Approved Projects Trip Generation

Table F-1: Park West Place and Atlas Track Trip Generation Rates and Equations

Proposed Land Use	ITE Code	Daily	AM Peak Hour	PM Peak Hour
Single-Family	210	Ln(T) = 0.92 Ln(D) + 2.71	T= 0.70(D) + 9.43	Ln(T) = 0.901 Ln(D) + 0.53
Elementary School	520	T = 1.29(S)	T = 0.42(S)	T = 0.09(S)[2]
Office	710	Ln(T) = 0.77 Ln(X) + 3.65	Ln(T) = 0.80 Ln(X) + 1.55	T = 1.12(X) + 78.81
Discount Superstore[1]	813	T = 49.21(X)	T = 1.84(X)	T = 3.87(X)
Retail	820	Ln(T) = 0.65 Ln(X) + 5.83	Ln(T) = 0.60 Ln(X) + 2.29	Ln(T) = 0.66 Ln(X) + 3.40
Auto Dealership	841	T = 33.34(X)	T = 2.05(X)	T = 2.64(X)
Discount Club	861	T = 41.80(X)	T = 0.56(X)	T = 4.24(X)
Home Improvement	862	T = 29.80(X)	T = 1.20(X)	T = 2.45(X)
High-Turnover (Sit-Down) Restaurant	932	T = 127.15(X)	T = 11.52(X)	T = 10.92(X)
Gasoline/Service Station	945	T = 162.78(V)	T = 77.68(X)	T = 96.37(X)

Source: Trip Generation (7th Edition), Institute of Transportation Engineers, March 2001
Notes: T= Number of trips, LN= Natural Logarithm, D= Dwelling units, S = Students, X=1,000 square feet of development, V = vehicle fueling position
[1] Trip generation for Wal-Mart was based on Proposed Super Wal-Mart in Spanos Park West – Stockton California Letter to William D. Kopper from Neal K Liddicoat, P.E. (April 7, 2004).
[2] Assumes PM peak hour trip generation rate is one-third of the PM peak hour of the generator trip generation rate.

Table F-2 Park West Place Trip Generation

Proposed Project	Size		Daily	AM Peak Hour			PM Peak Hour		
				Inbound	Outbound	Total	Inbound	Outbound	Total
Auto Dealership	103,000	sf	3,434	156	55	211	106	166	272
Wal-Mart	258,140	sf	14,972	363	349	712	779	718	1,497
Sam's Club	141,038	sf	5,896	56	23	79	299	299	598
Gas Station[1]	5,778 (12	sf vfp)	1,954	139	139	279	156	156	312
Lowe's	174,888	sf	5,212	113	97	210	201	227	428
Shopping Center	135,310	sf	8,266	83	57	140	367	397	764
Restaurant	12,875	sf	1,638	77	71	148	86	55	141
General Office	203,898	sf	2,310	292	40	332	52	255	307
Single Family Homes	164	du	1,640	31	93	124	105	62	167
School[2]	399	Students	516	92	76	168	16	20	36
Total Project Trips			**45,838**	**1,402**	**1,000**	**2,402**	**2,167**	**2,355**	**4,522**

Source: Fehr & Peers, 2007.
Notes: sf = square-fee, du = dwelling units, vfp = vehicle fueling position
[1] Gas Station trip generation includes reduction for pass-by trips based on ITE's Trip Generation Handbook (March 2001).
[2] The estimated elementary school enrollment of 806 was reduced by 407 (0.31 students per single-family home and 0.05 students per apartment unit) to account for students residing in the residential portion of the project.

Table F-3: The Preserve Trip Generation

Project	Size		Daily	AM Peak Hour			PM Peak Hour		
				Inbound	Outbound	Total	Inbound	Outbound	Total
The Preserve									
Single Family Homes	1,750	du	14,472	309	925	1,234	888	521	1,409

Source: Fehr & Peers, 2007.

Table F-3: The Sanctuary Trip Generation[1]

	Units		Land Use	ITE Code	Daily Trips	AM Peak Hour Inbound	AM Peak Hour Outbound	AM Peak Hour Total	PM Peak Hour Inbound	PM Peak Hour Outbound	PM Peak Hour Total
1 - Village Center											
	216	du	Single Family Houses	210	2,110	40	121	161	135	79	214
	911	du	Residential Condominium/Townhouse	230	4,200	51	251	302	247	121	368
	51	du	Apartments	220	344	5	21	26	21	11	32
	483,984	sf	General Office	710	4,494	583	79	662	106	515	621
	156,000	sf	Shopping Center areas (grocery/drug/retail)	820	9,068	98	63	161	403	437	840
	17,000	sf	High-Turnover (Sit-Down) Restaurant	932	2,162	102	94	196	113	73	186
	100	rooms	Hotel	310	820	34	22	56	31	28	59
2 - North NHG											
	463	du	Single Family Houses	210	4,260	84	250	334	268	158	426
	1,800	students	High School	530	3,078	509	229	738	118	134	252
3 - South NHG											
	923	du	Single Family Houses	210	8,034	164	492	656	499	293	792
	800	students	Grades K-8 School (14 acres)	520	1,032	185	151	336	33	41	74
4 - Marina NHG											
	446	du	Active Adult Houses		1,766	27	49	76	62	41	103
	150	du	Residential Condominium/Townhouse	230	906	12	59	71	56	28	84
	198	du	Single Family Houses	210	1,950	37	111	148	125	73	198
5 - Great Park NHG											
	1,468	du	Single Family Houses	210	12,312	259	778	1,037	758	445	1,203
	1,600	students	Grades K-8 School (2 at 14 acres each)	520	2,064	370	302	672	67	81	148
6 - Northeast NHG											
	658	du	Single Family Homes	210	5,884	118	352	470	368	216	584
	152,460	sf	Church[2]	560	1,390	59	51	110	53	48	101
	52,272	sf	Shopping Center	820	4,456	33	21	54	196	212	408
	12,000	sf	High-Turnover (Sit-Down) Restaurant	932	1,526	72	66	138	80	51	131
	200	du	Residential Condominium/Townhouse	230	1,158	15	75	90	71	35	106
7 - Lake NHG											

Units		Land Use	ITE Code	Daily Trips	AM Peak Hour Inbound	AM Peak Hour Outbound	AM Peak Hour Total	PM Peak Hour Inbound	PM Peak Hour Outbound	PM Peak Hour Total
1,386	du	Single Family Homes	210	11,678	245	735	980	719	423	1,142
Sub-Total										
5,312	*du*	*Single Family Houses*		*46,228*	*947*	*2,839*	*3,786*	*2,872*	*1,687*	*4,559*
1,261	*du*	*Residential Condominium/Townhouse*		*6,264*	*78*	*385*	*463*	*374*	*184*	*558*
51	*du*	*Apartments*		344	5	21	26	21	11	32
446	*du*	*Active Adult*		*1,766*	*27*	*49*	*76*	*62*	*41*	*103*
483,984	*sf*	*General Office*		*4,494*	*583*	*79*	*662*	*106*	*515*	*621*
208,272	*sf*	*Shopping Center*		*13,524*	*131*	*84*	*215*	*599*	*649*	*1,248*
29,000	*sf*	*Restaurant*		*3,688*	*174*	*160*	*334*	*193*	*124*	*317*
100	*rooms*	*Hotel*		*820*	*34*	*22*	*56*	*31*	*28*	*59*
4,200	*students*	*Schools*		*6,174*	*1,064*	*682*	*1,746*	*218*	*256*	*474*
152,460	*sf*	*religious facility*		*1,390*	*59*	*51*	*110*	*53*	*48*	*101*
Total Trips				***84,692***	***3,102***	***4,372***	***7,474***	***4,529***	***3,543***	***8,072***
Internal Trip Reduction[3,4]										
1712	students	Elementary School (i.e., K-8 School)	520	(2,208)	(395)	(324)	(719)	(71)	(87)	(158)
823	students	High School	530	(1,408)	(233)	(104)	(337)	(54)	(61)	(115)
Village Center (10 percent reduction for trips between commercial and residential)										
		Residential		(1,654)	(26)	(82)	(108)	(105)	(65)	(170)
		Commercial		(1,654)	(82)	(26)	(108)	(65)	(105)	(170)
Northeast NHG (10 percent reduction for trips between commercial and residential)										
		Residential		(598)	(8)	(11)	(19)	(26)	(28)	(54)
		Commercial		(598)	(11)	(8)	(19)	(28)	(26)	(54)
Shopping Center Pass-by Reduction			30%	(4,058)	(40)	(25)	(65)	(179)	(195)	(374)
Restaurant Pass-by Reduction			40%	(1,476)	(70)	(64)	(134)	(77)	(50)	(127)
Total Trip Reduction				***(13,654)***	***(865)***	***(644)***	***(1,509)***	***(605)***	***(617)***	***(1,222)***

	Units	Land Use	ITE Code	Daily Trips	AM Peak Hour Inbound	AM Peak Hour Outbound	AM Peak Hour Total	PM Peak Hour Inbound	PM Peak Hour Outbound	PM Peak Hour Total
Net New Trips				**71,038**	**2,237**	**3,728**	**5,965**	**3,924**	**2,926**	**6,850**

Notes: du = dwelling units, sf = square-feet

[1] *Trip generation for all uses based on Institute of Transportation Engineers trip generation rates as presented in Trip Generation, 7th Edition except for the Active Adult component, which was based on surveys conducted by Fehr & Peers and published in Active Adult Residential Developments Trip Generation Study, August 2004.*

[2] *Religious facility square footage is based on an FAR of 0.35 which is consist with a project EDAW worked on in the City of San Ramon. The site would likely accommodate a day care and other activities.*

[3] *Elementary School and High School trip generation was reduced to account for students residing in The Sanctuary. Based on information provided by Mid-Valley Engineering in the School Trip Generation memorandum dated May 5, 2005, single-family homes generate about 0.31 elementary school students and 0.15 high school students per household and apartments generate about 0.05 elementary school students and 0.02 high school students per household. The condominiums were assumed to generate students at the same rate as apartments.*

[4] *Village Center and Northeast NHG trip reduction based on ITE Trip Generation.*

APPENDIX
TRAFFIC AND CIRCULATION

TRAFFIC COUNTS

WILTEC

Phone: (925) 706-9911 Fax: (925) 706-9914

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

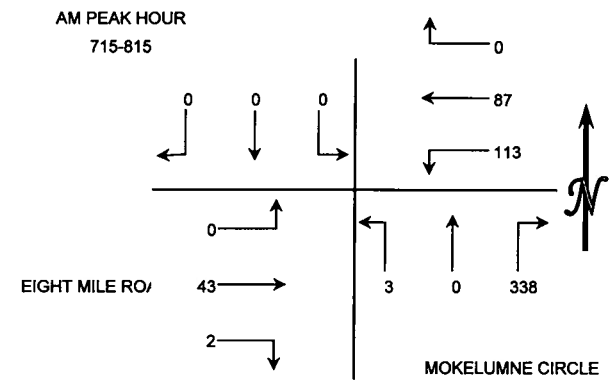
CLIENT: FEHR & PEERS TRANSPORTATION COUNSULTANTS
PROJECT: CITY OF STOCKTON
DATE: WEDNESDAY, APRIL 20TH, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S MOKELUMNE CIRCLE
E/W EIGHT MILE ROAD

15 MIN COUNTS — 7:00 AM TO 9:00 AM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	0	0	0	0	16	16	44	0	0	0	6	0	82
715-730	0	0	0	0	14	30	84	0	1	0	10	0	139
730-745	0	0	0	0	31	28	101	0	1	2	12	0	175
745-800	0	0	0	0	24	25	88	0	0	0	5	0	142
800-815	0	0	0	0	18	30	65	0	1	0	16	0	130
815-830	0	0	0	0	14	27	53	0	0	3	10	0	107
830-845	0	0	0	0	21	25	52	0	1	0	7	0	106
845-900	0	0	0	0	20	33	44	0	2	0	8	0	107

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	0	0	0	0	85	99	317	0	2	2	33	0	538
715-815	0	0	0	0	87	113	338	0	3	2	43	0	586
730-830	0	0	0	0	87	110	307	0	2	5	43	0	554
745-845	0	0	0	0	77	107	258	0	2	3	38	0	485
800-900	0	0	0	0	73	115	214	0	4	3	41	0	450



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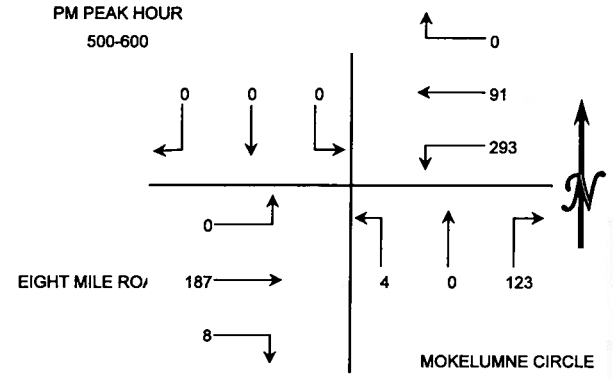
15 MIN COUNTS — 4:00 PM TO 6:00 PM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	0	0	0	0	31	45	29	0	2	3	31	0	141
415-430	0	0	0	0	25	53	40	0	1	1	36	0	156
430-445	0	0	0	0	18	49	26	0	2	1	32	0	128
445-500	0	0	0	0	27	53	34	0	4	0	11	0	129
500-515	0	0	0	0	12	71	30	0	4	1	49	0	167
515-530	0	0	0	0	33	90	26	0	0	2	40	0	191
530-545	0	0	0	0	25	62	47	0	0	2	65	0	201
545-600	0	0	0	0	21	70	20	0	0	3	33	0	147

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	0	0	0	0	101	200	129	0	9	5	110	0	554
415-515	0	0	0	0	82	226	130	0	11	3	128	0	580
430-530	0	0	0	0	90	263	116	0	10	4	132	0	615
445-545	0	0	0	0	97	276	137	0	8	5	165	0	688
500-600	0	0	0	0	91	293	123	0	4	8	187	0	706



PHF = .878

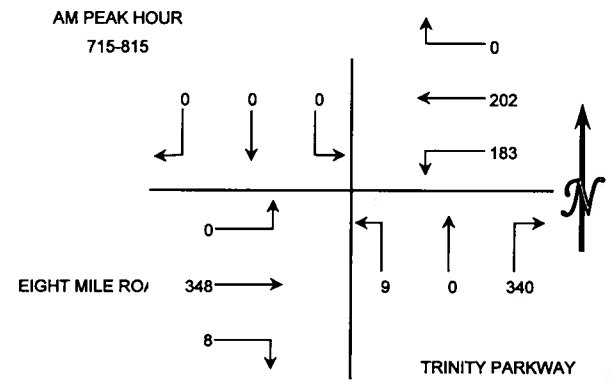
WILTEC

Phone: (925) 706-9911 Fax: (925) 706-9914

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

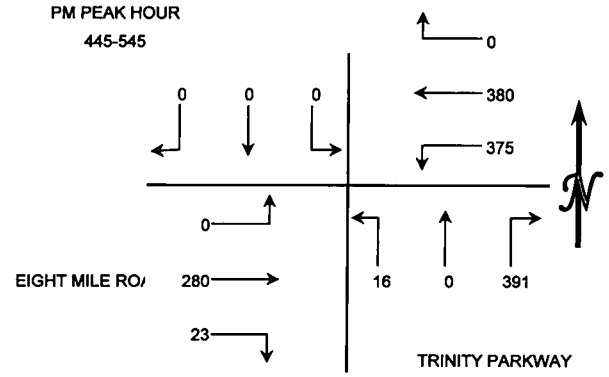
CLIENT: FEHR & PEERS TRANSPORTATION COUNSULTANTS
PROJECT: CITY OF STOCKTON
DATE: WEDNESDAY, APRIL 20TH, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S TRINITY PARKWAY
E/W EIGHT MILE ROAD

15 MIN COUNTS						7:00 AM TO 9:00 AM							
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	0	0	0	0	50	24	63	0	2	2	66	0	207
715-730	0	0	0	0	42	27	86	0	0	3	73	0	231
730-745	0	0	0	0	62	49	97	0	4	2	104	0	318
745-800	0	0	0	0	50	50	87	0	2	1	94	0	284
800-815	0	0	0	0	48	57	70	0	3	2	77	0	257
815-830	0	0	0	0	39	44	73	0	1	0	62	0	219
830-845	0	0	0	0	46	49	69	0	2	2	50	0	218
845-900	0	0	0	0	54	41	63	0	5	2	50	0	215
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	0	0	0	0	204	150	333	0	8	8	337	0	1040
715-815	0	0	0	0	202	183	340	0	9	8	348	0	1090
730-830	0	0	0	0	199	200	327	0	10	5	337	0	1078
745-845	0	0	0	0	183	200	299	0	8	5	283	0	978
800-900	0	0	0	0	187	191	275	0	11	6	239	0	909



PHF = .857

15 MIN COUNTS						4:00 PM TO 6:00 PM							
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	0	0	0	0	81	77	97	0	7	3	54	0	319
415-430	0	0	0	0	79	83	89	0	2	6	65	0	324
430-445	0	0	0	0	62	95	72	0	6	5	51	0	291
445-500	0	0	0	0	82	99	100	0	5	4	69	0	359
500-515	0	0	0	0	87	78	116	0	3	9	54	0	347
515-530	0	0	0	0	111	96	91	0	5	6	58	0	367
530-545	0	0	0	0	100	102	84	0	3	4	99	0	392
545-600	0	0	0	0	92	91	100	0	4	7	39	0	333
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	0	0	0	0	304	354	358	0	20	18	239	0	1293
415-515	0	0	0	0	310	355	377	0	16	24	239	0	1321
430-530	0	0	0	0	342	368	379	0	19	24	232	0	1364
445-545	0	0	0	0	380	375	391	0	16	23	280	0	1465
500-600	0	0	0	0	390	367	391	0	15	26	250	0	1439



PHF = .934

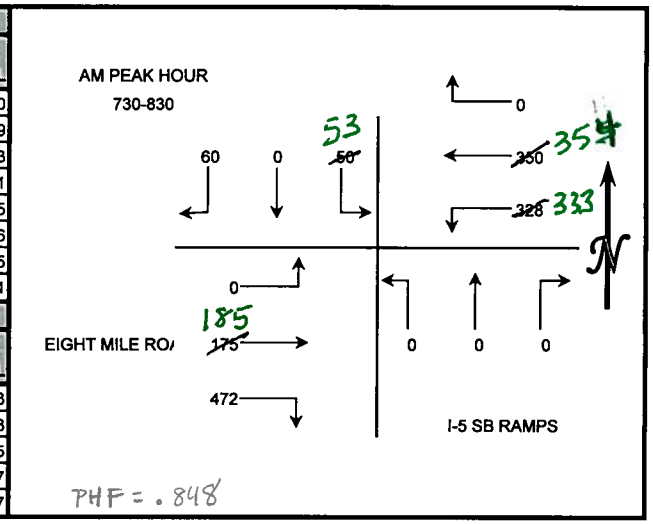
WILTEC

Phone: (925) 706-9911 Fax: (925) 706-9914

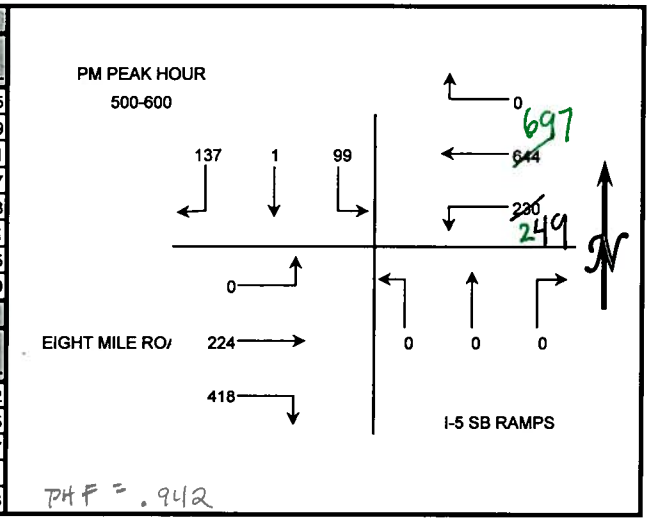
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: FEHR & PEERS TRANSPORTATION COUNSULTANTS
PROJECT: CITY OF STOCKTON
DATE: WEDNESDAY, APRIL 20TH, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S I-5 SB RAMPS
E/W EIGHT MILE ROAD

15 MIN COUNTS					7:00 AM TO 9:00 AM								
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	13	0	11	0	80	50	0	0	0	97	59	0	310
715-730	14	1	12	0	75	68	0	0	0	101	28	0	299
730-745	23	0	21	0	97	95	0	0	0	142	45	0	423
745-800	10	0	9	0	82	86	0	0	0	128	46	0	361
800-815	19	0	10	0	84	63	0	0	0	100	39	0	315
815-830	8	0	10	0	87	84	0	0	0	102	45	0	336
830-845	12	0	9	0	85	71	0	0	0	98	30	0	305
845-900	16	0	16	0	92	68	0	0	0	84	35	0	311
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	60	1	53	0	334	299	0	0	0	468	178	0	1393
715-815	66	1	52	0	338	312	0	0	0	471	158	0	1398
730-830	60	0	50	0	350	328	0	0	0	472	175	0	1435
745-845	49	0	38	0	338	304	0	0	0	428	160	0	1317
800-900	55	0	45	0	348	286	0	0	0	384	149	0	1267



15 MIN COUNTS					4:00 PM TO 6:00 PM								
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	16	0	28	0	128	63	0	0	0	90	60	0	385
415-430	22	1	24	0	134	60	0	0	0	93	65	0	399
430-445	27	0	30	0	139	59	0	0	0	86	40	0	381
445-500	22	1	28	0	161	69	0	0	0	100	56	0	437
500-515	26	1	30	0	141	54	0	0	0	115	61	0	428
515-530	37	0	19	0	171	48	0	0	0	100	46	0	421
530-545	39	0	29	0	150	67	0	0	0	113	67	0	465
545-600	35	0	21	0	182	61	0	0	0	90	50	0	439
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	87	2	110	0	562	251	0	0	0	369	221	0	1602
415-515	97	3	112	0	575	242	0	0	0	394	222	0	1645
430-530	112	2	107	0	612	230	0	0	0	401	203	0	1667
445-545	124	2	106	0	623	238	0	0	0	428	230	0	1751
500-600	137	1	99	0	644	230	0	0	0	418	224	0	1753



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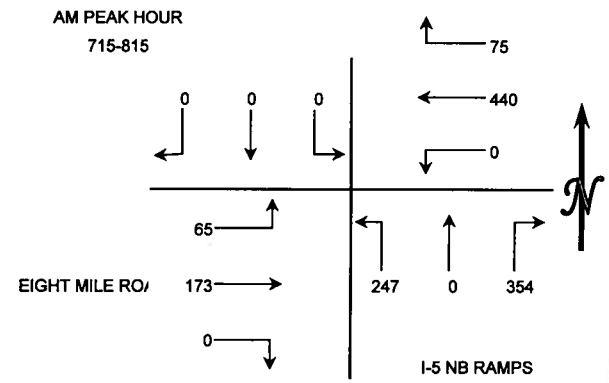
WILTEC

Phone: (925) 706-9911 Fax: (925) 706-9914

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

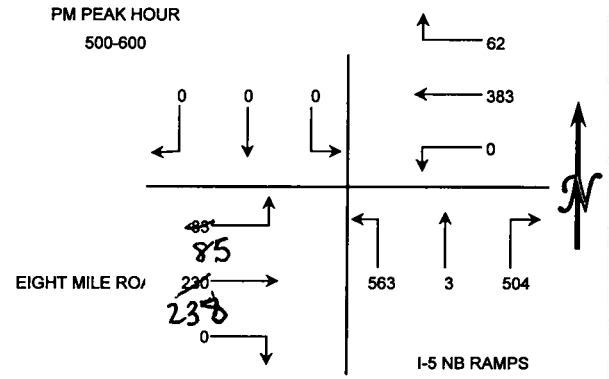
CLIENT: FEHR & PEERS TRANSPORTATION COUNSULTANTS
PROJECT: CITY OF STOCKTON
DATE: WEDNESDAY, APRIL 20TH, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S I-5 NB RAMPS
E/W EIGHT MILE ROAD

15 MIN COUNTS							7:00 AM TO 9:00 AM						
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	0	0	0	12	96	0	98	0	43	0	32	14	295
715-730	0	0	0	26	109	0	84	0	50	0	44	20	333
730-745	0	0	0	19	129	0	88	0	60	0	50	17	363
745-800	0	0	0	9	109	0	91	0	76	0	41	21	347
800-815	0	0	0	21	93	0	91	0	61	0	38	7	311
815-830	0	0	0	12	106	0	96	2	52	0	29	17	314
830-845	0	0	0	23	86	0	60	0	46	0	28	11	254
845-900	0	0	0	19	92	0	42	2	62	0	34	9	260
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	0	0	0	66	443	0	361	0	229	0	167	72	1338
715-815	0	0	0	75	440	0	354	0	247	0	173	65	1354
730-830	0	0	0	61	437	0	366	2	249	0	158	62	1335
745-845	0	0	0	65	394	0	338	2	235	0	136	56	1226
800-900	0	0	0	75	377	0	289	4	221	0	129	44	1139



PHF = .933

15 MIN COUNTS							4:00 PM TO 6:00 PM						
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	0	0	0	17	99	0	113	0	120	0	66	30	445
415-430	0	0	0	25	84	0	135	0	130	0	61	32	467
430-445	0	0	0	20	91	0	134	0	108	0	58	16	427
445-500	0	0	0	9	105	0	120	1	118	0	55	20	428
500-515	0	0	0	12	90	0	130	0	117	0	65	25	439
515-530	0	0	0	17	89	0	123	1	139	0	51	17	437
530-545	0	0	0	22	100	0	123	2	162	0	61	21	491
545-600	0	0	0	11	104	0	128	0	145	0	53	20	461
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	0	0	0	71	379	0	502	1	476	0	240	98	1767
415-515	0	0	0	66	370	0	519	1	473	0	239	93	1761
430-530	0	0	0	58	375	0	507	2	482	0	229	78	1731
445-545	0	0	0	60	384	0	496	4	536	0	232	83	1795
500-600	0	0	0	62	383	0	504	3	563	0	230	83	1828



PHF = .931

WILTEC

Phone: (925) 706-9911 Fax: (925) 706-9914

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

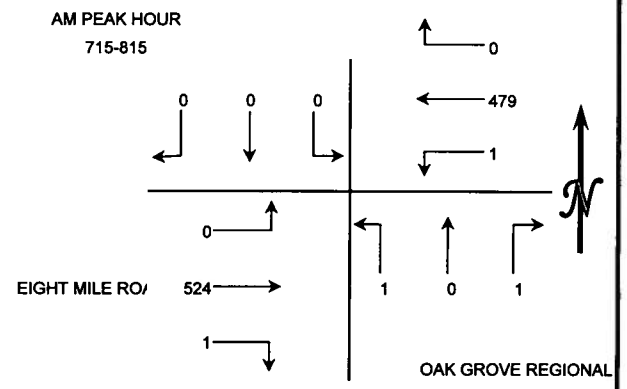
CLIENT: FEHR & PEERS TRANSPORTATION COUNSULTANTS
PROJECT: CITY OF STOCKTON
DATE: TUESDAY, MAY 3, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S OAK GROVE REGIONAL PARK ENTRANCE
E/W EIGHT MILE ROAD

15 MIN COUNTS — 7:00 AM TO 9:00 AM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	0	0	0	0	136	0	0	0	0	1	125	0	262
715-730	0	0	0	0	110	0	1	0	0	0	121	0	232
730-745	0	0	0	0	115	0	0	0	0	0	136	0	251
745-800	0	0	0	0	132	0	0	0	0	1	128	0	261
800-815	0	0	0	0	122	1	0	0	1	0	139	0	263
815-830	0	0	0	0	108	0	0	0	1	0	113	0	222
830-845	0	0	0	0	94	1	0	0	0	0	91	0	186
845-900	0	0	0	0	95	0	0	0	0	1	83	0	179

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	0	0	0	0	493	0	1	0	0	2	510	0	1006
715-815	0	0	0	0	479	1	1	0	1	1	524	0	1007
730-830	0	0	0	0	477	1	0	0	2	1	516	0	997
745-845	0	0	0	0	456	2	0	0	2	1	471	0	932
800-900	0	0	0	0	419	2	0	0	2	1	426	0	850



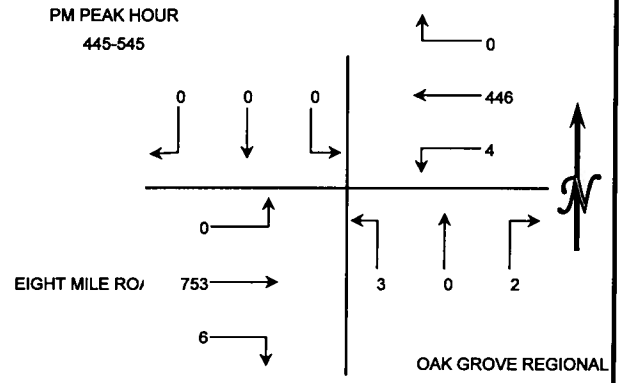
PHF = .957

15 MIN COUNTS — 4:00 PM TO 6:00 PM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	0	0	0	0	118	1	4	0	0	4	155	0	282
415-430	0	0	0	0	91	1	2	0	3	0	187	0	284
430-445	0	0	0	0	103	2	2	0	1	0	165	0	273
445-500	0	0	0	0	99	0	0	0	1	2	186	0	288
500-515	0	0	0	0	119	1	0	0	0	3	195	0	318
515-530	0	0	0	0	125	2	0	0	2	0	191	0	320
530-545	0	0	0	0	103	1	2	0	0	1	181	0	288
545-600	0	0	0	0	95	6	1	0	4	2	143	0	251

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	0	0	0	0	411	4	8	0	5	6	693	0	1127
415-515	0	0	0	0	412	4	4	0	5	5	733	0	1163
430-530	0	0	0	0	446	5	2	0	4	5	737	0	1199
445-545	0	0	0	0	446	4	2	0	3	6	753	0	1214
500-600	0	0	0	0	442	10	3	0	6	6	710	0	1177



PHF = .948

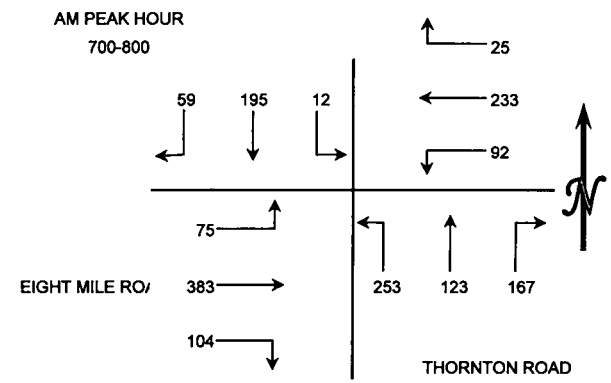
WILTEC

Phone: (925) 706-9911 Fax: (925) 706-9914

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

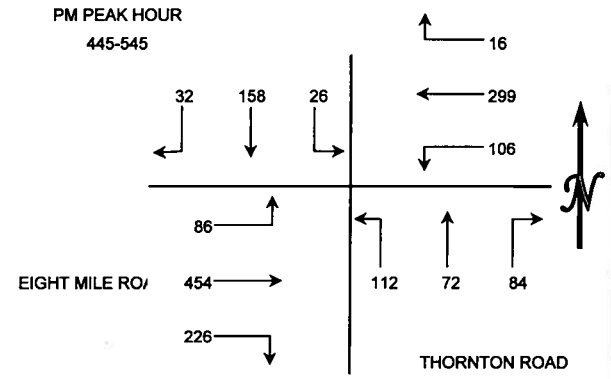
CLIENT: FEHR & PEERS TRANSPORTATION COUNSULTANTS
PROJECT: CITY OF STOCKTON
DATE: WEDNESDAY, APRIL 20TH, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S THORNTON ROAD
E/W EIGHT MILE ROAD

15 MIN COUNTS						7:00 AM TO 9:00 AM							
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	22	53	6	6	57	21	41	37	67	24	85	19	438
715-730	15	60	1	12	59	18	39	34	66	29	102	24	459
730-745	13	42	4	5	55	26	35	20	53	28	101	20	402
745-800	9	40	1	2	62	27	52	32	67	23	95	12	422
800-815	7	43	6	7	55	20	38	26	45	40	83	13	383
815-830	11	32	4	5	73	23	28	16	37	24	75	4	332
830-845	4	40	1	3	70	30	30	29	32	20	83	7	349
845-900	4	29	2	1	68	24	24	18	41	31	75	7	324
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	59	195	12	25	233	92	167	123	253	104	383	75	1721
715-815	44	185	12	26	231	91	164	112	231	120	381	69	1666
730-830	40	157	15	19	245	96	153	94	202	115	354	49	1539
745-845	31	155	12	17	260	100	148	103	181	107	336	36	1486
800-900	26	144	13	16	266	97	120	89	155	115	316	31	1388



PHF = .937

15 MIN COUNTS						4:00 PM TO 6:00 PM							
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	9	26	16	9	78	25	16	24	22	32	115	21	393
415-430	13	32	15	6	71	18	17	20	25	41	107	26	391
430-445	16	37	10	4	84	21	16	16	36	49	101	19	409
445-500	13	33	11	1	71	27	25	20	27	49	103	17	397
500-515	4	49	5	6	69	25	20	19	31	68	112	21	429
515-530	9	34	9	3	86	26	21	14	24	45	116	27	414
530-545	6	42	1	6	73	28	18	19	30	64	123	21	431
545-600	14	53	8	5	78	28	22	11	23	36	72	11	361
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	51	128	52	20	304	91	74	80	110	171	426	83	1590
415-515	46	151	41	17	295	91	78	75	119	207	423	83	1626
430-530	42	153	35	14	310	99	82	69	118	211	432	84	1649
445-545	32	158	26	16	299	106	84	72	112	226	454	86	1671
500-600	33	178	23	20	306	107	81	63	108	213	423	80	1635



PHF = .969

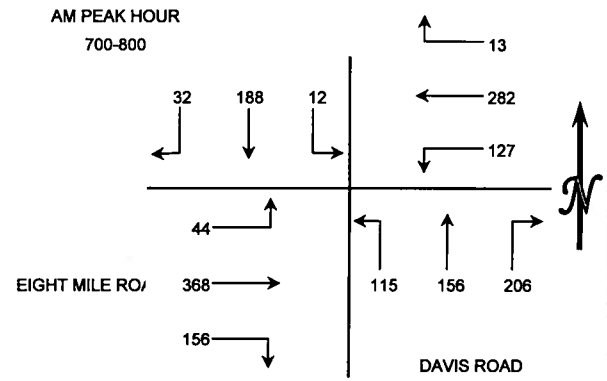
WILTEC

Phone: (925) 706-9911 Fax: (925) 706-9914

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

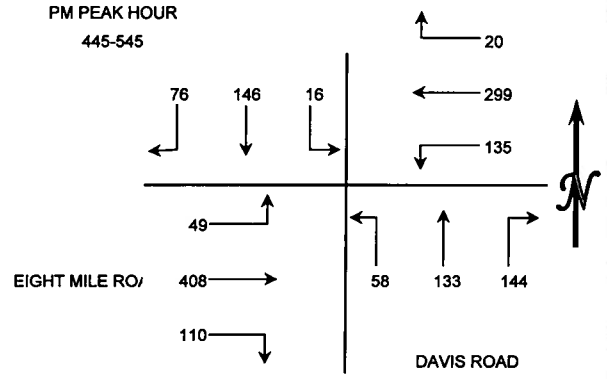
CLIENT: FEHR & PEERS TRANSPORTATION COUNSULTANTS
PROJECT: CITY OF STOCKTON
DATE: THURSDAY, APRIL 21ST, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S DAVIS ROAD
E/W EIGHT MILE ROAD

15 MIN COUNTS						7:00 AM TO 9:00 AM							
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	13	31	3	5	87	26	34	31	31	40	94	9	404
715-730	6	43	4	2	64	35	45	26	29	35	86	14	389
730-745	5	67	2	4	66	27	67	53	22	37	96	6	452
745-800	8	47	3	2	65	39	60	46	33	44	92	15	454
800-815	13	34	3	5	59	40	53	24	14	22	97	17	381
815-830	8	44	2	5	76	37	43	24	11	17	100	1	368
830-845	8	38	4	5	85	33	36	16	10	23	88	10	356
845-900	14	19	3	5	81	22	35	18	9	19	68	8	301
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	32	188	12	13	282	127	206	156	115	156	368	44	1699
715-815	32	191	12	13	254	141	225	149	98	138	371	52	1676
730-830	34	192	10	16	266	143	223	147	80	120	385	39	1655
745-845	37	163	12	17	285	149	192	110	68	106	377	43	1559
800-900	43	135	12	20	301	132	167	82	44	81	353	36	1406



PHF = .936

15 MIN COUNTS						4:00 PM TO 6:00 PM							
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	16	27	3	6	98	27	39	31	17	19	81	18	382
415-430	7	33	2	1	82	40	30	40	17	9	89	20	370
430-445	15	43	7	4	79	34	43	32	12	21	103	9	402
445-500	8	29	1	4	78	29	29	28	11	22	90	11	340
500-515	23	38	8	6	78	35	40	41	14	35	110	14	442
515-530	22	46	2	4	72	31	38	31	22	30	96	15	409
530-545	23	33	5	6	71	40	37	33	11	23	112	9	403
545-600	11	25	6	0	79	24	24	26	12	11	91	12	321
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	46	132	13	15	337	130	141	131	57	71	363	58	1494
415-515	53	143	18	15	317	138	142	141	54	87	392	54	1554
430-530	68	156	18	18	307	129	150	132	59	108	399	49	1593
445-545	76	146	16	20	299	135	144	133	58	110	408	49	1594
500-600	79	142	21	16	300	130	139	131	59	99	409	50	1575



