
Internal Link Dist (ft)	434			411		861	
Turn Bay Length (ft)			200				200
Base Capacity (vph)	1263	787	353	1760	732	734	813
Starvation Cap Reductn	0	0	0	784	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.40	0.89	0.83	0.93	0.33	0.29

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	593	1205	692	451	435	183	183
v/c Ratio	0.92	0.70	0.78	0.57	0.52	0.21	0.21
Control Delay	45.7	17.9	37.6	9.7	26.0	12.6	12.6
Queue Delay	0.0	1.0	56.7	8.4	0.0	0.5	0.5
Total Delay	45.7	18.8	94.4	18.0	26.0	13.1	13.1
Queue Length 50th (ft)	197	241	265	133	235	50	50
Queue Length 95th (ft)	m#246	m305	324	188	332	96	96
Internal Link Dist (ft)		411	54			879	
Turn Bay Length (ft)	200						
Base Capacity (vph)	645	1714	890	787	841	890	890
Starvation Cap Reductn	0	255	560	293	0	0	0
Spillback Cap Reductn	0	89	14	0	0	406	406
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.83	2.10	0.91	0.52	0.38	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBR	NBT	NBR	SBL2	SBT
Lane Group Flow (vph)	142	979	814	70	598	1189
v/c Ratio	0.26	0.92	1.06	0.09	0.95	0.53
Control Delay	33.4	55.5	84.1	23.0	75.0	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.4	55.5	84.1	23.0	75.0	15.0
Queue Length 50th (ft)	82	359	~692	33	~250	260
Queue Length 95th (ft)	136	#453	#933	65	#362	316
Internal Link Dist (ft)	1131		952			974
Turn Bay Length (ft)		500			300	
Base Capacity (vph)	574	1116	770	745	631	2260
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.88	1.06	0.09	0.95	0.53

Intersection Summary

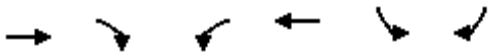
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	NBL	NBT	SBT	SBR2	NEL	NER
Lane Group Flow (vph)	108	655	959	938	686	105
v/c Ratio	0.57	0.26	0.47	0.50	0.83	0.22
Control Delay	62.5	8.3	19.1	1.0	53.7	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.5	8.3	19.1	1.0	53.7	7.5
Queue Length 50th (ft)	81	90	220	0	255	0
Queue Length 95th (ft)	136	135	327	0	303	42
Internal Link Dist (ft)		1166	912		1382	
Turn Bay Length (ft)	250				940	690
Base Capacity (vph)	250	2526	2021	1863	1117	622
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.26	0.47	0.50	0.61	0.17

Intersection Summary



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	1852	597	729	1446	795	787
v/c Ratio	0.85	0.57	0.90	0.39	0.86	0.75
Control Delay	38.1	6.5	37.1	7.9	53.1	39.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.1	6.5	37.1	7.9	53.1	39.7
Queue Length 50th (ft)	438	38	251	242	294	243
Queue Length 95th (ft)	499	133	#315	197	#389	313
Internal Link Dist (ft)	271			602		
Turn Bay Length (ft)			255			500
Base Capacity (vph)	2173	1043	848	3690	920	1056
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.57	0.86	0.39	0.86	0.75

Intersection Summary

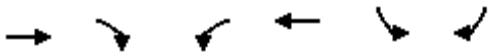
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBR
Lane Group Flow (vph)	834	1705	1684	421	402	317
v/c Ratio	0.90	0.48	0.81	0.48	0.80	0.31
Control Delay	39.4	4.6	38.5	6.3	54.7	29.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.4	4.6	38.5	6.3	54.7	29.0
Queue Length 50th (ft)	273	146	396	21	291	78
Queue Length 95th (ft)	m330	130	458	98	#442	116
Internal Link Dist (ft)		602	750			
Turn Bay Length (ft)	255					500
Base Capacity (vph)	994	3548	2079	869	501	1032
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.48	0.81	0.48	0.80	0.31

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	1680	910	768	2023	680	746
v/c Ratio	0.72	0.47	0.88	0.78	0.84	0.87
Control Delay	37.5	16.7	56.1	15.7	55.0	53.1
Queue Delay	0.0	0.0	0.0	11.2	0.0	0.0
Total Delay	37.5	16.7	56.1	26.9	55.0	53.1
Queue Length 50th (ft)	462	224	285	494	250	254
Queue Length 95th (ft)	m485	m257	348	611	313	321
Internal Link Dist (ft)	622			516		
Turn Bay Length (ft)		180	210			355
Base Capacity (vph)	2330	1923	974	2598	890	932
Starvation Cap Reductn	0	0	0	583	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.47	0.79	1.00	0.76	0.80

Intersection Summary

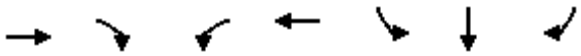
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR2	WBT	NWL	NWR2
Lane Group Flow (vph)	1920	440	2917	896	1051
v/c Ratio	0.60	0.41	0.89	0.79	0.90
Control Delay	13.9	3.0	20.0	34.2	40.2
Queue Delay	0.0	0.0	46.3	0.0	0.0
Total Delay	13.9	3.0	66.3	34.2	40.2
Queue Length 50th (ft)	228	13	429	227	271
Queue Length 95th (ft)	270	55	505	295	#378
Internal Link Dist (ft)	516		165	1244	
Turn Bay Length (ft)		130		464	150
Base Capacity (vph)	3184	1086	3288	1176	1210
Starvation Cap Reductn	0	0	1086	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.60	0.41	1.32	0.76	0.87

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	929	173	252	477	518	126	126
v/c Ratio	0.71	0.24	0.68	0.26	0.64	0.15	0.14
Control Delay	37.6	4.8	55.5	13.0	32.4	0.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.6	4.8	55.5	13.0	32.4	0.4	0.3
Queue Length 50th (ft)	310	0	105	60	314	0	0
Queue Length 95th (ft)	382	48	m142	78	449	0	0
Internal Link Dist (ft)	434			411		861	
Turn Bay Length (ft)			200				200
Base Capacity (vph)	1307	725	438	1884	805	838	915
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.24	0.58	0.25	0.64	0.15	0.14

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	576	917	503	22	251	128	128
v/c Ratio	0.95	0.65	0.76	0.05	0.25	0.13	0.13
Control Delay	56.9	17.0	41.7	1.5	15.9	7.0	7.0
Queue Delay	0.0	0.5	61.0	1.4	0.0	0.1	0.1
Total Delay	56.9	17.5	102.6	2.9	15.9	7.2	7.2
Queue Length 50th (ft)	230	148	197	0	101	21	21
Queue Length 95th (ft)	#336	174	255	m4	152	52	52
Internal Link Dist (ft)		411	54			879	
Turn Bay Length (ft)	200						
Base Capacity (vph)	605	1417	661	423	987	1023	1023
Starvation Cap Reductn	0	172	434	321	0	0	0
Spillback Cap Reductn	0	19	0	0	0	389	389
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.74	2.22	0.22	0.25	0.20	0.20

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBR	NBT	NBR	SBL2	SBT
Lane Group Flow (vph)	136	859	685	98	528	1051
v/c Ratio	0.27	0.88	0.83	0.12	0.86	0.45
Control Delay	34.9	52.4	42.2	22.9	63.8	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.9	52.4	42.2	22.9	63.8	12.7
Queue Length 50th (ft)	83	317	482	47	197	198
Queue Length 95th (ft)	131	375	#729	86	#289	267
Internal Link Dist (ft)	1131		952			974
Turn Bay Length (ft)		500			300	
Base Capacity (vph)	574	1116	822	795	628	2343
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.77	0.83	0.12	0.84	0.45

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



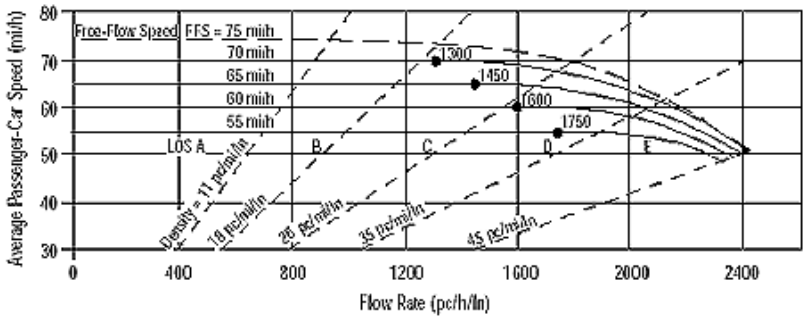
Lane Group	EBL	EBR	NBL2	NBT	SBT	SBR
Lane Group Flow (vph)	396	68	125	1042	1197	1188
v/c Ratio	0.75	0.26	0.61	0.37	0.52	0.64
Control Delay	58.3	47.3	62.7	5.6	15.3	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.3	47.3	62.7	5.6	15.3	1.7
Queue Length 50th (ft)	149	48	94	116	247	0
Queue Length 95th (ft)	193	89	152	169	370	0
Internal Link Dist (ft)	1382			1166	912	
Turn Bay Length (ft)	940	690	250			
Base Capacity (vph)	745	365	294	2822	2285	1863
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.19	0.43	0.37	0.52	0.64