PHF = .902

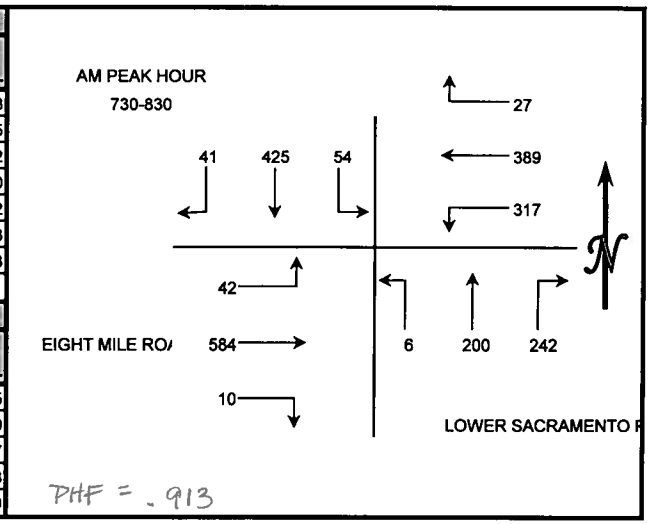
WILTEC

Phone: (925) 706-9911 Fax: (925) 706-9914

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

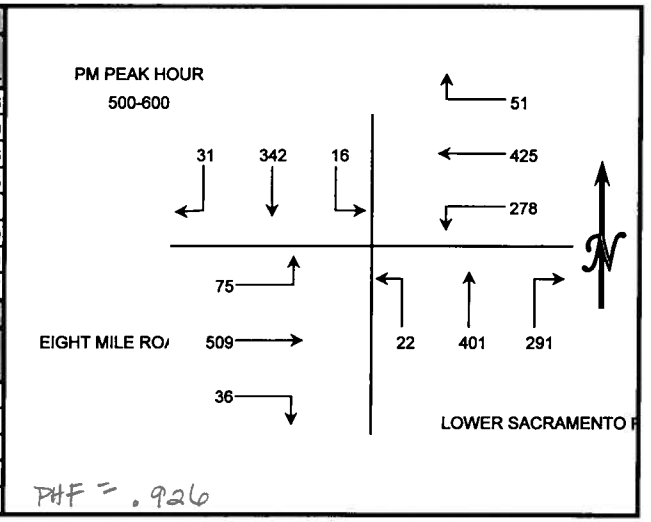
CLIENT: FEHR & PEERS TRANSPORTATION COUNSULTANTS
PROJECT: CITY OF STOCKTON
DATE: THURSDAY, APRIL 21ST, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S LOWER SACRAMENTO ROAD
E/W EIGHT MILE ROAD

15 MIN COUNTS						7:00 AM TO 9:00 AM							
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	8	81	11	3	103	46	32	24	5	4	111	20	448
715-730	6	103	14	3	90	68	63	40	2	3	115	8	515
730-745	10	130	13	7	85	94	74	47	2	1	140	9	612
745-800	13	111	21	8	94	84	65	57	2	0	178	7	640
800-815	7	82	5	7	108	73	55	41	2	5	142	15	542
815-830	11	102	15	5	102	66	48	55	0	4	124	11	543
830-845	8	79	5	9	109	78	43	38	5	10	118	21	523
845-900	4	66	10	8	89	62	48	39	4	2	105	4	441
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	37	425	59	21	372	292	234	168	11	8	544	44	2215
715-815	36	426	53	25	377	319	257	185	8	9	575	39	2309
730-830	41	425	54	27	389	317	242	200	6	10	584	42	2337
745-845	39	374	46	29	413	301	211	191	9	19	562	54	2248
800-900	30	329	35	29	408	279	194	173	11	21	489	51	2049



PHF = .913

15 MIN COUNTS						4:00 PM TO 6:00 PM							
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	9	92	13	11	97	58	77	87	12	5	134	13	608
415-430	4	97	0	9	111	76	64	75	4	9	131	10	590
430-445	7	75	19	10	96	64	81	95	3	13	114	19	596
445-500	10	62	10	6	95	65	49	93	3	3	112	17	525
500-515	8	81	3	16	100	49	84	111	4	5	122	8	591
515-530	14	105	9	11	105	75	77	117	5	6	126	19	669
530-545	4	87	1	17	118	87	52	94	7	16	143	24	650
545-600	5	69	3	7	102	67	78	79	6	9	118	24	567
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	30	326	42	36	399	263	271	350	22	30	491	59	2319
415-515	29	315	32	41	402	254	278	374	14	30	479	54	2302
430-530	39	323	41	43	396	253	291	416	15	27	474	63	2381
445-545	36	335	23	50	418	276	262	415	19	30	503	68	2435
500-600	31	342	16	51	425	278	291	401	22	36	509	75	2477



PHF = .926

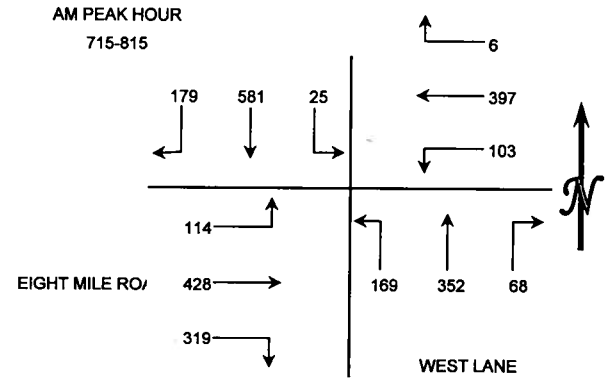
WILTEC

Phone: (925) 706-9911 Fax: (925) 706-9914

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

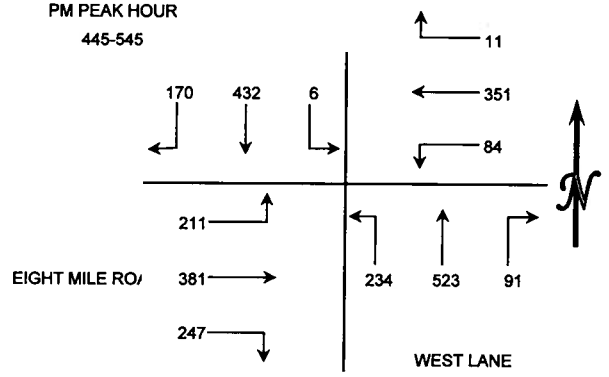
CLIENT: FEHR & PEERS TRANSPORTATION COUNSULTANTS
PROJECT: CITY OF STOCKTON
DATE: THURSDAY, APRIL 21ST, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S WEST LANE
E/W EIGHT MILE ROAD

15 MIN COUNTS	7:00 AM TO 9:00 AM												
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	23	142	2	0	80	11	17	53	28	50	76	16	498
715-730	44	173	8	1	105	22	20	65	29	73	95	23	658
730-745	56	161	4	1	94	31	22	86	42	77	109	34	717
745-800	39	139	6	1	102	30	18	98	49	80	121	30	713
800-815	40	108	7	3	96	20	8	103	49	89	103	27	653
815-830	41	111	14	4	91	42	11	83	49	72	86	45	649
830-845	44	104	1	1	76	29	22	70	45	61	74	29	556
845-900	24	68	1	1	88	17	15	78	40	53	84	25	494
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	162	615	20	3	381	94	77	302	148	280	401	103	2586
715-815	179	581	25	6	397	103	68	352	169	319	428	114	2741
730-830	176	519	31	9	383	123	59	370	189	318	419	136	2732
745-845	164	462	28	9	365	121	59	354	192	302	384	131	2571
800-900	149	391	23	9	351	108	56	334	183	275	347	126	2352



PHF = .956

15 MIN COUNTS	4:00 PM TO 6:00 PM												
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	35	87	1	5	60	35	16	113	47	59	79	44	581
415-430	42	96	2	4	88	20	24	129	63	41	81	50	640
430-445	37	84	2	3	84	32	20	108	51	63	82	55	621
445-500	39	99	1	5	97	20	17	136	50	69	93	49	675
500-515	45	112	1	2	83	30	29	123	60	55	97	46	683
515-530	50	111	2	0	96	18	29	116	57	62	102	65	708
530-545	36	110	2	4	75	16	16	148	67	61	89	51	675
545-600	37	103	8	1	83	24	13	115	61	57	68	54	624
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	153	366	6	17	329	107	77	486	211	232	335	198	2517
415-515	163	391	6	14	352	102	90	496	224	228	353	200	2619
430-530	171	406	6	10	360	100	95	483	218	249	374	215	2687
445-545	170	432	6	11	351	84	91	523	234	247	381	211	2741
500-600	168	436	13	7	337	88	87	502	245	235	356	216	2690



PHF = .968

11

WILTEC

Phone: (925) 706-9911 Fax: (925) 706-9914

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

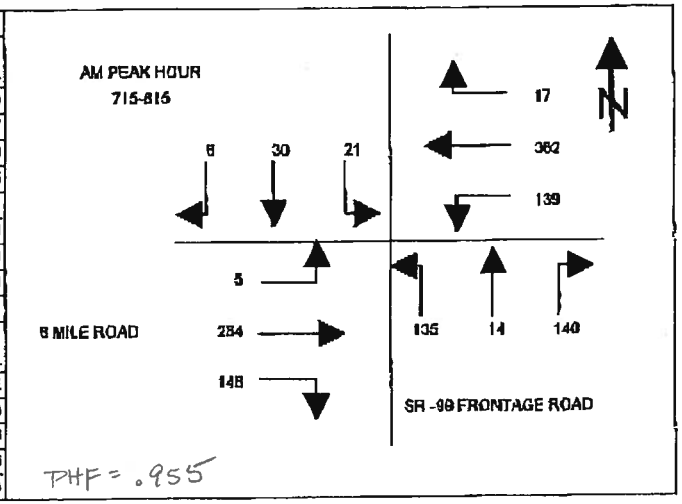
CLIENT: FEHR AND PEERS
PROJECT: SPANOS PARK WEST EIR
DATE: WEDNESDAY MAY 19, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S SR -99 FRONTAGE ROAD
E/W 8 MILE ROAD

15 MIN COUNTS — 7:00 AM TO 9:00 AM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	3	8	4	3	82	19	22	4	26	24	57	0	250
715-730	0	14	7	7	85	32	33	4	27	35	62	1	307
730-745	5	4	3	3	96	40	24	2	44	32	76	1	330
745-800	0	6	4	4	84	41	38	1	31	40	75	1	325
800-815	3	6	7	3	97	26	45	7	33	41	71	2	341
815-830	0	9	3	2	74	18	31	3	29	36	82	3	290
830-845	3	9	3	5	64	26	21	3	20	25	71	0	250
845-900	2	6	3	6	68	20	28	2	36	40	74	0	308

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	8	30	18	17	347	132	117	11	128	131	270	3	1212
715-815	8	30	21	17	362	139	140	14	135	148	284	5	1303
730-830	8	25	17	12	361	125	138	13	137	149	304	7	1288
745-845	8	30	17	14	319	111	135	14	113	142	299	6	1206
800-900	8	30	16	16	321	90	125	15	116	142	298	5	1184

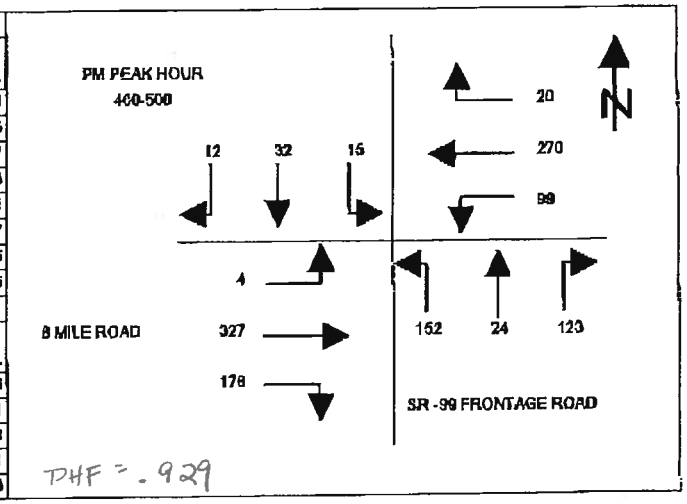


15 MIN COUNTS — 4:00 PM TO 6:00 PM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	3	7	4	4	57	20	33	9	36	66	95	0	336
415-430	3	9	3	6	75	31	35	5	35	45	87	1	335
430-445	5	9	4	3	66	28	31	7	45	34	73	2	307
445-500	1	7	4	7	72	20	24	3	34	33	72	1	278
500-515	4	14	3	5	62	23	31	8	44	24	79	4	301
515-530	2	12	6	5	81	16	34	9	39	32	94	5	337
530-545	0	8	3	6	83	22	30	12	29	21	79	0	295
545-600	0	5	2	3	68	23	23	3	20	32	63	3	245

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	12	32	15	20	270	99	123	24	152	178	327	4	1256
415-515	13	39	14	21	275	102	121	23	158	138	311	6	1221
430-530	12	42	19	20	281	87	120	27	162	123	318	12	1223
445-545	7	41	18	25	298	81	119	32	146	110	324	10	1211
500-600	6	39	16	21	294	84	118	32	132	109	316	12	1178



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WILTEC

Phone: (925) 706-9911 Fax: (925) 706-9914

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

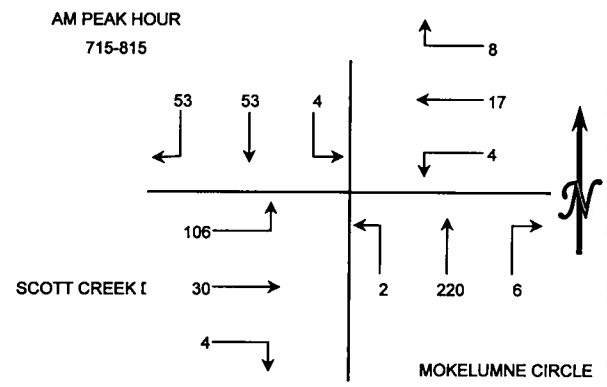
CLIENT: FEHR & PEERS TRANSPORTATION COUNSULTANTS
PROJECT: CITY OF STOCKTON
DATE: THURSDAY, APRIL 21ST, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S MOKELUMNE CIRCLE
E/W SCOTT CREEK DRIVE

15 MIN COUNTS — 7:00 AM TO 9:00 AM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	18	1	1	0	3	1	1	36	1	1	11	29	103
715-730	20	14	1	1	12	4	0	59	2	0	7	28	148
730-745	12	12	1	2	0	0	4	68	0	1	6	27	133
745-800	9	10	0	2	1	0	1	53	0	0	7	27	110
800-815	12	17	2	3	4	0	1	40	0	3	10	24	116
815-830	20	16	1	4	8	1	3	38	1	2	10	14	118
830-845	10	13	2	4	3	1	1	36	0	2	8	24	104
845-900	19	18	3	2	7	1	1	25	2	2	10	23	113

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	59	37	3	5	16	5	6	216	3	2	31	111	494
715-815	53	53	4	8	17	4	6	220	2	4	30	106	507
730-830	53	55	4	11	13	1	9	199	1	6	33	92	477
745-845	51	56	5	13	16	2	6	167	1	7	35	89	448
800-900	61	64	8	13	22	3	6	139	3	9	38	85	451



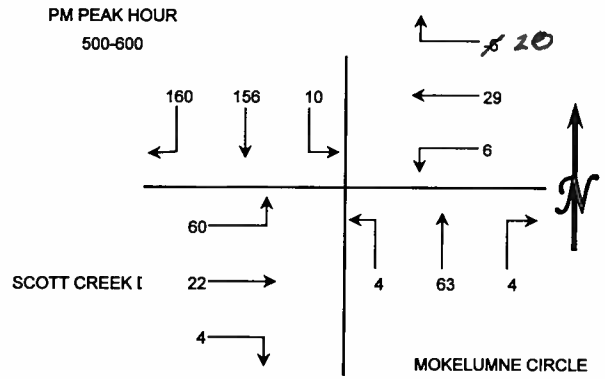
PHF = .856

15 MIN COUNTS — 4:00 PM TO 6:00 PM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	32	39	6	0	9	1	2	27	3	1	6	24	150
415-430	25	42	4	1	6	0	2	16	3	1	5	20	125
430-445	27	34	2	2	7	2	2	28	1	1	5	11	122
445-500	27	25	2	3	3	1	1	16	0	2	3	3	86
500-515	22	35	3	1	10	1	0	10	0	1	6	13	102
515-530	37	30	5	3	9	2	1	19	1	1	5	18	131
530-545	46	49	1	3	4	2	2	12	1	0	6	11	137
545-600	55	42	1	13 ~~10~~	6	1	1	22	2	2	5	18	142

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	111	140	14	6	25	4	7	87	7	5	19	58	483
415-515	101	136	11	7	26	4	5	70	4	5	19	47	435
430-530	113	124	12	9	29	6	4	73	2	5	19	45	441
445-545	132	139	11	10	26	6	4	57	2	4	20	45	456
500-600	160	156	10	~~6~~ 20	29	6	4	63	4	4	22	60	512



PHF = .901

WILTEC

Phone: (925) 706-9911 Fax: (925) 706-9914

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

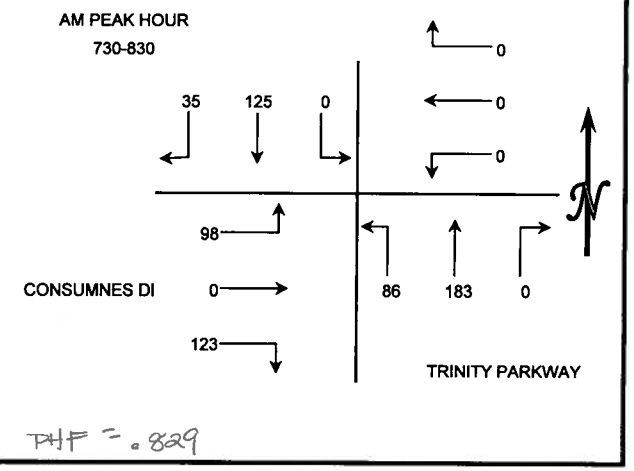
CLIENT: FEHR & PEERS TRANSPORTATION COUNSULTANTS
PROJECT: CITY OF STOCKTON
DATE: THURSDAY, APRIL 21ST, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S TRINITY PARKWAY
E/W CONSUMNES DRIVE

15 MIN COUNTS — 7:00 AM TO 9:00 AM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	7	27	0	0	0	0	0	42	18	32	0	23	149
715-730	12	14	0	0	0	0	0	41	17	17	0	21	122
730-745	9	24	0	0	0	0	0	45	7	22	0	38	145
745-800	6	31	0	0	0	0	0	33	13	35	0	26	144
800-815	6	43	0	0	0	0	0	50	31	42	0	24	196
815-830	14	27	0	0	0	0	0	55	35	24	0	10	165
830-845	6	20	0	0	0	0	0	43	14	26	0	10	119
845-900	12	25	0	0	0	0	0	39	20	21	0	11	128

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	34	96	0	0	0	0	0	161	55	106	0	108	560
715-815	33	112	0	0	0	0	0	169	68	116	0	109	607
730-830	35	125	0	0	0	0	0	183	86	123	0	98	650
745-845	32	121	0	0	0	0	0	181	93	127	0	70	624
800-900	38	115	0	0	0	0	0	187	100	113	0	55	608



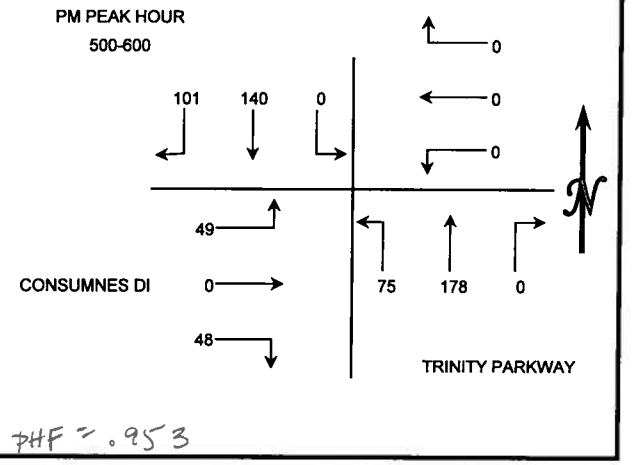
PHF = .829

15 MIN COUNTS — 4:00 PM TO 6:00 PM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	14	26	0	0	0	0	0	34	21	17	0	10	122
415-430	15	42	0	0	0	0	0	30	12	15	0	14	128
430-445	16	23	0	0	0	0	0	29	13	5	0	13	99
445-500	17	32	0	0	0	0	0	40	25	11	0	6	131
500-515	21	36	0	0	0	0	0	57	13	18	0	5	150
515-530	25	35	0	0	0	0	0	40	17	13	0	10	140
530-545	26	30	0	0	0	0	0	47	23	9	0	20	155
545-600	29	39	0	0	0	0	0	34	22	8	0	14	146

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	62	123	0	0	0	0	0	133	71	48	0	43	480
415-515	69	133	0	0	0	0	0	156	63	49	0	38	508
430-530	79	126	0	0	0	0	0	166	68	47	0	34	520
445-545	89	133	0	0	0	0	0	184	78	51	0	41	576
500-600	101	140	0	0	0	0	0	178	75	48	0	49	591



PHF = .953

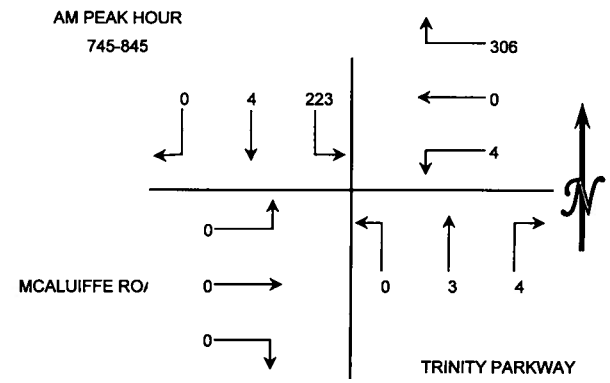
WILTEC

Phone: (925) 706-9911 Fax: (925) 706-9914

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

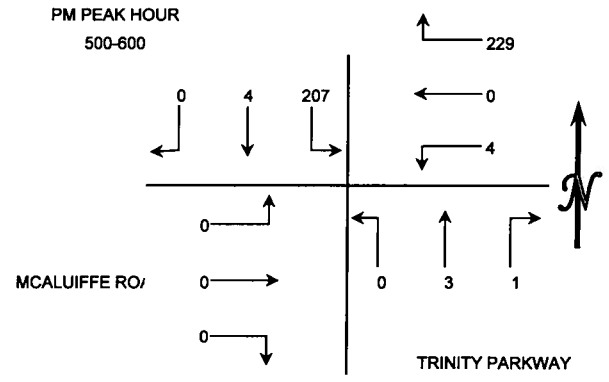
CLIENT: FEHR & PEERS TRANSPORTATION COUNSULTANTS
PROJECT: CITY OF STOCKTON
DATE: WEDNESDAY, APRIL 20TH, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S TRINITY PARKWAY
E/W MCALUIFFE ROAD

15 MIN COUNTS													7:00 AM TO 9:00 AM
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	0	1	62	63	0	0	0	0	0	0	0	0	126
715-730	0	0	33	72	0	0	0	1	0	0	0	0	106
730-745	0	1	46	55	0	0	0	0	0	0	0	0	102
745-800	0	0	56	62	0	1	0	0	0	0	0	0	119
800-815	0	1	79	80	0	3	3	2	0	0	0	0	168
815-830	0	1	50	90	0	0	1	1	0	0	0	0	143
830-845	0	2	38	74	0	0	0	0	0	0	0	0	114
845-900	0	2	45	65	0	1	3	2	0	0	0	0	118
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	0	2	197	252	0	1	0	1	0	0	0	0	453
715-815	0	2	214	269	0	4	3	3	0	0	0	0	495
730-830	0	3	231	287	0	4	4	3	0	0	0	0	532
745-845	0	4	223	306	0	4	4	3	0	0	0	0	544
800-900	0	6	212	309	0	4	7	5	0	0	0	0	543



PHF = .810.

15 MIN COUNTS													4:00 PM TO 6:00 PM
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	0	1	43	42	0	2	1	1	0	0	0	0	90
415-430	0	1	49	50	0	0	1	0	0	0	0	0	101
430-445	0	0	45	43	0	1	0	2	0	0	0	0	91
445-500	0	2	38	48	0	0	2	1	0	0	0	0	91
500-515	0	0	60	55	0	1	0	1	0	0	0	0	117
515-530	0	2	58	61	0	0	1	0	0	0	0	0	122
530-545	0	2	40	55	0	1	0	1	0	0	0	0	99
545-600	0	0	49	58	0	2	0	1	0	0	0	0	110
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	0	4	175	183	0	3	4	4	0	0	0	0	373
415-515	0	3	192	196	0	2	3	4	0	0	0	0	400
430-530	0	4	201	207	0	2	3	4	0	0	0	0	421
445-545	0	6	196	219	0	2	3	3	0	0	0	0	429
500-600	0	4	207	229	0	4	1	3	0	0	0	0	448



PHF = .918

WILTEC

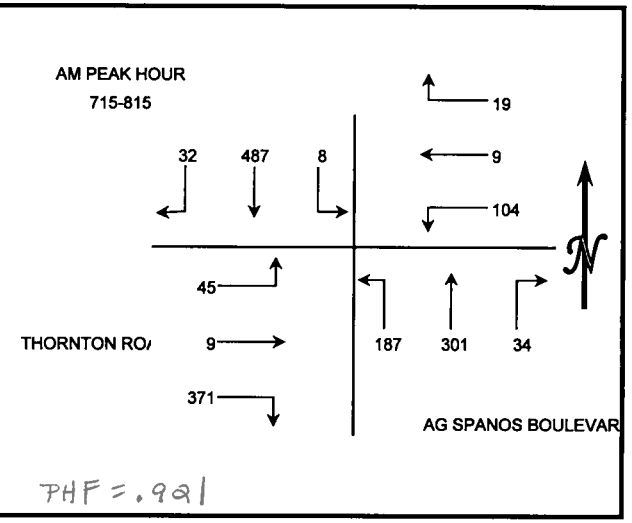
Phone: (925) 706-9911 Fax: (925) 706-9914

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

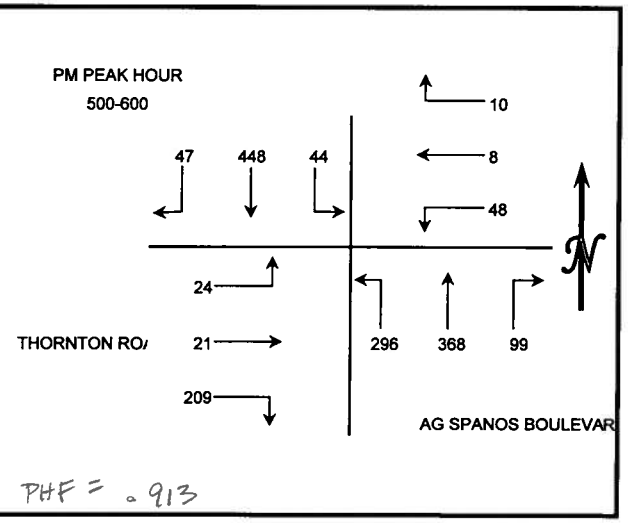
CLIENT: FEHR & PEERS TRANSPORTATION COUNSULTANTS
PROJECT: CITY OF STOCKTON
DATE: TUESDAY, APRIL 26TH, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S AG SPANOS BOULEVARD
E/W THORNTON ROAD

orientation different from analysis.

15 MIN COUNTS													7:00 AM TO 9:00 AM
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	5	135	1	9	4	25	4	55	37	90	0	6	371
715-730	5	141	2	2	2	34	3	69	25	107	2	6	398
730-745	4	122	1	5	3	25	12	65	53	93	0	15	398
745-800	14	103	1	6	3	16	10	78	57	74	3	9	374
800-815	9	121	4	6	1	29	9	89	52	97	4	15	436
815-830	9	102	0	1	2	14	6	65	49	87	3	11	349
830-845	2	81	0	5	8	12	6	43	40	79	5	11	292
845-900	3	57	0	5	2	7	4	51	28	41	4	11	213
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	28	501	5	22	12	100	29	267	172	364	5	36	1541
715-815	32	487	8	19	9	104	34	301	187	371	9	45	1606
730-830	36	448	6	18	9	84	37	297	211	351	10	50	1557
745-845	34	407	5	18	14	71	31	275	198	337	15	46	1451
800-900	23	361	4	17	13	62	25	248	169	304	16	48	1290



15 MIN COUNTS													4:00 PM TO 6:00 PM
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	5	106	5	1	1	17	23	87	69	48	2	6	370
415-430	7	112	14	1	2	17	24	106	81	68	2	9	443
430-445	12	99	7	2	1	12	19	109	71	51	2	3	388
445-500	12	97	0	3	1	8	13	90	54	45	4	5	332
500-515	15	105	7	2	2	17	25	86	76	64	9	10	418
515-530	9	119	19	4	3	9	20	109	66	48	5	3	414
530-545	14	120	7	1	3	12	30	97	91	58	5	6	444
545-600	9	104	11	3	0	10	24	76	63	39	2	5	346
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	36	414	26	7	5	54	79	392	275	212	10	23	1533
415-515	46	413	28	8	6	54	81	391	282	228	17	27	1581
430-530	48	420	33	11	7	46	77	394	267	208	20	21	1552
445-545	50	441	33	10	9	46	88	382	287	215	23	24	1608
500-600	47	448	44	10	8	48	99	368	296	209	21	24	1622



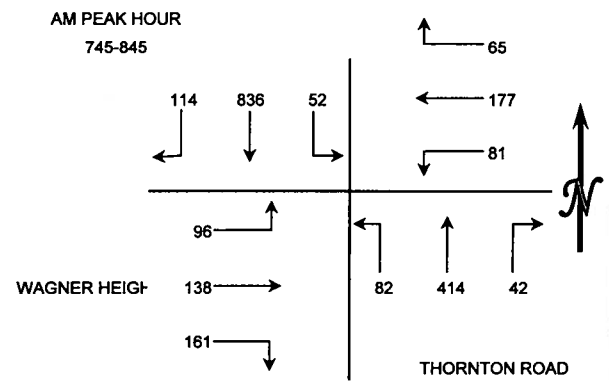
WILTEC

Phone: (925) 706-9911 Fax: (925) 706-9914

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

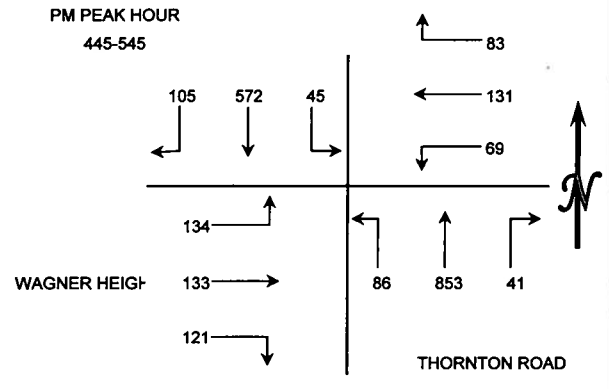
CLIENT: FEHR & PEERS TRANSPORTATION COUNSULTANTS
PROJECT: CITY OF STOCKTON
DATE: WEDNESDAY, APRIL 27TH, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S THORNTON ROAD
E/W WAGNER HEIGHTS

15 MIN COUNTS						7:00 AM TO 9:00 AM							
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	22	163	13	19	24	7	7	104	5	13	21	22	420
715-730	37	216	25	7	32	29	4	86	13	37	21	17	524
730-745	25	226	10	9	47	15	10	91	9	57	39	12	550
745-800	26	220	19	19	50	20	7	97	16	41	35	24	574
800-815	29	188	8	21	39	19	13	114	20	32	31	31	545
815-830	36	203	7	11	40	19	11	94	19	52	32	24	548
830-845	23	225	18	14	48	23	11	109	27	36	40	17	591
845-900	17	186	7	7	23	10	5	88	14	36	27	6	426
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	110	825	67	54	153	71	28	378	43	148	116	75	2068
715-815	117	850	62	56	168	83	34	388	58	167	126	84	2193
730-830	116	837	44	60	176	73	41	396	64	182	137	91	2217
745-845	114	836	52	65	177	81	42	414	82	161	138	96	2258
800-900	105	802	40	53	150	71	40	405	80	156	130	78	2110



PHF = .955

15 MIN COUNTS						4:00 PM TO 6:00 PM							
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	19	137	20	23	32	23	13	171	25	35	31	27	556
415-430	29	113	10	20	22	19	12	213	27	26	44	42	577
430-445	27	131	9	17	27	18	19	187	19	22	45	36	557
445-500	26	145	9	23	39	17	11	215	25	29	26	32	597
500-515	28	149	12	23	32	20	12	205	18	37	38	38	612
515-530	24	128	11	21	33	14	5	231	24	20	24	28	563
530-545	27	150	13	16	27	18	13	202	19	35	45	36	601
545-600	20	153	12	19	22	18	10	217	25	30	37	30	593
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	101	526	48	83	120	77	55	786	96	112	146	137	2287
415-515	110	538	40	83	120	74	54	820	89	114	153	148	2343
430-530	105	553	41	84	131	69	47	838	86	108	133	134	2329
445-545	105	572	45	83	131	69	41	853	86	121	133	134	2373
500-600	99	580	48	79	114	70	40	855	86	122	144	132	2369



PHF = .969

17.