Intersection Summary

APPENDIX 7.14

General Plan Buildout (Post-2035) With Project Conditions
Basic Freeway Segment HCS+ Analysis Worksheets, with Improvements

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*AM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*North of Nichols Road*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3754*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*4*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1071*	pc/h/ln
S	*70.0*	mi/h
D = v_p / S	*15.3*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

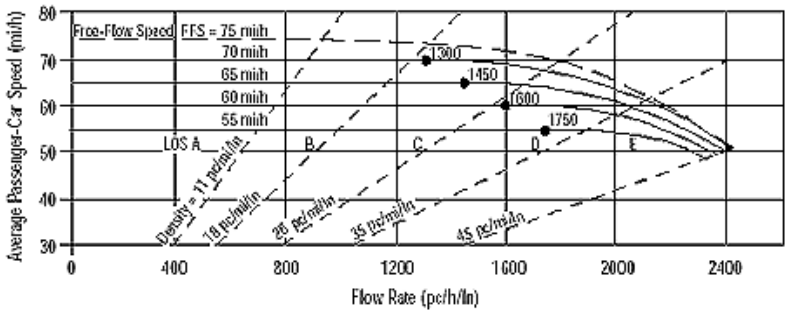
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Nichols Road to Central Avenue*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*3631*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*4*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

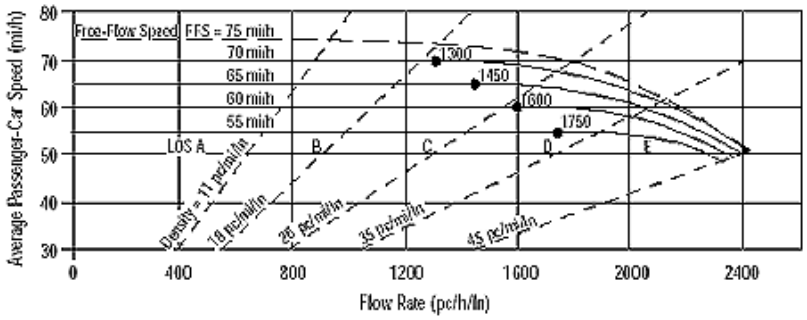
LOS and Performance Measures			**Design (N)**		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1036*	pc/h/ln	Design LOS		
S	*70.0*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
D = v_p / S	*14.8*	pc/mi/ln	S		mi/h
LOS	*B*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Central Avenue to Main Street*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*3690*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

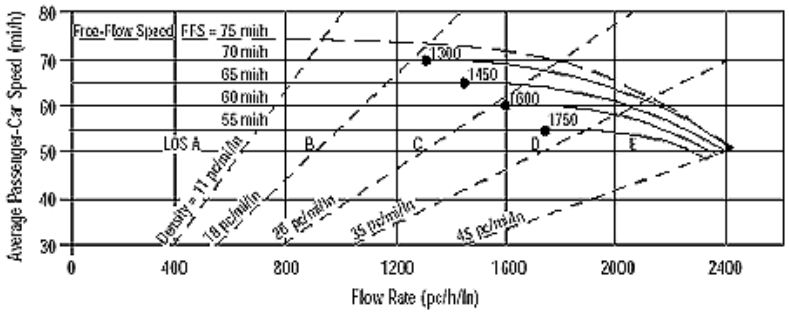
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	I/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1404*	pc/h/ln	Design LOS		
S	*70.0*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
D = v_p / S	*20.1*	pc/mi/ln	S		mi/h
LOS	*C*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Main Street to Railroad Canyon*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*3396*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*11*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.948*

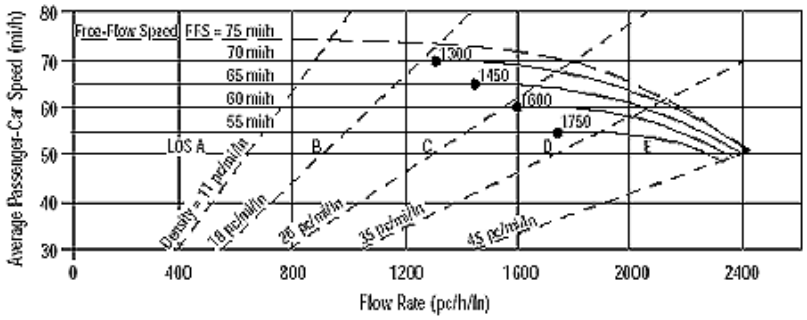
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	I/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1298*	pc/h/ln	Design LOS		
S	*70.0*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
D = v_p / S	*18.5*	pc/mi/ln	S		mi/h
LOS	*C*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*AM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*South of Railroad Canyon*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3189*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*11*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.948*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1219*	pc/h/ln
S	*70.0*	mi/h
D = v_p / S	*17.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

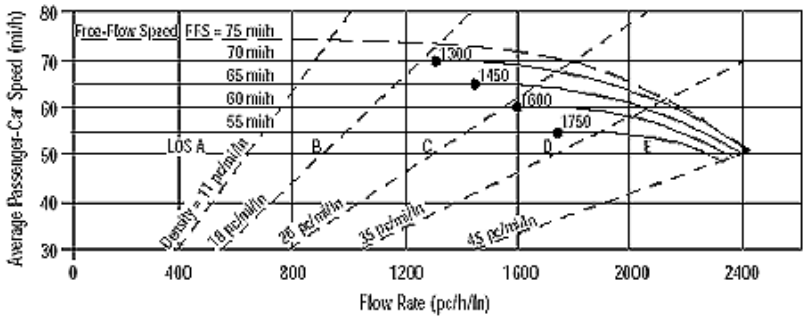
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*AM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*North of Nichols Road*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5465*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*11*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.948*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*4*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1567*	pc/h/ln
S	*69.6*	mi/h
D = v_p / S	*22.5*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

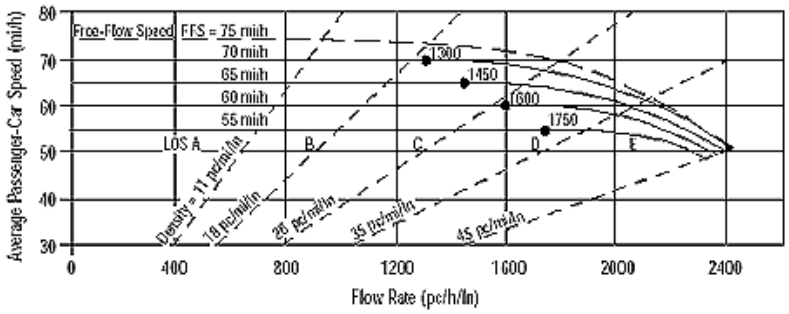
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Nichols Road to Central Avenue*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*5547*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*11*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.948*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*4*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

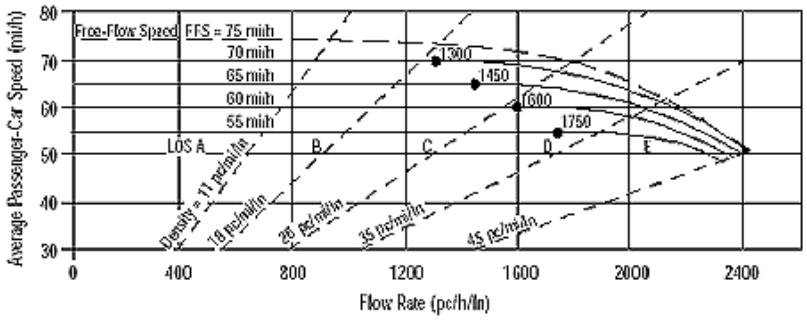
LOS and Performance Measures			**Design (N)**		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1590*	pc/h/ln	Design LOS		
S	*69.5*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
D = v_p / S	*22.9*	pc/mi/ln	S		mi/h
LOS	*C*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*AM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*Central Avenue to Main Street*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6401*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2424*	pc/h/ln
S		mi/h
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

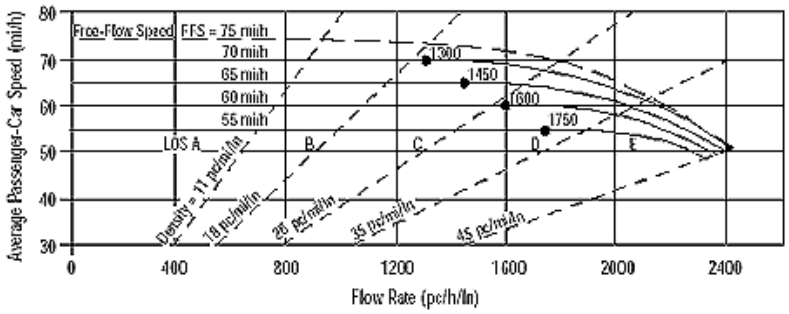
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Main Street to Railroad Canyon*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*6437*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

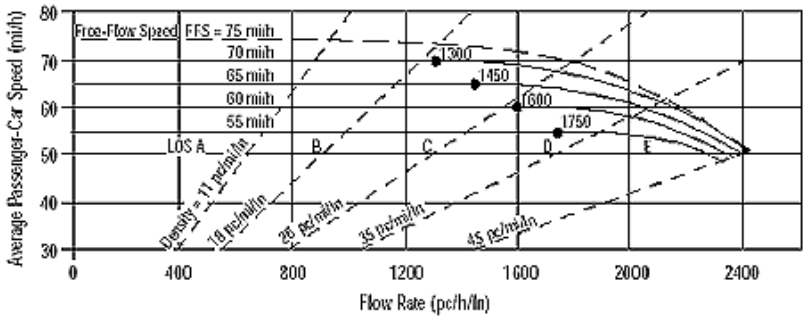
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p) *2437*		pc/h/ln	Design LOS		
S		mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
D = v_p / S		pc/mi/ln	S		mi/h
LOS	*F*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*S of Railroad Canyon*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*5718*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

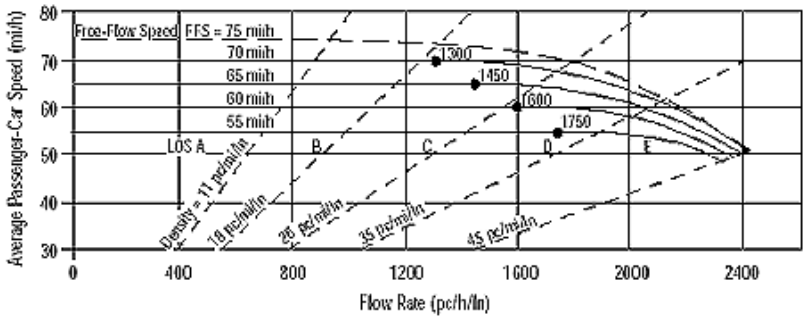
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	I/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2175*	pc/h/ln	Design LOS		
S	*60.8*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
D = v_p / S	*35.8*	pc/mi/ln	S		mi/h
LOS	*E*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*North of Nichols Road*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5705*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*4*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1620*	pc/h/ln
S	*69.3*	mi/h
D = v_p / S	*23.4*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

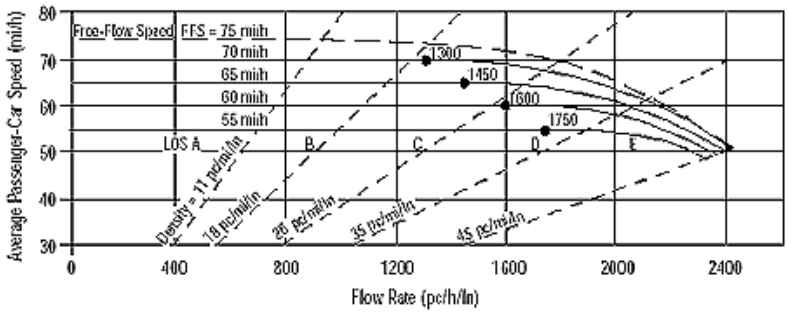
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Nichols Road to Central Avenue*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*5531*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

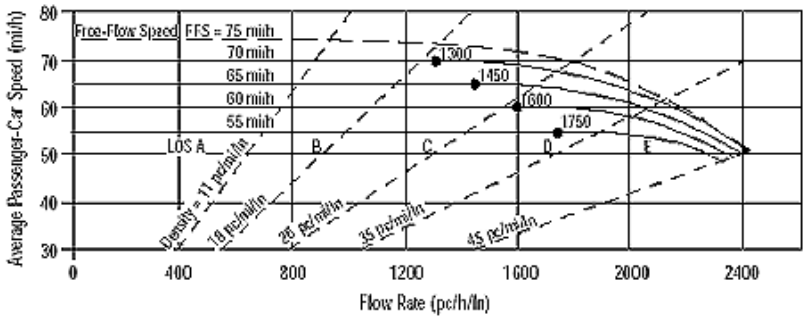
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*4*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1571*	pc/h/ln	Design LOS	
S	*69.6*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
D = v_p / S	*22.6*	pc/mi/ln	S	mi/h
LOS	*C*		D = v_p / S	pc/mi/ln
			Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Central Avenue to Main Street*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*5613*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

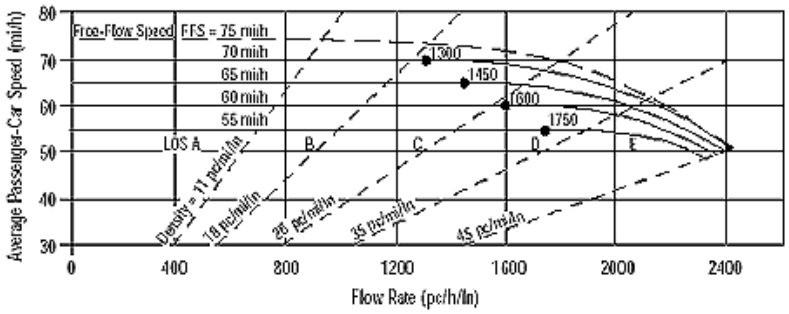
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	I/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2125*	pc/h/ln	Design LOS		
S	*62.1*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
D = v_p / S	*34.2*	pc/mi/ln	S		mi/h
LOS	*D*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Main Street to Railroad Canyon*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*5120*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

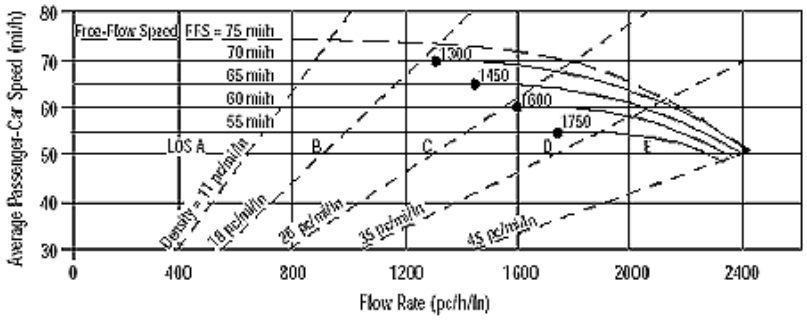
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1948*	pc/h/ln	Design LOS		
S	*65.8*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
D = v_p / S	*29.6*	pc/mi/ln	S		mi/h
LOS	*D*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*South of Railroad Canyon*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4692*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*11*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.948*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1794*	pc/h/ln
S	*67.9*	mi/h
D = v_p / S	*26.4*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

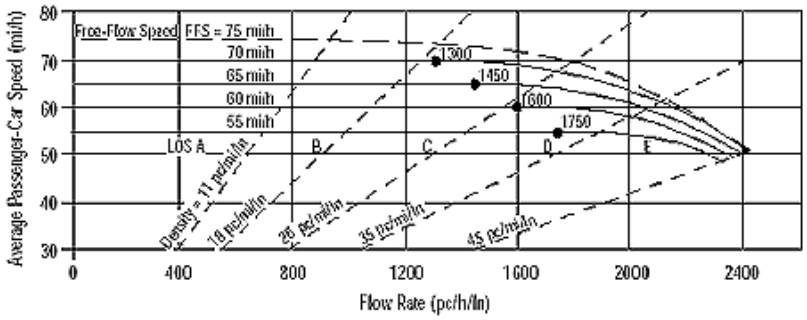
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*North of Nichols Road*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4981*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*12*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.943*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*4*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1435*	pc/h/ln
S	*69.9*	mi/h
D = v_p / S	*20.5*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

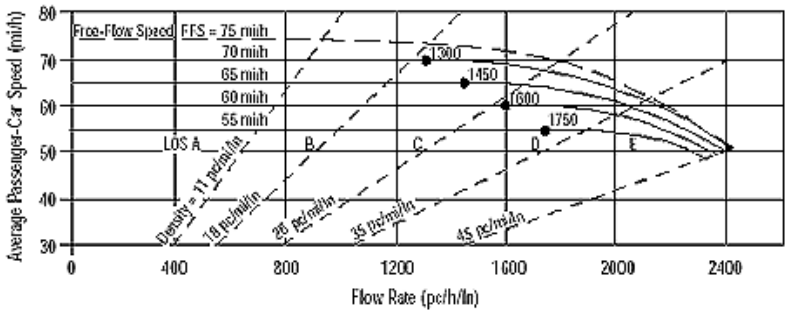
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Nichols Road to Central Avenue*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*4821*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*4*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

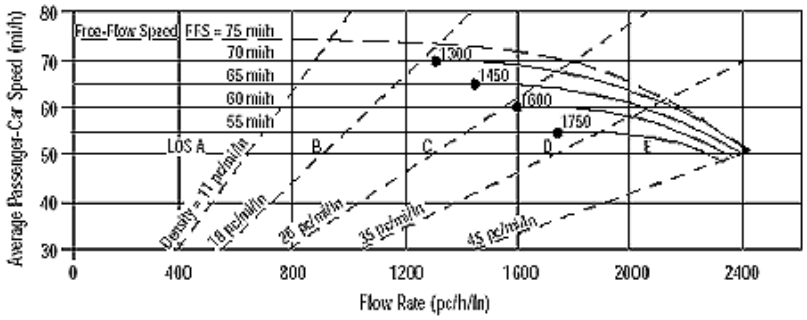
LOS and Performance Measures			**Design (N)**		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1395*	pc/h/ln	Design LOS		
S	*70.0*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
D = v_p / S	*19.9*	pc/mi/ln	S		mi/h
LOS	*C*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*Central Avenue to Main Street*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5440*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*11*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.948*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2079*	pc/h/ln
S	*63.2*	mi/h
D = v_p / S	*32.9*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