WILTEC

Phone: (925) 706-9911 Fax: (925) 706-9914

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

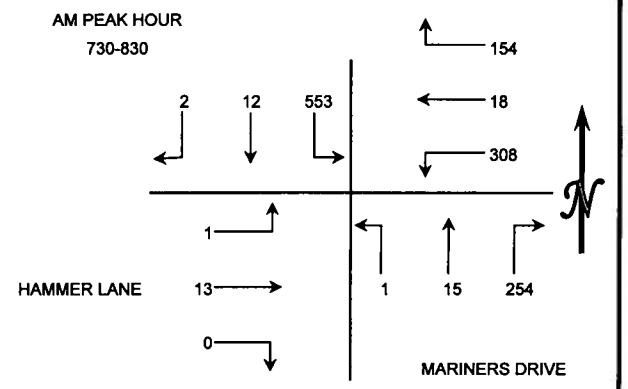
CLIENT: FEHR & PEERS TRANSPORTATION COUNSULTANTS
PROJECT: CITY OF STOCKTON
DATE: TUESDAY, APRIL 26TH, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S MARINERS DRIVE
E/W HAMMER LANE

15 MIN COUNTS — 7:00 AM TO 9:00 AM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	1	1	110	31	1	34	34	3	0	0	4	1	220
715-730	1	2	122	36	1	52	47	8	0	1	4	1	275
730-745	2	5	141	27	1	47	77	8	0	0	3	0	311
745-800	0	4	166	41	2	99	78	2	0	0	4	1	397
800-815	0	2	138	47	6	91	52	2	1	0	3	0	342
815-830	0	1	108	39	9	71	47	3	0	0	3	0	281
830-845	0	1	82	41	2	57	42	2	0	0	3	0	230
845-900	1	3	83	23	0	74	38	4	2	1	4	0	233

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	4	12	539	135	5	232	236	21	0	1	15	3	1203
715-815	3	13	567	151	10	289	254	20	1	1	14	2	1325
730-830	2	12	553	154	18	308	254	15	1	0	13	1	1331
745-845	0	8	494	168	19	318	219	9	1	0	13	1	1250
800-900	1	7	411	150	17	293	179	11	3	1	13	0	1086



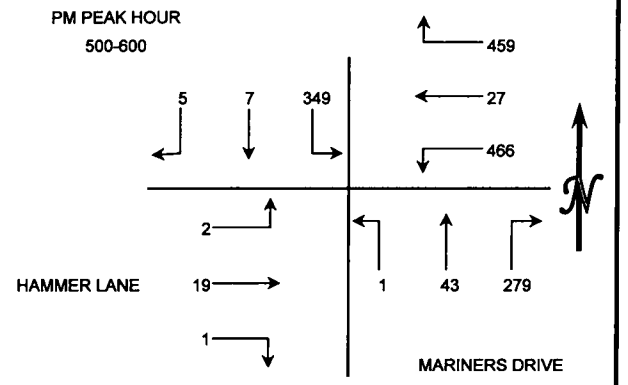
PHF = .838

15 MIN COUNTS — 4:00 PM TO 6:00 PM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	0	4	57	82	5	62	47	4	1	1	5	1	269
415-430	0	2	63	96	5	79	50	5	0	0	0	0	300
430-445	0	2	57	78	5	89	54	8	1	0	3	0	297
445-500	1	0	52	87	4	97	65	7	0	1	1	1	316
500-515	1	4	79	103	12	102	87	12	0	1	6	0	407
515-530	4	0	83	114	9	125	68	7	0	0	8	0	418
530-545	0	0	101	111	4	134	66	12	1	0	3	2	434
545-600	0	3	86	131	2	105	58	12	0	0	2	0	399

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	1	8	229	343	19	327	216	24	2	2	9	2	1182
415-515	2	8	251	364	26	367	256	32	1	2	10	1	1320
430-530	6	6	271	382	30	413	274	34	1	2	18	1	1438
445-545	6	4	315	415	29	458	286	38	1	2	18	3	1575
500-600	5	7	349	459	27	466	279	43	1	1	19	2	1658



PHF = .955

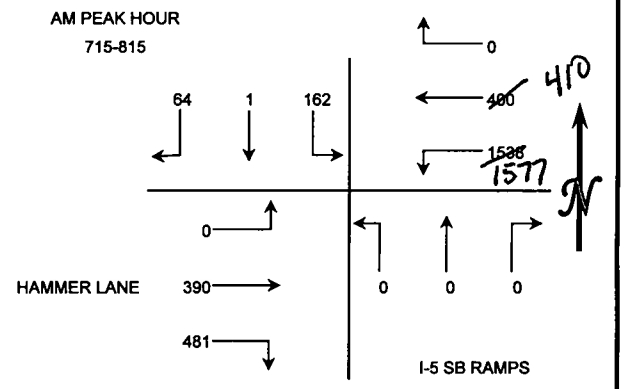
WILTEC

Phone: (925) 706-9911 Fax: (925) 706-9914

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

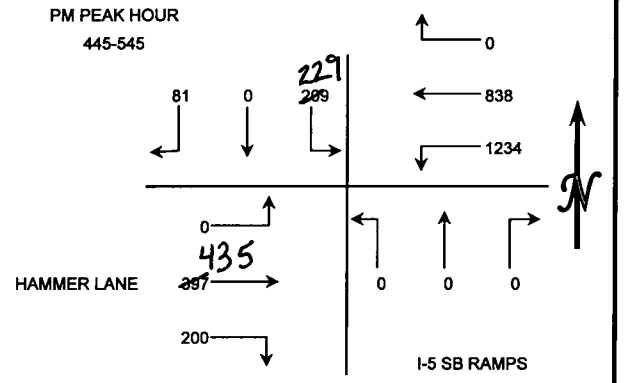
CLIENT: FEHR & PEERS TRANSPORTATION COUNSULTANTS
PROJECT: CITY OF STOCKTON
DATE: TUESDAY, APRIL 26TH, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S I-5 SB RAMPS
E/W HAMMER LANE

15 MIN COUNTS						7:00 AM TO 9:00 AM							
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	10	0	26	0	60	356	0	0	0	100	84	0	636
715-730	16	0	34	0	76	403	0	0	0	113	91	0	733
730-745	17	0	39	0	98	433	0	0	0	129	99	0	815
745-800	11	1	53	0	113	387	0	0	0	133	99	0	797
800-815	20	0	36	0	113	315	0	0	0	106	101	0	691
815-830	29	1	38	0	107	287	0	0	0	74	84	0	620
830-845	19	0	29	0	114	232	0	0	0	67	67	0	528
845-900	19	0	26	0	93	251	0	0	0	68	53	0	510
HOU TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	54	1	152	0	347	1579	0	0	0	475	373	0	2981
715-815	64	1	162	0	400	1538	0	0	0	481	390	0	3036
730-830	77	2	166	0	431	1422	0	0	0	442	383	0	2923
745-845	79	2	156	0	447	1221	0	0	0	380	351	0	2636
800-900	87	1	129	0	427	1085	0	0	0	315	305	0	2349



PHF = .931

15 MIN COUNTS						4:00 PM TO 6:00 PM							
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	7	1	42	0	149	223	0	0	0	47	67	0	536
415-430	23	0	47	0	126	217	0	0	0	47	62	0	522
430-445	21	1	53	0	169	201	0	0	0	54	99	0	598
445-500	19	0	56	0	213	315	0	0	0	53	102	0	758
500-515	18	0	44	0	193	300	0	0	0	47	119	0	721
515-530	23	0	67	0	225	329	0	0	0	52	92	0	788
530-545	21	0	42	0	207	290	0	0	0	48	84	0	692
545-600	23	0	55	0	202	267	0	0	0	61	102	0	710
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	70	2	198	0	657	956	0	0	0	201	330	0	2414
415-515	81	1	200	0	701	1033	0	0	0	201	382	0	2599
430-530	81	1	220	0	800	1145	0	0	0	206	412	0	2865
445-545	81	0	209	0	838	1234	0	0	0	200	397	0	2959
500-600	85	0	208	0	827	1186	0	0	0	208	397	0	2911



PHF = .939

24

WILTEC

Phone: (925) 706-9911 Fax: (925) 706-9914

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

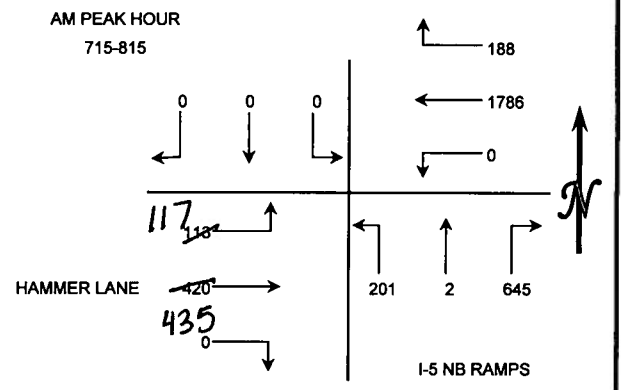
CLIENT: FEHR & PEERS TRANSPORTATION COUNSULTANTS
PROJECT: CITY OF STOCKTON
DATE: TUESDAY, APRIL 26TH, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S I-5 NB RAMPS
E/W HAMMER LANE

15 MIN COUNTS — 7:00 AM TO 9:00 AM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	0	0	0	77	390	0	92	0	16	0	71	31	677
715-730	0	0	0	51	495	0	131	2	24	0	84	24	811
730-745	0	0	0	51	435	0	153	0	51	0	110	24	824
745-800	0	0	0	42	474	0	181	0	57	0	125	21	900
800-815	0	0	0	44	382	0	180	0	69	0	101	44	820
815-830	0	0	0	43	340	0	167	1	42	0	87	32	712
830-845	0	0	0	39	322	0	195	0	57	0	78	15	706
845-900	0	0	0	29	250	0	161	1	46	0	65	19	571

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	0	0	0	221	1794	0	557	2	148	0	390	100	3212
715-815	0	0	0	188	1786	0	645	2	201	0	420	113	3355
730-830	0	0	0	180	1631	0	681	1	219	0	423	121	3256
745-845	0	0	0	168	1518	0	723	1	225	0	391	112	3138
800-900	0	0	0	155	1294	0	703	2	214	0	331	110	2809



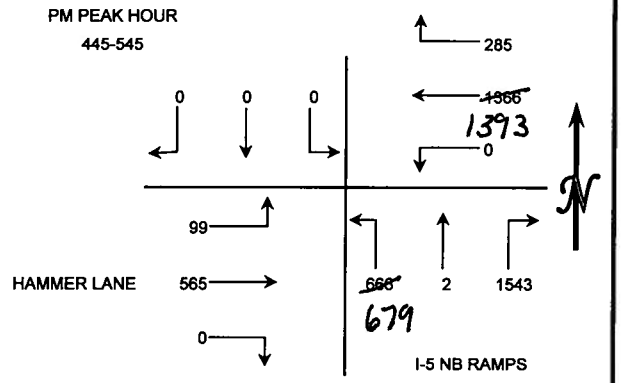
PHF = .932

15 MIN COUNTS — 4:00 PM TO 6:00 PM

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	0	0	0	51	160	0	130	1	88	0	115	12	557
415-430	0	0	0	57	196	0	206	0	102	0	113	14	688
430-445	0	0	0	62	220	0	317	0	132	0	136	18	885
445-500	0	0	0	84	295	0	342	0	112	0	135	23	991
500-515	0	0	0	58	355	0	360	1	178	0	148	29	1129
515-530	0	0	0	61	387	0	408	1	215	0	148	14	1234
530-545	0	0	0	82	329	0	433	0	161	0	134	33	1172
545-600	0	0	0	47	282	0	323	0	124	0	131	18	925

HOUR TOTALS

TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	0	0	0	254	871	0	995	1	434	0	499	67	3121
415-515	0	0	0	261	1066	0	1225	1	524	0	532	84	3693
430-530	0	0	0	265	1257	0	1427	2	637	0	567	84	4239
445-545	0	0	0	285	1366	0	1543	2	666	0	565	99	4526
500-600	0	0	0	248	1353	0	1524	2	678	0	561	94	4460



PHF = .904

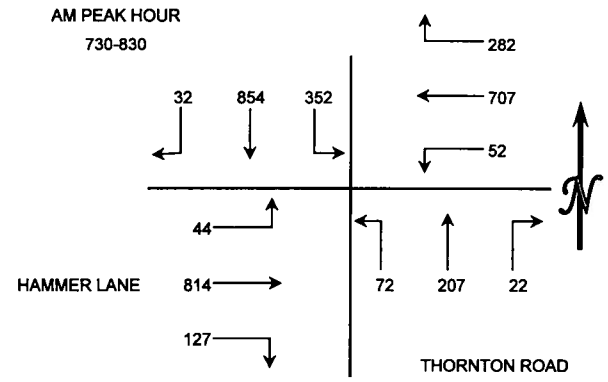
WILTEC

Phone: (925) 706-9911 Fax: (925) 706-9914

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

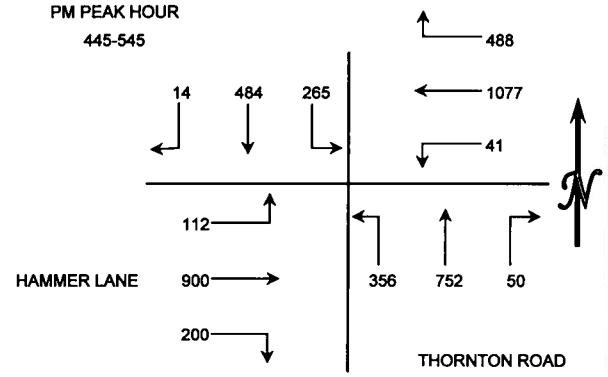
CLIENT: FEHR & PEERS TRANSPORTATION COUNSULTANTS
PROJECT: CITY OF STOCKTON
DATE: TUESDAY, APRIL 26TH, 2005
PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM
INTERSECTION: N/S THORNTON ROAD
E/W HAMMER LANE

15 MIN COUNTS													7:00 AM TO 9:00 AM
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-715	3	132	85	63	113	1	4	24	11	11	139	6	592
715-730	3	183	75	60	151	3	6	30	8	20	161	5	705
730-745	10	222	94	63	199	13	4	43	15	31	175	8	877
745-800	5	225	81	61	183	13	1	46	14	26	211	12	878
800-815	10	213	88	85	170	10	12	65	20	35	224	12	944
815-830	7	194	89	73	155	16	5	53	23	35	204	12	866
830-845	7	186	72	62	159	4	8	67	18	35	176	7	801
845-900	2	151	57	65	184	14	13	54	19	41	144	10	754
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
700-800	21	762	335	247	646	30	15	143	48	88	686	31	3052
715-815	28	843	338	269	703	39	23	184	57	112	771	37	3404
730-830	32	854	352	282	707	52	22	207	72	127	814	44	3565
745-845	29	818	330	281	667	43	26	231	75	131	815	43	3489
800-900	26	744	306	285	668	44	38	239	80	146	748	41	3365



PHF = .944

15 MIN COUNTS													4:00 PM TO 6:00 PM
PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	4	132	72	131	312	20	17	96	47	56	202	21	1110
415-430	2	118	57	116	238	18	16	107	71	39	226	29	1037
430-445	5	135	57	129	210	26	11	149	82	40	217	24	1085
445-500	1	117	60	120	262	12	19	161	96	55	259	31	1193
500-515	4	125	80	109	292	11	10	175	88	58	210	23	1185
515-530	4	111	62	134	278	4	7	225	96	35	228	31	1215
530-545	5	131	63	125	245	14	14	191	76	52	203	27	1146
545-600	5	115	54	101	285	9	3	153	54	42	215	21	1057
HOUR TOTALS													
TIME	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	12	502	246	496	1022	76	63	513	296	190	904	105	4425
415-515	12	495	254	474	1002	67	56	592	337	192	912	107	4500
430-530	14	488	259	492	1042	53	47	710	362	188	914	109	4678
445-545	14	484	265	488	1077	41	50	752	356	200	900	112	4739
500-600	18	482	259	469	1100	38	34	744	314	187	856	102	4603



PHF = .975

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

Existing Conditions

Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Eight Mile Road/Mokelumne Circle

Average Delay (sec/veh): 7.5 Worst Case Level Of Service: B[10.4]

Street Name:	Mokelumne Circle									Eight Mile Road									
Approach:	North Bound					South Bound					East Bound					West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Uncontrolled					Uncontrolled				
Rights:	Include					Include					Include					Include				
Lanes:	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0	1	0	2	0	0
Volume Module: >> Count Date: 20 Apr 2005 << 7:15-8:15																				
Base Vol:	3	0	338		0	0		0		0	0		43		2	113		87		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		1.00
Initial Bse:	3	0	338		0	0		0		0	0		43		2	113		87		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		1.00
PHF Adj:	0.88	0.88	0.88		0.88	0.88		0.88		0.88	0.88		0.88		0.88	0.88		0.88		0.88
PHF Volume:	3	0	384		0	0		0		0	0		49		2	128		99		0
Reduct Vol:	0	0	0		0	0		0		0	0		0		0	0		0		0
FinalVolume:	3	0	384		0	0		0		0	0		49		2	128		99		0
Critical Gap Module:																				
Critical Gp:	6.8	xxxx			6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				4.1	xxxx	xxxxx			
FollowUpTim:	3.5	xxxx			3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				2.2	xxxx	xxxxx			
Capacity Module:																				
Cnflict Vol:	356	xxxx			26	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				51	xxxx	xxxxx			
Potent Cap.:	616	xxxx			1044	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				1553	xxxx	xxxxx			
Move Cap.:	577	xxxx			1044	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				1553	xxxx	xxxxx			
Volume/Cap:	0.01	xxxx			0.37	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx				0.08	xxxx	xxxx			
Level Of Service Module:																				
2Way95thQ:	0.0	xxxx			1.7	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				0.3	xxxx	xxxxx			
Control Del:	11.3	xxxx			10.4	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				7.5	xxxx	xxxxx			
LOS by Move:	B	*			B	*	*	*	*	*	*				A	*	*			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx					xxxx	xxxx	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx					xxxxx	xxxx	xxxxx		
Shrd ConDel:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx					xxxxx	xxxx	xxxxx		
Shared LOS:	*	*	*			*	*	*	*	*	*					*	*	*		
ApproachDel:			10.4					xxxxxx					xxxxxx					xxxxxx		
ApproachLOS:			B					*					*					*		

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.86		0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6383		3433	3539	1770	1576
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6383		3433	3539	1770	1576
Volume (vph)	348	8	197	217	9	340
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	405	9	229	252	10	395
RTOR Reduction (vph)	2	0	0	0	0	105
Lane Group Flow (vph)	412	0	229	252	10	290
Confl. Peds. (#/hr)		10				10
Turn Type			Prot			pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases						4
Actuated Green, G (s)	57.8		22.6	85.4	5.1	27.7
Effective Green, g (s)	58.8		23.6	86.4	5.6	29.2
Actuated g/C Ratio	0.59		0.24	0.86	0.06	0.29
Clearance Time (s)	5.0		5.0	5.0	4.5	5.0
Vehicle Extension (s)	6.0		5.0	6.0	2.0	5.0
Lane Grp Cap (vph)	3753		810	3058	99	523
v/s Ratio Prot	c0.06		0.07	0.07	0.01	c0.13
v/s Ratio Perm						0.05
v/c Ratio	0.11		0.28	0.08	0.10	0.55
Uniform Delay, d1	9.1		31.3	1.0	44.8	29.9
Progression Factor	1.00		0.58	0.44	1.00	1.00
Incremental Delay, d2	0.1		0.4	0.1	0.2	2.2
Delay (s)	9.1		18.5	0.5	45.0	32.1
Level of Service	A		B	A	D	C
Approach Delay (s)	9.1			9.1	32.4	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	42.1%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.86	0.86	0.97	0.95					0.95	0.95	1.00
Frpb, ped/bikes		0.99	0.99	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	1.00
Frt		0.93	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		4388	1341	3433	3539					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		4388	1341	3433	3539					1681	1681	1583
Volume (vph)	0	194	494	333	354	0	0	0	0	53	0	60
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	0	228	581	392	416	0	0	0	0	62	0	71
RTOR Reduction (vph)	0	86	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	359	364	392	416	0	0	0	0	31	31	71
Confl. Peds. (#/hr)			10									
Turn Type			Free	Prot						Split		Free
Protected Phases		2		1	6					4	4	
Permitted Phases			Free									Free
Actuated Green, G (s)		58.5	100.0	21.2	87.1					4.9	4.9	100.0
Effective Green, g (s)		60.2	100.0	22.9	87.1					4.9	4.9	100.0
Actuated g/C Ratio		0.60	1.00	0.23	0.87					0.05	0.05	1.00
Clearance Time (s)		5.7		5.7	4.0					4.0	4.0	
Vehicle Extension (s)		5.0		5.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		2642	1341	786	3082					82	82	1583
v/s Ratio Prot		0.08		c0.11	0.12					0.02	0.02	
v/s Ratio Perm			c0.27									0.04
v/c Ratio		0.14	0.27	0.50	0.13					0.38	0.38	0.04
Uniform Delay, d1		8.6	0.0	33.6	0.9					46.1	46.1	0.0
Progression Factor		0.83	1.00	0.84	0.17					1.00	1.00	1.00
Incremental Delay, d2		0.1	0.5	1.0	0.1					2.9	2.9	0.1
Delay (s)		7.3	0.5	29.1	0.2					49.0	49.0	0.1
Level of Service		A	A	C	A					D	D	A
Approach Delay (s)		4.2			14.2			0.0			22.9	
Approach LOS		A			B			A			C	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	41.8%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.86		0.95	0.95	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			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			6267		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			6267		1681	1681	1583			
Volume (vph)	67	180	0	0	440	75	247	0	354	0	0	0
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)	72	194	0	0	473	81	266	0	381	0	0	0
RTOR Reduction (vph)	0	0	0	0	18	0	0	0	0	0	0	0
Lane Group Flow (vph)	72	194	0	0	536	0	133	133	381	0	0	0
Confl. Peds. (#/hr)			10									
Turn Type	Prot						Split		Free			
Protected Phases	5	2			6		8	8				
Permitted Phases									Free			
Actuated Green, G (s)	15.0	77.9			57.2		12.4	12.4	100.0			
Effective Green, g (s)	16.7	79.6			58.9		12.4	12.4	100.0			
Actuated g/C Ratio	0.17	0.80			0.59		0.12	0.12	1.00			
Clearance Time (s)	5.7	5.7			5.7		4.0	4.0				
Vehicle Extension (s)	5.0	5.0			5.0		3.0	3.0				
Lane Grp Cap (vph)	296	2817			3691		208	208	1583			
v/s Ratio Prot	0.04	0.05			0.09		c0.08	0.08				
v/s Ratio Perm									c0.24			
v/c Ratio	0.24	0.07			0.15		0.64	0.64	0.24			
Uniform Delay, d1	36.2	2.2			9.2		41.7	41.7	0.0			
Progression Factor	0.91	0.76			1.00		1.00	1.00	1.00			
Incremental Delay, d2	0.9	0.0			0.1		6.3	6.3	0.4			
Delay (s)	33.7	1.7			9.3		48.0	48.0	0.4			
Level of Service	C	A			A		D	D	A			
Approach Delay (s)		10.4			9.3			19.9			0.0	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	41.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

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

Intersection #8 Eight Mile Road/Thornton Road

Cycle (sec):	90	Critical Vol./Cap.(X):	0.575
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	31.7
Optimal Cycle:	54	Level Of Service:	C

Street Name:	Thornton Road							Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound			
Movement:	L	T	R	L	T	R	L	T	R	L	T	R	
Control:	Protected			Protected			Protected			Protected			
Rights:	Include			Include			Include			Include			
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0	
Lanes:	1 0 1 0 1			1 0 0 1 0			1 0 2 0 1			1 0 1 1 0			
Volume Module: >> Count Date: 20 Apr 2005 << 7:00-8:00													
Base Vol:	253	123	167	12	195	59	75	383	104	92	233	25	
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:	253	123	167	12	195	59	75	383	104	92	233	25	
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
PHF Volume:	269	131	178	13	207	63	80	407	111	98	248	27	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	269	131	178	13	207	63	80	407	111	98	248	27	
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:	269	131	178	13	207	63	80	407	111	98	248	27	
Saturation Flow Module:													
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Adjustment:	0.93	0.98	0.83	0.93	0.95	0.95	0.93	0.93	0.83	0.93	0.92	0.92	
Lanes:	1.00	1.00	1.00	1.00	0.77	0.23	1.00	2.00	1.00	1.00	1.81	0.19	
Final Sat.:	1769	1862	1583	1769	1379	417	1769	3538	1583	1769	3147	338	
Capacity Analysis Module:													
Vol/Sat:	0.15	0.07	0.11	0.01	0.15	0.15	0.05	0.12	0.07	0.06	0.08	0.08	
Crit Moves:	****				****			****		****			
Green/Cycle:	0.26	0.31	0.31	0.22	0.26	0.26	0.12	0.20	0.20	0.10	0.17	0.17	
Volume/Cap:	0.58	0.23	0.36	0.03	0.58	0.58	0.37	0.58	0.35	0.58	0.45	0.45	
Delay/Veh:	30.5	23.2	24.5	28.0	30.6	30.6	37.4	33.7	31.6	43.7	33.8	33.8	
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:	30.5	23.2	24.5	28.0	30.6	30.6	37.4	33.7	31.6	43.7	33.8	33.8	
LOS by Move:	C	C	C	C	C	C	D	C	C	D	C	C	
HCM2kAvgQ:	7	2	4	0	7	7	2	6	3	3	4	4	

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

Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #7 Eight Mile Road/Oak Grove Regional Park Entrance

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: B[13.5]

Street Name:	Oak Grove Regional Park Entrance									Eight Mile Road							
Approach:	North Bound				South Bound				East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Uncontrolled					Uncontrolled				
Rights:	Include					Include					Include					Include				
Lanes:	0	0	1!	0	0	0	0	0	0	0	0	0	2	1	0	1	0	2	0	0
Volume Module: >> Count Date: 3 May 2005 << 7:15-8:15																				
Base Vol:	1	0	1	0	0	0	0	533	1	1	514	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:	1	0	1	0	0	0	0	533	1	1	514	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:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96								
PHF Volume:	1	0	1	0	0	0	0	555	1	1	535	0								
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0								
FinalVolume:	1	0	1	0	0	0	0	555	1	1	535	0								
Critical Gap Module:																				
Critical Gp:	6.8	6.5	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx								
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx								
Capacity Module:																				
Cnflict Vol:	856	1134	186	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	556	xxxx	xxxxx								
Potent Cap.:	286	194	825	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1010	xxxx	xxxxx								
Move Cap.:	286	194	825	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1010	xxxx	xxxxx								
Volume/Cap:	0.00	0.00	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	xxxx								
Level Of Service Module:																				
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx								
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.6	xxxx	xxxxx								
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*								
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	425	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx								
SharedQueue:	xxxxx	0.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx								
Shrd ConDel:	xxxxx	13.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx								
Shared LOS:	*	B	*	*	*	*	*	*	*	*	*	*								
ApproachDel:	13.5			xxxxxx			xxxxxx			xxxxxx										
ApproachLOS:	B			*			*			*										

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

Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

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

Intersection #9 Eight Mile Road/Davis Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.619
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	33.4
Optimal Cycle:	59	Level Of Service:	C

Street Name:	Davis Street						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0	1 0		1 0 0	1 0		1 0 1	0 1		1 0 0	1 0	
Volume Module: >> Count Date: 21 Apr 2005 << 7:00-8:00												
Base Vol:	115	156	206	12	188	32	44	368	156	127	282	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:	115	156	206	12	188	32	44	368	156	127	282	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:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	122	166	219	13	200	34	47	391	166	135	300	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	122	166	219	13	200	34	47	391	166	135	300	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:	122	166	219	13	200	34	47	391	166	135	300	14
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.90	0.90	0.93	0.96	0.96	0.93	0.98	0.83	0.93	0.97	0.97
Lanes:	1.00	0.43	0.57	1.00	0.85	0.15	1.00	1.00	1.00	1.00	0.96	0.04
Final Sat.:	1769	734	970	1769	1556	265	1769	1862	1583	1769	1767	81
Capacity Analysis Module:												
Vol/Sat:	0.07	0.23	0.23	0.01	0.13	0.13	0.03	0.21	0.10	0.08	0.17	0.17
Crit Moves:		****		****				****		****		
Green/Cycle:	0.14	0.34	0.34	0.07	0.27	0.27	0.13	0.32	0.32	0.11	0.30	0.30
Volume/Cap:	0.48	0.67	0.67	0.10	0.48	0.48	0.21	0.67	0.33	0.67	0.56	0.56
Delay/Veh:	40.7	31.1	31.1	43.9	31.8	31.8	39.7	32.5	26.5	50.6	30.3	30.3
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:	40.7	31.1	31.1	43.9	31.8	31.8	39.7	32.5	26.5	50.6	30.3	30.3
LOS by Move:	D	C	C	D	C	C	D	C	C	D	C	C
HCM2kAvgQ:	4	10	10	0	6	6	1	11	4	5	8	8

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

Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

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

Intersection #10 Eight Mile Road/Lower Sacramento Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.956
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	64.7
Optimal Cycle:	130	Level Of Service:	E

Street Name:	Lower Sacramento Road						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	0 1		1 0 1	0 1		1 0 0	1 0		1 0 0	1 0	
Volume Module: >> Count Date: 21 Apr 2005 << 7:30-8:30												
Base Vol:	6	200	242	54	425	41	42	584	10	317	389	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:	6	200	242	54	425	41	42	584	10	317	389	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:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	7	220	266	59	467	45	46	642	11	348	427	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	220	266	59	467	45	46	642	11	348	427	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:	7	220	266	59	467	45	46	642	11	348	427	30
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.98	0.83	0.93	0.98	0.98	0.93	0.97	0.97
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.02	1.00	0.94	0.06
Final Sat.:	1769	1862	1583	1769	1862	1583	1769	1825	31	1769	1724	120
Capacity Analysis Module:												
Vol/Sat:	0.00	0.12	0.17	0.03	0.25	0.03	0.03	0.35	0.35	0.20	0.25	0.25
Crit Moves:	****				****			****		****		
Green/Cycle:	0.07	0.22	0.22	0.09	0.24	0.24	0.12	0.34	0.34	0.19	0.41	0.41
Volume/Cap:	0.05	0.54	0.76	0.37	1.04	0.12	0.22	1.04	1.04	1.04	0.60	0.60
Delay/Veh:	43.6	35.9	46.2	44.1	90.6	29.7	40.6	79.2	79.2	99.9	24.3	24.3
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:	43.6	35.9	46.2	44.1	90.6	29.7	40.6	79.2	79.2	99.9	24.3	24.3
LOS by Move:	D	D	D	D	F	C	D	E	E	F	C	C
HCM2kAvgQ:	0	6	9	2	22	1	1	29	29	17	10	10

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

Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

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

Intersection #11 Eight Mile Road/West Lane

Cycle (sec):	100	Critical Vol./Cap.(X):	0.752
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	37.2
Optimal Cycle:	77	Level Of Service:	D

Street Name:	West Lane							Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound			
Movement:	L - T - R			L - T - R			L - T - R			L - T - R			
Control:	Protected			Protected			Protected			Protected			
Rights:	Include			Include			Include			Include			
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0	
Lanes:	1 0 1	1 0		1 0 1	1 0		1 0 1	0 1		1 0 0	1 0		
Volume Module: >> Count Date: 21 Apr 2005 << 7:15-8:15													
Base Vol:	169	352	68	25	581	179	114	428	319	103	387	6	
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:	169	352	68	25	581	179	114	428	319	103	387	6	
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:	176	367	71	26	605	186	119	446	332	107	403	6	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	176	367	71	26	605	186	119	446	332	107	403	6	
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:	176	367	71	26	605	186	119	446	332	107	403	6	
Saturation Flow Module:													
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Adjustment:	0.93	0.91	0.91	0.93	0.90	0.90	0.93	0.98	0.83	0.93	0.98	0.98	
Lanes:	1.00	1.68	0.32	1.00	1.53	0.47	1.00	1.00	1.00	1.00	0.98	0.02	
Final Sat.:	1769	2894	559	1769	2610	804	1769	1862	1583	1769	1830	28	
Capacity Analysis Module:													
Vol/Sat:	0.10	0.13	0.13	0.01	0.23	0.23	0.07	0.24	0.21	0.06	0.22	0.22	
Crit Moves:	****				****			****		****			
Green/Cycle:	0.13	0.28	0.28	0.16	0.31	0.31	0.10	0.32	0.32	0.08	0.30	0.30	
Volume/Cap:	0.75	0.45	0.45	0.09	0.75	0.75	0.70	0.75	0.66	0.75	0.73	0.73	
Delay/Veh:	54.6	29.7	29.7	36.2	34.2	34.2	55.8	35.9	32.6	64.9	35.9	35.9	
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:	54.6	29.7	29.7	36.2	34.2	34.2	55.8	35.9	32.6	64.9	35.9	35.9	
LOS by Move:	D	C	C	D	C	C	E	D	C	E	D	D	
HCM2kAvgQ:	7	6	6	1	12	12	5	13	9	5	12	12	

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

Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #12 Eight Mile Road/SR 99 Frontage

Cycle (sec):	100	Critical Vol./Cap.(X):	0.949
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	28.1
Optimal Cycle:	0	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:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	7	10	0		7	10	0		7	10	0		7	10	0	
Lanes:	0 1	0 0	1		0 1	0 0	1		0 1	0 0	1		0 1	0 0	1	
Volume Module: >> Count Date: 19 May 2005 <<																
Base Vol:	135	14	140		21	30	8		5	284	148		139	362	17	
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:	135	14	140		21	30	8		5	284	148		139	362	17	
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:	141	15	146		22	31	8		5	296	154		145	377	18	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	141	15	146		22	31	8		5	296	154		145	377	18	
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:	141	15	146		22	31	8		5	296	154		145	377	18	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.91	0.09	1.00		0.41	0.59	1.00		0.02	0.98	1.00		0.28	0.72	1.00	
Final Sat.:	410	42	528		173	248	471		9	528	600		153	397	614	
Capacity Analysis Module:																
Vol/Sat:	0.34	0.34	0.28		0.13	0.13	0.02		0.56	0.56	0.26		0.95	0.95	0.03	
Crit Moves:		****				****			****					****		
Delay/Veh:	14.2	14.2	11.7		11.9	11.9	10.0		16.9	16.9	10.5		51.2	51.2	8.6	
Delay Adj:	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:	14.2	14.2	11.7		11.9	11.9	10.0		16.9	16.9	10.5		51.2	51.2	8.6	
LOS by Move:	B	B	B		B	B	A		C	C	B		F	F	A	
ApproachDel:		13.0				11.6				14.8				49.8		
Delay Adj:		1.00				1.00				1.00				1.00		
ApprAdjDel:		13.0				11.6				14.8				49.8		
LOS by Appr:		B				B				B				E		
AllWayAvgQ:	0.5	0.5	0.3		0.1	0.1	0.0		1.1	1.1	0.3		6.4	6.4	0.0	

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

Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #13 Mokelumne Circle/Scott Creek Drive

Average Delay (sec/veh): 4.3 Worst Case Level Of Service: B[12.9]

Street Name:	Mokelumne Circle								Scott Creek Drive							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	1	0	0	1	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	0
Volume Module: >> Count Date: 21 Apr 2005 << 7:158:15																				
Base Vol:	2	220		6		4	53		53		106	30		4		4	17		8	
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:	2	220		6		4	53		53		106	30		4		4	17		8	
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:	0.86	0.86		0.86		0.86	0.86		0.86		0.86	0.86		0.86		0.86	0.86		0.86	
PHF Volume:	2	256		7		5	62		62		123	35		5		5	20		9	
Reduct Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
FinalVolume:	2	256		7		5	62		62		123	35		5		5	20		9	
Critical Gap Module:																				
Critical Gp:	4.1	xxxx	xxxxx			4.1	xxxx	xxxxx			7.1	6.5		6.2		7.1	6.5		6.2	
FollowUpTim:	2.2	xxxx	xxxxx			2.2	xxxx	xxxxx			3.5	4.0		3.3		3.5	4.0		3.3	
Capacity Module:																				
Cnflict Vol:	123	xxxx	xxxxx			263	xxxx	xxxxx			380	369		92		385	397		259	
Potent Cap.:	1464	xxxx	xxxxx			1301	xxxx	xxxxx			578	560		965		573	541		779	
Move Cap.:	1464	xxxx	xxxxx			1301	xxxx	xxxxx			552	557		965		541	538		779	
Volume/Cap:	0.00	xxxx	xxxx			0.00	xxxx	xxxx			0.22	0.06		0.00		0.01	0.04		0.01	
Level Of Service Module:																				
2Way95thQ:	0.0	xxxx	xxxxx			0.0	xxxx	xxxxx			0.8	xxxx	xxxxx			0.0	xxxx	xxxxx		
Control Del:	7.5	xxxx	xxxxx			7.8	xxxx	xxxxx			13.4	xxxx	xxxxx			11.7	xxxx	xxxxx		
LOS by Move:	A	*	*			A	*	*			B	*	*			B	*	*		
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx		586		xxxx	xxxx		597	
SharedQueue:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx		0.2		xxxxx	xxxx		0.2	
Shrd ConDel:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx		11.6		xxxxx	xxxx		11.3	
Shared LOS:	*	*	*			*	*	*			*	*		B		*	*		B	
ApproachDel:	xxxxxx					xxxxxx					12.9					11.4				
ApproachLOS:	*					*					B					B				

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

Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

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

Intersection #14 Trinity Parkway/Consumnes Drive

Cycle (sec):	60	Critical Vol./Cap.(X):	0.384
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	18.4
Optimal Cycle:	53	Level Of Service:	B

Street Name:	Trinity Parkway							Consumnes Drive							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	7	10	0		7	10	0		7	10	0		7	10	0	
Lanes:	1 0	1	1 0		1 0	1	1 0		1 0	0	1 0		1 0	1	0 1	
Volume Module: >> Count Date: 21 Apr 2005 << 7:30-8:30																
Base Vol:	86	183	0		0	125	35		98	0	123		0	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	86	183	0		0	125	35		98	0	123		0	0	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:	0.83	0.83	0.83		0.83	0.83	0.83		0.83	0.83	0.83		0.83	0.83	0.83	
PHF Volume:	104	220	0		0	151	42		118	0	148		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	104	220	0		0	151	42		118	0	148		0	0	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	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:	104	220	0		0	151	42		118	0	148		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.93	0.93	0.95		1.00	0.90	0.90		0.93	1.00	0.83		1.00	1.00	1.00	
Lanes:	1.00	2.00	0.00		1.00	1.56	0.44		1.00	0.00	1.00		1.00	1.00	1.00	
Final Sat.:	1769	3538	0		1900	2673	748		1769	0	1583		1900	1900	1900	
Capacity Analysis Module:																
Vol/Sat:	0.06	0.06	0.00		0.00	0.06	0.06		0.07	0.00	0.09		0.00	0.00	0.00	
Crit Moves:	****					****				****						
Green/Cycle:	0.22	0.23	0.00		0.00	0.17	0.17		0.35	0.00	0.35		0.00	0.00	0.00	
Volume/Cap:	0.27	0.28	0.00		0.00	0.34	0.34		0.19	0.00	0.27		0.00	0.00	0.00	
Delay/Veh:	19.9	19.3	0.0		0.0	22.4	22.4		13.8	0.0	14.3		0.0	0.0	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	19.9	19.3	0.0		0.0	22.4	22.4		13.8	0.0	14.3		0.0	0.0	0.0	
LOS by Move:	B	B	A		A	C	C		B	A	B		A	A	A	
HCM2kAvgQ:	2	2	0		0	2	2		1	0	2		0	0	0	

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

Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #15 Trinity Parkway/McAuliffe Road

Average Delay (sec/veh): 9.0 Worst Case Level Of Service: B[10.2]

Street Name:	Trinity Parkway									McAuliffe Road								
Approach:	North Bound					South Bound					East Bound					West Bound		
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	0	0	1	1	0	1	0	2	0	0	0	0	0	0	0	1	0	0	0	1
Volume Module: >> Count Date: 20 Apr 2005 << 7:45-8:45																				
Base Vol:	0		3		4	223		4		0	0		0		0	4		0		306
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
Initial Bse:	0		3		4	223		4		0	0		0		0	4		0		306
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:	0.81	0.81		0.81		0.81	0.81		0.81		0.81	0.81		0.81		0.81	0.81		0.81	
PHF Volume:	0		4		5	275		5		0	0		0		0	5		0		378
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
FinalVolume:	0		4		5	275		5		0	0		0		0	5		0		378
Critical Gap Module:																				
Critical Gp:	xxxxx	xxxx	xxxxx			4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx					6.8	xxxx			6.9
FollowUpTim:	xxxxx	xxxx	xxxxx			2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx					3.5	xxxx			3.3
Capacity Module:																				
Cnflict Vol:	xxxx	xxxx	xxxxx			9	xxxx	xxxxx	xxxx	xxxx	xxxxx					559	xxxx			4
Potent Cap.:	xxxx	xxxx	xxxxx			1610	xxxx	xxxxx	xxxx	xxxx	xxxxx					459	xxxx			1077
Move Cap.:	xxxx	xxxx	xxxxx			1610	xxxx	xxxxx	xxxx	xxxx	xxxxx					399	xxxx			1077
Volume/Cap:	xxxx	xxxx	xxxx			0.17	xxxx	xxxx	xxxx	xxxx	xxxx					0.01	xxxx			0.35
Level Of Service Module:																				
2Way95thQ:	xxxx	xxxx	xxxxx			0.6	xxxx	xxxxx	xxxx	xxxx	xxxxx					0.0	xxxx			1.6
Control Del:	xxxxx	xxxx	xxxxx			7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx					14.1	xxxx			10.1
LOS by Move:	*	*	*			A	*	*	*	*	*					B	*			B
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shrd ConDel:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shared LOS:	*	*	*			*	*	*			*	*	*			*	*	*		
ApproachDel:	xxxxxx					xxxxxx					xxxxxx					10.2				
ApproachLOS:	*					*					*					B				

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

Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

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

Intersection #16 Thornton Road/A.G. Spanos Boulevard (South)

Cycle (sec):	55	Critical Vol./Cap.(X):	0.664
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	18.9
Optimal Cycle:	47	Level Of Service:	B

Street Name:	Thornton Road							A.G. Spanos Boulevard (South)							
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				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	7	10	0		7	10	0		7	10	0		7	10	0	
Lanes:	1 0	2	1	0	1 0	2	0	1	0	1	0	0	1	0	1	0	0	1
Volume Module: >> Count Date: 20 Apr 2005 << 7:15-8;15																		
Base Vol:	187	301	34		8	487	32		45	9	371		104	9	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:	187	301	34		8	487	32		45	9	371		104	9	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:	0.92	0.92	0.92		0.92	0.92	0.92		0.92	0.92	0.92		0.92	0.92	0.92			
PHF Volume:	203	327	37		9	529	35		49	10	403		113	10	21			
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0			
Reduced Vol:	203	327	37		9	529	35		49	10	403		113	10	21			
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:	203	327	37		9	529	35		49	10	403		113	10	21			
Saturation Flow Module:																		
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900			
Adjustment:	0.93	0.88	0.88		0.93	0.93	0.83		0.75	0.75	0.83		0.70	0.70	0.83			
Lanes:	1.00	2.70	0.30		1.00	2.00	1.00		0.83	0.17	1.00		0.92	0.08	1.00			
Final Sat.:	1769	4499	508		1769	3538	1583		1184	237	1583		1218	105	1583			
Capacity Analysis Module:																		
Vol/Sat:	0.11	0.07	0.07		0.00	0.15	0.02		0.04	0.04	0.25		0.09	0.09	0.01			
Crit Moves:	****					****					****							
Green/Cycle:	0.17	0.23	0.23		0.16	0.23	0.23		0.38	0.38	0.38		0.38	0.38	0.38			
Volume/Cap:	0.66	0.31	0.31		0.03	0.66	0.10		0.11	0.11	0.66		0.24	0.24	0.03			
Delay/Veh:	26.7	17.5	17.5		19.4	21.5	17.0		11.0	11.0	16.8		11.8	11.8	10.6			
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:	26.7	17.5	17.5		19.4	21.5	17.0		11.0	11.0	16.8		11.8	11.8	10.6			
LOS by Move:	C	B	B		B	C	B		B	B	B		B	B	B			
HCM2kAvgQ:	5	2	2		0	6	0		1	1	6		1	1	0			