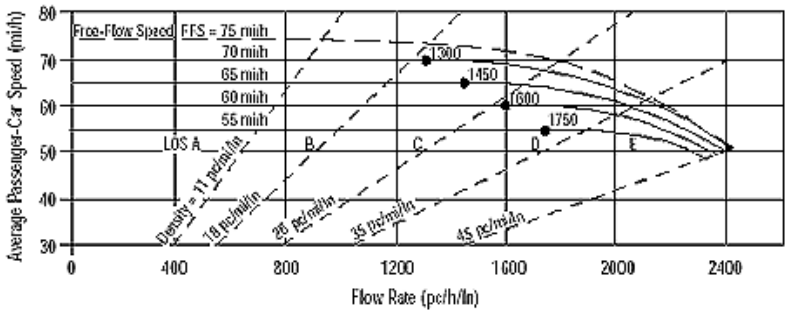
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Main Street to Railroad Canyon*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*5216*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*12*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.943*

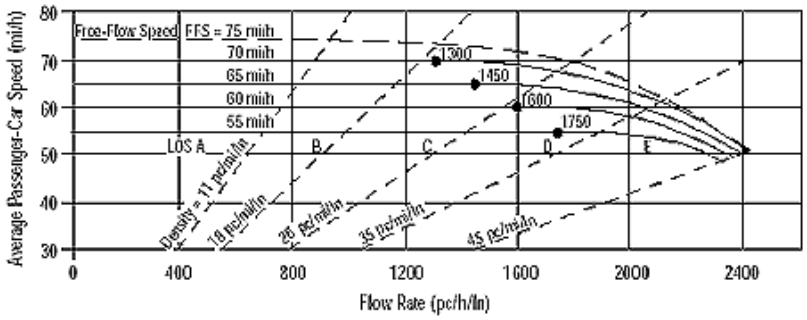
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2003*	pc/h/ln	Design LOS		
S	*64.8*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
D = v_p / S	*30.9*	pc/mi/ln	S		mi/h
LOS	*D*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*S of Railroad Canyon*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4972*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*12*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.943*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1910*	pc/h/ln
S	*66.4*	mi/h
D = v_p / S	*28.8*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

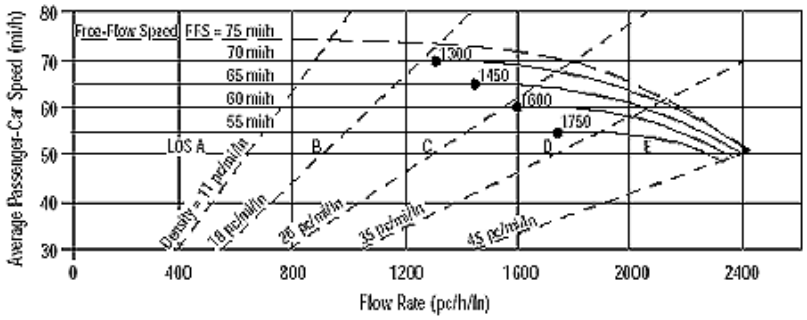
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*Saturday Mid-Day Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*North of Nichols Road*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5049*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*4*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1434*	pc/h/ln
S	*69.9*	mi/h
D = v_p / S	*20.5*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

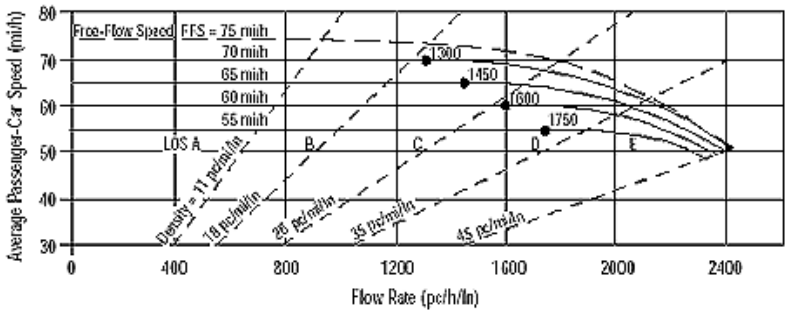
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Nichols Road to Central Avenue*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*Saturday Mid-Day Peak Hour*	Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*4808*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

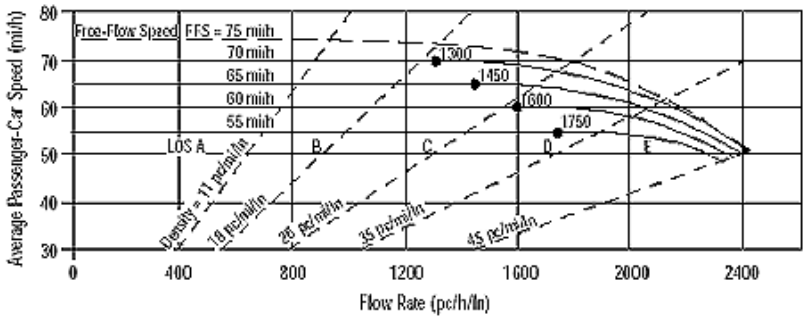
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*4*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1372*	pc/h/ln	Design LOS	
S	*70.0*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
D = v_p / S	*19.6*	pc/mi/ln	S	mi/h
LOS	*C*		D = v_p / S	pc/mi/ln
			Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*Saturday Mid-Day Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*Central Avenue to Main Street*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5056*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1914*	pc/h/ln
S	*66.3*	mi/h
D = v_p / S	*28.9*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

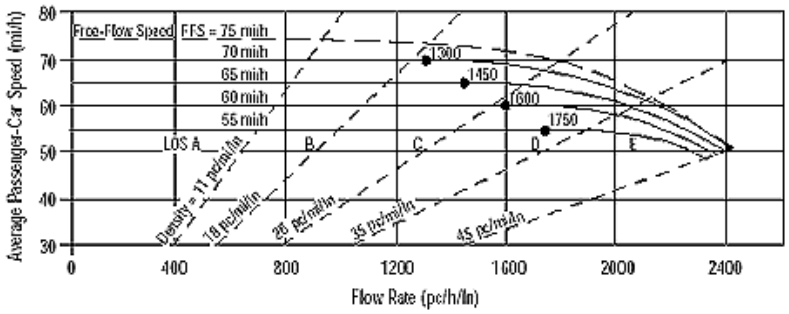
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Southbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Main Street to Railroad Canyon*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*Saturday Mid-Day Peak Hour*	Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*4725*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

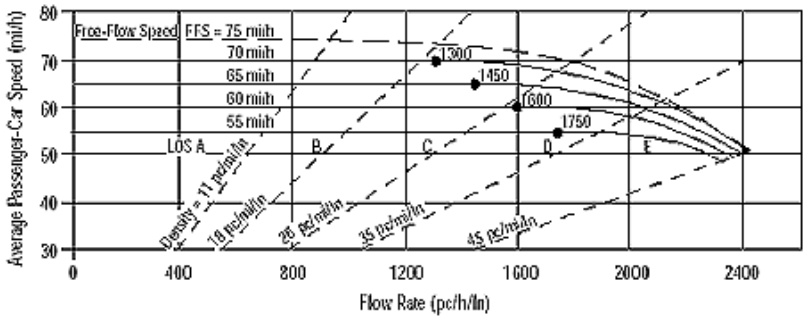
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1798*	pc/h/ln	Design LOS		
S	*67.9*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
D = v_p / S	*26.5*	pc/mi/ln	S		mi/h
LOS	*D*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*Saturday Mid-Day Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Southbound*
From/To	*South of Railroad Canyon*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4363*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*11*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.948*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1668*	pc/h/ln
S	*69.0*	mi/h
D = v_p / S	*24.2*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

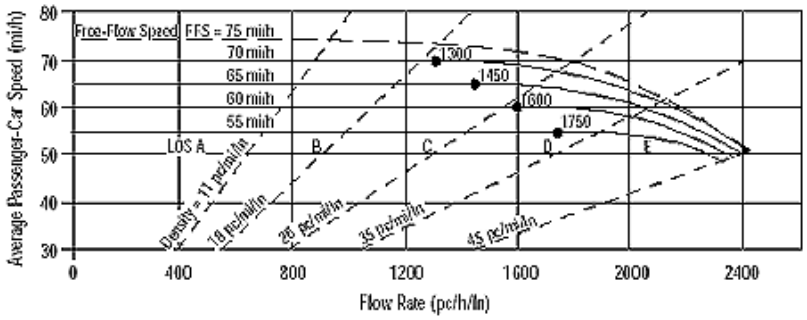
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*Saturday Mid-Day Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*North of Nichols Road*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4623*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*4*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1338*	pc/h/ln
S	*70.0*	mi/h
D = v_p / S	*19.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

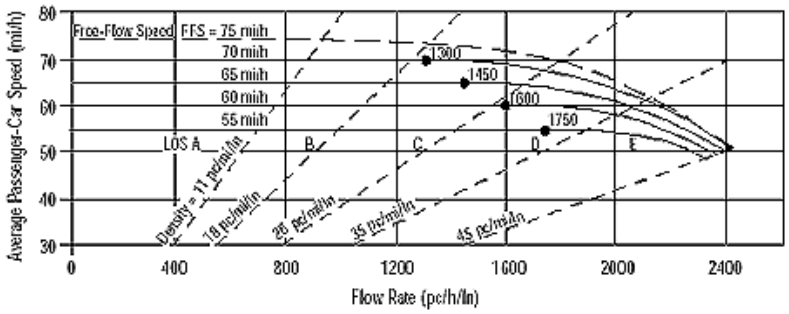
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Nichols Road to Central Avenue*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*Saturday Mid-Day Peak Hour*	Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*4098*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*14*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.935*

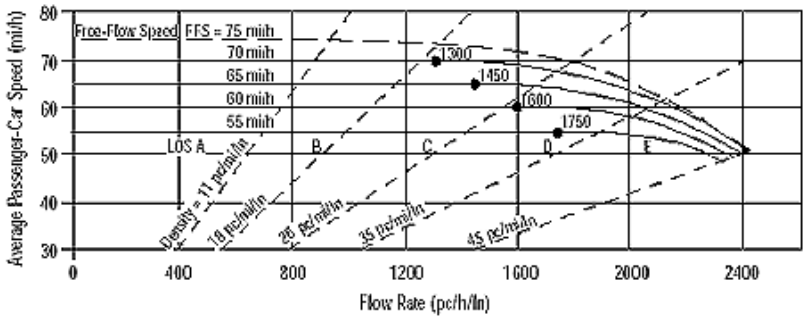
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*4*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1192*	pc/h/ln	Design LOS		
S	*70.0*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
D = v_p / S	*17.0*	pc/mi/ln	S		mi/h
LOS	*B*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*Saturday Mid-Day Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*Central Avenue to Main Street*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4575*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1765*	pc/h/ln
S	*68.2*	mi/h
D = v_p / S	*25.9*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

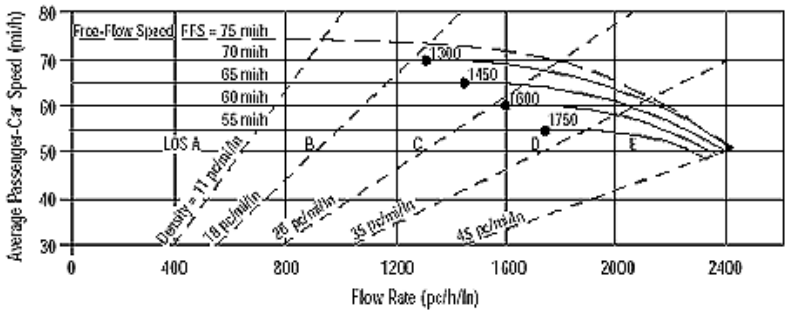
Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*CHS*	Highway/Direction of Travel	*I-15 Northbound*
Agency or Company	*Urban Crossroads, Inc.*	From/To	*Main Street to Railroad Canyon*
Date Performed	*4/5/2015*	Jurisdiction	*Caltrans*
Analysis Time Period	*Saturday Mid-Day Peak Hour*	Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*4490*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*13*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.939*

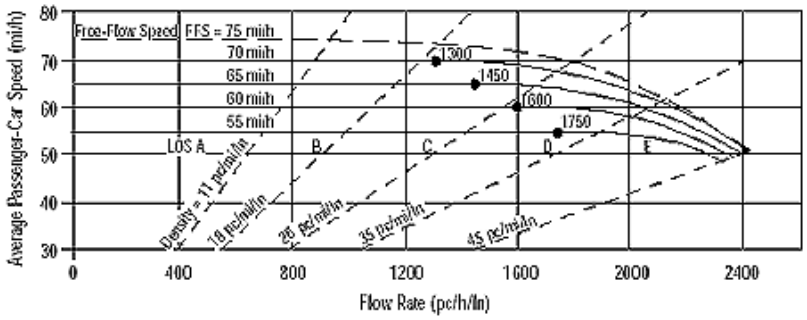
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}		mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}		mi/h
Interchange Density	*0.50*	l/mi	f_{ID}		mi/h
Number of Lanes, N	*3*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1733*	pc/h/ln	Design LOS		
S	*68.5*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
D = v_p / S	*25.3*	pc/mi/ln	S		mi/h
LOS	*C*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7
DDHV - Directional design hour volume			

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BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*CHS*
Agency or Company	*Urban Crossroads, Inc.*
Date Performed	*4/5/2015*
Analysis Time Period	*Saturday Mid-Day Peak Hour*

Site Information

Highway/Direction of Travel	*I-15 Northbound*
From/To	*S of Railroad Canyon*
Jurisdiction	*Caltrans*
Analysis Year	*Post-2035 WP - WITH IMPROV*

Project Description Lake Elsinore Walmart TIA (JN 08651)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3683*	veh/h	Peak-Hour Factor, PHF	*0.92*
AADT		veh/day	%Trucks and Buses, P_T	*16*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.926*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h

Calc Speed Adj and FFS

f_{LW}		mi/h
f_{LC}		mi/h
f_{ID}		mi/h
f_N		mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1441*	pc/h/ln
S	*69.9*	mi/h
D = v_p / S	*20.6*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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APPENDIX 7.15

General Plan Buildout (Post-2035) With Project Conditions
Freeway Ramp Junction (Merge/Diverge) HCS+ Analysis Worksheets, with Improvements

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2075 ft
V_D = 1091 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3754	0.92	Level	10	0	0.952	1.00	4284
Ramp	1214	0.92	Level	1	0	0.995	1.00	1326
UpStream								
DownStream	1091	0.92	Level	2	0	0.990	1.00	1198

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.436 using Equation (Exhibit 25-12)
V_{12} = 2616 pc/h
V_3 or V_{av34} 834 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4284	Exhibit 25-14	9600	No
$V_{FO} = V_F - V_R$	2958	Exhibit 25-14	9600	No
V_R	1326	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2616	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 24.8 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.417 (Exhibit 25-19)
S_R= 58.3 mph (Exhibit 25-19)
S_0= 76.8 mph (Exhibit 25-19)
S = 64.3 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2075 ft
V_u = 1214 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2540	0.92	Level	14	0	0.935	1.00	2954
Ramp	1091	0.92	Level	2	0	0.990	1.00	1198
UpStream	1214	0.92	Level	1	0	0.995	1.00	1326
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.125 using Equation (Exhibit 25-5)
V_{12} = 369 pc/h
V_3 or V_{av34} 1292 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 1181 pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4152	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2379	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 22.0 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.342 (Exibit 25-19)
S_R = 60.4 mph (Exhibit 25-19)
S_0 = 68.6 mph (Exhibit 25-19)
S = 63.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2050 ft
V_D = 1588 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3631	0.92	Level	10	0	0.952	1.00	4144
Ramp	1529	0.92	Level	4	0	0.980	1.00	1695
UpStream								
DownStream	1588	0.92	Level	3	0	0.985	1.00	1752

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.436 using Equation (Exhibit 25-12)
V_{12} = 2763 pc/h
V_3 or V_{av34} 690 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4144	Exhibit 25-14	9600	No
$V_{FO} = V_F - V_R$	2449	Exhibit 25-14	9600	No
V_R	1695	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2763	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 26.3 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.451 (Exhibit 25-19)
S_R= 57.4 mph (Exhibit 25-19)
S_0= 76.8 mph (Exhibit 25-19)
S = 62.7 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2050 ft
V_u = 1529 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2102	0.92	Level	15	0	0.930	1.00	2456
Ramp	1588	0.92	Level	3	0	0.985	1.00	1752
UpStream	1529	0.92	Level	4	0	0.980	1.00	1695
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 976.23 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 1438 pc/h
V_3 or V_{av34} 1018 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4208	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3190	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 27.8 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.391 (Exibit 25-19)
S_R = 59.1 mph (Exhibit 25-19)
S_0 = 68.1 mph (Exhibit 25-19)
S = 61.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2620 ft
V_D = 642 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3690	0.92	Level	10	0	0.952	1.00	4211
Ramp	936	0.92	Level	0	0	1.000	1.00	1017
UpStream								
DownStream	642	0.92	Level	2	0	0.990	1.00	705

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.608 using Equation (Exhibit 25-12)
V_{12} = 2959 pc/h
V_3 or V_{av34} 1252 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4211	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	3194	Exhibit 25-14	7200	No
V_R	1017	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2959	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 28.3 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.390 (Exhibit 25-19)
S_R = 59.1 mph (Exhibit 25-19)
S_0 = 75.8 mph (Exhibit 25-19)
S = 63.2 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2620 ft
V_u = 936 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2754	0.92	Level	13	0	0.939	1.00	3188
Ramp	642	0.92	Level	2	0	0.990	1.00	705
UpStream	936	0.92	Level	0	0	1.000	1.00	1017
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 917.70 (Equation 25-2 or 25-3)
P_{FM} = 0.586 using Equation (Exhibit 25-5)
V_{12} = 1868 pc/h
V_3 or V_{av34} 1320 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3893	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2573	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 23.3 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.345 (Exibit 25-19)
S_R = 60.3 mph (Exhibit 25-19)
S_0 = 67.0 mph (Exhibit 25-19)
S = 62.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2250 ft
V_D = 634 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3396	0.92	Level	11	0	0.948	1.00	3894
Ramp	841	0.92	Level	7	0	0.966	1.00	946
UpStream								
DownStream	634	0.92	Level	4	0	0.980	1.00	703