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

Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

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

Intersection #17 Thornton Road/Wagner Heights

Cycle (sec):	105	Critical Vol./Cap.(X):	0.529
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	28.7
Optimal Cycle:	51	Level Of Service:	C

Street Name:	Thornton Road						Wagner Heights					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	0 1		1 0 2	0 1		1 0 1	0 1		1 0 1	0 1	
Volume Module: >> Count Date: 27 Apr 2005 << 7:45-8:45												
Base Vol:	82	414	42	52	836	114	96	138	161	81	177	65
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	82	414	42	52	836	114	96	138	161	81	177	65
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:	85	431	44	54	871	119	100	144	168	84	184	68
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	85	431	44	54	871	119	100	144	168	84	184	68
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:	85	431	44	54	871	119	100	144	168	84	184	68
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.93	0.83	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1769	1862	1583	1769	3538	1583	1769	1862	1583	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.05	0.23	0.03	0.03	0.25	0.08	0.06	0.08	0.11	0.05	0.10	0.04
Crit Moves:	****				****				****	****		
Green/Cycle:	0.09	0.43	0.43	0.12	0.47	0.47	0.12	0.20	0.20	0.09	0.17	0.17
Volume/Cap:	0.53	0.54	0.06	0.25	0.53	0.16	0.48	0.39	0.53	0.53	0.57	0.25
Delay/Veh:	48.8	22.7	17.4	42.1	20.2	16.3	45.2	37.0	39.2	48.9	42.2	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:	48.8	22.7	17.4	42.1	20.2	16.3	45.2	37.0	39.2	48.9	42.2	37.9
LOS by Move:	D	C	B	D	C	B	D	D	D	D	D	D
HCM2kAvgQ:	3	9	1	2	9	2	4	4	5	3	6	2

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		0.97	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.87		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539		3433	4403		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.75	1.00	1.00	0.75	1.00	1.00
Satd. Flow (perm)	1770	3539		3433	4403		1395	1863	1583	1392	1863	1583
Volume (vph)	1	14	0	308	18	154	1	15	283	593	12	2
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)	1	15	0	324	19	162	1	16	298	624	13	2
RTOR Reduction (vph)	0	0	0	0	134	0	0	0	109	0	0	1
Lane Group Flow (vph)	1	15	0	324	47	0	1	16	189	624	13	1
Turn Type	Prot			Prot			Perm		Perm	Perm		Perm
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4		4	4		4
Actuated Green, G (s)	1.0	1.1		11.7	11.8		45.3	45.3	45.3	45.3	45.3	45.3
Effective Green, g (s)	2.0	2.1		12.7	12.8		46.3	46.3	46.3	46.3	46.3	46.3
Actuated g/C Ratio	0.03	0.03		0.17	0.18		0.63	0.63	0.63	0.63	0.63	0.63
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	48	102		596	771		884	1180	1003	882	1180	1003
v/s Ratio Prot	0.00	c0.00		c0.09	0.01			0.01			0.01	
v/s Ratio Perm							0.00		0.12	c0.45		0.00
v/c Ratio	0.02	0.15		0.54	0.06		0.00	0.01	0.19	0.71	0.01	0.00
Uniform Delay, d1	34.6	34.6		27.6	25.1		4.9	5.0	5.6	8.9	4.9	4.9
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	0.2	0.7		1.0	0.0		0.0	0.0	0.1	2.6	0.0	0.0
Delay (s)	34.8	35.3		28.6	25.2		4.9	5.0	5.7	11.5	5.0	4.9
Level of Service	C	D		C	C		A	A	A	B	A	A
Approach Delay (s)		35.3			27.4			5.6			11.4	
Approach LOS		D			C			A			B	

Intersection Summary			
HCM Average Control Delay	15.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	73.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.7%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.91					0.95	0.95	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3539	1583	3433	5085					1681	1686	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3539	1583	3433	5085					1681	1686	1583
Volume (vph)	0	390	481	1577	410	0	0	0	0	162	1	64
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)	0	419	517	1696	441	0	0	0	0	174	1	69
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	63
Lane Group Flow (vph)	0	419	517	1696	441	0	0	0	0	87	88	6
Turn Type			Free	Prot						Perm		Perm
Protected Phases		2		1	6						4	
Permitted Phases			Free							4		4
Actuated Green, G (s)		33.0	120.0	64.0	101.0					10.4	10.4	10.4
Effective Green, g (s)		33.4	120.0	64.0	101.4					10.6	10.6	10.6
Actuated g/C Ratio		0.28	1.00	0.53	0.85					0.09	0.09	0.09
Clearance Time (s)		4.4		4.0	4.4					4.2	4.2	4.2
Vehicle Extension (s)		3.0		3.0	3.0					2.0	2.0	2.0
Lane Grp Cap (vph)		985	1583	1831	4297					148	149	140
v/s Ratio Prot		c0.12		c0.49	0.09							
v/s Ratio Perm			0.33							0.05	0.05	0.00
v/c Ratio		0.43	0.33	0.93	0.10					0.59	0.59	0.04
Uniform Delay, d1		35.4	0.0	25.8	1.6					52.6	52.6	50.1
Progression Factor		0.62	1.00	0.67	0.43					1.00	1.00	1.00
Incremental Delay, d2		0.7	0.3	8.2	0.0					3.8	4.1	0.0
Delay (s)		22.7	0.3	25.4	0.7					56.4	56.7	50.1
Level of Service		C	A	C	A					E	E	D
Approach Delay (s)		10.3			20.3			0.0			54.7	
Approach LOS		B			C			A			D	

Intersection Summary			
HCM Average Control Delay	20.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.0%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.81	1.00	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			7544	1583	1681	1681	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			7544	1583	1681	1681	2787			
Volume (vph)	117	454	0	0	1786	188	201	0	672	0	0	0
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)	126	488	0	0	1920	202	216	0	723	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	24	0	0	137	0	0	0
Lane Group Flow (vph)	126	488	0	0	1920	178	108	108	586	0	0	0
Turn Type	Prot					Perm	Split		custom			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			1 8			
Actuated Green, G (s)	12.1	55.2			82.1	82.1	12.5	12.5	55.5			
Effective Green, g (s)	12.1	55.8			82.7	82.7	13.2	13.2	56.2			
Actuated g/C Ratio	0.10	0.46			0.69	0.69	0.11	0.11	0.47			
Clearance Time (s)	4.0	4.6			4.6	4.6	4.7	4.7				
Vehicle Extension (s)	2.0	3.0			3.0	3.0	2.0	2.0				
Lane Grp Cap (vph)	178	1646			5199	1091	185	185	1305			
v/s Ratio Prot	c0.07	0.14			c0.25		c0.06	0.06				
v/s Ratio Perm						0.11			c0.21			
v/c Ratio	0.71	0.30			0.37	0.16	0.58	0.58	0.45			
Uniform Delay, d1	52.2	19.9			7.8	6.5	50.8	50.8	21.5			
Progression Factor	0.42	0.20			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	9.5	0.4			0.2	0.3	3.0	3.0	0.2			
Delay (s)	31.2	4.3			8.0	6.9	53.8	53.8	21.7			
Level of Service	C	A			A	A	D	D	C			
Approach Delay (s)		9.8			7.9			29.1			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM Average Control Delay	13.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

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

Intersection #26 Hammer Lane/Thornton Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.699
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	32.0
Optimal Cycle:	69	Level Of Service:	C

Street Name:	Thornton Road						Hammer Lane					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 2 0 1			1 0 1 1 0			1 0 2 0 1			1 0 3 0 1		
Volume Module: >> Count Date: 20 Apr 2005 << 7:30-8:30												
Base Vol:	72	207	22	352	854	32	44	814	127	52	707	282
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:	72	207	22	352	854	32	44	814	127	52	707	282
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	77	220	23	374	909	34	47	866	135	55	752	300
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	77	220	23	374	909	34	47	866	135	55	752	300
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:	77	220	23	374	909	34	47	866	135	55	752	300
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.93	0.93	0.93	0.93	0.83	0.93	0.89	0.83
Lanes:	1.00	2.00	1.00	1.00	1.93	0.07	1.00	2.00	1.00	1.00	3.00	1.00
Final Sat.:	1769	3538	1583	1769	3393	127	1769	3538	1583	1769	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.04	0.06	0.01	0.21	0.27	0.27	0.03	0.24	0.09	0.03	0.15	0.19
Crit Moves:	****				****			****		****		
Green/Cycle:	0.07	0.14	0.14	0.30	0.37	0.37	0.11	0.33	0.33	0.07	0.30	0.30
Volume/Cap:	0.62	0.45	0.11	0.72	0.73	0.73	0.24	0.73	0.26	0.45	0.50	0.64
Delay/Veh:	54.4	40.1	37.8	36.1	29.7	29.7	41.4	30.5	23.5	47.2	29.1	33.3
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:	54.4	40.1	37.8	36.1	29.7	29.7	41.4	30.5	23.5	47.2	29.1	33.3
LOS by Move:	D	D	D	D	C	C	D	C	C	D	C	C
HCM2kAvgQ:	3	4	1	11	13	13	1	13	3	2	7	8

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

Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

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

Intersection #27 Thornton Road/Whistler Way

Cycle (sec):	95	Critical Vol./Cap.(X):	0.314
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	30.6
Optimal Cycle:	50	Level Of Service:	C

Street Name:	Thornton Road						Whistler Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 2 0 1			1 0 1 1 0			1 0 1 0 1			1 0 0 1 0		
Volume Module: >> Count Date: 5 May 2005 << 7:30-8:30												
Base Vol:	39	258	63	92	259	27	21	49	37	162	67	81
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:	39	258	63	92	259	27	21	49	37	162	67	81
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:	42	277	68	99	278	29	23	53	40	174	72	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	42	277	68	99	278	29	23	53	40	174	72	87
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:	42	277	68	99	278	29	23	53	40	174	72	87
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.92	0.92	0.93	0.98	0.83	0.93	0.90	0.90
Lanes:	1.00	2.00	1.00	1.00	1.81	0.19	1.00	1.00	1.00	1.00	0.45	0.55
Final Sat.:	1769	3538	1583	1769	3159	329	1769	1862	1583	1769	774	936
Capacity Analysis Module:												
Vol/Sat:	0.02	0.08	0.04	0.06	0.09	0.09	0.01	0.03	0.03	0.10	0.09	0.09
Crit Moves:		****		****				****		****		
Green/Cycle:	0.17	0.24	0.24	0.17	0.25	0.25	0.17	0.11	0.11	0.31	0.24	0.24
Volume/Cap:	0.14	0.32	0.17	0.32	0.36	0.36	0.08	0.27	0.24	0.32	0.38	0.38
Delay/Veh:	33.5	29.6	28.5	34.9	29.8	29.8	33.3	39.9	39.8	25.6	30.6	30.6
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:	33.5	29.6	28.5	34.9	29.8	29.8	33.3	39.9	39.8	25.6	30.6	30.6
LOS by Move:	C	C	C	C	C	C	C	D	D	C	C	C
HCM2kAvgQ:	1	3	1	3	4	4	1	2	1	4	4	4

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

Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 Eight Mile Road/Mokelumne Circle

Average Delay (sec/veh): 5.1 Worst Case Level Of Service: B[10.0]

Street Name:	Mokelumne Circle									Eight Mile Road									
Approach:	North Bound					South Bound					East Bound					West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Uncontrolled					Uncontrolled				
Rights:	Include					Include					Include					Include				
Lanes:	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0	1	0	2	0	0
Volume Module: >> Count Date: 20 Apr 2005 << 5:00-6:00																				
Base Vol:	4	0	123		0	0		0		0	187		8		293	121		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:	4	0	123		0	0		0		0	187		8		293	121		0		
User Adj:	1.00	1.00	1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		
PHF Adj:	0.88	0.88	0.88		0.88	0.88		0.88		0.88	0.88		0.88		0.88	0.88		0.88		
PHF Volume:	5	0	140		0	0		0		0	213		9		333	138		0		
Reduct Vol:	0	0	0		0	0		0		0	0		0		0	0		0		
FinalVolume:	5	0	140		0	0		0		0	213		9		333	138		0		
Critical Gap Module:																				
Critical Gp:	6.8	xxxx			6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				4.1	xxxx	xxxxx			
FollowUpTim:	3.5	xxxx			3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				2.2	xxxx	xxxxx			
Capacity Module:																				
Cnflict Vol:	952	xxxx			111	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				222	xxxx	xxxxx			
Potent Cap.:	258	xxxx			921	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				1345	xxxx	xxxxx			
Move Cap.:	208	xxxx			921	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				1345	xxxx	xxxxx			
Volume/Cap:	0.02	xxxx			0.15	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx				0.25	xxxx	xxxx			
Level Of Service Module:																				
2Way95thQ:	0.1	xxxx			0.5	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				1.0	xxxx	xxxxx			
Control Del:	22.7	xxxx			9.6	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				8.6	xxxx	xxxxx			
LOS by Move:	C	*			A	*	*	*	*	*	*				A	*	*			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shrd ConDel:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shared LOS:	*	*			*	*	*			*	*	*			*	*	*			
ApproachDel:			10.0					xxxxxx					xxxxxx					xxxxxx		
ApproachLOS:			B					*					*					*		

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.86		0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6299		3433	3539	1770	1577
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6299		3433	3539	1770	1577
Volume (vph)	250	26	404	430	15	392
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	269	28	434	462	16	422
RTOR Reduction (vph)	11	0	0	0	0	133
Lane Group Flow (vph)	286	0	434	462	16	289
Confl. Peds. (#/hr)		10				10
Turn Type			Prot			pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases						4
Actuated Green, G (s)	50.2		29.9	85.1	5.4	35.3
Effective Green, g (s)	51.2		30.9	86.1	5.9	36.8
Actuated g/C Ratio	0.51		0.31	0.86	0.06	0.37
Clearance Time (s)	5.0		5.0	5.0	4.5	5.0
Vehicle Extension (s)	6.0		5.0	6.0	2.0	5.0
Lane Grp Cap (vph)	3225		1061	3047	104	643
v/s Ratio Prot	0.05		0.13	c0.13	0.01	c0.14
v/s Ratio Perm						0.04
v/c Ratio	0.09		0.41	0.15	0.15	0.45
Uniform Delay, d1	12.5		27.3	1.1	44.7	23.9
Progression Factor	1.00		0.69	0.30	1.00	1.00
Incremental Delay, d2	0.1		0.5	0.1	0.3	1.0
Delay (s)	12.5		19.5	0.4	44.9	25.0
Level of Service	B		B	A	D	C
Approach Delay (s)	12.5			9.7	25.7	
Approach LOS	B			A	C	

Intersection Summary			
HCM Average Control Delay	14.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	45.3%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.86	0.86	0.97	0.95					0.95	0.95	1.00
Frpb, ped/bikes		0.99	0.99	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	1.00
Frt		0.95	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		4492	1341	3433	3539					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		4492	1341	3433	3539					1681	1681	1583
Volume (vph)	0	224	418	249	697	0	0	0	0	99	0	137
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	238	445	265	741	0	0	0	0	105	0	146
RTOR Reduction (vph)	0	49	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	326	308	265	741	0	0	0	0	53	52	146
Confl. Peds. (#/hr)			10									
Turn Type			Free	Prot						Split		Free
Protected Phases		2		1	6					4	4	
Permitted Phases			Free									Free
Actuated Green, G (s)		62.4	100.0	15.0	84.8					7.2	7.2	100.0
Effective Green, g (s)		64.1	100.0	16.7	84.8					7.2	7.2	100.0
Actuated g/C Ratio		0.64	1.00	0.17	0.85					0.07	0.07	1.00
Clearance Time (s)		5.7		5.7	4.0					4.0	4.0	
Vehicle Extension (s)		5.0		5.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		2879	1341	573	3001					121	121	1583
v/s Ratio Prot		0.07		c0.08	c0.21					c0.03	0.03	
v/s Ratio Perm			0.23									0.09
v/c Ratio		0.11	0.23	0.46	0.25					0.44	0.43	0.09
Uniform Delay, d1		6.9	0.0	37.6	1.5					44.5	44.4	0.0
Progression Factor		1.00	1.00	1.52	1.48					1.00	1.00	1.00
Incremental Delay, d2		0.1	0.4	1.2	0.2					2.5	2.4	0.1
Delay (s)		7.0	0.4	58.6	2.4					47.0	46.9	0.1
Level of Service		A	A	E	A					D	D	A
Approach Delay (s)		4.0			17.2			0.0			19.7	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.4%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.86		0.95	0.95	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			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			6273		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			6273		1681	1681	1583			
Volume (vph)	85	238	0	0	383	62	563	0	504	0	0	0
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)	91	256	0	0	412	67	605	0	542	0	0	0
RTOR Reduction (vph)	0	0	0	0	20	0	0	0	0	0	0	0
Lane Group Flow (vph)	91	256	0	0	459	0	303	302	542	0	0	0
Confl. Peds. (#/hr)			10									
Turn Type	Prot						Split		Free			
Protected Phases	5	2			6		8	8				
Permitted Phases									Free			
Actuated Green, G (s)	15.2	68.1			47.2		22.2	22.2	100.0			
Effective Green, g (s)	16.9	69.8			48.9		22.2	22.2	100.0			
Actuated g/C Ratio	0.17	0.70			0.49		0.22	0.22	1.00			
Clearance Time (s)	5.7	5.7			5.7		4.0	4.0				
Vehicle Extension (s)	5.0	5.0			5.0		3.0	3.0				
Lane Grp Cap (vph)	299	2470			3067		373	373	1583			
v/s Ratio Prot	0.05	0.07			0.07		c0.18	0.18				
v/s Ratio Perm									c0.34			
v/c Ratio	0.30	0.10			0.15		0.81	0.81	0.34			
Uniform Delay, d1	36.4	4.9			14.1		36.9	36.9	0.0			
Progression Factor	1.15	0.68			1.00		1.00	1.00	1.00			
Incremental Delay, d2	1.2	0.1			0.1		12.6	12.2	0.6			
Delay (s)	43.0	3.4			14.2		49.6	49.1	0.6			
Level of Service	D	A			B		D	D	A			
Approach Delay (s)		13.8			14.2			26.3			0.0	
Approach LOS		B			B			C			A	

Intersection Summary			
HCM Average Control Delay	21.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #7 Eight Mile Road/Oak Grove Regional Park Entrance

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: C[18.0]

Street Name:	Oak Grove Regional Park Entrance						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 0 0 0			0 0 2 1 0			1 0 2 0 0		
Volume Module: >> Count Date: 3 May 2005 << 4:45-5:45												
Base Vol:	3	0	2	0	0	0	0	753	6	4	446	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:	3	0	2	0	0	0	0	753	6	4	446	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:	3	0	2	0	0	0	0	793	6	4	469	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	3	0	2	0	0	0	0	793	6	4	469	0
Critical Gap Module:												
Critical Gp:	6.8	6.5	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1089	1335	267	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	799	xxxx	xxxxx
Potent Cap.:	200	145	731	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	819	xxxx	xxxxx
Move Cap.:	199	145	731	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	819	xxxx	xxxxx
Volume/Cap:	0.02	0.00	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.4	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	281	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	18.0	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	C	*	*	*	*	*	*	*	*	*	*
ApproachDel:	18.0			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	C			*			*			*		

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

Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

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

Intersection #8 Eight Mile Road/Thornton Road

Cycle (sec):	90	Critical Vol./Cap.(X):	0.465
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	28.4
Optimal Cycle:	50	Level Of Service:	C

Street Name:	Thornton Road						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	0 1		1 0	0 1	0	1 0	2 0	1	1 0	1 1	0
Volume Module: >> Count Date: 20 Apr 2005 << 4:45-5:45												
Base Vol:	112	72	84	26	158	32	86	454	226	106	299	16
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:	112	72	84	26	158	32	86	454	226	106	299	16
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:	115	74	87	27	163	33	89	468	233	109	308	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	115	74	87	27	163	33	89	468	233	109	308	16
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:	115	74	87	27	163	33	89	468	233	109	308	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.96	0.96	0.93	0.93	0.83	0.93	0.92	0.92
Lanes:	1.00	1.00	1.00	1.00	0.83	0.17	1.00	2.00	1.00	1.00	1.90	0.10
Final Sat.:	1769	1862	1583	1769	1510	306	1769	3538	1583	1769	3331	178
Capacity Analysis Module:												
Vol/Sat:	0.07	0.04	0.05	0.02	0.11	0.11	0.05	0.13	0.15	0.06	0.09	0.09
Crit Moves:	****				****				****	****		
Green/Cycle:	0.14	0.22	0.22	0.15	0.23	0.23	0.19	0.32	0.32	0.13	0.26	0.26
Volume/Cap:	0.46	0.18	0.25	0.10	0.46	0.46	0.27	0.42	0.46	0.46	0.35	0.35
Delay/Veh:	36.9	28.8	29.4	32.9	30.6	30.6	31.9	24.5	25.3	37.5	27.1	27.1
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:	36.9	28.8	29.4	32.9	30.6	30.6	31.9	24.5	25.3	37.5	27.1	27.1
LOS by Move:	D	C	C	C	C	C	C	C	C	D	C	C
HCM2kAvgQ:	3	2	2	1	5	5	2	5	5	3	4	4

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

Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

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

Intersection #9 Eight Mile Road/Davis Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.616
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	32.7
Optimal Cycle:	59	Level Of Service:	C

Street Name:	Davis Street						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0	1 0		1 0 0	1 0		1 0 1	0 1		1 0 0	1 0	
Volume Module: >> Count Date: 21 Apr 2005 << 4:45-5:45												
Base Vol:	58	133	144	16	146	76	49	408	110	135	299	20
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:	58	133	144	16	146	76	49	408	110	135	299	20
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:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	64	148	160	18	162	84	54	453	122	150	332	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	64	148	160	18	162	84	54	453	122	150	332	22
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	148	160	18	162	84	54	453	122	150	332	22
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.90	0.90	0.93	0.93	0.93	0.93	0.98	0.83	0.93	0.97	0.97
Lanes:	1.00	0.48	0.52	1.00	0.66	0.34	1.00	1.00	1.00	1.00	0.94	0.06
Final Sat.:	1769	824	892	1769	1162	605	1769	1862	1583	1769	1730	116
Capacity Analysis Module:												
Vol/Sat:	0.04	0.18	0.18	0.01	0.14	0.14	0.03	0.24	0.08	0.08	0.19	0.19
Crit Moves:		****		****				****		****		
Green/Cycle:	0.11	0.27	0.27	0.07	0.23	0.23	0.13	0.37	0.37	0.13	0.37	0.37
Volume/Cap:	0.32	0.66	0.66	0.14	0.61	0.61	0.23	0.66	0.21	0.66	0.53	0.53
Delay/Veh:	41.6	35.7	35.7	44.2	37.4	37.4	39.3	28.7	21.7	48.4	25.7	25.7
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:	41.6	35.7	35.7	44.2	37.4	37.4	39.3	28.7	21.7	48.4	25.7	25.7
LOS by Move:	D	D	D	D	D	D	D	C	C	D	C	C
HCM2kAvgQ:	2	9	9	1	7	7	2	11	2	6	8	8

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

Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

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

Intersection #10 Eight Mile Road/Lower Sacramento Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.867
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	49.7
Optimal Cycle:	104	Level Of Service:	D

Street Name:	Lower Sacramento Road						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1 0 1			1 0 1 0 1			1 0 0 1 0			1 0 0 1 0		
Volume Module: >> Count Date: 21 Apr 2005 << 5:00-6:00												
Base Vol:	22	401	291	16	342	31	75	509	36	278	425	51
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:	22	401	291	16	342	31	75	509	36	278	425	51
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:	24	431	313	17	368	33	81	547	39	299	457	55
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	431	313	17	368	33	81	547	39	299	457	55
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:	24	431	313	17	368	33	81	547	39	299	457	55
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.98	0.83	0.93	0.97	0.97	0.93	0.96	0.96
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.07	1.00	0.89	0.11
Final Sat.:	1769	1862	1583	1769	1862	1583	1769	1722	122	1769	1636	196
Capacity Analysis Module:												
Vol/Sat:	0.01	0.23	0.20	0.01	0.20	0.02	0.05	0.32	0.32	0.17	0.28	0.28
Crit Moves:		****		****				****		****		
Green/Cycle:	0.08	0.25	0.25	0.07	0.23	0.23	0.10	0.34	0.34	0.18	0.42	0.42
Volume/Cap:	0.16	0.93	0.80	0.14	0.84	0.09	0.44	0.93	0.93	0.93	0.67	0.67
Delay/Veh:	43.1	62.8	46.1	44.2	50.1	30.0	43.7	52.9	52.9	73.6	25.9	25.9
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:	43.1	62.8	46.1	44.2	50.1	30.0	43.7	52.9	52.9	73.6	25.9	25.9
LOS by Move:	D	E	D	D	D	C	D	D	D	E	C	C
HCM2kAvgQ:	1	17	11	1	13	1	3	22	22	13	12	12

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

Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

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

Intersection #11 Eight Mile Road/West Lane

Cycle (sec):	100	Critical Vol./Cap.(X):	0.766
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	37.9
Optimal Cycle:	80	Level Of Service:	D

Street Name:	West Lane							Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound			
Movement:	L	T	R	L	T	R	L	T	R	L	T	R	
Control:	Protected			Protected			Protected			Protected			
Rights:	Include			Include			Include			Include			
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0	
Lanes:	1 0 1 1 0			1 0 1 1 0			1 0 1 0 1			1 0 0 1 0			
Volume Module: >> Count Date: 20 Apr 2005 << 4:45-5:45													
Base Vol:	234	523	91	6	432	170	211	381	247	84	351	11	
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:	234	523	91	6	432	170	211	381	247	84	351	11	
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:	241	539	94	6	445	175	218	393	255	87	362	11	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	241	539	94	6	445	175	218	393	255	87	362	11	
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:	241	539	94	6	445	175	218	393	255	87	362	11	
Saturation Flow Module:													
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Adjustment:	0.93	0.91	0.91	0.93	0.89	0.89	0.93	0.98	0.83	0.93	0.98	0.98	
Lanes:	1.00	1.70	0.30	1.00	1.44	0.56	1.00	1.00	1.00	1.00	0.97	0.03	
Final Sat.:	1769	2947	513	1769	2432	957	1769	1862	1583	1769	1798	56	
Capacity Analysis Module:													
Vol/Sat:	0.14	0.18	0.18	0.00	0.18	0.18	0.12	0.21	0.16	0.05	0.20	0.20	
Crit Moves:	****				****		****				****		
Green/Cycle:	0.18	0.30	0.30	0.12	0.24	0.24	0.16	0.32	0.32	0.11	0.26	0.26	
Volume/Cap:	0.77	0.61	0.61	0.03	0.77	0.77	0.77	0.66	0.51	0.46	0.77	0.77	
Delay/Veh:	49.9	30.9	30.9	39.3	39.9	39.9	52.0	32.4	28.6	43.9	41.2	41.2	
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:	49.9	30.9	30.9	39.3	39.9	39.9	52.0	32.4	28.6	43.9	41.2	41.2	
LOS by Move:	D	C	C	D	D	D	D	C	C	D	D	D	
HCM2kAvgQ:	9	9	9	0	11	11	8	11	6	3	12	12	

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

Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #12 Eight Mile Road/SR 99 Frontage

Cycle (sec): 100 Critical Vol./Cap.(X): 0.749
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 18.3
Optimal Cycle: 0 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:	Stop Sign						Stop Sign						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Min. Green:	7	10		0			7	10		0			7	10		0			7	10		0		
Lanes:	0	1	0	0	1		0	1	0	0	1		0	1	0	0	1		0	1	0	0	1	
Volume Module:																								
Base Vol:	152		24		123		15		32		12		4		327		178		99		270		20	
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	1.00	1.00		1.00		1.00
Initial Bse:	152		24		123		15		32		12		4		327		178		99		270		20	
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	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	0.93	0.93		0.93		0.93
PHF Volume:	163		26		132		16		34		13		4		352		191		106		290		22	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
Reduced Vol:	163		26		132		16		34		13		4		352		191		106		290		22	
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	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	1.00	1.00		1.00		1.00
FinalVolume:	163		26		132		16		34		13		4		352		191		106		290		22	
Saturation Flow Module:																								
Adjustment:	1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00
Lanes:	0.86	0.14		1.00		0.32	0.68		1.00		0.01	0.99		1.00		0.27	0.73		1.00					
Final Sat.:	393		62		529		132		281		458		7		541		609		142		388		590	
Capacity Analysis Module:																								
Vol/Sat:	0.42	0.42		0.25		0.12	0.12		0.03		0.65	0.65		0.31		0.75	0.75		0.04					
Crit Moves:	****						****					****				****								
Delay/Veh:	15.2	15.2		11.1		11.6	11.6		9.9		19.8	19.8		11.0		25.9	25.9		8.8					
Delay Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00					
AdjDel/Veh:	15.2	15.2		11.1		11.6	11.6		9.9		19.8	19.8		11.0		25.9	25.9		8.8					
LOS by Move:	C	C		B		B	B		A		C	C		B		D	D		A					
ApproachDel:	13.5					11.2					16.7					25.0								
Delay Adj:	1.00					1.00					1.00					1.00								
ApprAdjDel:	13.5					11.2					16.7					25.0								
LOS by Appr:	B					B					C					D								
AllWayAvgQ:	0.6	0.6		0.3		0.1	0.1		0.0		1.6	1.6		0.4		2.4	2.4		0.0					

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

Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #13 Mokelumne Circle/Scott Creek Drive

Average Delay (sec/veh): 3.4 Worst Case Level Of Service: B[12.5]

Street Name:	Mokelumne Circle								Scott Creek Drive							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	1 0 0	1	0		1 0 0	1	0		1 0 0	1	0		1 0 0	1	0	
Volume Module: >> Count Date: 21 Apr 2005 << 5:00-6:00																
Base Vol:	4	63		4	10	156		160	60	22		4	6	29		20
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:	4	63		4	10	156		160	60	22		4	6	29		20
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:	0.90	0.90		0.90	0.90	0.90		0.90	0.90	0.90		0.90	0.90	0.90		0.90
PHF Volume:	4	70		4	11	173		178	67	24		4	7	32		22
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
FinalVolume:	4	70		4	11	173		178	67	24		4	7	32		22
Critical Gap Module:																
Critical Gp:	4.1	xxxx	xxxxx		4.1	xxxx	xxxxx		7.1	6.5		6.2	7.1	6.5		6.2
FollowUpTim:	2.2	xxxx	xxxxx		2.2	xxxx	xxxxx		3.5	4.0		3.3	3.5	4.0		3.3
Capacity Module:																
Cnflict Vol:	351	xxxx	xxxxx		74	xxxx	xxxxx		393	368		262	380	454		72
Potent Cap.:	1208	xxxx	xxxxx		1525	xxxx	xxxxx		567	561		776	578	502		990
Move Cap.:	1208	xxxx	xxxxx		1525	xxxx	xxxxx		522	555		776	551	496		990
Volume/Cap:	0.00	xxxx	xxxx		0.01	xxxx	xxxx		0.13	0.04		0.01	0.01	0.06		0.02
Level Of Service Module:																
2Way95thQ:	0.0	xxxx	xxxxx		0.0	xxxx	xxxxx		0.4	xxxx	xxxxx		0.0	xxxx	xxxxx	
Control Del:	8.0	xxxx	xxxxx		7.4	xxxx	xxxxx		12.9	xxxx	xxxxx		11.6	xxxx	xxxxx	
LOS by Move:	A	*	*		A	*	*		B	*	*		B	*	*	
Movement:	LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	581		xxxx	xxxx	623	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	0.2		xxxxx	xxxx	0.3	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	11.5		xxxxx	xxxx	11.3	
Shared LOS:	*	*	*		*	*	*		*	*	B		*	*	B	
ApproachDel:	xxxxxx				xxxxxx				12.5				11.4			
ApproachLOS:	*				*				B				B			

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

Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

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

Intersection #14 Trinity Parkway/Consumnes Drive

Cycle (sec):	60	Critical Vol./Cap.(X):	0.392
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	15.1
Optimal Cycle:	53	Level Of Service:	B

Street Name:	Trinity Parkway							Consumnes Drive							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	7	10	0		7	10	0		7	10	0		7	10	0	
Lanes:	1 0	1	1 0		1 0	1	1 0		1 0	0	1 0		1 0	1	0 1	
Volume Module: >> Count Date: 21 Apr 2005 << 5:00-6:00																
Base Vol:	75	178	0		0	140	101		49	0	48		0	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	75	178	0		0	140	101		49	0	48		0	0	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:	79	187	0		0	147	106		52	0	51		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	79	187	0		0	147	106		52	0	51		0	0	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	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:	79	187	0		0	147	106		52	0	51		0	0	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.93	0.93	0.95		1.00	0.87	0.87		0.93	1.00	0.83		1.00	1.00	1.00	
Lanes:	1.00	2.00	0.00		1.00	1.16	0.84		1.00	0.00	1.00		1.00	1.00	1.00	
Final Sat.:	1769	3538	0		1900	1926	1389		1769	0	1583		1900	1900	1900	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.05	0.00		0.00	0.08	0.08		0.03	0.00	0.03		0.00	0.00	0.00	
Crit Moves:	****					****				****						
Green/Cycle:	0.12	0.33	0.00		0.00	0.45	0.45		0.17	0.00	0.17		0.00	0.00	0.00	
Volume/Cap:	0.38	0.16	0.00		0.00	0.17	0.17		0.17	0.00	0.19		0.00	0.00	0.00	
Delay/Veh:	25.7	14.1	0.0		0.0	9.9	9.9		21.7	0.0	21.9		0.0	0.0	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	25.7	14.1	0.0		0.0	9.9	9.9		21.7	0.0	21.9		0.0	0.0	0.0	
LOS by Move:	C	B	A		A	A	A		C	A	C		A	A	A	
HCM2kAvgQ:	2	1	0		0	1	1		1	0	1		0	0	0	

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

Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #15 Trinity Parkway/McAuliffe Road

Average Delay (sec/veh): 8.4 Worst Case Level Of Service: A[9.4]

Street Name:	Trinity Parkway								McAuliffe Road							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0 0	1	1	0	1 0	2	0	0	0 0	0	0	0	1 0	0	0	1
Volume Module: >> Count Date: 2 Apr 2000 << 5:00-6:00																
Base Vol:	0	3	1		207	4	0		0	0	0		4	0	229	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	3	1		207	4	0		0	0	0		4	0	229	
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:	0	3	1		225	4	0		0	0	0		4	0	249	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	0	3	1		225	4	0		0	0	0		4	0	249	
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		4.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx		6.8	xxxx	6.9	
FollowUpTim:	xxxxx	xxxx	xxxxx		2.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx		3.5	xxxx	3.3	
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		4	xxxx	xxxxx		xxxx	xxxx	xxxxx		456	xxxx	2	
Potent Cap.:	xxxx	xxxx	xxxxx		1616	xxxx	xxxxx		xxxx	xxxx	xxxxx		533	xxxx	1081	
Move Cap.:	xxxx	xxxx	xxxxx		1616	xxxx	xxxxx		xxxx	xxxx	xxxxx		476	xxxx	1081	
Volume/Cap:	xxxx	xxxx	xxxx		0.14	xxxx	xxxx		xxxx	xxxx	xxxx		0.01	xxxx	0.23	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		0.5	xxxx	xxxxx		xxxx	xxxx	xxxxx		0.0	xxxx	0.9	
Control Del:	xxxxx	xxxx	xxxxx		7.6	xxxx	xxxxx		xxxxx	xxxx	xxxxx		12.6	xxxx	9.3	
LOS by Move:	*	*	*		A	*	*		*	*	*		B	*	A	
Movement:	LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	*	*		*	*	*	
ApproachDel:	xxxxxx				xxxxxx				xxxxxx				9.4			
ApproachLOS:	*				*				*				A			

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

Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

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

Intersection #16 Thornton Road/A.G. Spanos Boulevard (South)

Cycle (sec):	55	Critical Vol./Cap.(X):	0.472
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	18.5
Optimal Cycle:	39	Level Of Service:	B

Street Name:	Thornton Road						A.G. Spanos Boulevard (South)					
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			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 2 1 0			1 0 2 0 1			0 1 0 0 1			0 1 0 0 1		
Volume Module: >> Count Date: 26 Apr 2005 << 5:00-6:00												
Base Vol:	296	368	99	44	448	47	24	21	209	48	8	10
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:	296	368	99	44	448	47	24	21	209	48	8	10
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:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	325	404	109	48	492	52	26	23	230	53	9	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	325	404	109	48	492	52	26	23	230	53	9	11
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:	325	404	109	48	492	52	26	23	230	53	9	11
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.86	0.86	0.93	0.93	0.83	0.81	0.81	0.83	0.70	0.70	0.83
Lanes:	1.00	2.36	0.64	1.00	2.00	1.00	0.53	0.47	1.00	0.86	0.14	1.00
Final Sat.:	1769	3877	1043	1769	3538	1583	822	719	1583	1144	191	1583
Capacity Analysis Module:												
Vol/Sat:	0.18	0.10	0.10	0.03	0.14	0.03	0.03	0.03	0.15	0.05	0.05	0.01
Crit Moves:	****				****						****	
Green/Cycle:	0.34	0.35	0.35	0.25	0.26	0.26	0.18	0.18	0.18	0.18	0.18	0.18
Volume/Cap:	0.54	0.30	0.30	0.11	0.54	0.13	0.18	0.18	0.80	0.25	0.25	0.04
Delay/Veh:	15.6	13.0	13.0	16.1	18.2	15.8	19.3	19.3	36.0	19.9	19.9	18.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.6	13.0	13.0	16.1	18.2	15.8	19.3	19.3	36.0	19.9	19.9	18.6
LOS by Move:	B	B	B	B	B	B	B	B	D	B	B	B
HCM2kAvgQ:	5	2	2	1	4	1	1	1	6	1	1	0

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

Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

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

Intersection #17 Thornton Road/Wagner Heights

Cycle (sec):	105	Critical Vol./Cap.(X):	0.766
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	31.5
Optimal Cycle:	81	Level Of Service:	C

Street Name:	Thornton Road						Wagner Heights					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	0 1		1 0 2	0 1		1 0 1	0 1		1 0 1	0 1	
Volume Module: >> Count Date: 27 Apr 2005 << 4:45-5:45												
Base Vol:	86	853	41	45	572	105	134	133	121	69	131	83
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:	86	853	41	45	572	105	134	133	121	69	131	83
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:	89	879	42	46	590	108	138	137	125	71	135	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	879	42	46	590	108	138	137	125	71	135	86
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:	89	879	42	46	590	108	138	137	125	71	135	86
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.93	0.83	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1769	1862	1583	1769	3538	1583	1769	1862	1583	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.05	0.47	0.03	0.03	0.17	0.07	0.08	0.07	0.08	0.04	0.07	0.05
Crit Moves:		****		****			****				****	
Green/Cycle:	0.19	0.59	0.59	0.07	0.47	0.47	0.10	0.11	0.11	0.08	0.10	0.10
Volume/Cap:	0.27	0.80	0.05	0.39	0.36	0.15	0.80	0.65	0.70	0.51	0.76	0.57
Delay/Veh:	37.0	21.2	9.2	49.1	18.0	16.0	69.5	51.6	56.1	49.4	63.8	50.5
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:	37.0	21.2	9.2	49.1	18.0	16.0	69.5	51.6	56.1	49.4	63.8	50.5
LOS by Move:	D	C	A	D	B	B	E	D	E	D	E	D
HCM2kAvgQ:	2	19	0	2	5	1	6	5	5	3	6	3

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

23: Hammer Lane & Mariners Drive

PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		0.97	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.86		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3514		3433	4364		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.75	1.00	1.00	0.73	1.00	1.00
Satd. Flow (perm)	1770	3514		3433	4364		1403	1863	1583	1356	1863	1583
Volume (vph)	2	19	1	466	27	459	1	43	279	349	7	5
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)	2	20	1	491	28	483	1	45	294	367	7	5
RTOR Reduction (vph)	0	1	0	0	340	0	0	0	175	0	0	3
Lane Group Flow (vph)	2	20	0	491	171	0	1	45	119	367	7	2
Turn Type	Prot			Prot			Perm		Perm	Perm		Perm
Protected Phases	5	2		1	6			4			4	
Permitted Phases							4		4	4		4
Actuated Green, G (s)	0.6	0.7		12.3	12.4		17.4	17.4	17.4	17.4	17.4	17.4
Effective Green, g (s)	1.6	1.7		13.3	13.4		18.4	18.4	18.4	18.4	18.4	18.4
Actuated g/C Ratio	0.04	0.04		0.29	0.30		0.41	0.41	0.41	0.41	0.41	0.41
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	62	132		1006	1288		569	755	642	550	755	642
v/s Ratio Prot	0.00	0.01		c0.14	c0.04			0.02			0.00	
v/s Ratio Perm							0.00		0.08	c0.27		0.00
v/c Ratio	0.03	0.15		0.49	0.13		0.00	0.06	0.19	0.67	0.01	0.00
Uniform Delay, d1	21.2	21.2		13.2	11.7		8.0	8.2	8.7	11.0	8.1	8.0
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	0.2	0.5		0.4	0.0		0.0	0.0	0.1	3.1	0.0	0.0
Delay (s)	21.4	21.7		13.6	11.8		8.0	8.3	8.8	14.1	8.1	8.0
Level of Service	C	C		B	B		A	A	A	B	A	A
Approach Delay (s)		21.7			12.7			8.7			13.9	
Approach LOS		C			B			A			B	

Intersection Summary			
HCM Average Control Delay	12.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	45.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.6%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.91					0.95	0.95	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3539	1583	3433	5085					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3539	1583	3433	5085					1681	1681	1583
Volume (vph)	0	443	204	1234	879	0	0	0	0	229	0	73
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	471	217	1313	935	0	0	0	0	244	0	78
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	70
Lane Group Flow (vph)	0	471	217	1313	935	0	0	0	0	122	122	8
Turn Type			Free	Prot						Perm		Perm
Protected Phases		2		1	6						4	
Permitted Phases			Free							4		4
Actuated Green, G (s)		47.5	130.0	56.7	108.2					13.2	13.2	13.2
Effective Green, g (s)		47.9	130.0	56.7	108.6					13.4	13.4	13.4
Actuated g/C Ratio		0.37	1.00	0.44	0.84					0.10	0.10	0.10
Clearance Time (s)		4.4		4.0	4.4					4.2	4.2	4.2
Vehicle Extension (s)		3.0		3.0	3.0					2.0	2.0	2.0
Lane Grp Cap (vph)		1304	1583	1497	4248					173	173	163
v/s Ratio Prot		c0.13		c0.38	0.18							
v/s Ratio Perm			0.14							c0.07	0.07	0.01
v/c Ratio		0.36	0.14	0.88	0.22					0.71	0.71	0.05
Uniform Delay, d1		29.9	0.0	33.5	2.2					56.4	56.4	52.6
Progression Factor		0.52	1.00	0.51	0.76					1.00	1.00	1.00
Incremental Delay, d2		0.7	0.2	5.8	0.1					10.2	10.2	0.0
Delay (s)		16.2	0.2	22.7	1.7					66.6	66.6	52.6
Level of Service		B	A	C	A					E	E	D
Approach Delay (s)		11.1			14.0			0.0			63.2	
Approach LOS		B			B			A			E	

Intersection Summary			
HCM Average Control Delay	18.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.5%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.81	1.00	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			7544	1583	1681	1686	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			7544	1583	1681	1686	2787			
Volume (vph)	100	572	0	0	1421	285	679	2	1543	0	0	0
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	111	636	0	0	1579	317	754	2	1714	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	71	0	0	25	0	0	0
Lane Group Flow (vph)	111	636	0	0	1579	246	377	379	1689	0	0	0
Turn Type	Prot					Perm	Split		custom			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			1 8			
Actuated Green, G (s)	12.1	36.3			68.2	68.2	36.4	36.4	84.4			
Effective Green, g (s)	12.1	36.9			68.8	68.8	37.1	37.1	85.1			
Actuated g/C Ratio	0.09	0.28			0.53	0.53	0.29	0.29	0.65			
Clearance Time (s)	4.0	4.6			4.6	4.6	4.7	4.7				
Vehicle Extension (s)	2.0	3.0			3.0	3.0	2.0	2.0				
Lane Grp Cap (vph)	165	1005			3993	838	480	481	1824			
v/s Ratio Prot	0.06	c0.18			0.21		0.22	0.22				
v/s Ratio Perm						0.16			c0.61			
v/c Ratio	0.67	0.63			0.40	0.29	0.79	0.79	0.93			
Uniform Delay, d1	57.0	40.6			18.2	17.1	42.8	42.8	19.7			
Progression Factor	0.62	0.60			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	7.9	2.9			0.3	0.9	7.6	7.7	8.6			
Delay (s)	43.4	27.4			18.5	18.0	50.4	50.5	28.3			
Level of Service	D	C			B	B	D	D	C			
Approach Delay (s)		29.8			18.4			35.1			0.0	
Approach LOS		C			B			D			A	

Intersection Summary			
HCM Average Control Delay	28.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

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

Intersection #26 Hammer Lane/Thornton Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.892
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	40.9
Optimal Cycle:	113	Level Of Service:	D

Street Name:	Thornton Road						Hammer Lane					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 2 0 1			1 0 1 1 0			1 0 2 0 1			1 0 3 0 1		
Volume Module: >> Count Date: 26 Apr 2005 << 4:45-5:45												
Base Vol:	356	752	50	265	484	14	112	900	200	41	1077	488
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:	356	752	50	265	484	14	112	900	200	41	1077	488
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:	363	767	51	270	494	14	114	918	204	42	1099	498
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	363	767	51	270	494	14	114	918	204	42	1099	498
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:	363	767	51	270	494	14	114	918	204	42	1099	498
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.93	0.93	0.93	0.93	0.83	0.93	0.89	0.83
Lanes:	1.00	2.00	1.00	1.00	1.94	0.06	1.00	2.00	1.00	1.00	3.00	1.00
Final Sat.:	1769	3538	1583	1769	3425	99	1769	3538	1583	1769	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.21	0.22	0.03	0.15	0.14	0.14	0.06	0.26	0.13	0.02	0.22	0.31
Crit Moves:		****		****			****					****
Green/Cycle:	0.24	0.24	0.24	0.17	0.17	0.17	0.07	0.33	0.33	0.09	0.35	0.35
Volume/Cap:	0.84	0.89	0.13	0.89	0.84	0.84	0.89	0.77	0.38	0.26	0.61	0.89
Delay/Veh:	50.0	48.1	29.7	66.8	50.6	50.6	94.1	31.8	24.8	43.3	25.8	45.2
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:	50.0	48.1	29.7	66.8	50.6	50.6	94.1	31.8	24.8	43.3	25.8	45.2
LOS by Move:	D	D	C	E	D	D	F	C	C	D	C	D
HCM2kAvgQ:	13	15	1	11	11	11	6	14	4	1	10	18

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

Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

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

Intersection #27 Thornton Road/Whistler Way

Cycle (sec):	95	Critical Vol./Cap.(X):	0.257
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	25.8
Optimal Cycle:	50	Level Of Service:	C

Street Name:	Thornton Road						Whistler Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 2 0 1			1 0 1 1 0			1 0 1 0 1			1 0 0 1 0		
Volume Module: >> Count Date: 20 Apr 2005 << 4:45-5:45												
Base Vol:	51	285	68	93	356	26	29	26	43	83	34	33
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:	51	285	68	93	356	26	29	26	43	83	34	33
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:	55	306	73	100	383	28	31	28	46	89	37	35
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	55	306	73	100	383	28	31	28	46	89	37	35
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:	55	306	73	100	383	28	31	28	46	89	37	35
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.92	0.92	0.93	0.98	0.83	0.93	0.91	0.91
Lanes:	1.00	2.00	1.00	1.00	1.86	0.14	1.00	1.00	1.00	1.00	0.51	0.49
Final Sat.:	1769	3538	1583	1769	3264	238	1769	1862	1583	1769	875	849
Capacity Analysis Module:												
Vol/Sat:	0.03	0.09	0.05	0.06	0.12	0.12	0.02	0.02	0.03	0.05	0.04	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.11	0.32	0.32	0.22	0.43	0.43	0.12	0.11	0.11	0.18	0.17	0.17
Volume/Cap:	0.27	0.27	0.14	0.25	0.27	0.27	0.15	0.14	0.28	0.27	0.25	0.25
Delay/Veh:	39.3	24.3	23.2	30.7	17.7	17.7	37.8	38.9	40.1	33.7	34.6	34.6
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:	39.3	24.3	23.2	30.7	17.7	17.7	37.8	38.9	40.1	33.7	34.6	34.6
LOS by Move:	D	C	C	C	B	B	D	D	D	C	C	C
HCM2kAvgQ:	2	3	1	2	3	3	1	1	1	2	2	2

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

Existing Plus Approved Projects
Without and With Project Conditions

Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

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

Intersection #1 Eight Mile Road/Westlake Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.542
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	21.1
Optimal Cycle:	44	Level Of Service:	C

Street Name:	Westlake Drive						Eight Mile Road					
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:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	10	0	500	0	0	0	0	10	10	160	10	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:	10	0	500	0	0	0	0	10	10	160	10	0
Added Vol:	0	0	27	0	0	0	0	0	0	17	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	0	527	0	0	0	0	10	10	177	10	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:	11	0	573	0	0	0	0	11	11	192	11	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	0	573	0	0	0	0	11	11	192	11	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:	11	0	573	0	0	0	0	11	11	192	11	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.89	1.00	0.83	1.00	1.00	1.00	1.00	0.86	0.86	0.93	0.93	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	2.00	0.00
Final Sat.:	1694	0	1583	0	0	0	0	1636	1636	1769	3538	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.36	0.00	0.00	0.00	0.00	0.01	0.01	0.11	0.00	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.60	0.00	0.60	0.00	0.00	0.00	0.00	0.10	0.10	0.18	0.16	0.00
Volume/Cap:	0.01	0.00	0.60	0.00	0.00	0.00	0.00	0.07	0.07	0.60	0.02	0.00
Delay/Veh:	8.1	0.0	13.7	0.0	0.0	0.0	0.0	40.9	40.9	41.0	35.0	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:	8.1	0.0	13.7	0.0	0.0	0.0	0.0	40.9	40.9	41.0	35.0	0.0
LOS by Move:	A	A	B	A	A	A	A	D	D	D	C	A
HCM2kAvgQ:	0	0	8	0	0	0	0	0	0	6	0	0

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

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

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

Intersection #2 Eight Mile Road/Regatta Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.434
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	25.9
Optimal Cycle:	39	Level Of Service:	C

Street Name:	Regatta Drive						Eight Mile Road					
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:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	10	0	170	0	0	0	0	500	10	120	150	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:	10	0	170	0	0	0	0	500	10	120	150	0
Added Vol:	0	0	23	0	0	0	0	27	0	16	17	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	0	193	0	0	0	0	527	10	136	167	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:	11	0	210	0	0	0	0	573	11	148	182	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	0	210	0	0	0	0	573	11	148	182	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:	11	0	210	0	0	0	0	573	11	148	182	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.88	1.00	0.83	1.00	1.00	1.00	1.00	0.93	0.93	0.93	0.93	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.96	0.04	1.00	2.00	0.00
Final Sat.:	1663	0	1583	0	0	0	0	3462	66	1769	3538	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.13	0.00	0.00	0.00	0.00	0.17	0.17	0.08	0.05	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.31	0.00	0.31	0.00	0.00	0.00	0.00	0.38	0.38	0.19	0.34	0.00
Volume/Cap:	0.02	0.00	0.43	0.00	0.00	0.00	0.00	0.43	0.43	0.43	0.15	0.00
Delay/Veh:	24.3	0.0	28.4	0.0	0.0	0.0	0.0	23.1	23.1	36.4	23.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.3	0.0	28.4	0.0	0.0	0.0	0.0	23.1	23.1	36.4	23.2	0.0
LOS by Move:	C	A	C	A	A	A	A	C	C	D	C	A
HCM2kAvgQ:	0	0	5	0	0	0	0	6	6	4	2	0

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

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

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

Intersection #3 Eight Mile Road/Mokelumne Circle

Cycle (sec):	100	Critical Vol./Cap.(X):	0.896
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	44.4
Optimal Cycle:	108	Level Of Service:	D

Street Name:	Mokelumne Circle						Eight Mile Road					
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:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	10	0	550	0	0	0	0	650	20	150	260	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:	10	0	550	0	0	0	0	650	20	150	260	0
Added Vol:	5	0	80	0	0	0	0	42	9	67	27	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	0	630	0	0	0	0	692	29	217	287	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:	16	0	685	0	0	0	0	752	32	236	312	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	0	685	0	0	0	0	752	32	236	312	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:	16	0	685	0	0	0	0	752	32	236	312	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.87	1.00	0.83	1.00	1.00	1.00	1.00	0.93	0.93	0.93	0.93	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.92	0.08	1.00	2.00	0.00
Final Sat.:	1652	0	1583	0	0	0	0	3375	141	1769	3538	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.43	0.00	0.00	0.00	0.00	0.22	0.22	0.13	0.09	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.48	0.00	0.48	0.00	0.00	0.00	0.00	0.25	0.25	0.15	0.23	0.00
Volume/Cap:	0.02	0.00	0.90	0.00	0.00	0.00	0.00	0.90	0.90	0.90	0.38	0.00
Delay/Veh:	13.5	0.0	36.8	0.0	0.0	0.0	0.0	48.2	48.2	71.8	32.5	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:	13.5	0.0	36.8	0.0	0.0	0.0	0.0	48.2	48.2	71.8	32.5	0.0
LOS by Move:	B	A	D	A	A	A	A	D	D	E	C	A
HCM2kAvgQ:	0	0	22	0	0	0	0	16	16	10	4	0

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

Traffix 7.8.0115 (c) 2007 Dowling Assoc. Licensed to FEHR & PEERS, W.C.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.86		0.97	0.95	1.00	0.88
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6354		3433	3539	1770	2778
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6354		3433	3539	1770	2778
Volume (vph)	1260	62	1388	457	47	1115
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1370	67	1509	497	51	1212
RTOR Reduction (vph)	7	0	0	0	0	1
Lane Group Flow (vph)	1430	0	1509	497	51	1211
Confl. Peds. (#/hr)		10				10
Turn Type			Prot			pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases						4
Actuated Green, G (s)	27.0		51.5	83.5	7.0	58.5
Effective Green, g (s)	28.0		52.5	84.5	7.5	60.0
Actuated g/C Ratio	0.28		0.52	0.84	0.08	0.60
Clearance Time (s)	5.0		5.0	5.0	4.5	5.0
Vehicle Extension (s)	6.0		5.0	6.0	2.0	5.0
Lane Grp Cap (vph)	1779		1802	2990	133	1778
v/s Ratio Prot	c0.23		c0.44	0.14	0.03	c0.36
v/s Ratio Perm						0.08
v/c Ratio	0.80		0.84	0.17	0.38	0.68
Uniform Delay, d1	33.4		20.1	1.4	44.0	13.5
Progression Factor	1.00		0.99	0.68	1.00	1.00
Incremental Delay, d2	4.0		3.4	0.1	0.7	1.4
Delay (s)	37.4		23.3	1.0	44.7	14.9
Level of Service	D		C	A	D	B
Approach Delay (s)	37.4			17.8	16.1	
Approach LOS	D			B	B	

Intersection Summary			
HCM Average Control Delay	23.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.2%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.86	0.86	0.97	0.95					0.95	0.95	1.00
Frpb, ped/bikes		0.98	0.97	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	1.00
Frt		0.91	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		4298	1320	3433	3539					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		4298	1320	3433	3539					1681	1681	1583
Volume (vph)	0	603	1772	580	1615	0	0	0	0	180	0	230
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	655	1926	630	1755	0	0	0	0	196	0	250
RTOR Reduction (vph)	0	108	108	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1510	855	630	1755	0	0	0	0	98	98	250
Confl. Peds. (#/hr)			10									
Turn Type			Perm	Prot						Split		Free
Protected Phases		2		1	6					4	4	
Permitted Phases			2									Free
Actuated Green, G (s)		61.9	61.9	16.7	86.0					6.0	6.0	100.0
Effective Green, g (s)		63.6	63.6	18.4	86.0					6.0	6.0	100.0
Actuated g/C Ratio		0.64	0.64	0.18	0.86					0.06	0.06	1.00
Clearance Time (s)		5.7	5.7	5.7	4.0					4.0	4.0	
Vehicle Extension (s)		5.0	5.0	5.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		2734	840	632	3044					101	101	1583
v/s Ratio Prot		0.38		c0.18	0.50					c0.06	0.06	
v/s Ratio Perm			0.73									0.16
v/c Ratio		0.93dr	1.02	1.00	0.58					0.97	0.97	0.16
Uniform Delay, d1		10.2	18.2	40.8	1.9					46.9	46.9	0.0
Progression Factor		0.60	0.78	0.34	1.78					1.00	1.00	1.00
Incremental Delay, d2		0.5	29.0	31.0	0.4					79.6	79.6	0.2
Delay (s)		6.6	43.2	44.7	3.9					126.6	126.6	0.2
Level of Service		A	D	D	A					F	F	A
Approach Delay (s)		20.3			14.7			0.0			55.7	
Approach LOS		C			B			A			E	

Intersection Summary			
HCM Average Control Delay	20.7	HCM Level of Service	C
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	131.7%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.86		0.95	0.95	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			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			6306		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			6306		1681	1681	1583			
Volume (vph)	180	603	0	0	1180	140	1015	0	270	0	0	0
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)	194	648	0	0	1269	151	1091	0	290	0	0	0
RTOR Reduction (vph)	0	0	0	0	19	0	0	0	0	0	0	0
Lane Group Flow (vph)	194	648	0	0	1401	0	546	545	290	0	0	0
Confl. Peds. (#/hr)			10									
Turn Type	Prot						Split		Free			
Protected Phases	5	2			6		8	8				
Permitted Phases									Free			
Actuated Green, G (s)	18.7	57.3			32.9		33.0	33.0	100.0			
Effective Green, g (s)	20.4	59.0			34.6		33.0	33.0	100.0			
Actuated g/C Ratio	0.20	0.59			0.35		0.33	0.33	1.00			
Clearance Time (s)	5.7	5.7			5.7		4.0	4.0				
Vehicle Extension (s)	5.0	5.0			5.0		3.0	3.0				
Lane Grp Cap (vph)	361	2088			2182		555	555	1583			
v/s Ratio Prot	c0.11	0.18			c0.22		c0.32	0.32				
v/s Ratio Perm									0.18			
v/c Ratio	0.54	0.31			0.64		0.98	0.98	0.18			
Uniform Delay, d1	35.6	10.3			27.5		33.2	33.2	0.0			
Progression Factor	1.00	1.18			1.00		1.00	1.00	1.00			
Incremental Delay, d2	2.3	0.3			1.5		33.8	33.4	0.3			
Delay (s)	37.8	12.5			29.0		67.0	66.6	0.3			
Level of Service	D	B			C		E	E	A			
Approach Delay (s)		18.3			29.0			52.9			0.0	
Approach LOS		B			C			D			A	

Intersection Summary			
HCM Average Control Delay	35.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

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

Intersection #7 Eight Mile Road/Oak Grove Regional Park Entrance

Average Delay (sec/veh): 1.1 Worst Case Level Of Service: F[118.5]

Street Name:	Oak Grove Regional Park Entrance						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 0 0 0			0 0 2 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	10	0	10	0	0	0	0	700	10	10	1070	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	0	10	0	0	0	0	700	10	10	1070	0
Added Vol:	0	0	0	0	0	0	0	163	0	0	240	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	0	10	0	0	0	0	863	10	10	1310	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:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	10	0	10	0	0	0	0	899	10	10	1365	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	10	0	10	0	0	0	0	899	10	10	1365	0
Critical Gap Module:												
Critical Gp:	6.8	6.5	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	2219	3161	333	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	810	xxxx	xxxxx
Potent Cap.:	27	8	608	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	744	xxxx	xxxxx
Move Cap.:	26	7	608	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	744	xxxx	xxxxx
Volume/Cap:	0.39	0.00	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.9	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	51	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	1.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	119	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	F	*	*	*	*	*	*	*	*	*	*
ApproachDel:	118.5			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	F			*			*			*		

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

Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

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

Intersection #8 Eight Mile Road/Thornton Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.849
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	41.4
Optimal Cycle:	99	Level Of Service:	D

Street Name:	Thornton Road						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	0	1	1 0	0 1	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	250	140	170	60	230	70	100	660	130	120	730	40
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:	250	140	170	60	230	70	100	660	130	120	730	40
Added Vol:	66	0	19	0	0	0	0	120	43	22	174	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	316	140	189	60	230	70	100	780	173	142	904	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	336	149	201	64	245	74	106	830	184	151	962	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	336	149	201	64	245	74	106	830	184	151	962	43
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:	336	149	201	64	245	74	106	830	184	151	962	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.95	0.95	0.93	0.93	0.83	0.93	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	0.77	0.23	1.00	2.00	1.00	1.00	1.92	0.08
Final Sat.:	1769	1862	1583	1769	1378	419	1769	3538	1583	1769	3368	149
Capacity Analysis Module:												
Vol/Sat:	0.19	0.08	0.13	0.04	0.18	0.18	0.06	0.23	0.12	0.09	0.29	0.29
Crit Moves:	****				****		****				****	
Green/Cycle:	0.22	0.28	0.28	0.15	0.21	0.21	0.07	0.30	0.30	0.11	0.34	0.34
Volume/Cap:	0.85	0.29	0.46	0.23	0.85	0.85	0.85	0.79	0.39	0.79	0.85	0.85
Delay/Veh:	53.0	28.5	30.5	37.6	54.5	54.5	84.9	36.1	28.4	62.4	36.8	36.8
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:	53.0	28.5	30.5	37.6	54.5	54.5	84.9	36.1	28.4	62.4	36.8	36.8
LOS by Move:	D	C	C	D	D	D	F	D	C	E	D	D
HCM2kAvgQ:	13	3	5	2	12	12	6	14	4	7	17	17

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

Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

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

Intersection #9 Eight Mile Road/Davis Street

Cycle (sec):	100	Critical Vol./Cap.(X):	1.083
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	78.7
Optimal Cycle:	130	Level Of Service:	E

Street Name:	Davis Street						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0	1 0		1 0 0	1 0		1 0 1	0 1		1 0 0	1 0	
Volume Module:												
Base Vol:	120	160	450	80	240	50	60	480	160	240	360	20
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:	120	160	450	80	240	50	60	480	160	240	360	20
Added Vol:	42	0	0	0	0	28	20	89	30	0	126	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	162	160	450	80	240	78	80	569	190	240	486	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	172	170	479	85	255	83	85	605	202	255	517	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	172	170	479	85	255	83	85	605	202	255	517	21
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:	172	170	479	85	255	83	85	605	202	255	517	21
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.87	0.87	0.93	0.94	0.94	0.93	0.98	0.83	0.93	0.97	0.97
Lanes:	1.00	0.26	0.74	1.00	0.75	0.25	1.00	1.00	1.00	1.00	0.96	0.04
Final Sat.:	1769	434	1221	1769	1353	440	1769	1862	1583	1769	1778	73
Capacity Analysis Module:												
Vol/Sat:	0.10	0.39	0.39	0.05	0.19	0.19	0.05	0.33	0.13	0.14	0.29	0.29
Crit Moves:		****		****				****		****		
Green/Cycle:	0.14	0.35	0.35	0.07	0.28	0.28	0.08	0.29	0.29	0.13	0.34	0.34
Volume/Cap:	0.68	1.12	1.12	0.69	0.68	0.68	0.59	1.12	0.44	1.12	0.86	0.86
Delay/Veh:	48.0	107	106.9	60.4	36.0	36.0	50.7	111	29.5	138.7	42.5	42.5
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:	48.0	107	106.9	60.4	36.0	36.0	50.7	111	29.5	138.7	42.5	42.5
LOS by Move:	D	F	F	E	D	D	D	F	C	F	D	D
HCM2kAvgQ:	6	32	32	4	10	10	3	30	5	15	18	18

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

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

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

Intersection #10 Eight Mile Road/Lower Sacramento Road

Cycle (sec):	100	Critical Vol./Cap.(X):	1.068
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	73.7
Optimal Cycle:	130	Level Of Service:	E

Street Name:	Lower Sacramento Road						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	0 1		1 0 1	0 1		1 0 1	1 0		1 0 1	1 0	
Volume Module:												
Base Vol:	20	240	330	210	470	90	40	940	20	360	570	40
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:	20	240	330	210	470	90	40	940	20	360	570	40
Added Vol:	0	0	0	0	0	14	10	79	0	0	112	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	20	240	330	210	470	104	50	1019	20	360	682	40
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:	22	261	359	228	511	113	54	1108	22	391	741	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	261	359	228	511	113	54	1108	22	391	741	43
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:	22	261	359	228	511	113	54	1108	22	391	741	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.98	0.83	0.93	0.93	0.93	0.93	0.92	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.96	0.04	1.00	1.89	0.11
Final Sat.:	1769	1862	1583	1769	1862	1583	1769	3459	68	1769	3315	194
Capacity Analysis Module:												
Vol/Sat:	0.01	0.14	0.23	0.13	0.27	0.07	0.03	0.32	0.32	0.22	0.22	0.22
Crit Moves:			****	****				****		****		
Green/Cycle:	0.07	0.21	0.21	0.12	0.26	0.26	0.12	0.30	0.30	0.21	0.39	0.39
Volume/Cap:	0.18	0.66	1.07	1.07	1.04	0.27	0.25	1.07	1.07	1.07	0.58	0.58
Delay/Veh:	44.5	40.2	107.7	124.7	89.2	29.6	40.5	82.7	82.7	105.9	24.9	24.9
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:	44.5	40.2	107.7	124.7	89.2	29.6	40.5	82.7	82.7	105.9	24.9	24.9
LOS by Move:	D	D	F	F	F	C	D	F	F	F	C	C
HCM2kAvgQ:	1	8	18	13	24	3	2	28	28	20	9	9

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

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

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

Intersection #11 Eight Mile Road/West Lane

Cycle (sec):	100	Critical Vol./Cap.(X):	1.034
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	72.0
Optimal Cycle:	130	Level Of Service:	E

Street Name:	West Lane							Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound			
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R	
Control:	Protected			Protected			Protected			Protected			
Rights:	Include			Include			Include			Include			
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0	
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 0	1	1 0	0 1	0	
Volume Module:													
Base Vol:	190	410	110	30	670	260	250	660	320	100	450	10	
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:	190	410	110	30	670	260	250	660	320	100	450	10	
Added Vol:	0	0	0	0	0	28	20	59	0	0	84	0	
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0	
Initial Fut:	190	410	110	30	670	288	270	719	320	100	534	10	
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:	198	427	115	31	698	300	281	749	333	104	556	10	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	198	427	115	31	698	300	281	749	333	104	556	10	
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	427	115	31	698	300	281	749	333	104	556	10	
Saturation Flow Module:													
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Adjustment:	0.93	0.90	0.90	0.93	0.89	0.89	0.93	0.98	0.83	0.93	0.98	0.98	
Lanes:	1.00	1.58	0.42	1.00	1.40	0.60	1.00	1.00	1.00	1.00	0.98	0.02	
Final Sat.:	1769	2700	724	1769	2363	1016	1769	1862	1583	1769	1822	34	
Capacity Analysis Module:													
Vol/Sat:	0.11	0.16	0.16	0.02	0.30	0.30	0.16	0.40	0.21	0.06	0.31	0.31	
Crit Moves:	****				****			****		****			
Green/Cycle:	0.11	0.27	0.27	0.12	0.28	0.28	0.16	0.38	0.38	0.07	0.30	0.30	
Volume/Cap:	1.05	0.59	0.59	0.15	1.05	1.05	1.03	1.05	0.55	0.84	1.03	1.03	
Delay/Veh:	124.5	32.8	32.8	39.8	79.6	79.6	103.4	78.9	25.2	83.6	80.1	80.1	
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:	124.5	32.8	32.8	39.8	79.6	79.6	103.4	78.9	25.2	83.6	80.1	80.1	
LOS by Move:	F	C	C	D	E	E	F	E	C	F	F	F	
HCM2kAvgQ:	11	8	8	1	24	24	14	33	7	5	25	25	

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

Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

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

Intersection #12 Eight Mile Road/SR 99 Frontage

Cycle (sec):	100	Critical Vol./Cap.(X):	0.834
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	41.1
Optimal Cycle:	95	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 1 0			1 0 0 1 0			1 0 0 1 0			1 0 0 1 0		
Volume Module:												
Base Vol:	150	30	160	40	90	20	80	280	300	220	360	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:	150	30	160	40	90	20	80	280	300	220	360	120
Added Vol:	56	0	0	0	0	0	0	40	19	0	28	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	206	30	160	40	90	20	80	320	319	220	388	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:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	215	31	167	42	94	21	83	333	332	229	404	125
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	215	31	167	42	94	21	83	333	332	229	404	125
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:	215	31	167	42	94	21	83	333	332	229	404	125
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.86	0.86	0.93	0.95	0.95	0.93	0.91	0.91	0.93	0.95	0.95
Lanes:	1.00	0.16	0.84	1.00	0.82	0.18	1.00	0.50	0.50	1.00	0.76	0.24
Final Sat.:	1769	257	1370	1769	1482	329	1769	863	860	1769	1372	424
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.12	0.02	0.06	0.06	0.05	0.39	0.39	0.13	0.29	0.29
Crit Moves:	****				****			****		****		
Green/Cycle:	0.14	0.15	0.15	0.09	0.10	0.10	0.12	0.45	0.45	0.15	0.48	0.48
Volume/Cap:	0.86	0.80	0.80	0.27	0.63	0.63	0.41	0.86	0.86	0.86	0.61	0.61
Delay/Veh:	66.9	57.0	57.0	43.5	50.3	50.3	42.4	34.5	34.5	65.1	20.1	20.1
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:	66.9	57.0	57.0	43.5	50.3	50.3	42.4	34.5	34.5	65.1	20.1	20.1
LOS by Move:	E	E	E	D	D	D	D	C	C	E	C	C
HCM2kAvgQ:	9	8	8	1	5	5	3	21	21	10	12	12

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

Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

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

Intersection #13 Mokelumne Circle/Scott Creek Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.550
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	28.2
Optimal Cycle:	53	Level Of Service:	C

Street Name:	Mokelumne Circle						Scott Creek Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 1 0			1 0 0 1 0			1 0 0 1 0			1 0 0 1 0		
Volume Module:												
Base Vol:	10	450	10	10	40	120	90	60	10	10	70	20
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:	10	450	10	10	40	120	90	60	10	10	70	20
Added Vol:	2	34	0	6	14	56	46	33	2	0	37	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	484	10	16	54	176	136	93	12	10	107	25
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:	13	526	11	17	59	191	148	101	13	11	116	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	526	11	17	59	191	148	101	13	11	116	27
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:	13	526	11	17	59	191	148	101	13	11	116	27
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.87	0.87	0.93	0.96	0.96	0.93	0.95	0.95
Lanes:	1.00	0.98	0.02	1.00	0.23	0.77	1.00	0.89	0.11	1.00	0.81	0.19
Final Sat.:	1769	1819	38	1769	387	1261	1769	1621	209	1769	1467	343
Capacity Analysis Module:												
Vol/Sat:	0.01	0.29	0.29	0.01	0.15	0.15	0.08	0.06	0.06	0.01	0.08	0.08
Crit Moves:		****		****			****				****	
Green/Cycle:	0.18	0.49	0.49	0.07	0.39	0.39	0.14	0.16	0.16	0.11	0.14	0.14
Volume/Cap:	0.04	0.59	0.59	0.14	0.39	0.39	0.59	0.38	0.38	0.05	0.59	0.59
Delay/Veh:	34.1	19.1	19.1	44.2	22.7	22.7	43.7	38.2	38.2	39.6	44.3	44.3
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:	34.1	19.1	19.1	44.2	22.7	22.7	43.7	38.2	38.2	39.6	44.3	44.3
LOS by Move:	C	B	B	D	C	C	D	D	D	D	D	D
HCM2kAvgQ:	0	10	10	1	5	5	5	3	3	0	5	5

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

Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

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

Intersection #14 Trinity Parkway/Consumnes Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.602
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	34.4
Optimal Cycle:	57	Level Of Service:	C

Street Name:	Trinity Parkway						Consumnes Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	1 0		1 0 1	1 0		1 0 0	1 0		1 0 1	0 1	
Volume Module:												
Base Vol:	100	260	0	0	140	60	250	0	250	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	100	260	0	0	140	60	250	0	250	0	0	0
Added Vol:	51	338	21	111	340	2	3	8	83	17	3	33
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	151	598	21	111	480	62	253	8	333	17	3	33
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:	164	650	23	121	522	67	275	9	362	18	3	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	164	650	23	121	522	67	275	9	362	18	3	36
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:	164	650	23	121	522	67	275	9	362	18	3	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.93	0.93	0.92	0.92	0.93	0.84	0.84	0.93	0.98	0.83
Lanes:	1.00	1.93	0.07	1.00	1.77	0.23	1.00	0.02	0.98	1.00	1.00	1.00
Final Sat.:	1769	3401	119	1769	3080	398	1769	37	1551	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.09	0.19	0.19	0.07	0.17	0.17	0.16	0.23	0.23	0.01	0.00	0.02
Crit Moves:	****				****			****		****		
Green/Cycle:	0.14	0.30	0.30	0.11	0.26	0.26	0.26	0.36	0.36	0.07	0.17	0.17
Volume/Cap:	0.64	0.64	0.64	0.62	0.64	0.64	0.59	0.64	0.64	0.15	0.01	0.13
Delay/Veh:	45.9	31.8	31.8	48.8	34.3	34.3	34.1	29.0	29.0	44.3	34.6	35.5
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:	45.9	31.8	31.8	48.8	34.3	34.3	34.1	29.0	29.0	44.3	34.6	35.5
LOS by Move:	D	C	C	D	C	C	C	C	C	D	C	D
HCM2kAvgQ:	6	10	10	5	9	9	8	9	9	1	0	1

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

Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

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

Intersection #15 Trinity Parkway/McAuliffe Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.575
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	22.2
Optimal Cycle:	46	Level Of Service:	C

Street Name:	Trinity Parkway						McAuliffe Road					
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			Permitted			Permitted		
Rights:	Include			Include			Include			Ovl		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	0 0 1	1 0		1 0 2	0 0		0 0 0	0 0		1 0 0	0 1	
Volume Module:												
Base Vol:	0	40	30	260	110	0	0	0	0	140	0	360
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	40	30	260	110	0	0	0	0	140	0	360
Added Vol:	0	333	0	146	239	0	0	0	0	0	0	194
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	373	30	406	349	0	0	0	0	140	0	554
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:	0	405	33	441	379	0	0	0	0	152	0	602
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	405	33	441	379	0	0	0	0	152	0	602
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:	0	405	33	441	379	0	0	0	0	152	0	602
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.92	0.92	0.93	0.93	1.00	1.00	1.00	1.00	0.76	1.00	0.83
Lanes:	0.00	1.85	0.15	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3238	260	1769	3538	0	0	0	0	1441	0	1583
Capacity Analysis Module:												
Vol/Sat:	0.00	0.13	0.13	0.25	0.11	0.00	0.00	0.00	0.00	0.11	0.00	0.38
Crit Moves:		****		****								****
Green/Cycle:	0.00	0.22	0.22	0.43	0.39	0.00	0.00	0.00	0.00	0.23	0.00	0.66
Volume/Cap:	0.00	0.57	0.57	0.57	0.27	0.00	0.00	0.00	0.00	0.46	0.00	0.57
Delay/Veh:	0.0	36.0	36.0	22.4	20.6	0.0	0.0	0.0	0.0	34.4	0.0	10.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	36.0	36.0	22.4	20.6	0.0	0.0	0.0	0.0	34.4	0.0	10.0
LOS by Move:	A	D	D	C	C	A	A	A	A	C	A	A
HCM2kAvgQ:	0	7	7	9	3	0	0	0	0	4	0	5