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.619 using Equation (Exhibit 25-12)
V_{12} = 2771 pc/h
V_3 or V_{av34} 1123 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3894	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	2948	Exhibit 25-14	7200	No
V_R	946	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2771	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 26.6 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.383 (Exhibit 25-19)
S_R = 59.3 mph (Exhibit 25-19)
S_0 = 76.3 mph (Exhibit 25-19)
S = 63.4 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2250 ft
V_u = 841 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2555	0.92	Level	12	0	0.943	1.00	2944
Ramp	634	0.92	Level	4	0	0.980	1.00	703
UpStream	841	0.92	Level	7	0	0.966	1.00	946
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 944.98 (Equation 25-2 or 25-3)
P_{FM} = 0.591 using Equation (Exhibit 25-5)
V_{12} = 1740 pc/h
V_3 or V_{av34} 1204 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3647	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2443	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 21.2 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.323 (Exibit 25-19)
S_R = 61.0 mph (Exhibit 25-19)
S_0 = 67.5 mph (Exhibit 25-19)
S = 63.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2130 ft
V_u = 1243 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4304	0.92	Level	14	0	0.935	1.00	5006
Ramp	1161	0.92	Level	1	0	0.995	1.00	1268
UpStream	1243	0.92	Level	0	0	1.000	1.00	1351
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.258 using Equation (Exhibit 25-5)
V_{12} = 1289 pc/h
V_3 or V_{av34} 1858 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 2002 pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6274	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3270	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 25.4 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.352 (Exibit 25-19)
S_R = 60.2 mph (Exhibit 25-19)
S_0 = 66.4 mph (Exhibit 25-19)
S = 63.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2130 ft
V_D = 1161 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5547	0.92	Level	11	0	0.948	1.00	6361
Ramp	1243	0.92	Level	0	0	1.000	1.00	1351
UpStream								
DownStream	1161	0.92	Level	1	0	0.995	1.00	1268

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.436 using Equation (Exhibit 25-12)
V_{12} = 3535 pc/h
V_3 or V_{av34} 1413 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6361	Exhibit 25-14	9600	No
$V_{FO} = V_F - V_R$	5010	Exhibit 25-14	9600	No
V_R	1351	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3535	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 32.6 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.420 (Exhibit 25-19)
S_R = 58.3 mph (Exhibit 25-19)
S_0 = 75.2 mph (Exhibit 25-19)
S = 64.7 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1650 ft
V_u = 1896 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4505	0.92	Level	12	0	0.943	1.00	5191
Ramp	1042	0.92	Level	5	0	0.976	1.00	1161
UpStream	1896	0.92	Level	1	0	0.995	1.00	2071
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.244 using Equation (Exhibit 25-5)
V_{12} = 1265 pc/h
V_3 or V_{av34} 1963 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 2076 pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6352	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3237	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 25.9 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.358 (Exibit 25-19)
S_R = 60.0 mph (Exhibit 25-19)
S_0 = 66.2 mph (Exhibit 25-19)
S = 62.9 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1650 ft
V_D = 1042 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6401	0.92	Level	9	0	0.957	1.00	7271
Ramp	1896	0.92	Level	1	0	0.995	1.00	2071
UpStream								
DownStream	1042	0.92	Level	5	0	0.976	1.00	1161

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.483 using Equation (Exhibit 25-12)
V_{12} = 4582 pc/h
V_3 or V_{av34} 2689 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7271	Exhibit 25-14	7200	Yes
$V_{FO} = V_F - V_R$	5200	Exhibit 25-14	7200	No
V_R	2071	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4582	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 41.9 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

D_s = 0.484 (Exhibit 25-19)
S_R = 56.4 mph (Exhibit 25-19)
S_0 = 70.2 mph (Exhibit 25-19)
S = 60.8 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2100 ft
V_u = 917 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5520	0.92	Level	10	0	0.952	1.00	6300
Ramp	881	0.92	Level	1	0	0.995	1.00	962
UpStream	917	0.92	Level	1	0	0.995	1.00	1002
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1616.47 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 3682 pc/h
V_3 or V_{av34} 2618 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7262	Exhibit 25-7		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4644	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 39.7 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

M_S = 0.704 (Exibit 25-19)
S_R = 50.3 mph (Exhibit 25-19)
S_0 = 61.6 mph (Exhibit 25-19)
S = 53.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 881 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6437	0.92	Level	9	0	0.957	1.00	7312
Ramp	917	0.92	Level	1	0	0.995	1.00	1002
UpStream								
DownStream	881	0.92	Level	1	0	0.995	1.00	962

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.531 using Equation (Exhibit 25-12)
V_{12} = 4353 pc/h
V_3 or V_{av34} 2959 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = 4612 pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7312	Exhibit 25-14	7200	Yes
$V_{FO} = V_F - V_R$	6310	Exhibit 25-14	7200	No
V_R	1002	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4353	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 42.2 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

D_s = 0.388 (Exhibit 25-19)
S_R = 59.1 mph (Exhibit 25-19)
S_0 = 70.2 mph (Exhibit 25-19)
S = 62.8 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2000 ft
V_u = 619 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5099	0.92	Level	11	0	0.948	1.00	5847
Ramp	1338	0.92	Level	1	0	0.995	1.00	1462
UpStream	619	0.92	Level	6	0	0.971	1.00	693
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1639.85 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 3422 pc/h
V_3 or V_{av34} 2425 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7309	Exhibit 25-7		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4884	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 41.1 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

M_S = 0.811 (Exibit 25-19)
S_R = 47.3 mph (Exhibit 25-19)
S_0 = 62.7 mph (Exhibit 25-19)
S = 51.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	AM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2000 ft
V_D = 1338 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5718	0.92	Level	10	0	0.952	1.00	6526
Ramp	619	0.92	Level	6	0	0.971	1.00	693
UpStream								
DownStream	1338	0.92	Level	1	0	0.995	1.00	1462

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.565 using Equation (Exhibit 25-12)
V_{12} = 3988 pc/h
V_3 or V_{av34} 2538 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6526	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	5833	Exhibit 25-14	7200	No
V_R	693	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3988	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 36.5 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.360 (Exhibit 25-19)
S_R= 59.9 mph (Exhibit 25-19)
S_0= 70.8 mph (Exhibit 25-19)
S = 63.7 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2075 ft
V_D = 1375 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5705	0.92	Level	9	0	0.957	1.00	6480
Ramp	1549	0.92	Level	1	0	0.995	1.00	1692
UpStream								
DownStream	1375	0.92	Level	1	0	0.995	1.00	1502

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.436 using Equation (Exhibit 25-12)
V_{12} = 3780 pc/h
V_3 or V_{av34} 1350 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6480	Exhibit 25-14	9600	No
$V_{FO} = V_F - V_R$	4788	Exhibit 25-14	9600	No
V_R	1692	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3780	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 34.8 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.450 (Exhibit 25-19)
S_R = 57.4 mph (Exhibit 25-19)
S_0 = 75.4 mph (Exhibit 25-19)
S = 63.7 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☑ Yes ☐ On		☐ Yes ☐ On
☐ No ☑ Off		☑ No ☐ Off
L_{up} = 2075 ft		L_{down} = ft
V_u = 1549 veh/h	S_{FF} = 70.0 mph S_{FR} = 45.0 mph Sketch (show lanes, L_A, L_D, V_R, V_f)	V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4156	0.92	Level	12	0	0.943	1.00	4788
Ramp	1375	0.92	Level	1	0	0.995	1.00	1502
UpStream	1549	0.92	Level	1	0	0.995	1.00	1692
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.087 using Equation (Exhibit 25-5)

V_{12} = 417 pc/h

V_3 or V_{av34} 2185 pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1915 pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6290	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3417	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 30.0 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.419 (Exibit 25-19)

S_R = 58.3 mph (Exhibit 25-19)

S_0 = 66.6 mph (Exhibit 25-19)

S = 61.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-12)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft	S_{FF} = 70.0 mph S_{FR} = 45.0 mph	L_{down} = 2050 ft
V_u = veh/h	Sketch (show lanes, L_A, L_D,V_R,V_f)	V_D = 1805 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5531	0.92	Level	9	0	0.957	1.00	6282
Ramp	1723	0.92	Level	1	0	0.995	1.00	1882
UpStream								
DownStream	1805	0.92	Level	1	0	0.995	1.00	1972

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-12)

V_{12} = 3800 pc/h

V_3 or V_{av34} 1241 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6282	Exhibit 25-14	9600	No
$V_{FO} = V_F - V_R$	4400	Exhibit 25-14	9600	No
V_R	1882	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3800	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 35.2 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.467 (Exhibit 25-19)

S_R= 56.9 mph (Exhibit 25-19)

S_0= 75.9 mph (Exhibit 25-19)

S = 63.1 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2050 ft
V_u = 1723 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3808	0.92	Level	13	0	0.939	1.00	4408
Ramp	1805	0.92	Level	1	0	0.995	1.00	1972
UpStream	1723	0.92	Level	1	0	0.995	1.00	1882
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1441.04 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 2580 pc/h
V_3 or V_{av34} 1828 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6380	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4552	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 38.3 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