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

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

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

Intersection #16 Thornton Road/A.G. Spanos Boulevard (South)

Cycle (sec):	70	Critical Vol./Cap.(X):	0.883
Loss Time (sec):	10 (Y+R=5.0 sec)	Average Delay (sec/veh):	32.0
Optimal Cycle: OPTIMIZED		Level Of Service:	C

Street Name:	Thornton Road						A.G. Spanos Boulevard (South)					
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			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 2 1 0			1 0 2 0 1			0 1 0 0 1			0 1 0 0 1		
Volume Module:												
Base Vol:	220	310	40	20	540	50	50	10	390	120	10	40
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:	220	310	40	20	540	50	50	10	390	120	10	40
Added Vol:	163	32	0	0	23	4	5	0	117	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	383	342	40	20	563	54	55	10	507	120	10	40
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:	416	372	43	22	612	59	60	11	551	130	11	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	416	372	43	22	612	59	60	11	551	130	11	43
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:	416	372	43	22	612	59	60	11	551	130	11	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.88	0.88	0.93	0.93	0.83	0.72	0.72	0.83	0.68	0.68	0.83
Lanes:	1.00	2.69	0.31	1.00	2.00	1.00	0.85	0.15	1.00	0.92	0.08	1.00
Final Sat.:	1769	4478	524	1769	3538	1583	1161	211	1583	1198	100	1583
Capacity Analysis Module:												
Vol/Sat:	0.24	0.08	0.08	0.01	0.17	0.04	0.05	0.05	0.35	0.11	0.11	0.03
Crit Moves:	****				****				****			
Green/Cycle:	0.27	0.27	0.27	0.19	0.20	0.20	0.39	0.39	0.39	0.39	0.39	0.39
Volume/Cap:	0.88	0.31	0.31	0.06	0.88	0.19	0.13	0.13	0.88	0.28	0.28	0.07
Delay/Veh:	42.1	20.3	20.3	23.3	40.1	23.8	13.6	13.6	33.6	14.7	14.7	13.2
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:	42.1	20.3	20.3	23.3	40.1	23.8	13.6	13.6	33.6	14.7	14.7	13.2
LOS by Move:	D	C	C	C	D	C	B	B	C	B	B	B
HCM2kAvgQ:	12	3	3	0	10	1	1	1	14	2	2	0

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

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Crystal Bay (The Spanos Parcel) EIR
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AM Peak Hour

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

Intersection #17 Thornton Road/Wagner Heights

Cycle (sec):	70	Critical Vol./Cap.(X):	0.757
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	27.1
Optimal Cycle:	68	Level Of Service:	C

Street Name:	Thornton Road						Wagner Heights					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	0	1	1 0 2	0	1	1 0 1	0	1	1 0 1	0	1
Volume Module:												
Base Vol:	80	450	50	100	950	110	100	160	160	80	230	90
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:	80	450	50	100	950	110	100	160	160	80	230	90
Added Vol:	0	153	0	0	110	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	80	603	50	100	1060	110	100	160	160	80	230	90
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:	83	628	52	104	1104	115	104	167	167	83	240	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	83	628	52	104	1104	115	104	167	167	83	240	94
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:	83	628	52	104	1104	115	104	167	167	83	240	94
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.93	0.83	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1769	1862	1583	1769	3538	1583	1769	1862	1583	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.05	0.34	0.03	0.06	0.31	0.07	0.06	0.09	0.11	0.05	0.13	0.06
Crit Moves:		****		****			****				****	
Green/Cycle:	0.12	0.41	0.41	0.10	0.39	0.39	0.10	0.15	0.15	0.11	0.16	0.16
Volume/Cap:	0.38	0.82	0.08	0.59	0.80	0.19	0.59	0.59	0.69	0.44	0.82	0.38
Delay/Veh:	29.2	24.9	12.5	35.3	22.5	14.2	35.3	31.0	36.7	31.0	44.5	27.3
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:	29.2	24.9	12.5	35.3	22.5	14.2	35.3	31.0	36.7	31.0	44.5	27.3
LOS by Move:	C	C	B	D	C	B	D	C	D	C	D	C
HCM2kAvgQ:	2	14	1	3	13	1	3	4	5	2	7	2

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

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

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

Intersection #19 Mariners Drive/Otto Drive

Average Delay (sec/veh): 8.9 Worst Case Level Of Service: B[12.8]

Street Name:	Mariners Drive								Otto Drive							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	1	0	1	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0
Volume Module:																				
Base Vol:	10		50		0	0		110		10	10		0		180	0		0		0
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
Initial Bse:	10		50		0	0		110		10	10		0		180	0		0		0
Added Vol:	333		0		0	0		0		0	0		0		239	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	343		50		0	0		110		10	10		0		419	0		0		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:	373		54		0	0		120		11	11		0		455	0		0		0
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
FinalVolume:	373		54		0	0		120		11	11		0		455	0		0		0
Critical Gap Module:																				
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx					6.4	xxxx			6.2	xxxxx	xxxx	xxxxx		
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx					3.5	xxxx			3.3	xxxxx	xxxx	xxxxx		
Capacity Module:																				
Cnflict Vol:	130	xxxx	xxxxx		xxxx	xxxx	xxxxx				925	xxxx			125		xxxx	xxxx	xxxxx	
Potent Cap.:	1455	xxxx	xxxxx		xxxx	xxxx	xxxxx				299	xxxx			926		xxxx	xxxx	xxxxx	
Move Cap.:	1455	xxxx	xxxxx		xxxx	xxxx	xxxxx				240	xxxx			926		xxxx	xxxx	xxxxx	
Volume/Cap:	0.26	xxxx		xxxx		xxxx	xxxx		xxxx		0.05	xxxx			0.49		xxxx	xxxx		xxxx
Level Of Service Module:																				
2Way95thQ:	1.0	xxxx	xxxxx		xxxx	xxxx	xxxxx				0.1	xxxx			2.8		xxxx	xxxx	xxxxx	
Control Del:	8.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx					20.7	xxxx			12.6	xxxxx	xxxx	xxxxx		
LOS by Move:	A	*		*		*	*		*		C	*			B		*	*		*
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx				xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx					xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx					xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shared LOS:	*	*		*		*	*		*		*	*			*		*	*		*
ApproachDel:	xxxxxx					xxxxxx					12.8					xxxxxx				
ApproachLOS:	*					*					B					*				

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		0.97	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.86		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3406		3433	4352		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3406		3433	4352		1770	1863	1583	1770	1863	1583
Volume (vph)	10	30	10	350	20	503	10	10	290	859	10	10
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)	11	33	11	380	22	547	11	11	315	934	11	11
RTOR Reduction (vph)	0	9	0	0	333	0	0	0	292	0	0	7
Lane Group Flow (vph)	11	35	0	380	236	0	11	11	23	934	11	4
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	1.4	24.5		22.8	45.9		7.7	7.7	7.7	45.0	45.0	45.0
Effective Green, g (s)	2.4	25.5		23.8	46.9		8.7	8.7	8.7	46.0	46.0	46.0
Actuated g/C Ratio	0.02	0.21		0.20	0.39		0.07	0.07	0.07	0.38	0.38	0.38
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	2.0	6.0		2.0	6.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	35	724		681	1701		128	135	115	679	714	607
v/s Ratio Prot	0.01	0.01		c0.11	c0.05		0.01	0.01		c0.53	0.01	
v/s Ratio Perm									c0.01			0.00
v/c Ratio	0.31	0.05		0.56	0.14		0.09	0.08	0.20	1.38	0.02	0.01
Uniform Delay, d1	58.0	37.6		43.4	23.5		51.9	51.9	52.4	37.0	23.0	22.9
Progression Factor	1.00	1.00		1.11	1.97		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	0.1		0.6	0.2		0.1	0.1	0.3	178.2	0.0	0.0
Delay (s)	59.9	37.7		48.8	46.6		52.0	52.0	52.7	215.2	23.0	22.9
Level of Service	E	D		D	D		D	D	D	F	C	C
Approach Delay (s)		42.2			47.5			52.6			210.8	
Approach LOS		D			D			D			F	

Intersection Summary			
HCM Average Control Delay	116.1	HCM Level of Service	F
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.9%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.91					0.95	0.95	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3539	1583	3433	5085					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3539	1583	3433	5085					1681	1681	1583
Volume (vph)	0	551	629	1610	793	0	0	0	0	421	0	80
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)	0	592	676	1731	853	0	0	0	0	453	0	86
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	72
Lane Group Flow (vph)	0	592	676	1731	853	0	0	0	0	227	226	14
Turn Type			Free	Prot						Perm		Perm
Protected Phases		2		1	6						4	
Permitted Phases			Free							4		4
Actuated Green, G (s)		23.6	120.0	64.8	92.4					19.0	19.0	19.0
Effective Green, g (s)		24.0	120.0	64.8	92.8					19.2	19.2	19.2
Actuated g/C Ratio		0.20	1.00	0.54	0.77					0.16	0.16	0.16
Clearance Time (s)		4.4		4.0	4.4					4.2	4.2	4.2
Vehicle Extension (s)		3.0		3.0	3.0					2.0	2.0	2.0
Lane Grp Cap (vph)		708	1583	1854	3932					269	269	253
v/s Ratio Prot		c0.17		c0.50	0.17							
v/s Ratio Perm			0.43							c0.14	0.13	0.01
v/c Ratio		0.84	0.43	0.93	0.22					0.84	0.84	0.05
Uniform Delay, d1		46.1	0.0	25.6	3.7					48.9	48.9	42.7
Progression Factor		0.55	1.00	0.52	0.26					1.00	1.00	1.00
Incremental Delay, d2		1.1	0.1	8.4	0.1					20.0	19.7	0.0
Delay (s)		26.4	0.1	21.9	1.1					69.0	68.6	42.7
Level of Service		C	A	C	A					E	E	D
Approach Delay (s)		12.4			15.0			0.0			64.6	
Approach LOS		B			B			A			E	

Intersection Summary			
HCM Average Control Delay	20.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.5%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.81	1.00	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			7544	1583	1681	1681	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			7544	1583	1681	1681	2787			
Volume (vph)	110	861	0	0	2043	304	360	0	670	0	0	0
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)	118	926	0	0	2197	327	387	0	720	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	43	0	0	18	0	0	0
Lane Group Flow (vph)	118	926	0	0	2197	284	194	193	702	0	0	0
Turn Type	Prot					Perm	Split		custom			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			1 8			
Actuated Green, G (s)	15.6	49.0			72.4	72.4	18.7	18.7	61.7			
Effective Green, g (s)	15.6	49.6			73.0	73.0	19.4	19.4	62.4			
Actuated g/C Ratio	0.13	0.41			0.61	0.61	0.16	0.16	0.52			
Clearance Time (s)	4.0	4.6			4.6	4.6	4.7	4.7				
Vehicle Extension (s)	2.0	3.0			3.0	3.0	2.0	2.0				
Lane Grp Cap (vph)	230	1463			4589	963	272	272	1449			
v/s Ratio Prot	0.07	c0.26			c0.29		c0.12	0.11				
v/s Ratio Perm						0.18			0.25			
v/c Ratio	0.51	0.63			0.48	0.29	0.71	0.71	0.48			
Uniform Delay, d1	48.7	28.0			13.0	11.2	47.7	47.6	18.5			
Progression Factor	0.15	0.11			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.4	1.2			0.4	0.8	7.2	6.8	0.3			
Delay (s)	7.7	4.4			13.3	12.0	54.8	54.4	18.7			
Level of Service	A	A			B	B	D	D	B			
Approach Delay (s)		4.8			13.2			31.3			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

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

Intersection #26 Hammer Lane/Thornton Road

Cycle (sec):	120	Critical Vol./Cap.(X):	0.680
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	33.1
Optimal Cycle:	69	Level Of Service:	C

Street Name:	Thornton Road						Hammer Lane					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	2 0 2 1 0			1 0 2 1 0			1 0 3 0 1			1 0 3 0 1		
Volume Module:												
Base Vol:	70	210	20	410	930	40	40	1090	180	50	810	350
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:	70	210	20	410	930	40	40	1090	180	50	810	350
Added Vol:	34	64	0	13	46	0	0	68	24	0	99	14
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	104	274	20	423	976	40	40	1158	204	50	909	364
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	111	291	21	450	1038	43	43	1232	217	53	967	387
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	111	291	21	450	1038	43	43	1232	217	53	967	387
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:	111	291	21	450	1038	43	43	1232	217	53	967	387
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.88	0.88	0.93	0.89	0.89	0.93	0.89	0.83	0.93	0.89	0.83
Lanes:	2.00	2.80	0.20	1.00	2.88	0.12	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	3432	4690	342	1769	4854	199	1769	5083	1583	1769	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.03	0.06	0.06	0.25	0.21	0.21	0.02	0.24	0.14	0.03	0.19	0.24
Crit Moves:		****		****				****		****		
Green/Cycle:	0.10	0.09	0.09	0.37	0.36	0.36	0.10	0.35	0.35	0.06	0.31	0.68
Volume/Cap:	0.33	0.69	0.69	0.69	0.59	0.59	0.25	0.69	0.39	0.52	0.61	0.36
Delay/Veh:	51.0	57.5	57.5	35.3	31.8	31.8	51.0	32.7	28.1	59.3	34.8	2.9
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:	51.0	57.5	57.5	35.3	31.8	31.8	51.0	32.7	28.1	59.3	34.8	2.9
LOS by Move:	D	E	E	D	C	C	D	C	C	E	C	A
HCM2kAvgQ:	2	5	5	14	11	11	2	14	5	3	11	2

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

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

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

Intersection #27 Thornton Road/Whistler Way

Cycle (sec):	90	Critical Vol./Cap.(X):	0.357
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	29.4
Optimal Cycle:	50	Level Of Service:	C

Street Name:	Thornton Road						Whistler Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 2 0 1			1 0 1 1 0			1 0 1 0 1			1 0 0 1 0		
Volume Module:												
Base Vol:	60	260	70	90	280	30	40	50	90	190	80	80
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	260	70	90	280	30	40	50	90	190	80	80
Added Vol:	0	37	0	1	27	17	25	0	0	0	0	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	60	297	70	91	307	47	65	50	90	190	80	82
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	323	76	99	334	51	71	54	98	207	87	89
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	65	323	76	99	334	51	71	54	98	207	87	89
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	323	76	99	334	51	71	54	98	207	87	89
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.91	0.91	0.93	0.98	0.83	0.93	0.91	0.91
Lanes:	1.00	2.00	1.00	1.00	1.73	0.27	1.00	1.00	1.00	1.00	0.49	0.51
Final Sat.:	1769	3538	1583	1769	3007	460	1769	1862	1583	1769	850	871
Capacity Analysis Module:												
Vol/Sat:	0.04	0.09	0.05	0.06	0.11	0.11	0.04	0.03	0.06	0.12	0.10	0.10
Crit Moves:	****				****			****		****		
Green/Cycle:	0.10	0.23	0.23	0.16	0.30	0.30	0.17	0.11	0.11	0.31	0.25	0.25
Volume/Cap:	0.37	0.39	0.21	0.34	0.37	0.37	0.23	0.26	0.56	0.37	0.41	0.41
Delay/Veh:	39.3	29.4	28.0	34.1	25.2	25.2	32.3	37.3	41.8	24.4	28.8	28.8
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:	39.3	29.4	28.0	34.1	25.2	25.2	32.3	37.3	41.8	24.4	28.8	28.8
LOS by Move:	D	C	C	C	C	C	C	D	D	C	C	C
HCM2kAvgQ:	2	4	2	3	5	5	2	2	3	5	4	4

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

Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

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

Intersection #1 Eight Mile Road/Westlake Drive

Cycle (sec):	65	Critical Vol./Cap.(X):	0.298
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	17.4
Optimal Cycle:	39	Level Of Service:	B

Street Name:	Westlake Drive						Eight Mile Road					
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:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	10	0	140	0	0	0	0	10	10	340	10	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:	10	0	140	0	0	0	0	10	10	340	10	0
Added Vol:	0	0	39	0	0	0	0	0	0	44	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	0	179	0	0	0	0	10	10	384	10	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:	11	0	195	0	0	0	0	11	11	417	11	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	0	195	0	0	0	0	11	11	417	11	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:	11	0	195	0	0	0	0	11	11	417	11	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	1.00	0.83	1.00	1.00	1.00	1.00	0.86	0.86	0.93	0.93	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	2.00	0.00
Final Sat.:	1862	0	1583	0	0	0	0	1636	1636	1769	3538	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.12	0.00	0.00	0.00	0.00	0.01	0.01	0.24	0.00	0.00
Crit Moves:								****		****		
Green/Cycle:	0.15	0.00	0.15	0.00	0.00	0.00	0.00	0.15	0.15	0.66	0.48	0.00
Volume/Cap:	0.04	0.00	0.80	0.00	0.00	0.00	0.00	0.04	0.04	0.36	0.01	0.00
Delay/Veh:	23.5	0.0	43.4	0.0	0.0	0.0	0.0	23.5	23.5	5.1	8.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.5	0.0	43.4	0.0	0.0	0.0	0.0	23.5	23.5	5.1	8.8	0.0
LOS by Move:	C	A	D	A	A	A	A	C	C	A	A	A
HCM2kAvgQ:	0	0	6	0	0	0	0	0	0	2	0	0

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

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

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

Intersection #2 Eight Mile Road/Regatta Drive

Cycle (sec):	65	Critical Vol./Cap.(X):	0.798
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	28.8
Optimal Cycle:	65	Level Of Service:	C

Street Name:	Regatta Drive						Eight Mile Road					
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:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	10	0	250	0	0	0	0	150	10	590	350	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:	10	0	250	0	0	0	0	150	10	590	350	0
Added Vol:	0	0	41	0	0	0	0	39	0	44	44	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	0	291	0	0	0	0	189	10	634	394	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:	11	0	316	0	0	0	0	205	11	689	428	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	0	316	0	0	0	0	205	11	689	428	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:	11	0	316	0	0	0	0	205	11	689	428	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.85	1.00	0.83	1.00	1.00	1.00	1.00	0.92	0.92	0.93	0.93	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.90	0.10	1.00	2.00	0.00
Final Sat.:	1618	0	1583	0	0	0	0	3337	177	1769	3538	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.20	0.00	0.00	0.00	0.00	0.06	0.06	0.39	0.12	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.22	0.00	0.22	0.00	0.00	0.00	0.00	0.15	0.15	0.44	0.35	0.00
Volume/Cap:	0.03	0.00	0.89	0.00	0.00	0.00	0.00	0.40	0.40	0.89	0.35	0.00
Delay/Veh:	19.7	0.0	47.7	0.0	0.0	0.0	0.0	25.3	25.3	29.4	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:	19.7	0.0	47.7	0.0	0.0	0.0	0.0	25.3	25.3	29.4	15.9	0.0
LOS by Move:	B	A	D	A	A	A	A	C	C	C	B	A
HCM2kAvgQ:	0	0	10	0	0	0	0	2	2	16	3	0

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

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Eight Mile Road/Mokelumne Circle

Cycle (sec):	65	Critical Vol./Cap.(X):	0.721
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	22.1
Optimal Cycle:	55	Level Of Service:	C

Street Name:	Mokelumne Circle						Eight Mile Road					
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:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	50	0	230	0	0	0	0	380	20	370	890	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:	50	0	230	0	0	0	0	380	20	370	890	0
Added Vol:	15	0	35	0	0	0	0	66	13	48	74	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	65	0	265	0	0	0	0	446	33	418	964	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:	71	0	288	0	0	0	0	485	36	454	1048	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	0	288	0	0	0	0	485	36	454	1048	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:	71	0	288	0	0	0	0	485	36	454	1048	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.77	1.00	0.83	1.00	1.00	1.00	1.00	0.92	0.92	0.93	0.93	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.86	0.14	1.00	2.00	0.00
Final Sat.:	1469	0	1583	0	0	0	0	3261	241	1769	3538	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.18	0.00	0.00	0.00	0.00	0.15	0.15	0.26	0.30	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.25	0.00	0.25	0.00	0.00	0.00	0.00	0.21	0.21	0.36	0.41	0.00
Volume/Cap:	0.19	0.00	0.72	0.00	0.00	0.00	0.00	0.72	0.72	0.72	0.72	0.00
Delay/Veh:	19.3	0.0	28.5	0.0	0.0	0.0	0.0	27.6	27.6	22.2	17.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	19.3	0.0	28.5	0.0	0.0	0.0	0.0	27.6	27.6	22.2	17.7	0.0
LOS by Move:	B	A	C	A	A	A	A	C	C	C	B	A
HCM2kAvgQ:	1	0	7	0	0	0	0	7	7	9	10	0

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

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Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.86		0.97	0.95	1.00	0.88
Frpb, ped/bikes	0.99		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6227		3433	3539	1770	2776
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6227		3433	3539	1770	2776
Volume (vph)	645	116	1971	1298	114	2089
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	694	125	2119	1396	123	2246
RTOR Reduction (vph)	25	0	0	0	0	3
Lane Group Flow (vph)	794	0	2119	1396	123	2243
Confl. Peds. (#/hr)		10				10
Turn Type			Prot			pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases						4
Actuated Green, G (s)	23.5		79.0	107.5	13.0	92.0
Effective Green, g (s)	24.5		80.0	108.5	13.5	93.5
Actuated g/C Ratio	0.19		0.62	0.83	0.10	0.72
Clearance Time (s)	5.0		5.0	5.0	4.5	5.0
Vehicle Extension (s)	6.0		5.0	6.0	2.0	5.0
Lane Grp Cap (vph)	1174		2113	2954	184	2082
v/s Ratio Prot	c0.13		0.62	0.39	0.07	c0.66
v/s Ratio Perm						0.15
v/c Ratio	0.68		1.00	0.47	0.67	1.08
Uniform Delay, d1	49.1		25.0	2.9	56.1	18.2
Progression Factor	1.00		0.63	1.48	1.00	1.00
Incremental Delay, d2	3.1		11.2	0.2	6.9	44.3
Delay (s)	52.2		26.9	4.5	63.0	62.6
Level of Service	D		C	A	E	E
Approach Delay (s)	52.2			18.0	62.6	
Approach LOS	D			B	E	

Intersection Summary			
HCM Average Control Delay	37.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	94.1%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.86	0.86	0.97	0.95					0.95	0.95	1.00
Frpb, ped/bikes		0.99	0.96	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	1.00
Frt		0.94	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		4443	1313	3433	3539					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		4443	1313	3433	3539					1681	1681	1583
Volume (vph)	0	1142	1592	340	2912	0	0	0	0	280	0	357
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	1215	1694	362	3098	0	0	0	0	298	0	380
RTOR Reduction (vph)	0	97	145	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1965	702	362	3098	0	0	0	0	149	149	380
Confl. Peds. (#/hr)			10									
Turn Type			Perm	Prot						Split		Free
Protected Phases		2		1	6					4	4	
Permitted Phases			2									Free
Actuated Green, G (s)		88.3	88.3	15.3	111.0					11.0	11.0	130.0
Effective Green, g (s)		90.0	90.0	17.0	111.0					11.0	11.0	130.0
Actuated g/C Ratio		0.69	0.69	0.13	0.85					0.08	0.08	1.00
Clearance Time (s)		5.7	5.7	5.7	4.0					4.0	4.0	
Vehicle Extension (s)		5.0	5.0	5.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		3076	909	449	3022					142	142	1583
v/s Ratio Prot		0.46		0.11	c0.88					c0.09	0.09	
v/s Ratio Perm			0.65									0.24
v/c Ratio		0.64	0.77	0.81	1.03					1.05	1.05	0.24
Uniform Delay, d1		11.0	13.2	54.9	9.5					59.5	59.5	0.0
Progression Factor		1.17	1.24	1.18	1.08					1.00	1.00	1.00
Incremental Delay, d2		0.1	0.6	1.2	13.2					89.2	89.2	0.4
Delay (s)		13.0	17.0	65.8	23.5					148.7	148.7	0.4
Level of Service		B	B	E	C					F	F	A
Approach Delay (s)		14.1			27.9			0.0			65.6	
Approach LOS		B			C			A			E	

Intersection Summary			
HCM Average Control Delay	25.9	HCM Level of Service	C
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	155.2%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.86		0.95	0.95	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			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			6290		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			6290		1681	1681	1583			
Volume (vph)	326	1097	0	0	1067	150	2185	0	670	0	0	0
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)	351	1180	0	0	1147	161	2349	0	720	0	0	0
RTOR Reduction (vph)	0	0	0	0	19	0	0	0	0	0	0	0
Lane Group Flow (vph)	351	1180	0	0	1289	0	1175	1174	720	0	0	0
Confl. Peds. (#/hr)			10									
Turn Type	Prot						Split		Free			
Protected Phases	5	2			6		8	8				
Permitted Phases									Free			
Actuated Green, G (s)	22.3	51.3			23.3		69.0	69.0	130.0			
Effective Green, g (s)	24.0	53.0			25.0		69.0	69.0	130.0			
Actuated g/C Ratio	0.18	0.41			0.19		0.53	0.53	1.00			
Clearance Time (s)	5.7	5.7			5.7		4.0	4.0				
Vehicle Extension (s)	5.0	5.0			5.0		3.0	3.0				
Lane Grp Cap (vph)	327	1443			1210		892	892	1583			
v/s Ratio Prot	c0.20	0.33			c0.20		c0.70	0.70				
v/s Ratio Perm									0.45			
v/c Ratio	1.07	0.82			1.06		1.32	1.32	0.45			
Uniform Delay, d1	53.0	34.2			52.5		30.5	30.5	0.0			
Progression Factor	1.47	0.84			1.00		1.00	1.00	1.00			
Incremental Delay, d2	66.1	4.7			45.1		150.7	150.2	0.9			
Delay (s)	143.8	33.3			97.6		181.2	180.7	0.9			
Level of Service	F	C			F		F	F	A			
Approach Delay (s)		58.7			97.6			138.7			0.0	
Approach LOS		E			F			F			A	

Intersection Summary			
HCM Average Control Delay	108.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	122.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

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

Intersection #7 Eight Mile Road/Oak Grove Regional Park Entrance

Average Delay (sec/veh): 30.1 Worst Case Level Of Service: F[4507.3]

Street Name:	Oak Grove Regional Park Entrance						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 0 0 0			0 0 2 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	10	0	10	0	0	0	0	1350	10	10	840	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:	10	0	10	0	0	0	0	1350	10	10	840	0
Added Vol:	0	0	0	0	0	0	0	407	0	0	367	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	0	10	0	0	0	0	1757	10	10	1207	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:	11	0	11	0	0	0	0	1849	11	11	1271	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	11	0	11	0	0	0	0	1849	11	11	1271	0
Critical Gap Module:												
Critical Gp:	6.8	6.5	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	3854	4829	845	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1810	xxxx	xxxxx
Potent Cap.:	2	0	225	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	247	xxxx	xxxxx
Move Cap.:	2	0	225	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	247	xxxx	xxxxx
Volume/Cap:	6.41	0.00	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.04	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	20.2	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	C	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	3	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	4.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	4507	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	F	*	*	*	*	*	*	*	*	*	*
ApproachDel:	4507.3			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	F			*			*			*		

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

Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

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

Intersection #8 Eight Mile Road/Thornton Road

Cycle (sec):	130	Critical Vol./Cap.(X):	0.854
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	40.5
Optimal Cycle:	113	Level Of Service:	D

Street Name:	Thornton Road						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	0 1		1 0	0 1	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	120	100	120	30	170	50	110	1080	230	120	650	90
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:	120	100	120	30	170	50	110	1080	230	120	650	90
Added Vol:	98	0	42	0	0	0	0	297	110	42	269	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	218	100	162	30	170	50	110	1377	340	162	919	90
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:	225	103	167	31	175	52	113	1420	351	167	947	93
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	225	103	167	31	175	52	113	1420	351	167	947	93
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:	225	103	167	31	175	52	113	1420	351	167	947	93
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.95	0.95	0.93	0.93	0.83	0.93	0.92	0.92
Lanes:	1.00	1.00	1.00	1.00	0.77	0.23	1.00	2.00	1.00	1.00	1.82	0.18
Final Sat.:	1769	1862	1583	1769	1390	409	1769	3538	1583	1769	3180	311
Capacity Analysis Module:												
Vol/Sat:	0.13	0.06	0.11	0.02	0.13	0.13	0.06	0.40	0.22	0.09	0.30	0.30
Crit Moves:	****				****			****		****		
Green/Cycle:	0.15	0.20	0.20	0.10	0.15	0.15	0.10	0.47	0.47	0.11	0.48	0.48
Volume/Cap:	0.85	0.28	0.54	0.17	0.85	0.85	0.62	0.85	0.47	0.85	0.62	0.62
Delay/Veh:	76.7	44.9	48.8	54.0	76.6	76.6	62.5	35.0	23.9	85.5	26.0	26.0
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:	76.7	44.9	48.8	54.0	76.6	76.6	62.5	35.0	23.9	85.5	26.0	26.0
LOS by Move:	E	D	D	D	E	E	E	D	C	F	C	C
HCM2kAvgQ:	11	3	6	1	11	11	5	26	8	9	14	14

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

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

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

Intersection #9 Eight Mile Road/Davis Street

Cycle (sec):	130	Critical Vol./Cap.(X):	1.110
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	97.6
Optimal Cycle:	130	Level Of Service:	F

Street Name:	Davis Street						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0	1 0		1 0 0	1 0		1 0 1	0 1		1 0 0	1 0	
Volume Module:												
Base Vol:	60	180	290	50	200	120	100	470	110	390	350	50
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	180	290	50	200	120	100	470	110	390	350	50
Added Vol:	70	0	0	0	0	43	47	216	76	0	198	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	130	180	290	50	200	163	147	686	186	390	548	50
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:	141	196	315	54	217	177	160	746	202	424	596	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	141	196	315	54	217	177	160	746	202	424	596	54
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:	141	196	315	54	217	177	160	746	202	424	596	54
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.89	0.89	0.93	0.91	0.91	0.93	0.98	0.83	0.93	0.97	0.97
Lanes:	1.00	0.38	0.62	1.00	0.55	0.45	1.00	1.00	1.00	1.00	0.92	0.08
Final Sat.:	1769	647	1042	1769	957	780	1769	1862	1583	1769	1684	154
Capacity Analysis Module:												
Vol/Sat:	0.08	0.30	0.30	0.03	0.23	0.23	0.09	0.40	0.13	0.24	0.35	0.35
Crit Moves:		****		****				****		****		
Green/Cycle:	0.08	0.26	0.26	0.05	0.24	0.24	0.11	0.35	0.35	0.21	0.45	0.45
Volume/Cap:	0.97	1.15	1.15	0.57	0.97	0.97	0.79	1.15	0.37	1.15	0.79	0.79
Delay/Veh:	123.1	137	136.6	68.1	84.6	84.6	75.4	125	31.9	143.9	36.4	36.4
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:	123.1	137	136.6	68.1	84.6	84.6	75.4	125	31.9	143.9	36.4	36.4
LOS by Move:	F	F	F	E	F	F	E	F	C	F	D	D
HCM2kAvgQ:	9	31	31	3	20	20	8	44	5	27	21	21

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

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

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

Intersection #10 Eight Mile Road/Lower Sacramento Road

Cycle (sec):	130	Critical Vol./Cap.(X):	0.978
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	66.7
Optimal Cycle:	130	Level Of Service:	E

Street Name:	Lower Sacramento Road						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	0 1		1 0 1	0 1		1 0 1	1 0		1 0 1	1 0	
Volume Module:												
Base Vol:	30	470	390	40	390	60	100	740	50	430	760	60
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:	30	470	390	40	390	60	100	740	50	430	760	60
Added Vol:	0	0	0	0	0	22	24	192	0	0	176	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	30	470	390	40	390	82	124	932	50	430	936	60
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:	32	505	419	43	419	88	133	1002	54	462	1006	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	505	419	43	419	88	133	1002	54	462	1006	65
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:	32	505	419	43	419	88	133	1002	54	462	1006	65
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.98	0.83	0.93	0.92	0.92	0.93	0.92	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.90	0.10	1.00	1.88	0.12
Final Sat.:	1769	1862	1583	1769	1862	1583	1769	3331	179	1769	3295	211
Capacity Analysis Module:												
Vol/Sat:	0.02	0.27	0.26	0.02	0.23	0.06	0.08	0.30	0.30	0.26	0.31	0.31
Crit Moves:		****		****				****		****		
Green/Cycle:	0.06	0.27	0.27	0.05	0.26	0.26	0.11	0.30	0.30	0.26	0.45	0.45
Volume/Cap:	0.29	1.01	0.99	0.45	0.87	0.21	0.69	1.01	1.01	1.01	0.69	0.69
Delay/Veh:	59.7	91.1	88.0	63.0	61.2	38.0	65.5	76.8	76.8	93.6	30.1	30.1
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:	59.7	91.1	88.0	63.0	61.2	38.0	65.5	76.8	76.8	93.6	30.1	30.1
LOS by Move:	E	F	F	E	E	D	E	E	E	F	C	C
HCM2kAvgQ:	1	27	22	2	18	3	6	29	29	25	16	16

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

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

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

Intersection #11 Eight Mile Road/West Lane

Cycle (sec):	130	Critical Vol./Cap.(X):	1.236
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	116.8
Optimal Cycle:	130	Level Of Service:	F

Street Name:	West Lane							Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound			
Movement:	L	T	R	L	T	R	L	T	R	L	T	R	
Control:	Protected			Protected			Protected			Protected			
Rights:	Include			Include			Include			Include			
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0	
Lanes:	1 0 1	1 0		1 0 1	1 0		1 0 1	0 1		1 0 0	1 0		
Volume Module:													
Base Vol:	240	620	110	10	510	400	400	500	260	140	540	20	
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Initial Bse:	240	620	110	10	510	400	400	500	260	140	540	20	
Added Vol:	0	0	0	0	0	43	47	145	0	0	133	0	
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0	
Initial Fut:	240	620	110	10	510	443	447	645	260	140	673	20	
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:	247	639	113	10	526	457	461	665	268	144	694	21	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	247	639	113	10	526	457	461	665	268	144	694	21	
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
FinalVolume:	247	639	113	10	526	457	461	665	268	144	694	21	
Saturation Flow Module:													
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Adjustment:	0.93	0.91	0.91	0.93	0.87	0.87	0.93	0.98	0.83	0.93	0.98	0.98	
Lanes:	1.00	1.70	0.30	1.00	1.07	0.93	1.00	1.00	1.00	1.00	0.97	0.03	
Final Sat.:	1769	2936	521	1769	1761	1529	1769	1862	1583	1769	1801	54	
Capacity Analysis Module:													
Vol/Sat:	0.14	0.22	0.22	0.01	0.30	0.30	0.26	0.36	0.17	0.08	0.39	0.39	
Crit Moves:	****				****		****				****		
Green/Cycle:	0.11	0.28	0.28	0.07	0.24	0.24	0.21	0.43	0.43	0.10	0.31	0.31	
Volume/Cap:	1.24	0.77	0.77	0.08	1.24	1.24	1.24	0.84	0.40	0.84	1.24	1.24	
Delay/Veh:	199.3	46.2	46.2	56.8	166	166.4	178.8	41.4	26.2	86.8	165	165.5	
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:	199.3	46.2	46.2	56.8	166	166.4	178.8	41.4	26.2	86.8	165	165.5	
LOS by Move:	F	D	D	E	F	F	F	D	C	F	F	F	
HCM2kAvgQ:	18	15	15	0	35	35	32	24	6	8	47	47	

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

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

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

Intersection #12 Eight Mile Road/SR 99 Frontage

Cycle (sec):	120	Critical Vol./Cap.(X):	0.999
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	69.4
Optimal Cycle:	130	Level Of Service:	E

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected						Protected						Protected					
Rights:	Include						Include						Include						Include					
Min. Green:	7	10	0				7	10	0				7	10	0				7	10	0			
Lanes:	1	0	0	1	0		1	0	0	1	0		1	0	0	1	0		1	0	0	1	0	
Volume Module:																								
Base Vol:	210	40	160				60	180	90				60	330	180				200	310	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:	210	40	160				60	180	90				60	330	180				200	310	120			
Added Vol:	87	0	0				0	0	0				0	94	51				0	46	0			
PasserByVol:	0	0	0				0	0	0				0	0	0				0	0	0			
Initial Fut:	297	40	160				60	180	90				60	424	231				200	356	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:	0.93	0.93	0.93				0.93	0.93	0.93				0.93	0.93	0.93				0.93	0.93	0.93			
PHF Volume:	319	43	172				65	194	97				65	456	248				215	383	129			
Reduct Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
Reduced Vol:	319	43	172				65	194	97				65	456	248				215	383	129			
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:	319	43	172				65	194	97				65	456	248				215	383	129			
Saturation Flow Module:																								
Sat/Lane:	1900	1900	1900				1900	1900	1900				1900	1900	1900				1900	1900	1900			
Adjustment:	0.93	0.86	0.86				0.93	0.93	0.93				0.93	0.93	0.93				0.93	0.94	0.94			
Lanes:	1.00	0.20	0.80				1.00	0.67	0.33				1.00	0.65	0.35				1.00	0.75	0.25			
Final Sat.:	1769	328	1311				1769	1179	590				1769	1141	622				1769	1340	452			
Capacity Analysis Module:																								
Vol/Sat:	0.18	0.13	0.13				0.04	0.16	0.16				0.04	0.40	0.40				0.12	0.29	0.29			
Crit Moves:	****							****						****					****					
Green/Cycle:	0.18	0.24	0.24				0.11	0.16	0.16				0.09	0.40	0.40				0.12	0.43	0.43			
Volume/Cap:	1.00	0.55	0.55				0.34	1.00	1.00				0.41	1.00	1.00				1.00	0.66	0.66			
Delay/Veh:	99.1	41.7	41.7				50.8	103	102.6				53.5	69.6	69.6				113.7	29.1	29.1			
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:	99.1	41.7	41.7				50.8	103	102.6				53.5	69.6	69.6				113.7	29.1	29.1			
LOS by Move:	F	D	D				D	F	F				D	E	E				F	C	C			
HCM2kAvgQ:	17	7	7				3	16	16				3	33	33				12	15	15			

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

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

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

Intersection #13 Mokelumne Circle/Scott Creek Drive

Cycle (sec):	65	Critical Vol./Cap.(X):	0.677
Loss Time (sec):	0 (Y+R=5.0 sec)	Average Delay (sec/veh):	21.3
Optimal Cycle:	71	Level Of Service:	C