M_S = 0.666 (Exibit 25-19)
S_R = 51.4 mph (Exhibit 25-19)
S_0 = 65.2 mph (Exhibit 25-19)
S = 54.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft	S_{FF} = 70.0 mph S_{FR} = 45.0 mph	L_{down} = 2620 ft
V_u = veh/h	Sketch (show lanes, L_A, L_D, V_R, V_f)	V_D = 576 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5613	0.92	Level	9	0	0.957	1.00	6376
Ramp	1069	0.92	Level	1	0	0.995	1.00	1168
UpStream								
DownStream	576	0.92	Level	2	0	0.990	1.00	632

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.547 using Equation (Exhibit 25-12)

V_{12} = 4016 pc/h

V_3 or V_{av34} 2360 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6376	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	5208	Exhibit 25-14	7200	No
V_R	1168	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4016	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 37.4 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.403 (Exhibit 25-19)

S_R = 58.7 mph (Exhibit 25-19)

S_0 = 71.5 mph (Exhibit 25-19)

S = 62.9 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2620 ft
V_u = 1069 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4544	0.92	Level	11	0	0.948	1.00	5211
Ramp	576	0.92	Level	2	0	0.990	1.00	632
UpStream	1069	0.92	Level	1	0	0.995	1.00	1168
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1335.00 (Equation 25-2 or 25-3)
P_{FM} = 0.586 using Equation (Exhibit 25-5)
V_{12} = 3053 pc/h
V_3 or V_{av34} 2158 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5843	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3685	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 32.0 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.449 (Exibit 25-19)
S_R = 57.4 mph (Exhibit 25-19)
S_0 = 64.0 mph (Exhibit 25-19)
S = 59.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2250 ft
V_D = 614 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5120	0.92	Level	10	0	0.952	1.00	5843
Ramp	1042	0.92	Level	3	0	0.985	1.00	1150
UpStream								
DownStream	614	0.92	Level	2	0	0.990	1.00	674

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.561 using Equation (Exhibit 25-12)
V_{12} = 3783 pc/h
V_3 or V_{av34} 2060 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5843	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	4693	Exhibit 25-14	7200	No
V_R	1150	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3783	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 35.3 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.402 (Exhibit 25-19)
S_R = 58.8 mph (Exhibit 25-19)
S_0 = 72.7 mph (Exhibit 25-19)
S = 63.0 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2250 ft
V_u = 1042 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4078	0.92	Level	12	0	0.943	1.00	4699
Ramp	614	0.92	Level	2	0	0.990	1.00	674
UpStream	1042	0.92	Level	3	0	0.985	1.00	1150
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1314.34 (Equation 25-2 or 25-3)
P_{FM} = 0.591 using Equation (Exhibit 25-5)
V_{12} = 2777 pc/h
V_3 or V_{av34} 1922 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5373	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3451	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 29.1 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.401 (Exibit 25-19)
S_R = 58.8 mph (Exhibit 25-19)
S_0 = 64.9 mph (Exhibit 25-19)
S = 60.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2130 ft
V_u = 1161 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3660	0.92	Level	17	0	0.922	1.00	4316
Ramp	1321	0.92	Level	1	0	0.995	1.00	1443
UpStream	1161	0.92	Level	1	0	0.995	1.00	1268
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.236 using Equation (Exhibit 25-5)
V_{12} = 1017 pc/h
V_3 or V_{av34} 1649 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 1726 pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5759	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3169	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 24.5 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.342 (Exibit 25-19)
S_R = 60.4 mph (Exhibit 25-19)
S_0 = 67.1 mph (Exhibit 25-19)
S = 63.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2130 ft
V_D = 1321 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4821	0.92	Level	13	0	0.939	1.00	5581
Ramp	1161	0.92	Level	1	0	0.995	1.00	1268
UpStream								
DownStream	1321	0.92	Level	1	0	0.995	1.00	1443

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.436 using Equation (Exhibit 25-12)
V_{12} = 3148 pc/h
V_3 or V_{av34} 1216 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5581	Exhibit 25-14	9600	No
$V_{FO} = V_F - V_R$	4313	Exhibit 25-14	9600	No
V_R	1268	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3148	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 29.3 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.412 (Exhibit 25-19)
S_R = 58.5 mph (Exhibit 25-19)
S_0 = 75.9 mph (Exhibit 25-19)
S = 65.0 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1650 ft
V_u = 2121 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3319	0.92	Level	18	0	0.917	1.00	3932
Ramp	1502	0.92	Level	2	0	0.990	1.00	1649
UpStream	2121	0.92	Level	1	0	0.995	1.00	2317
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.183 using Equation (Exhibit 25-5)
V_{12} = 718 pc/h
V_3 or V_{av34} 1607 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 1572 pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5581	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3221	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 25.5 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.357 (Exibit 25-19)
S_R = 60.0 mph (Exhibit 25-19)
S_0 = 67.6 mph (Exhibit 25-19)
S = 63.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1650 ft
V_D = 1502 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5440	0.92	Level	11	0	0.948	1.00	6238
Ramp	2121	0.92	Level	1	0	0.995	1.00	2317
UpStream								
DownStream	1502	0.92	Level	2	0	0.990	1.00	1649

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.497 using Equation (Exhibit 25-12)
V_{12} = 4268 pc/h
V_3 or V_{av34} 1970 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6238	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	3921	Exhibit 25-14	7200	No
V_R	2317	Exhibit 25-3	2100	Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4268	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 39.2 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Determination

D_s = 0.507 (Exhibit 25-19)
S_R = 55.8 mph (Exhibit 25-19)
S_0 = 73.0 mph (Exhibit 25-19)
S = 60.3 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2100 ft
V_u = 737 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4479	0.92	Level	14	0	0.935	1.00	5209
Ramp	961	0.92	Level	1	0	0.995	1.00	1050
UpStream	737	0.92	Level	1	0	0.995	1.00	805
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1401.83 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 3045 pc/h
V_3 or V_{av34} 2164 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6259	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4095	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 35.4 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

M_S = 0.533 (Exibit 25-19)
S_R = 55.1 mph (Exhibit 25-19)
S_0 = 64.0 mph (Exhibit 25-19)
S = 57.9 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 961 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5216	0.92	Level	12	0	0.943	1.00	6010
Ramp	737	0.92	Level	1	0	0.995	1.00	805
UpStream								
DownStream	961	0.92	Level	1	0	0.995	1.00	1050

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.573 using Equation (Exhibit 25-12)
V_{12} = 3786 pc/h
V_3 or V_{av34} 2224 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6010	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	5205	Exhibit 25-14	7200	No
V_R	805	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3786	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 35.1 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.370 (Exhibit 25-19)
S_R= 59.6 mph (Exhibit 25-19)
S_0= 72.0 mph (Exhibit 25-19)
S = 63.7 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2000 ft
V_u = 752 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4220	0.92	Level	14	0	0.935	1.00	4908
Ramp	996	0.92	Level	3	0	0.985	1.00	1099
UpStream	752	0.92	Level	3	0	0.985	1.00	830
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1361.22 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 2873 pc/h
V_3 or V_{av34} 2035 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6007	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3972	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 34.2 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.503 (Exibit 25-19)
S_R = 55.9 mph (Exhibit 25-19)
S_0 = 64.5 mph (Exhibit 25-19)
S = 58.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	PM Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2000 ft
V_D = 996 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4972	0.92	Level	12	0	0.943	1.00	5729
Ramp	752	0.92	Level	3	0	0.985	1.00	830
UpStream								
DownStream	996	0.92	Level	3	0	0.985	1.00	1099

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.579 using Equation (Exhibit 25-12)
V_{12} = 3665 pc/h
V_3 or V_{av34} 2064 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5729	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	4899	Exhibit 25-14	7200	No
V_R	830	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3665	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 33.7 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.373 (Exhibit 25-19)
S_R = 59.6 mph (Exhibit 25-19)
S_0 = 72.6 mph (Exhibit 25-19)
S = 63.7 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2075 ft
V_D = 1246 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5049	0.92	Level	9	0	0.957	1.00	5735
Ramp	1487	0.92	Level	1	0	0.995	1.00	1624
UpStream								
DownStream	1246	0.92	Level	0	0	1.000	1.00	1354

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.436 using Equation (Exhibit 25-12)
V_{12} = 3416 pc/h
V_3 or V_{av34} 1159 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5735	Exhibit 25-14	9600	No
$V_{FO} = V_F - V_R$	4111	Exhibit 25-14	9600	No
V_R	1624	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3416	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 31.6 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.444 (Exhibit 25-19)
S_R = 57.6 mph (Exhibit 25-19)
S_0 = 76.2 mph (Exhibit 25-19)
S = 63.9 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2075 ft
V_u = 1487 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3562	0.92	Level	13	0	0.939	1.00	4123
Ramp	1246	0.92	Level	0	0	1.000	1.00	1354
UpStream	1487	0.92	Level	1	0	0.995	1.00	1624
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.106 using Equation (Exhibit 25-5)
V_{12} = 435 pc/h
V_3 or V_{av34} 1844 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 1649 pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5477	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3003	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 26.8 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.379 (Exibit 25-19)
S_R = 59.4 mph (Exhibit 25-19)
S_0 = 67.3 mph (Exhibit 25-19)
S = 62.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2050 ft
V_D = 1645 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4808	0.92	Level	10	0	0.952	1.00	5487
Ramp	1397	0.92	Level	2	0	0.990	1.00	1534
UpStream								
DownStream	1645	0.92	Level	2	0	0.990	1.00	1806