Street Name:	Mokelumne Circle						Scott Creek Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 1 0			1 0 0 1 0			1 0 0 1 0			1 0 0 1 0		
Volume Module:												
Base Vol:	20	210	20	50	160	400	120	110	10	10	210	70
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:	20	210	20	50	160	400	120	110	10	10	210	70
Added Vol:	3	25	0	12	39	10	12	14	2	0	14	12
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	23	235	20	62	199	410	132	124	12	10	224	82
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:	25	255	22	67	216	446	143	135	13	11	243	89
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	25	255	22	67	216	446	143	135	13	11	243	89
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:	25	255	22	67	216	446	143	135	13	11	243	89
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.88	0.88	0.93	0.97	0.97	0.93	0.94	0.94
Lanes:	1.00	0.92	0.08	1.00	0.33	0.67	1.00	0.91	0.09	1.00	0.73	0.27
Final Sat.:	1769	1695	144	1769	547	1127	1769	1676	162	1769	1309	479
Capacity Analysis Module:												
Vol/Sat:	0.01	0.15	0.15	0.04	0.40	0.40	0.08	0.08	0.08	0.01	0.19	0.19
Crit Moves:	****				****		****				****	
Green/Cycle:	0.11	0.38	0.38	0.26	0.53	0.53	0.11	0.21	0.21	0.15	0.25	0.25
Volume/Cap:	0.13	0.40	0.40	0.14	0.74	0.74	0.74	0.38	0.38	0.04	0.74	0.74
Delay/Veh:	26.6	15.3	15.3	18.5	15.1	15.1	42.4	22.6	22.6	23.8	29.0	29.0
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:	26.6	15.3	15.3	18.5	15.1	15.1	42.4	22.6	22.6	23.8	29.0	29.0
LOS by Move:	C	B	B	B	B	B	D	C	C	C	C	C
HCM2kAvgQ:	1	4	4	1	10	10	5	3	3	0	8	8

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

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

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

Intersection #14 Trinity Parkway/Consumnes Drive

Cycle (sec):	130	Critical Vol./Cap.(X):	0.870
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	43.1
Optimal Cycle:	120	Level Of Service:	D

Street Name:	Trinity Parkway							Consumnes Drive							
Approach:	North Bound				South Bound			East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R	L	- T	- R		L	- T	- R	
Control:	Protected				Protected			Protected				Protected			
Rights:	Include				Include			Include				Include			
Min. Green:	7	10	0		7	10	0	7	10	0		7	10	0	
Lanes:	1 0	1 1	0		1 0	1 1	0	1 0	0 1	0		1 0	1 0	1	
Volume Module:															
Base Vol:	230	290	0	0	300	270	150	0	100	0	0	0			
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Initial Bse:	230	290	0	0	300	270	150	0	100	0	0	0			
Added Vol:	133	678	38	41	632	5	4	5	114	51	9	92			
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0			
Initial Fut:	363	968	38	41	932	275	154	5	214	51	9	92			
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:	382	1019	40	43	981	289	162	5	225	54	9	97			
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0			
Reduced Vol:	382	1019	40	43	981	289	162	5	225	54	9	97			
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:	382	1019	40	43	981	289	162	5	225	54	9	97			
Saturation Flow Module:															
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
Adjustment:	0.93	0.93	0.93	0.93	0.90	0.90	0.93	0.84	0.84	0.93	0.98	0.83			
Lanes:	1.00	1.92	0.08	1.00	1.54	0.46	1.00	0.02	0.98	1.00	1.00	1.00			
Final Sat.:	1769	3384	133	1769	2639	779	1769	36	1552	1769	1862	1583			
Capacity Analysis Module:															
Vol/Sat:	0.22	0.30	0.30	0.02	0.37	0.37	0.09	0.15	0.15	0.03	0.01	0.06			
Crit Moves:	****				****			****		****					
Green/Cycle:	0.24	0.56	0.56	0.10	0.42	0.42	0.12	0.16	0.16	0.05	0.10	0.10			
Volume/Cap:	0.89	0.54	0.54	0.24	0.89	0.89	0.78	0.89	0.89	0.56	0.05	0.62			
Delay/Veh:	67.6	18.3	18.3	54.7	42.5	42.5	72.4	82.5	82.5	67.6	53.2	63.5			
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:	67.6	18.3	18.3	54.7	42.5	42.5	72.4	82.5	82.5	67.6	53.2	63.5			
LOS by Move:	E	B	B	D	D	D	E	F	F	E	D	E			
HCM2kAvgQ:	18	10	10	2	27	27	8	12	12	3	0	5			

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

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

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

Intersection #15 Trinity Parkway/McAuliffe Road

Cycle (sec):	130	Critical Vol./Cap.(X):	0.727
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	28.7
Optimal Cycle:	67	Level Of Service:	C

Street Name:	Trinity Parkway							McAuliffe Road							
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					Permitted					Permitted				
Rights:	Include					Include					Include					Ovl				
Min. Green:	7	10	0			7	10	0			7	10	0			7	10	0		
Lanes:	0	0	1	1	0	1	0	2	0	0	0	0	0	0	0	1	0	0	0	1
Volume Module:																				
Base Vol:	0	160	120			350	70	0			0	0	0			60	0	330		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	0	160	120			350	70	0			0	0	0			60	0	330		
Added Vol:	0	531	0			309	574	0			0	0	0			0	0	289		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	0	691	120			659	644	0			0	0	0			60	0	619		
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:	0	751	130			716	700	0			0	0	0			65	0	673		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	0	751	130			716	700	0			0	0	0			65	0	673		
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:	0	751	130			716	700	0			0	0	0			65	0	673		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	1.00	0.91	0.91			0.93	0.93	1.00			1.00	1.00	1.00			0.98	1.00	0.83		
Lanes:	0.00	1.70	0.30			1.00	2.00	0.00			0.00	0.00	0.00			1.00	0.00	1.00		
Final Sat.:	0	2948	512			1769	3538	0			0	0	0			1862	0	1583		
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.25	0.25			0.40	0.20	0.00			0.00	0.00	0.00			0.04	0.00	0.43		
Crit Moves:		****				****											****			
Green/Cycle:	0.00	0.32	0.32			0.51	0.65	0.00			0.00	0.00	0.00			0.08	0.00	0.59		
Volume/Cap:	0.00	0.79	0.79			0.79	0.30	0.00			0.00	0.00	0.00			0.46	0.00	0.72		
Delay/Veh:	0.0	44.3	44.3			31.1	9.8	0.0			0.0	0.0	0.0			59.7	0.0	22.2		
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:	0.0	44.3	44.3			31.1	9.8	0.0			0.0	0.0	0.0			59.7	0.0	22.2		
LOS by Move:	A	D	D			C	A	A			A	A	A			E	A	C		
HCM2kAvgQ:	0	18	18			21	3	0			0	0	0			3	0	15		

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

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

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

Intersection #16 Thornton Road/A.G. Spanos Boulevard (South)

Cycle (sec): 85 Critical Vol./Cap.(X): 0.978
Loss Time (sec): 10 (Y+R=5.0 sec) Average Delay (sec/veh): 47.1
Optimal Cycle: OPTIMIZED Level Of Service: D

Street Name:	Thornton Road						A.G. Spanos Boulevard (South)					
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			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 2 1 0			1 0 2 0 1			0 1 0 0 1			0 1 0 0 1		
Volume Module:												
Base Vol:	340	410	140	70	470	60	40	30	260	60	10	20
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:	340	410	140	70	470	60	40	30	260	60	10	20
Added Vol:	229	50	0	0	55	10	9	0	252	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	569	460	140	70	525	70	49	30	512	60	10	20
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:	618	500	152	76	571	76	53	33	557	65	11	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	618	500	152	76	571	76	53	33	557	65	11	22
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:	618	500	152	76	571	76	53	33	557	65	11	22
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.86	0.86	0.93	0.93	0.83	0.80	0.80	0.83	0.73	0.73	0.83
Lanes:	1.00	2.30	0.70	1.00	2.00	1.00	0.62	0.38	1.00	0.86	0.14	1.00
Final Sat.:	1769	3761	1145	1769	3538	1583	939	575	1583	1184	197	1583
Capacity Analysis Module:												
Vol/Sat:	0.35	0.13	0.13	0.04	0.16	0.05	0.06	0.06	0.35	0.06	0.06	0.01
Crit Moves:	****				****				****			
Green/Cycle:	0.36	0.32	0.32	0.20	0.17	0.17	0.36	0.36	0.36	0.36	0.36	0.36
Volume/Cap:	0.98	0.41	0.41	0.22	0.98	0.29	0.16	0.16	0.98	0.15	0.15	0.04
Delay/Veh:	57.0	22.7	22.7	28.7	66.8	31.8	18.6	18.6	58.8	18.6	18.6	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:	57.0	22.7	22.7	28.7	66.8	31.8	18.6	18.6	58.8	18.6	18.6	17.7
LOS by Move:	E	C	C	C	E	C	B	B	E	B	B	B
HCM2kAvgQ:	22	5	5	2	13	2	1	1	20	1	1	0

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

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Crystal Bay (The Spanos Parcel) EIR
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PM Peak Hour

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

Intersection #17 Thornton Road/Wagner Heights

Cycle (sec): 120 Critical Vol./Cap.(X): 0.884
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 37.5
Optimal Cycle: OPTIMIZED Level Of Service: D

Street Name:	Thornton Road						Wagner Heights					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	0	1	1 0 2	0	1	1 0 1	0	1	1 0 1	0	1
Volume Module:												
Base Vol:	90	850	40	50	570	110	130	130	120	70	130	80
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:	90	850	40	50	570	110	130	130	120	70	130	80
Added Vol:	0	214	0	0	236	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	90	1064	40	50	806	110	130	130	120	70	130	80
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:	93	1097	41	52	831	113	134	134	124	72	134	82
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	93	1097	41	52	831	113	134	134	124	72	134	82
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:	93	1097	41	52	831	113	134	134	124	72	134	82
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.93	0.83	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1769	1862	1583	1769	3538	1583	1769	1862	1583	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.05	0.59	0.03	0.03	0.23	0.07	0.08	0.07	0.08	0.04	0.07	0.05
Crit Moves:		****		****			****				****	
Green/Cycle:	0.14	0.64	0.64	0.06	0.56	0.56	0.08	0.10	0.10	0.07	0.08	0.08
Volume/Cap:	0.38	0.92	0.04	0.50	0.42	0.13	0.92	0.74	0.80	0.60	0.86	0.63
Delay/Veh:	47.9	29.8	7.9	58.6	15.2	12.5	104.9	67.3	77.9	62.2	90.5	62.3
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:	47.9	29.8	7.9	58.6	15.2	12.5	104.9	67.3	77.9	62.2	90.5	62.3
LOS by Move:	D	C	A	E	B	B	F	E	E	E	F	E
HCM2kAvgQ:	3	32	0	3	6	1	8	6	6	4	7	4

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

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Crystal Bay (The Spanos Parcel) EIR
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PM Peak Hour

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

Intersection #19 Mariners Drive/Otto Drive

Average Delay (sec/veh): 11.0 Worst Case Level Of Service: C[16.3]

Street Name:	Mariners Drive								Otto Drive							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	1	0	1	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0
Volume Module:																				
Base Vol:	180	140		0		0	60		10		10		0		20		0		0	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	180	140		0		0	60		10		10		0		20		0		0	
Added Vol:	531	0		0		0	0		0		0		0		574		0		0	
PasserByVol:	0	0		0		0	0		0		0		0		0		0		0	
Initial Fut:	711	140		0		0	60		10		10		0		594		0		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	
PHF Adj:	0.92	0.92		0.92		0.92	0.92		0.92		0.92		0.92		0.92		0.92		0.92	
PHF Volume:	773	152		0		0	65		11		11		0		646		0		0	
Reduct Vol:	0	0		0		0	0		0		0		0		0		0		0	
FinalVolume:	773	152		0		0	65		11		11		0		646		0		0	
Critical Gap Module:																				
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx					6.4	xxxx			6.2	xxxxx	xxxx	xxxxx		
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx					3.5	xxxx			3.3	xxxxx	xxxx	xxxxx		
Capacity Module:																				
Cnflict Vol:	76	xxxx	xxxxx	xxxx	xxxx	xxxxx					1768	xxxx			71	xxxx	xxxx	xxxxx		
Potent Cap.:	1523	xxxx	xxxxx	xxxx	xxxx	xxxxx					92	xxxx			992	xxxx	xxxx	xxxxx		
Move Cap.:	1523	xxxx	xxxxx	xxxx	xxxx	xxxxx					55	xxxx			992	xxxx	xxxx	xxxxx		
Volume/Cap:	0.51	xxxx	xxxx	xxxx	xxxx	xxxx					0.20	xxxx			0.65	xxxx	xxxx	xxxx		
Level Of Service Module:																				
2Way95thQ:	3.0	xxxx	xxxxx	xxxx	xxxx	xxxxx					0.7	xxxx			5.0	xxxx	xxxx	xxxxx		
Control Del:	9.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx					85.7	xxxx			15.1	xxxxx	xxxx	xxxxx		
LOS by Move:	A	*	*	*	*	*					F	*			C	*	*	*		
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx					xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx					xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx					xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shared LOS:	*	*	*	*	*	*					*	*	*			*	*	*		
ApproachDel:	xxxxxx			xxxxxx							16.3					xxxxxx				
ApproachLOS:	*			*							C					*				

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		0.97	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.86		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3437		3433	4350		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3437		3433	4350		1770	1863	1583	1770	1863	1583
Volume (vph)	10	40	10	560	40	1071	10	40	280	1054	40	10
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)	10	42	10	583	42	1116	10	42	292	1098	42	10
RTOR Reduction (vph)	0	8	0	0	607	0	0	0	271	0	0	6
Lane Group Flow (vph)	10	44	0	583	551	0	10	42	21	1098	42	4
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	5.3	22.3		32.3	49.3		8.4	8.4	8.4	47.0	47.0	47.0
Effective Green, g (s)	6.3	23.3		33.3	50.3		9.4	9.4	9.4	48.0	48.0	48.0
Actuated g/C Ratio	0.05	0.18		0.26	0.39		0.07	0.07	0.07	0.37	0.37	0.37
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	2.0	6.0		2.0	6.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	86	616		879	1683		128	135	114	654	688	584
v/s Ratio Prot	0.01	0.01		c0.17	c0.13		0.01	c0.02		c0.62	0.02	
v/s Ratio Perm									0.01			0.00
v/c Ratio	0.12	0.07		0.66	0.92dr		0.08	0.31	0.19	1.68	0.06	0.01
Uniform Delay, d1	59.2	44.4		43.3	28.0		56.3	57.2	56.7	41.0	26.5	25.9
Progression Factor	1.00	1.00		1.15	2.84		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.2		1.4	0.5		0.1	0.5	0.3	312.2	0.0	0.0
Delay (s)	59.4	44.6		51.3	80.0		56.4	57.7	57.0	353.2	26.5	25.9
Level of Service	E	D		D	E		E	E	E	F	C	C
Approach Delay (s)		47.0			70.4			57.1			338.4	
Approach LOS		D			E			E			F	

Intersection Summary			
HCM Average Control Delay	162.0	HCM Level of Service	F
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.8%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.91					0.95	0.95	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3539	1583	3433	5085					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3539	1583	3433	5085					1681	1681	1583
Volume (vph)	0	834	541	1270	1591	0	0	0	0	471	0	80
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	887	576	1351	1693	0	0	0	0	501	0	85
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	37
Lane Group Flow (vph)	0	887	576	1351	1693	0	0	0	0	251	250	48
Turn Type			Free	Prot						Perm		Perm
Protected Phases		2		1	6						4	
Permitted Phases			Free							4		4
Actuated Green, G (s)		39.2	130.0	55.6	98.8					22.6	22.6	22.6
Effective Green, g (s)		39.6	130.0	55.6	99.2					22.8	22.8	22.8
Actuated g/C Ratio		0.30	1.00	0.43	0.76					0.18	0.18	0.18
Clearance Time (s)		4.4		4.0	4.4					4.2	4.2	4.2
Vehicle Extension (s)		3.0		3.0	3.0					2.0	2.0	2.0
Lane Grp Cap (vph)		1078	1583	1468	3880					295	295	278
v/s Ratio Prot		c0.25		c0.39	0.33							
v/s Ratio Perm			0.36							c0.15	0.15	0.03
v/c Ratio		0.82	0.36	0.92	0.44					0.85	0.85	0.17
Uniform Delay, d1		41.9	0.0	35.1	5.5					52.0	51.9	45.6
Progression Factor		0.46	1.00	0.69	0.56					1.00	1.00	1.00
Incremental Delay, d2		0.7	0.1	7.7	0.2					19.7	18.9	0.1
Delay (s)		20.1	0.1	31.9	3.3					71.6	70.8	45.7
Level of Service		C	A	C	A					E	E	D
Approach Delay (s)		12.2			16.0			0.0			67.5	
Approach LOS		B			B			A			E	

Intersection Summary			
HCM Average Control Delay	20.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	93.5%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.81	1.00	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			7544	1583	1681	1681	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			7544	1583	1681	1681	2787			
Volume (vph)	110	1194	0	0	1871	489	991	0	1540	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	1298	0	0	2034	532	1077	0	1674	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	105	0	0	8	0	0	0
Lane Group Flow (vph)	120	1298	0	0	2034	427	539	538	1666	0	0	0
Turn Type	Prot					Perm	Split		custom			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			1 8			
Actuated Green, G (s)	11.7	49.4			53.7	53.7	51.3	51.3	71.3			
Effective Green, g (s)	11.7	50.0			54.3	54.3	52.0	52.0	72.0			
Actuated g/C Ratio	0.09	0.38			0.42	0.42	0.40	0.40	0.55			
Clearance Time (s)	4.0	4.6			4.6	4.6	4.7	4.7				
Vehicle Extension (s)	2.0	3.0			3.0	3.0	2.0	2.0				
Lane Grp Cap (vph)	159	1361			3151	661	672	672	1544			
v/s Ratio Prot	0.07	c0.37			0.27		0.32	0.32				
v/s Ratio Perm						0.27			c0.60			
v/c Ratio	0.75	0.95			0.65	0.65	0.80	0.80	1.08			
Uniform Delay, d1	57.7	38.9			30.2	30.2	34.5	34.4	29.0			
Progression Factor	0.35	0.34			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	10.9	11.6			1.0	4.8	6.5	6.4	47.4			
Delay (s)	31.2	24.9			31.2	35.0	40.9	40.8	76.4			
Level of Service	C	C			C	C	D	D	E			
Approach Delay (s)		25.5			32.0			62.5			0.0	
Approach LOS		C			C			E			A	

Intersection Summary			
HCM Average Control Delay	43.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

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

Intersection #26 Hammer Lane/Thornton Road

Cycle (sec):	130	Critical Vol./Cap.(X):	0.874
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	42.7
Optimal Cycle:	122	Level Of Service:	D

Street Name:	Thornton Road						Hammer Lane					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	2 0 2 1 0			1 0 2 1 0			1 0 3 0 1			1 0 3 0 1		
Volume Module:												
Base Vol:	360	750	50	350	530	40	110	990	200	40	1400	710
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:	360	750	50	350	530	40	110	990	200	40	1400	710
Added Vol:	53	99	0	12	107	0	0	173	58	0	157	13
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	413	849	50	362	637	40	110	1163	258	40	1557	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:	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:	421	866	51	369	650	41	112	1187	263	41	1589	738
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	421	866	51	369	650	41	112	1187	263	41	1589	738
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	866	51	369	650	41	112	1187	263	41	1589	738
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.88	0.88	0.93	0.88	0.88	0.93	0.89	0.83	0.93	0.89	0.83
Lanes:	2.00	2.83	0.17	1.00	2.82	0.18	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	3432	4762	280	1769	4740	298	1769	5083	1583	1769	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.12	0.18	0.18	0.21	0.14	0.14	0.06	0.23	0.17	0.02	0.31	0.47
Crit Moves:		****		****			****				****	
Green/Cycle:	0.21	0.21	0.21	0.24	0.24	0.24	0.07	0.35	0.35	0.08	0.36	0.60
Volume/Cap:	0.58	0.87	0.87	0.87	0.58	0.58	0.87	0.67	0.48	0.29	0.87	0.78
Delay/Veh:	47.3	58.1	58.1	65.6	44.7	44.7	103.6	34.9	31.8	57.4	41.6	15.9
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:	47.3	58.1	58.1	65.6	44.7	44.7	103.6	34.9	31.8	57.4	41.6	15.9
LOS by Move:	D	E	E	E	D	D	F	C	C	E	D	B
HCM2kAvgQ:	8	16	16	17	9	9	7	14	7	2	24	18

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

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

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

Intersection #27 Thornton Road/Whistler Way

Cycle (sec):	60	Critical Vol./Cap.(X):	0.434
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	20.2
Optimal Cycle:	50	Level Of Service:	C

Street Name:	Thornton Road						Whistler Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 2 0 1			1 0 1 1 0			1 0 1 0 1			1 0 0 1 0		
Volume Module:												
Base Vol:	110	300	90	90	360	30	30	40	90	100	40	40
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:	110	300	90	90	360	30	30	40	90	100	40	40
Added Vol:	0	59	0	2	65	44	40	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	110	359	90	92	425	74	70	40	90	100	40	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:	120	390	98	100	462	80	76	43	98	109	43	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	120	390	98	100	462	80	76	43	98	109	43	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:	120	390	98	100	462	80	76	43	98	109	43	45
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.91	0.91	0.93	0.98	0.83	0.93	0.91	0.91
Lanes:	1.00	2.00	1.00	1.00	1.70	0.30	1.00	1.00	1.00	1.00	0.49	0.51
Final Sat.:	1769	3538	1583	1769	2947	513	1769	1862	1583	1769	850	871
Capacity Analysis Module:												
Vol/Sat:	0.07	0.11	0.06	0.06	0.16	0.16	0.04	0.02	0.06	0.06	0.05	0.05
Crit Moves:	****				****		****				****	
Green/Cycle:	0.14	0.26	0.26	0.19	0.31	0.31	0.12	0.17	0.17	0.12	0.17	0.17
Volume/Cap:	0.50	0.42	0.23	0.31	0.50	0.50	0.37	0.14	0.37	0.53	0.31	0.31
Delay/Veh:	25.7	18.5	17.6	21.6	17.1	17.1	25.6	21.5	23.1	27.5	22.6	22.6
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:	25.7	18.5	17.6	21.6	17.1	17.1	25.6	21.5	23.1	27.5	22.6	22.6
LOS by Move:	C	B	B	C	B	B	C	C	C	C	C	C
HCM2kAvgQ:	3	4	2	2	5	5	2	1	2	3	2	2

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

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

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

Intersection #1 Eight Mile Road/Westlake Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.724
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	33.3
Optimal Cycle:	63	Level Of Service:	C

Street Name:	Westlake Drive						Eight Mile Road					
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:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	10	0	500	0	0	0	0	10	10	160	10	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:	10	0	500	0	0	0	0	10	10	160	10	0
Added Vol:	0	0	27	0	0	0	0	519	0	17	162	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	0	527	0	0	0	0	529	10	177	172	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:	11	0	573	0	0	0	0	575	11	192	187	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	0	573	0	0	0	0	575	11	192	187	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:	11	0	573	0	0	0	0	575	11	192	187	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.89	1.00	0.83	1.00	1.00	1.00	1.00	0.93	0.93	0.93	0.93	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.96	0.04	1.00	2.00	0.00
Final Sat.:	1687	0	1583	0	0	0	0	3462	65	1769	3538	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.36	0.00	0.00	0.00	0.00	0.17	0.17	0.11	0.05	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.50	0.00	0.50	0.00	0.00	0.00	0.00	0.23	0.23	0.15	0.22	0.00
Volume/Cap:	0.01	0.00	0.72	0.00	0.00	0.00	0.00	0.72	0.72	0.72	0.24	0.00
Delay/Veh:	12.6	0.0	22.9	0.0	0.0	0.0	0.0	38.8	38.8	49.9	32.0	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:	12.6	0.0	22.9	0.0	0.0	0.0	0.0	38.8	38.8	49.9	32.0	0.0
LOS by Move:	B	A	C	A	A	A	A	D	D	D	C	A
HCM2kAvgQ:	0	0	13	0	0	0	0	10	10	7	2	0

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

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

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

Intersection #2 Eight Mile Road/Regatta Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.615
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	22.5
Optimal Cycle:	50	Level Of Service:	C

Street Name:	Regatta Drive						Eight Mile Road					
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:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	10	0	170	0	0	0	0	500	10	120	150	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:	10	0	170	0	0	0	0	500	10	120	150	0
Added Vol:	0	0	23	0	0	0	0	546	0	16	179	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	0	193	0	0	0	0	1046	10	136	329	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:	11	0	210	0	0	0	0	1137	11	148	358	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	0	210	0	0	0	0	1137	11	148	358	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:	11	0	210	0	0	0	0	1137	11	148	358	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.86	1.00	0.83	1.00	1.00	1.00	1.00	0.93	0.93	0.93	0.93	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.98	0.02	1.00	2.00	0.00
Final Sat.:	1635	0	1583	0	0	0	0	3501	33	1769	3538	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.13	0.00	0.00	0.00	0.00	0.32	0.32	0.08	0.10	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.22	0.00	0.22	0.00	0.00	0.00	0.00	0.53	0.53	0.14	0.39	0.00
Volume/Cap:	0.03	0.00	0.61	0.00	0.00	0.00	0.00	0.61	0.61	0.61	0.26	0.00
Delay/Veh:	31.0	0.0	38.8	0.0	0.0	0.0	0.0	17.1	17.1	45.4	20.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.0	0.0	38.8	0.0	0.0	0.0	0.0	17.1	17.1	45.4	20.6	0.0
LOS by Move:	C	A	D	A	A	A	A	B	B	D	C	A
HCM2kAvgQ:	0	0	7	0	0	0	0	10	10	5	3	0

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

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

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

Intersection #3 Eight Mile Road/Mokelumne Circle

Cycle (sec):	100	Critical Vol./Cap.(X):	1.077
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	76.9
Optimal Cycle:	130	Level Of Service:	E

Street Name:	Mokelumne Circle						Eight Mile Road					
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:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	10	0	550	0	0	0	0	650	20	150	260	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:	10	0	550	0	0	0	0	650	20	150	260	0
Added Vol:	5	0	80	0	0	0	0	560	9	67	189	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	0	630	0	0	0	0	1210	29	217	449	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:	16	0	685	0	0	0	0	1315	32	236	488	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	0	685	0	0	0	0	1315	32	236	488	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:	16	0	685	0	0	0	0	1315	32	236	488	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.87	1.00	0.83	1.00	1.00	1.00	1.00	0.93	0.93	0.93	0.93	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.95	0.05	1.00	2.00	0.00
Final Sat.:	1644	0	1583	0	0	0	0	3445	83	1769	3538	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.43	0.00	0.00	0.00	0.00	0.38	0.38	0.13	0.14	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.40	0.00	0.40	0.00	0.00	0.00	0.00	0.35	0.35	0.12	0.32	0.00
Volume/Cap:	0.02	0.00	1.08	0.00	0.00	0.00	0.00	1.08	1.08	1.08	0.43	0.00
Delay/Veh:	18.1	0.0	88.2	0.0	0.0	0.0	0.0	81.2	81.2	126.6	27.3	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:	18.1	0.0	88.2	0.0	0.0	0.0	0.0	81.2	81.2	126.6	27.3	0.0
LOS by Move:	B	A	F	A	A	A	A	F	F	F	C	A
HCM2kAvgQ:	0	0	32	0	0	0	0	33	33	13	6	0

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

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Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.86		0.97	0.95	1.00	0.88
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6337		3433	3539	1770	2777
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6337		3433	3539	1770	2777
Volume (vph)	1728	113	1388	604	63	1115
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1878	123	1509	657	68	1212
RTOR Reduction (vph)	9	0	0	0	0	0
Lane Group Flow (vph)	1992	0	1509	657	68	1212
Confl. Peds. (#/hr)		10				10
Turn Type			Prot			pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases						4
Actuated Green, G (s)	26.5		51.1	82.6	7.9	59.0
Effective Green, g (s)	27.5		52.1	83.6	8.4	60.5
Actuated g/C Ratio	0.28		0.52	0.84	0.08	0.60
Clearance Time (s)	5.0		5.0	5.0	4.5	5.0
Vehicle Extension (s)	6.0		5.0	6.0	2.0	5.0
Lane Grp Cap (vph)	1743		1789	2959	149	1791
v/s Ratio Prot	c0.32		c0.44	0.19	0.04	c0.35
v/s Ratio Perm						0.08
v/c Ratio	1.14		0.84	0.22	0.46	0.68
Uniform Delay, d1	36.2		20.5	1.7	43.6	13.2
Progression Factor	1.00		0.98	0.89	1.00	1.00
Incremental Delay, d2	71.6		3.4	0.1	0.8	1.3
Delay (s)	107.8		23.5	1.6	44.4	14.6
Level of Service	F		C	A	D	B
Approach Delay (s)	107.8			16.9	16.1	
Approach LOS	F			B	B	

Intersection Summary			
HCM Average Control Delay	50.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.0%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.86	0.86	0.97	0.95					0.95	0.95	1.00
Frpb, ped/bikes		0.98	0.97	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	1.00
Frt		0.92	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		4323	1320	3433	3539					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		4323	1320	3433	3539					1681	1681	1583
Volume (vph)	0	790	2053	580	1740	0	0	0	0	180	0	252
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	859	2232	630	1891	0	0	0	0	196	0	274
RTOR Reduction (vph)	0	109	109	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1866	1007	630	1891	0	0	0	0	98	98	274
Confl. Peds. (#/hr)			10									
Turn Type			Perm	Prot						Split		Free
Protected Phases		2		1	6					4	4	
Permitted Phases			2									Free
Actuated Green, G (s)		63.3	63.3	15.3	86.0					6.0	6.0	100.0
Effective Green, g (s)		65.0	65.0	17.0	86.0					6.0	6.0	100.0
Actuated g/C Ratio		0.65	0.65	0.17	0.86					0.06	0.06	1.00
Clearance Time (s)		5.7	5.7	5.7	4.0					4.0	4.0	
Vehicle Extension (s)		5.0	5.0	5.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		2810	858	584	3044					101	101	1583
v/s Ratio Prot		0.46		c0.18	0.53					c0.06	0.06	
v/s Ratio Perm			0.85									0.17
v/c Ratio		1.06dr	1.17	1.08	0.62					0.97	0.97	0.17
Uniform Delay, d1		10.8	17.5	41.5	2.1					46.9	46.9	0.0
Progression Factor		0.46	0.78	0.51	0.83					1.00	1.00	1.00
Incremental Delay, d2		0.3	81.7	55.0	0.4					79.6	79.6	0.2
Delay (s)		5.3	95.3	76.0	2.1					126.6	126.6	0.2
Level of Service		A	F	E	A					F	F	A
Approach Delay (s)		37.8			20.6			0.0			52.9	
Approach LOS		D			C			A			D	

Intersection Summary			
HCM Average Control Delay	31.8	HCM Level of Service	C
HCM Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	146.3%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.86		0.95	0.95	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			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			6308		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			6308		1681	1681	1583			
Volume (vph)	248	722	0	0	1217	140	1103	0	270	0	0	0
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)	267	776	0	0	1309	151	1186	0	290	0	0	0
RTOR Reduction (vph)	0	0	0	0	19	0	0	0	0	0	0	0
Lane Group Flow (vph)	267	776	0	0	1441	0	593	593	290	0	0	0
Confl. Peds. (#/hr)			10									
Turn Type	Prot						Split		Free			
Protected Phases	5	2			6		8	8				
Permitted Phases									Free			
Actuated Green, G (s)	21.5	57.3			30.1		33.0	33.0	100.0			
Effective Green, g (s)	23.2	59.0			31.8		33.0	33.0	100.0			
Actuated g/C Ratio	0.23	0.59			0.32		0.33	0.33	1.00			
Clearance Time (s)	5.7	5.7			5.7		4.0	4.0				
Vehicle Extension (s)	5.0	5.0			5.0		3.0	3.0				
Lane Grp Cap (vph)	411	2088			2006		555	555	1583			
v/s Ratio Prot	c0.15	0.22			c0.23		c0.35	0.35				
v/s Ratio Perm									0.18			
v/c Ratio	0.65	0.37			0.72		1.07	1.07	0.18			
Uniform Delay, d1	34.7	10.8			30.1		33.5	33.5	0.0			
Progression Factor	1.08	1.40			1.00		1.00	1.00	1.00			
Incremental Delay, d2	3.4	0.4			2.2		57.8	57.8	0.3			
Delay (s)	40.7	15.5			32.4		91.3	91.3	0.3			
Level of Service	D	B			C		F	F	A			
Approach Delay (s)		22.0			32.4			73.4			0.0	
Approach LOS		C			C			E			A	

Intersection Summary			
HCM Average Control Delay	44.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

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

Intersection #7 Eight Mile Road/Oak Grove Regional Park Entrance

Average Delay (sec/veh): 2.0 Worst Case Level Of Service: F[234.0]

Street Name:	Oak Grove Regional Park Entrance						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 0 0 0			0 0 2 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	10	0	10	0	0	0	0	700	10	10	1070	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	0	10	0	0	0	0	700	10	10	1070	0
Added Vol:	0	0	0	0	0	0	0	282	0	0	277	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	0	10	0	0	0	0	982	10	10	1347	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:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	10	0	10	0	0	0	0	1023	10	10	1403	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	10	0	10	0	0	0	0	1023	10	10	1403	0
Critical Gap Module:												
Critical Gp:	6.8	6.5	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	2493	3492	388	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	918	xxxx	xxxxx
Potent Cap.:	17	4	546	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	660	xxxx	xxxxx
Move Cap.:	17	4	546	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	660	xxxx	xxxxx
Volume/Cap:	0.63	0.00	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.5	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	B	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	32	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	2.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	234	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	F	*	*	*	*	*	*	*	*	*	*
ApproachDel:	234.0			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	F			*			*			*		

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

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

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

Intersection #8 Eight Mile Road/Thornton Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.865
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	43.1
Optimal Cycle:	104	Level Of Service:	D

Street Name:	Thornton Road						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	0 1		1 0	0 1	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	250	140	170	60	230	70	100	660	130	120	730	40
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:	250	140	170	60	230	70	100	660	130	120	730	40
Added Vol:	73	0	19	0	0	0	0	214	68	22	204	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	323	140	189	60	230	70	100	874	198	142	934	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	344	149	201	64	245	74	106	930	211	151	994	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	344	149	201	64	245	74	106	930	211	151	994	43
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:	344	149	201	64	245	74	106	930	211	151	994	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.95	0.95	0.93	0.93	0.83	0.93	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	0.77	0.23	1.00	2.00	1.00	1.00	1.92	0.08
Final Sat.:	1769	1862	1583	1769	1378	419	1769	3538	1583	1769	3372	144
Capacity Analysis Module:												
Vol/Sat:	0.19	0.08	0.13	0.04	0.18	0.18	0.06	0.26	0.13	0.09	0.29	0.29
Crit Moves:	****				****		****				****	
Green/Cycle:	0.22	0.28	0.28	0.15	0.21	0.21	0.07	0.31	0.31	0.10	0.34	0.34
Volume/Cap:	0.87	0.29	0.46	0.24	0.87	0.87	0.86	0.85	0.43	0.85	0.87	0.87
Delay/Veh:	55.1	28.7	30.7	37.7	57.2	57.2	87.5	38.7	28.1	74.1	37.7	37.7
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:	55.1	28.7	30.7	37.7	57.2	57.2	87.5	38.7	28.1	74.1	37.7	37.7
LOS by Move:	E	C	C	D	E	E	F	D	C	E	D	D
HCM2kAvgQ:	13	3	5	2	12	12	6	16	5	7	18	18

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

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

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

Intersection #9 Eight Mile Road/Davis Street

Cycle (sec):	100	Critical Vol./Cap.(X):	1.124
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	87.4
Optimal Cycle:	130	Level Of Service:	F

Street Name:	Davis Street						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0	1 0		1 0 0	1 0		1 0 1	0 1		1 0 0	1 0	
Volume Module:												
Base Vol:	120	160	450	80	240	50	60	480	160	240	360	20
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:	120	160	450	80	240	50	60	480	160	240	360	20
Added Vol:	50	0	0	0	0	30	27	150	56	0	145	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	170	160	450	80	240	80	87	630	216	240	505	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	181	170	479	85	255	85	93	670	230	255	537	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	181	170	479	85	255	85	93	670	230	255	537	21
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:	181	170	479	85	255	85	93	670	230	255	537	21
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.87	0.87	0.93	0.94	0.94	0.93	0.98	0.83	0.93	0.97	0.97
Lanes:	1.00	0.26	0.74	1.00	0.75	0.25	1.00	1.00	1.00	1.00	0.96	0.04
Final Sat.:	1769	434	1221	1769	1345	448	1769	1862	1583	1769	1780	71
Capacity Analysis Module:												
Vol/Sat:	0.10	0.39	0.39	0.05	0.19	0.19	0.05	0.36	0.15	0.14	0.30	0.30
Crit Moves:		****		****				****		****		
Green/Cycle:	0.14	0.34	0.34	0.07	0.26	0.26	0.08	0.31	0.31	0.12	0.35	0.35
Volume/Cap:	0.72	1.16	1.16	0.69	0.72	0.72	0.64	1.16	0.47	1.16	0.86	0.86
Delay/Veh:	50.5	125	125.3	60.4	38.6	38.6	53.9	126	28.6	155.9	41.1	41.1
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:	50.5	125	125.3	60.4	38.6	38.6	53.9	126	28.6	155.9	41.1	41.1
LOS by Move:	D	F	F	E	D	D	D	F	C	F	D	D
HCM2kAvgQ:	7	34	34	4	10	10	4	35	6	15	18	18

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

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

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

Intersection #10 Eight Mile Road/Lower Sacramento Road

Cycle (sec):	100	Critical Vol./Cap.(X):	1.088
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	78.2
Optimal Cycle:	130	Level Of Service:	E