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.436 using Equation (Exhibit 25-12)
V_{12} = 3258 pc/h
V_3 or V_{av34} 1114 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5487	Exhibit 25-14	9600	No
$V_{FO} = V_F - V_R$	3953	Exhibit 25-14	9600	No
V_R	1534	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3258	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 30.5 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.436 (Exhibit 25-19)
S_R = 57.8 mph (Exhibit 25-19)
S_0 = 76.3 mph (Exhibit 25-19)
S = 64.1 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2050 ft
V_u = 1397 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3411	0.92	Level	13	0	0.939	1.00	3949
Ramp	1645	0.92	Level	2	0	0.990	1.00	1806
UpStream	1397	0.92	Level	2	0	0.990	1.00	1534
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1307.29 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 2312 pc/h
V_3 or V_{av34} 1637 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5755	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4118	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 35.0 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

M_S = 0.535 (Exibit 25-19)
S_R = 55.0 mph (Exhibit 25-19)
S_0 = 65.9 mph (Exhibit 25-19)
S = 57.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2620 ft
V_D = 408 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5056	0.92	Level	9	0	0.957	1.00	5743
Ramp	739	0.92	Level	1	0	0.995	1.00	807
UpStream								
DownStream	408	0.92	Level	2	0	0.990	1.00	448

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.579 using Equation (Exhibit 25-12)
V_{12} = 3666 pc/h
V_3 or V_{av34} 2077 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5743	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	4936	Exhibit 25-14	7200	No
V_R	807	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3666	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 34.4 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.371 (Exhibit 25-19)
S_R = 59.6 mph (Exhibit 25-19)
S_0 = 72.6 mph (Exhibit 25-19)
S = 63.7 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2620 ft
V_u = 739 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4317	0.92	Level	11	0	0.948	1.00	4950
Ramp	408	0.92	Level	2	0	0.990	1.00	448
UpStream	739	0.92	Level	1	0	0.995	1.00	807
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1239.77 (Equation 25-2 or 25-3)
P_{FM} = 0.586 using Equation (Exhibit 25-5)
V_{12} = 2900 pc/h
V_3 or V_{av34} 2050 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5398	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3348	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 29.5 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.405 (Exibit 25-19)
S_R = 58.7 mph (Exhibit 25-19)
S_0 = 64.4 mph (Exhibit 25-19)
S = 60.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2250 ft
V_D = 613 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4725	0.92	Level	10	0	0.952	1.00	5393
Ramp	975	0.92	Level	2	0	0.990	1.00	1070
UpStream								
DownStream	613	0.92	Level	2	0	0.990	1.00	673

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.576 using Equation (Exhibit 25-12)
V_{12} = 3560 pc/h
V_3 or V_{av34} 1833 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5393	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	4323	Exhibit 25-14	7200	No
V_R	1070	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3560	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 33.4 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.394 (Exhibit 25-19)
S_R = 59.0 mph (Exhibit 25-19)
S_0 = 73.5 mph (Exhibit 25-19)
S = 63.2 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Southbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2250 ft
V_u = 975 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3750	0.92	Level	12	0	0.943	1.00	4321
Ramp	613	0.92	Level	2	0	0.990	1.00	673
UpStream	975	0.92	Level	2	0	0.990	1.00	1070
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1233.24 (Equation 25-2 or 25-3)
P_{FM} = 0.591 using Equation (Exhibit 25-5)
V_{12} = 2553 pc/h
V_3 or V_{av34} 1768 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4994	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3226	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 27.3 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.376 (Exibit 25-19)
S_R = 59.5 mph (Exhibit 25-19)
S_0 = 65.4 mph (Exhibit 25-19)
S = 61.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2130 ft
V_u = 705 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3393	0.92	Level	17	0	0.922	1.00	4002
Ramp	1230	0.92	Level	1	0	0.995	1.00	1344
UpStream	705	0.92	Level	0	0	1.000	1.00	766
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.248 using Equation (Exhibit 25-5)
V_{12} = 993 pc/h
V_3 or V_{av34} 1504 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 1600 pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5346	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2944	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 22.8 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.323 (Exibit 25-19)
S_R = 61.0 mph (Exhibit 25-19)
S_0 = 67.5 mph (Exhibit 25-19)
S = 63.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Nichols Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2130 ft
V_D = 1230 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4098	0.92	Level	14	0	0.935	1.00	4766
Ramp	705	0.92	Level	0	0	1.000	1.00	766
UpStream								
DownStream	1230	0.92	Level	1	0	0.995	1.00	1344

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.436 using Equation (Exhibit 25-12)
V_{12} = 2510 pc/h
V_3 or V_{av34} 1128 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4766	Exhibit 25-14	9600	No
$V_{FO} = V_F - V_R$	4000	Exhibit 25-14	9600	No
V_R	766	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2510	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 23.8 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.367 (Exhibit 25-19)
S_R = 59.7 mph (Exhibit 25-19)
S_0 = 76.3 mph (Exhibit 25-19)
S = 66.6 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1650 ft
V_u = 1908 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2667	0.92	Level	21	0	0.905	1.00	3203
Ramp	1431	0.92	Level	1	0	0.995	1.00	1563
UpStream	1908	0.92	Level	2	0	0.990	1.00	2095
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.193 using Equation (Exhibit 25-5)
V_{12} = 619 pc/h
V_3 or V_{av34} 1292 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 1281 pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4766	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2844	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 22.6 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.326 (Exibit 25-19)
S_R = 60.9 mph (Exhibit 25-19)
S_0 = 68.3 mph (Exhibit 25-19)
S = 63.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Central Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1650 ft
V_D = 1431 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4575	0.92	Level	13	0	0.939	1.00	5296
Ramp	1908	0.92	Level	2	0	0.990	1.00	2095
UpStream								
DownStream	1431	0.92	Level	1	0	0.995	1.00	1563

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.531 using Equation (Exhibit 25-12)
V_{12} = 3795 pc/h
V_3 or V_{av34} 1501 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5296	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	3201	Exhibit 25-14	7200	No
V_R	2095	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3795	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 35.2 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Determination

D_s = 0.487 (Exhibit 25-19)
S_R = 56.4 mph (Exhibit 25-19)
S_0 = 74.8 mph (Exhibit 25-19)
S = 60.6 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2100 ft
V_u = 471 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4019	0.92	Level	15	0	0.930	1.00	4696
Ramp	556	0.92	Level	0	0	1.000	1.00	604
UpStream	471	0.92	Level	1	0	0.995	1.00	515
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1196.60 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 2745 pc/h
V_3 or V_{av34} 1951 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5300	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3349	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 29.8 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.410 (Exibit 25-19)
S_R = 58.5 mph (Exhibit 25-19)
S_0 = 64.8 mph (Exhibit 25-19)
S = 60.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Main Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 556 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4490	0.92	Level	13	0	0.939	1.00	5198
Ramp	471	0.92	Level	1	0	0.995	1.00	515
UpStream								
DownStream	556	0.92	Level	0	0	1.000	1.00	604

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.606 using Equation (Exhibit 25-12)
V_{12} = 3355 pc/h
V_3 or V_{av34} 1843 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5198	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	4683	Exhibit 25-14	7200	No
V_R	515	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3355	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 31.4 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

D_s = 0.344 (Exhibit 25-19)
S_R = 60.4 mph (Exhibit 25-19)
S_0 = 73.5 mph (Exhibit 25-19)
S = 64.4 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon On-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2000 ft
V_u = 441 veh/h

Terrain: Level
S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3242	0.92	Level	18	0	0.917	1.00	3841
Ramp	1248	0.92	Level	2	0	0.990	1.00	1370
UpStream	441	0.92	Level	1	0	0.995	1.00	482
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = 1190.87 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 2248 pc/h
V_3 or V_{av34} 1593 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5211	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3618	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = 31.3 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Determination

M_S = 0.441 (Exibit 25-19)
S_R = 57.6 mph (Exhibit 25-19)
S_0 = 66.1 mph (Exhibit 25-19)
S = 60.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	CHS	Freeway/Dir of Travel	I-15 Northbound
Agency or Company	Urban Crossroads, Inc.	Junction	Railroad Canyon Off-Ramp
Date Performed	4/5/2015	Jurisdiction	Caltrans
Analysis Time Period	Saturday Mid-Day Peak Hour	Analysis Year	Post-2035 WP - WITH IMPROV

Project Description Lake Elsinore Walmart TIA (JN 08651)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2000 ft
V_D = 1248 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3683	0.92	Level	16	0	0.926	1.00	4324
Ramp	441	0.92	Level	1	0	0.995	1.00	482
UpStream								
DownStream	1248	0.92	Level	2	0	0.990	1.00	1370

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.630 using Equation (Exhibit 25-12)
V_{12} = 2901 pc/h
V_3 or V_{av34} 1423 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4324	Exhibit 25-14	7200	No
$V_{FO} = V_F - V_R$	3842	Exhibit 25-14	7200	No
V_R	482	Exhibit 25-3	2100	No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2901	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 27.2 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.341 (Exhibit 25-19)
S_R = 60.4 mph (Exhibit 25-19)
S_0 = 75.1 mph (Exhibit 25-19)
S = 64.6 mph (Exhibit 25-15)

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