Street Name:	Lower Sacramento Road						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	0 1		1 0 1	0 1		1 0 1	1 0		1 0 1	1 0	
Volume Module:												
Base Vol:	20	240	330	210	470	90	40	940	20	360	570	40
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:	20	240	330	210	470	90	40	940	20	360	570	40
Added Vol:	0	0	0	0	0	16	17	133	0	0	129	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	20	240	330	210	470	106	57	1073	20	360	699	40
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:	22	261	359	228	511	115	62	1166	22	391	760	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	261	359	228	511	115	62	1166	22	391	760	43
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:	22	261	359	228	511	115	62	1166	22	391	760	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.98	0.83	0.93	0.93	0.93	0.93	0.92	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.96	0.04	1.00	1.89	0.11
Final Sat.:	1769	1862	1583	1769	1862	1583	1769	3463	65	1769	3320	190
Capacity Analysis Module:												
Vol/Sat:	0.01	0.14	0.23	0.13	0.27	0.07	0.04	0.34	0.34	0.22	0.23	0.23
Crit Moves:			****	****				****		****		
Green/Cycle:	0.07	0.21	0.21	0.12	0.26	0.26	0.12	0.31	0.31	0.20	0.39	0.39
Volume/Cap:	0.18	0.67	1.09	1.09	1.07	0.28	0.29	1.09	1.09	1.09	0.58	0.58
Delay/Veh:	44.5	41.0	114.7	131.6	97.5	30.2	40.9	88.9	88.9	112.9	24.5	24.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.5	41.0	114.7	131.6	97.5	30.2	40.9	88.9	88.9	112.9	24.5	24.5
LOS by Move:	D	D	F	F	F	C	D	F	F	F	C	C
HCM2kAvgQ:	1	8	19	13	24	3	2	30	30	20	9	9

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

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

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

Intersection #11 Eight Mile Road/West Lane

Cycle (sec):	100	Critical Vol./Cap.(X):	1.062
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	78.2
Optimal Cycle:	130	Level Of Service:	E

Street Name:	West Lane						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	1 0		1 0 1	1 0		1 0 1	0 1		1 0 0	1 0	
Volume Module:												
Base Vol:	190	410	110	30	670	260	250	660	320	100	450	10
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:	190	410	110	30	670	260	250	660	320	100	450	10
Added Vol:	0	0	0	0	0	32	34	99	0	0	97	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	190	410	110	30	670	292	284	759	320	100	547	10
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:	198	427	115	31	698	304	296	791	333	104	570	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	198	427	115	31	698	304	296	791	333	104	570	10
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	427	115	31	698	304	296	791	333	104	570	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.90	0.90	0.93	0.89	0.89	0.93	0.98	0.83	0.93	0.98	0.98
Lanes:	1.00	1.58	0.42	1.00	1.39	0.61	1.00	1.00	1.00	1.00	0.98	0.02
Final Sat.:	1769	2700	724	1769	2351	1024	1769	1862	1583	1769	1823	33
Capacity Analysis Module:												
Vol/Sat:	0.11	0.16	0.16	0.02	0.30	0.30	0.17	0.42	0.21	0.06	0.31	0.31
Crit Moves:	****				****			****		****		
Green/Cycle:	0.10	0.26	0.26	0.12	0.27	0.27	0.16	0.39	0.39	0.07	0.30	0.30
Volume/Cap:	1.08	0.60	0.60	0.15	1.08	1.08	1.04	1.08	0.54	0.84	1.04	1.04
Delay/Veh:	135.0	33.5	33.5	40.1	90.7	90.7	105.4	88.2	24.3	83.6	83.1	83.1
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:	135.0	33.5	33.5	40.1	90.7	90.7	105.4	88.2	24.3	83.6	83.1	83.1
LOS by Move:	F	C	C	D	F	F	F	F	C	F	F	F
HCM2kAvgQ:	12	8	8	1	26	26	15	36	7	5	26	26

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

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

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

Intersection #12 Eight Mile Road/SR 99 Frontage

Cycle (sec):	100	Critical Vol./Cap.(X):	0.867
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	43.9
Optimal Cycle:	104	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 1 0			1 0 0 1 0			1 0 0 1 0			1 0 0 1 0		
Volume Module:												
Base Vol:	150	30	160	40	90	20	80	280	300	220	360	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:	150	30	160	40	90	20	80	280	300	220	360	120
Added Vol:	60	0	0	0	0	0	0	54	46	0	36	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	210	30	160	40	90	20	80	334	346	220	396	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:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	219	31	167	42	94	21	83	348	360	229	413	125
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	219	31	167	42	94	21	83	348	360	229	413	125
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:	219	31	167	42	94	21	83	348	360	229	413	125
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.86	0.86	0.93	0.95	0.95	0.93	0.91	0.91	0.93	0.95	0.95
Lanes:	1.00	0.16	0.84	1.00	0.82	0.18	1.00	0.49	0.51	1.00	0.77	0.23
Final Sat.:	1769	257	1370	1769	1482	329	1769	845	875	1769	1379	418
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.12	0.02	0.06	0.06	0.05	0.41	0.41	0.13	0.30	0.30
Crit Moves:	****				****			****		****		
Green/Cycle:	0.14	0.15	0.15	0.09	0.10	0.10	0.11	0.46	0.46	0.14	0.49	0.49
Volume/Cap:	0.90	0.81	0.81	0.27	0.63	0.63	0.41	0.90	0.90	0.90	0.61	0.61
Delay/Veh:	74.6	58.6	58.6	43.7	50.3	50.3	42.5	38.1	38.1	73.2	20.0	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:	74.6	58.6	58.6	43.7	50.3	50.3	42.5	38.1	38.1	73.2	20.0	20.0
LOS by Move:	E	E	E	D	D	D	D	D	D	E	B	B
HCM2kAvgQ:	10	8	8	1	5	5	3	24	24	10	12	12

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

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

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

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Intersection #13 Mokelumne Circle/Scott Creek Drive

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.550
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	31.1
Optimal Cycle:	53	Level Of Service:	C

****

Street Name:	Mokelumne Circle						Scott Creek Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 1 0			1 0 0 1 0			1 0 0 1 0			1 0 0 1 0		
Volume Module:												
Base Vol:	10	450	10	10	40	120	90	60	10	10	70	20
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:	10	450	10	10	40	120	90	60	10	10	70	20
Added Vol:	2	34	0	6	14	56	46	194	2	0	88	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	484	10	16	54	176	136	254	12	10	158	25
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:	13	526	11	17	59	191	148	276	13	11	172	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	526	11	17	59	191	148	276	13	11	172	27
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:	13	526	11	17	59	191	148	276	13	11	172	27
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.87	0.87	0.93	0.97	0.97	0.93	0.96	0.96
Lanes:	1.00	0.98	0.02	1.00	0.23	0.77	1.00	0.95	0.05	1.00	0.86	0.14
Final Sat.:	1769	1819	38	1769	387	1261	1769	1766	83	1769	1574	249
Capacity Analysis Module:												
Vol/Sat:	0.01	0.29	0.29	0.01	0.15	0.15	0.08	0.16	0.16	0.01	0.11	0.11
Crit Moves:		****		****				****		****		
Green/Cycle:	0.17	0.45	0.45	0.07	0.36	0.36	0.14	0.25	0.25	0.07	0.18	0.18
Volume/Cap:	0.04	0.64	0.64	0.14	0.42	0.42	0.61	0.64	0.64	0.09	0.61	0.61
Delay/Veh:	35.1	22.6	22.6	44.2	24.7	24.7	45.2	36.7	36.7	43.8	41.2	41.2
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:	35.1	22.6	22.6	44.2	24.7	24.7	45.2	36.7	36.7	43.8	41.2	41.2
LOS by Move:	D	C	C	D	C	C	D	D	D	D	D	D
HCM2kAvgQ:	0	11	11	1	5	5	5	8	8	0	6	6

****

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

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

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

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Intersection #14 Trinity Parkway/Consumnes Drive

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.655
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	34.5
Optimal Cycle:	63	Level Of Service:	C

****

Street Name:	Trinity Parkway						Consumnes Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	1 0		1 0 1	1 0		1 0 0	1 0		1 0 1	0 1	
Volume Module:												
Base Vol:	100	260	0	0	140	60	250	0	250	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	100	260	0	0	140	60	250	0	250	0	0	0
Added Vol:	51	383	21	111	485	2	3	8	83	17	3	33
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	151	643	21	111	625	62	253	8	333	17	3	33
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:	164	699	23	121	679	67	275	9	362	18	3	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	164	699	23	121	679	67	275	9	362	18	3	36
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:	164	699	23	121	679	67	275	9	362	18	3	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.93	0.93	0.92	0.92	0.93	0.84	0.84	0.93	0.98	0.83
Lanes:	1.00	1.94	0.06	1.00	1.82	0.18	1.00	0.02	0.98	1.00	1.00	1.00
Final Sat.:	1769	3409	111	1769	3177	315	1769	37	1551	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.09	0.21	0.21	0.07	0.21	0.21	0.16	0.23	0.23	0.01	0.00	0.02
Crit Moves:	****				****			****		****		
Green/Cycle:	0.13	0.33	0.33	0.11	0.30	0.30	0.25	0.33	0.33	0.07	0.16	0.16
Volume/Cap:	0.70	0.63	0.63	0.61	0.70	0.70	0.63	0.70	0.70	0.15	0.01	0.14
Delay/Veh:	50.7	29.7	29.7	48.0	32.8	32.8	36.8	33.2	33.2	44.3	35.6	36.6
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	29.7	29.7	48.0	32.8	32.8	36.8	33.2	33.2	44.3	35.6	36.6
LOS by Move:	D	C	C	D	C	C	D	C	C	D	D	D
HCM2kAvgQ:	6	10	10	5	11	11	8	10	10	1	0	1

****

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

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

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

Intersection #15 Trinity Parkway/McAuliffe Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.594
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	21.9
Optimal Cycle:	48	Level Of Service:	C

Street Name:	Trinity Parkway						McAuliffe Road					
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			Permitted			Permitted		
Rights:	Include			Include			Include			Ovl		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	0 0 1	1 0		1 0 2	0 0		0 0 0	0 0		1 0 0	0 1	
Volume Module:												
Base Vol:	0	40	30	260	110	0	0	0	0	140	0	360
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	40	30	260	110	0	0	0	0	140	0	360
Added Vol:	0	371	0	171	358	0	0	0	0	0	0	202
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	411	30	431	468	0	0	0	0	140	0	562
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:	0	447	33	468	509	0	0	0	0	152	0	611
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	447	33	468	509	0	0	0	0	152	0	611
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:	0	447	33	468	509	0	0	0	0	152	0	611
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.92	0.92	0.93	0.93	1.00	1.00	1.00	1.00	0.76	1.00	0.83
Lanes:	0.00	1.86	0.14	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3264	238	1769	3538	0	0	0	0	1441	0	1583
Capacity Analysis Module:												
Vol/Sat:	0.00	0.14	0.14	0.26	0.14	0.00	0.00	0.00	0.00	0.11	0.00	0.39
Crit Moves:		****		****								****
Green/Cycle:	0.00	0.23	0.23	0.45	0.45	0.00	0.00	0.00	0.00	0.20	0.00	0.65
Volume/Cap:	0.00	0.59	0.59	0.59	0.32	0.00	0.00	0.00	0.00	0.52	0.00	0.59
Delay/Veh:	0.0	35.5	35.5	22.1	17.5	0.0	0.0	0.0	0.0	37.1	0.0	10.9
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:	0.0	35.5	35.5	22.1	17.5	0.0	0.0	0.0	0.0	37.1	0.0	10.9
LOS by Move:	A	D	D	C	B	A	A	A	A	D	A	B
HCM2kAvgQ:	0	7	7	10	4	0	0	0	0	5	0	6

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

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

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

Intersection #16 Thornton Road/A.G. Spanos Boulevard (South)

Cycle (sec): 70 Critical Vol./Cap.(X): 0.918
Loss Time (sec): 10 (Y+R=5.0 sec) Average Delay (sec/veh): 35.6
Optimal Cycle: OPTIMIZED Level Of Service: D

Street Name:	Thornton Road						A.G. Spanos Boulevard (South)					
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			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 2 1 0			1 0 2 0 1			0 1 0 0 1			0 1 0 0 1		
Volume Module:												
Base Vol:	220	310	40	20	540	50	50	10	390	120	10	40
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:	220	310	40	20	540	50	50	10	390	120	10	40
Added Vol:	171	40	0	0	48	4	5	0	143	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	391	350	40	20	588	54	55	10	533	120	10	40
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:	425	380	43	22	639	59	60	11	579	130	11	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	425	380	43	22	639	59	60	11	579	130	11	43
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:	425	380	43	22	639	59	60	11	579	130	11	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.88	0.88	0.93	0.93	0.83	0.72	0.72	0.83	0.68	0.68	0.83
Lanes:	1.00	2.69	0.31	1.00	2.00	1.00	0.85	0.15	1.00	0.92	0.08	1.00
Final Sat.:	1769	4493	514	1769	3538	1583	1163	211	1583	1200	100	1583
Capacity Analysis Module:												
Vol/Sat:	0.24	0.08	0.08	0.01	0.18	0.04	0.05	0.05	0.37	0.11	0.11	0.03
Crit Moves:	****				****				****			
Green/Cycle:	0.26	0.27	0.27	0.19	0.20	0.20	0.40	0.40	0.40	0.40	0.40	0.40
Volume/Cap:	0.92	0.31	0.31	0.07	0.92	0.19	0.13	0.13	0.92	0.27	0.27	0.07
Delay/Veh:	48.4	20.5	20.5	23.4	44.7	23.7	13.4	13.4	38.5	14.5	14.5	13.1
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:	48.4	20.5	20.5	23.4	44.7	23.7	13.4	13.4	38.5	14.5	14.5	13.1
LOS by Move:	D	C	C	C	D	C	B	B	D	B	B	B
HCM2kAvgQ:	13	3	3	0	11	1	1	1	16	2	2	0

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

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Crystal Bay (The Spanos Parcel) EIR
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AM Peak Hour

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

Intersection #17 Thornton Road/Wagner Heights

Cycle (sec):	70	Critical Vol./Cap.(X):	0.768
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	27.7
Optimal Cycle:	70	Level Of Service:	C

Street Name:	Thornton Road						Wagner Heights					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1 0 1			1 0 2 0 1			1 0 1 0 1			1 0 1 0 1		
Volume Module:												
Base Vol:	80	450	50	100	950	110	100	160	160	80	230	90
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:	80	450	50	100	950	110	100	160	160	80	230	90
Added Vol:	0	169	0	0	161	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	80	619	50	100	1111	110	100	160	160	80	230	90
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:	83	645	52	104	1157	115	104	167	167	83	240	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	83	645	52	104	1157	115	104	167	167	83	240	94
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:	83	645	52	104	1157	115	104	167	167	83	240	94
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.93	0.83	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1769	1862	1583	1769	3538	1583	1769	1862	1583	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.05	0.35	0.03	0.06	0.33	0.07	0.06	0.09	0.11	0.05	0.13	0.06
Crit Moves:		****		****			****				****	
Green/Cycle:	0.12	0.42	0.42	0.10	0.40	0.40	0.10	0.15	0.15	0.10	0.15	0.15
Volume/Cap:	0.39	0.83	0.08	0.59	0.83	0.18	0.59	0.60	0.70	0.45	0.83	0.38
Delay/Veh:	29.6	25.8	12.4	35.3	23.2	13.9	35.3	31.3	37.4	31.2	46.8	27.6
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:	29.6	25.8	12.4	35.3	23.2	13.9	35.3	31.3	37.4	31.2	46.8	27.6
LOS by Move:	C	C	B	D	C	B	D	C	D	C	D	C
HCM2kAvgQ:	2	14	1	3	14	1	3	4	5	2	8	2

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

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

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

Intersection #19 Mariners Drive/Otto Drive

Average Delay (sec/veh): 10.6 Worst Case Level Of Service: C[15.5]

Street Name:	Mariners Drive								Otto Drive							
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	1	0	1	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0
Volume Module:																				
Base Vol:	10		50		0	0		110		10	10		0		180	0		0		0
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
Initial Bse:	10		50		0	0		110		10	10		0		180	0		0		0
Added Vol:	371		0		0	0		0		0	0		0		358	0		0		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	381		50		0	0		110		10	10		0		538	0		0		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:	414		54		0	0		120		11	11		0		585	0		0		0
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
FinalVolume:	414		54		0	0		120		11	11		0		585	0		0		0
Critical Gap Module:																				
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx					6.4	xxxx			6.2	xxxxx	xxxx	xxxxx		
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx					3.5	xxxx			3.3	xxxxx	xxxx	xxxxx		
Capacity Module:																				
Cnflict Vol:	130	xxxx	xxxxx	xxxx	xxxx	xxxxx					1008	xxxx			125	xxxx	xxxx	xxxxx		
Potent Cap.:	1455	xxxx	xxxxx	xxxx	xxxx	xxxxx					267	xxxx			926	xxxx	xxxx	xxxxx		
Move Cap.:	1455	xxxx	xxxxx	xxxx	xxxx	xxxxx					208	xxxx			926	xxxx	xxxx	xxxxx		
Volume/Cap:	0.28	xxxx	xxxx	xxxx	xxxx	xxxx					0.05	xxxx			0.63	xxxx	xxxx	xxxx		
Level Of Service Module:																				
2Way95thQ:	1.2	xxxx	xxxxx	xxxx	xxxx	xxxxx					0.2	xxxx			4.6	xxxx	xxxx	xxxxx		
Control Del:	8.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx					23.3	xxxx			15.3	xxxxx	xxxx	xxxxx		
LOS by Move:	A	*	*	*	*	*					C	*			C	*	*	*		
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx					xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx					xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx					xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shared LOS:	*	*	*	*	*	*					*	*	*			*	*	*		
ApproachDel:	xxxxxx			xxxxxx							15.5					xxxxxx				
ApproachLOS:	*			*							C					*				

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		0.97	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.86		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3406		3433	4350		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3406		3433	4350		1770	1863	1583	1770	1863	1583
Volume (vph)	10	30	10	350	20	541	10	10	290	978	10	10
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)	11	33	11	380	22	588	11	11	315	1063	11	11
RTOR Reduction (vph)	0	8	0	0	358	0	0	0	292	0	0	7
Lane Group Flow (vph)	11	36	0	380	252	0	11	11	23	1063	11	4
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	1.4	35.3		12.0	45.9		7.7	7.7	7.7	45.0	45.0	45.0
Effective Green, g (s)	2.4	36.3		13.0	46.9		8.7	8.7	8.7	46.0	46.0	46.0
Actuated g/C Ratio	0.02	0.30		0.11	0.39		0.07	0.07	0.07	0.38	0.38	0.38
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	2.0	6.0		2.0	6.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	35	1030		372	1700		128	135	115	679	714	607
v/s Ratio Prot	c0.01	0.01		c0.11	c0.14		0.01	0.01		c0.60	0.01	
v/s Ratio Perm									0.20			0.01
v/c Ratio	0.31	0.04		1.02	0.15		0.09	0.08	0.20	1.57	0.02	0.01
Uniform Delay, d1	58.0	29.5		53.5	23.6		51.9	51.9	52.4	37.0	23.0	22.9
Progression Factor	1.00	1.00		0.94	1.89		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	0.1		51.9	0.2		0.1	0.1	0.3	261.6	0.0	0.0
Delay (s)	59.9	29.6		102.0	44.7		52.0	52.0	52.7	298.6	23.0	22.9
Level of Service	E	C		F	D		D	D	D	F	C	C
Approach Delay (s)		35.6			66.7			52.6			293.0	
Approach LOS		D			E			D			F	

Intersection Summary			
HCM Average Control Delay	163.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	85.5%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.91					0.95	0.95	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3539	1583	3433	5085					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3539	1583	3433	5085					1681	1681	1583
Volume (vph)	0	576	722	1610	831	0	0	0	0	421	0	80
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)	0	619	776	1731	894	0	0	0	0	453	0	86
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	72
Lane Group Flow (vph)	0	619	776	1731	894	0	0	0	0	227	226	14
Turn Type			Free	Prot						Perm		Perm
Protected Phases		2		1	6						4	
Permitted Phases			Free							4		4
Actuated Green, G (s)		23.6	120.0	64.8	92.4					19.0	19.0	19.0
Effective Green, g (s)		24.0	120.0	64.8	92.8					19.2	19.2	19.2
Actuated g/C Ratio		0.20	1.00	0.54	0.77					0.16	0.16	0.16
Clearance Time (s)		4.4		4.0	4.4					4.2	4.2	4.2
Vehicle Extension (s)		3.0		3.0	3.0					2.0	2.0	2.0
Lane Grp Cap (vph)		708	1583	1854	3932					269	269	253
v/s Ratio Prot		c0.17		c0.50	0.18							
v/s Ratio Perm			0.49							c0.14	0.13	0.01
v/c Ratio		0.87	0.49	0.93	0.23					0.84	0.84	0.05
Uniform Delay, d1		46.5	0.0	25.6	3.7					48.9	48.9	42.7
Progression Factor		0.53	1.00	0.54	0.31					1.00	1.00	1.00
Incremental Delay, d2		1.5	0.1	8.5	0.1					20.0	19.7	0.0
Delay (s)		26.1	0.1	22.4	1.3					69.0	68.6	42.7
Level of Service		C	A	C	A					E	E	D
Approach Delay (s)		11.6			15.2			0.0			64.6	
Approach LOS		B			B			A			E	

Intersection Summary			
HCM Average Control Delay	20.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.3%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.81	1.00	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			7544	1583	1681	1681	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			7544	1583	1681	1681	2787			
Volume (vph)	110	887	0	0	2051	304	389	0	670	0	0	0
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)	118	954	0	0	2205	327	418	0	720	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	15	0	0	0
Lane Group Flow (vph)	118	954	0	0	2205	285	209	209	705	0	0	0
Turn Type	Prot					Perm	Split		custom			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			1 8			
Actuated Green, G (s)	13.6	47.7			73.1	73.1	20.0	20.0	63.0			
Effective Green, g (s)	13.6	48.3			73.7	73.7	20.7	20.7	63.7			
Actuated g/C Ratio	0.11	0.40			0.61	0.61	0.17	0.17	0.53			
Clearance Time (s)	4.0	4.6			4.6	4.6	4.7	4.7				
Vehicle Extension (s)	2.0	3.0			3.0	3.0	2.0	2.0				
Lane Grp Cap (vph)	201	1424			4633	972	290	290	1479			
v/s Ratio Prot	0.07	c0.27			c0.29		c0.12	0.12				
v/s Ratio Perm						0.18			0.25			
v/c Ratio	0.59	0.67			0.48	0.29	0.72	0.72	0.48			
Uniform Delay, d1	50.5	29.3			12.6	10.9	46.9	46.9	17.7			
Progression Factor	0.19	0.15			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	1.3	1.4			0.4	0.8	7.3	7.3	0.2			
Delay (s)	10.9	5.7			13.0	11.7	54.2	54.2	17.9			
Level of Service	B	A			B	B	D	D	B			
Approach Delay (s)		6.3			12.8			31.2			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM Average Control Delay	15.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #26 Hammer Lane/Thornton Road

Cycle (sec):	120	Critical Vol./Cap.(X):	0.702
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	33.6
Optimal Cycle:	72	Level Of Service:	C

Street Name:	Thornton Road						Hammer Lane					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	2 0 2 1 0			1 0 2 1 0			1 0 3 0 1			1 0 3 0 1		
Volume Module:												
Base Vol:	70	210	20	410	930	40	40	1090	180	50	810	350
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:	70	210	20	410	930	40	40	1090	180	50	810	350
Added Vol:	37	72	0	39	72	0	0	77	32	0	101	22
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	282	20	449	1002	40	40	1167	212	50	911	372
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	114	300	21	478	1066	43	43	1241	226	53	969	396
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	114	300	21	478	1066	43	43	1241	226	53	969	396
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	300	21	478	1066	43	43	1241	226	53	969	396
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.88	0.88	0.93	0.89	0.89	0.93	0.89	0.83	0.93	0.89	0.83
Lanes:	2.00	2.80	0.20	1.00	2.88	0.12	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	3432	4699	333	1769	4859	194	1769	5083	1583	1769	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.03	0.06	0.06	0.27	0.22	0.22	0.02	0.24	0.14	0.03	0.19	0.25
Crit Moves:		****		****				****		****		
Green/Cycle:	0.10	0.09	0.09	0.38	0.37	0.37	0.09	0.34	0.34	0.06	0.31	0.68
Volume/Cap:	0.34	0.72	0.72	0.72	0.59	0.59	0.26	0.72	0.42	0.52	0.62	0.37
Delay/Veh:	51.1	58.6	58.6	35.5	31.2	31.2	51.3	34.2	29.4	59.3	35.8	2.8
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:	51.1	58.6	58.6	35.5	31.2	31.2	51.3	34.2	29.4	59.3	35.8	2.8
LOS by Move:	D	E	E	D	C	C	D	C	C	E	D	A
HCM2kAvgQ:	2	6	6	15	11	11	2	15	6	3	11	2

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

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Crystal Bay (The Spanos Parcel) EIR
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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #27 Thornton Road/Whistler Way

Cycle (sec):	90	Critical Vol./Cap.(X):	0.367
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	29.3
Optimal Cycle:	50	Level Of Service:	C

Street Name:	Thornton Road						Whistler Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 2 0 1			1 0 1 1 0			1 0 1 0 1			1 0 0 1 0		
Volume Module:												
Base Vol:	60	260	70	90	280	30	40	50	90	190	80	80
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	260	70	90	280	30	40	50	90	190	80	80
Added Vol:	0	45	0	1	53	17	25	0	0	0	0	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	60	305	70	91	333	47	65	50	90	190	80	82
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	332	76	99	362	51	71	54	98	207	87	89
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	65	332	76	99	362	51	71	54	98	207	87	89
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	332	76	99	362	51	71	54	98	207	87	89
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.91	0.91	0.93	0.98	0.83	0.93	0.91	0.91
Lanes:	1.00	2.00	1.00	1.00	1.75	0.25	1.00	1.00	1.00	1.00	0.49	0.51
Final Sat.:	1769	3538	1583	1769	3041	429	1769	1862	1583	1769	850	871
Capacity Analysis Module:												
Vol/Sat:	0.04	0.09	0.05	0.06	0.12	0.12	0.04	0.03	0.06	0.12	0.10	0.10
Crit Moves:	****				****			****		****		
Green/Cycle:	0.10	0.24	0.24	0.17	0.31	0.31	0.17	0.11	0.11	0.30	0.24	0.24
Volume/Cap:	0.38	0.39	0.20	0.33	0.38	0.38	0.23	0.26	0.56	0.38	0.42	0.42
Delay/Veh:	39.6	29.0	27.6	33.7	24.5	24.5	32.6	37.3	41.8	25.1	29.3	29.3
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:	39.6	29.0	27.6	33.7	24.5	24.5	32.6	37.3	41.8	25.1	29.3	29.3
LOS by Move:	D	C	C	C	C	C	C	D	D	C	C	C
HCM2kAvgQ:	2	4	2	3	5	5	2	2	3	5	4	4

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

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Eight Mile Road/Westlake Drive

Cycle (sec):	65	Critical Vol./Cap.(X):	0.410
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	16.3
Optimal Cycle:	39	Level Of Service:	B

Street Name:	Westlake Drive						Eight Mile Road					
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:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	10	0	140	0	0	0	0	10	10	340	10	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:	10	0	140	0	0	0	0	10	10	340	10	0
Added Vol:	0	0	39	0	0	0	0	299	0	44	519	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	0	179	0	0	0	0	309	10	384	529	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:	11	0	195	0	0	0	0	336	11	417	575	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	0	195	0	0	0	0	336	11	417	575	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:	11	0	195	0	0	0	0	336	11	417	575	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.98	1.00	0.83	1.00	1.00	1.00	1.00	0.93	0.93	0.93	0.93	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.94	0.06	1.00	2.00	0.00
Final Sat.:	1862	0	1583	0	0	0	0	3410	110	1769	3538	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.12	0.00	0.00	0.00	0.00	0.10	0.10	0.24	0.16	0.00
Crit Moves:								****		****		
Green/Cycle:	0.15	0.00	0.15	0.00	0.00	0.00	0.00	0.24	0.24	0.58	0.49	0.00
Volume/Cap:	0.04	0.00	0.80	0.00	0.00	0.00	0.00	0.41	0.41	0.41	0.33	0.00
Delay/Veh:	23.5	0.0	43.4	0.0	0.0	0.0	0.0	21.1	21.1	7.9	10.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.5	0.0	43.4	0.0	0.0	0.0	0.0	21.1	21.1	7.9	10.2	0.0
LOS by Move:	C	A	D	A	A	A	A	C	C	A	B	A
HCM2kAvgQ:	0	0	6	0	0	0	0	3	3	3	3	0

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

Crystal Bay (The Spanos Parcel) EIR
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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Eight Mile Road/Regatta Drive

Cycle (sec):	65	Critical Vol./Cap.(X):	0.911
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	30.9
Optimal Cycle:	89	Level Of Service:	C

Street Name:	Regatta Drive						Eight Mile Road					
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:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	10	0	250	0	0	0	0	150	10	590	350	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:	10	0	250	0	0	0	0	150	10	590	350	0
Added Vol:	0	0	41	0	0	0	0	338	0	44	563	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	0	291	0	0	0	0	488	10	634	913	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:	11	0	316	0	0	0	0	530	11	689	992	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	0	316	0	0	0	0	530	11	689	992	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:	11	0	316	0	0	0	0	530	11	689	992	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.85	1.00	0.83	1.00	1.00	1.00	1.00	0.93	0.93	0.93	0.93	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.96	0.04	1.00	2.00	0.00
Final Sat.:	1616	0	1583	0	0	0	0	3456	71	1769	3538	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.20	0.00	0.00	0.00	0.00	0.15	0.15	0.39	0.28	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.22	0.00	0.22	0.00	0.00	0.00	0.00	0.17	0.17	0.43	0.43	0.00
Volume/Cap:	0.03	0.00	0.91	0.00	0.00	0.00	0.00	0.91	0.91	0.91	0.65	0.00
Delay/Veh:	20.0	0.0	51.9	0.0	0.0	0.0	0.0	44.8	44.8	32.6	15.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.0	0.0	51.9	0.0	0.0	0.0	0.0	44.8	44.8	32.6	15.7	0.0
LOS by Move:	B	A	D	A	A	A	A	D	D	C	B	A
HCM2kAvgQ:	0	0	10	0	0	0	0	9	9	17	8	0

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

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Crystal Bay (The Spanos Parcel) EIR
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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Eight Mile Road/Mokelumne Circle

Cycle (sec):	65	Critical Vol./Cap.(X):	0.782
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	26.3
Optimal Cycle:	63	Level Of Service:	C

Street Name:	Mokelumne Circle						Eight Mile Road					
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:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	50	0	230	0	0	0	0	380	20	370	890	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:	50	0	230	0	0	0	0	380	20	370	890	0
Added Vol:	15	0	35	0	0	0	0	365	13	48	592	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	65	0	265	0	0	0	0	745	33	418	1482	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:	71	0	288	0	0	0	0	810	36	454	1611	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	0	288	0	0	0	0	810	36	454	1611	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:	71	0	288	0	0	0	0	810	36	454	1611	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	1.00	0.83	1.00	1.00	1.00	1.00	0.93	0.93	0.93	0.93	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.92	0.08	1.00	2.00	0.00
Final Sat.:	1441	0	1583	0	0	0	0	3367	149	1769	3538	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.18	0.00	0.00	0.00	0.00	0.24	0.24	0.26	0.46	0.00
Crit Moves:			****				****				****	
Green/Cycle:	0.20	0.00	0.20	0.00	0.00	0.00	0.00	0.30	0.30	0.32	0.51	0.00
Volume/Cap:	0.24	0.00	0.90	0.00	0.00	0.00	0.00	0.81	0.81	0.81	0.90	0.00
Delay/Veh:	22.2	0.0	52.1	0.0	0.0	0.0	0.0	26.1	26.1	29.1	21.3	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:	22.2	0.0	52.1	0.0	0.0	0.0	0.0	26.1	26.1	29.1	21.3	0.0
LOS by Move:	C	A	D	A	A	A	A	C	C	C	C	A
HCM2kAvgQ:	1	0	9	0	0	0	0	11	11	11	19	0

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

Traffix 7.8.0115 (c) 2007 Dowling Assoc. Licensed to FEHR & PEERS, W.C.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.86		0.97	0.95	1.00	0.88
Frpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6244		3433	3539	1770	2773
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6244		3433	3539	1770	2773
Volume (vph)	914	146	1971	1765	165	2089
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	983	157	2119	1898	177	2246
RTOR Reduction (vph)	23	0	0	0	0	0
Lane Group Flow (vph)	1117	0	2119	1898	177	2246
Confl. Peds. (#/hr)		10				10
Turn Type			Prot			pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases						4
Actuated Green, G (s)	20.5		78.1	103.6	16.9	95.0
Effective Green, g (s)	21.5		79.1	104.6	17.4	96.5
Actuated g/C Ratio	0.17		0.61	0.80	0.13	0.74
Clearance Time (s)	5.0		5.0	5.0	4.5	5.0
Vehicle Extension (s)	6.0		5.0	6.0	2.0	5.0
Lane Grp Cap (vph)	1033		2089	2848	237	2144
v/s Ratio Prot	c0.18		0.62	0.54	0.10	c0.64
v/s Ratio Perm						0.17
v/c Ratio	1.08		1.01	0.67	0.75	1.05
Uniform Delay, d1	54.2		25.5	5.4	54.2	16.8
Progression Factor	1.00		1.11	1.16	1.00	1.00
Incremental Delay, d2	52.8		10.0	0.1	10.7	33.3
Delay (s)	107.1		38.3	6.3	64.8	50.0
Level of Service	F		D	A	E	D
Approach Delay (s)	107.1			23.2	51.1	
Approach LOS	F			C	D	

Intersection Summary			
HCM Average Control Delay	44.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	96.6%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.86	0.86	0.97	0.95					0.95	0.95	1.00
Frpb, ped/bikes		0.99	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	1.00
Frt		0.94	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		4442	1362	3433	3539					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		4442	1362	3433	3539					1681	1681	1583
Volume (vph)	0	1250	1754	340	3312	0	0	0	0	280	0	425
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	1330	1866	362	3523	0	0	0	0	298	0	452
RTOR Reduction (vph)	0	97	145	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2166	788	362	3523	0	0	0	0	149	149	452
Confl. Peds. (#/hr)			10									
Turn Type			Prot	Prot						Split		Free
Protected Phases		2	2	1	6					4	4	
Permitted Phases												Free
Actuated Green, G (s)		87.3	87.3	16.3	111.0					11.0	11.0	130.0
Effective Green, g (s)		89.0	89.0	18.0	111.0					11.0	11.0	130.0
Actuated g/C Ratio		0.68	0.68	0.14	0.85					0.08	0.08	1.00
Clearance Time (s)		5.7	5.7	5.7	4.0					4.0	4.0	
Vehicle Extension (s)		5.0	5.0	5.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		3041	932	475	3022					142	142	1583
v/s Ratio Prot		0.51	0.69	0.11	c1.00					c0.09	0.09	
v/s Ratio Perm												0.29
v/c Ratio		0.86dr	0.85	0.76	1.17					1.05	1.05	0.29
Uniform Delay, d1		12.6	15.4	53.9	9.5					59.5	59.5	0.0
Progression Factor		0.64	1.06	1.52	0.72					1.00	1.00	1.00
Incremental Delay, d2		0.1	0.9	0.8	75.0					89.2	89.2	0.5
Delay (s)		8.2	17.2	82.9	81.8					148.7	148.7	0.5
Level of Service		A	B	F	F					F	F	A
Approach Delay (s)		10.9			81.9			0.0			59.4	
Approach LOS		B			F			A			E	

Intersection Summary			
HCM Average Control Delay	50.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	171.4%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.86		0.95	0.95	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			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			6300		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			6300		1681	1681	1583			
Volume (vph)	365	1165	0	0	1186	150	2466	0	670	0	0	0
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)	392	1253	0	0	1275	161	2652	0	720	0	0	0
RTOR Reduction (vph)	0	0	0	0	18	0	0	0	0	0	0	0
Lane Group Flow (vph)	392	1253	0	0	1418	0	1326	1326	720	0	0	0
Confl. Peds. (#/hr)			10									
Turn Type	Prot						Split		Free			
Protected Phases	5	2			6		8	8				
Permitted Phases									Free			
Actuated Green, G (s)	22.3	51.3			23.3		69.0	69.0	130.0			
Effective Green, g (s)	24.0	53.0			25.0		69.0	69.0	130.0			
Actuated g/C Ratio	0.18	0.41			0.19		0.53	0.53	1.00			
Clearance Time (s)	5.7	5.7			5.7		4.0	4.0				
Vehicle Extension (s)	5.0	5.0			5.0		3.0	3.0				
Lane Grp Cap (vph)	327	1443			1212		892	892	1583			
v/s Ratio Prot	c0.22	0.35			c0.23		c0.79	0.79				
v/s Ratio Perm									0.45			
v/c Ratio	1.20	0.87			1.17		1.49	1.49	0.45			
Uniform Delay, d1	53.0	35.3			52.5		30.5	30.5	0.0			
Progression Factor	1.04	1.22			1.00		1.00	1.00	1.00			
Incremental Delay, d2	107.7	4.8			85.7		224.9	224.9	0.9			
Delay (s)	162.7	47.8			138.2		255.4	255.4	0.9			
Level of Service	F	D			F		F	F	A			
Approach Delay (s)		75.2			138.2			201.1			0.0	
Approach LOS		E			F			F			A	

Intersection Summary			
HCM Average Control Delay	155.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	135.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

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

Intersection #7 Eight Mile Road/Oak Grove Regional Park Entrance

Average Delay (sec/veh): 46.9 Worst Case Level Of Service: F[7478.9]

Street Name:	Oak Grove Regional Park Entrance						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 0 0 0			0 0 2 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	10	0	10	0	0	0	0	1350	10	10	840	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:	10	0	10	0	0	0	0	1350	10	10	840	0
Added Vol:	0	0	0	0	0	0	0	475	0	0	486	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	0	10	0	0	0	0	1825	10	10	1326	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:	11	0	11	0	0	0	0	1921	11	11	1396	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	11	0	11	0	0	0	0	1921	11	11	1396	0
Critical Gap Module:												
Critical Gp:	6.8	6.5	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	4129	5219	873	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1907	xxxx	xxxxx
Potent Cap.:	1	0	217	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	227	xxxx	xxxxx
Move Cap.:	1	0	217	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	227	xxxx	xxxxx
Volume/Cap:	10.36	0.00	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	21.6	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	C	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	2	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	4.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	7479	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	F	*	*	*	*	*	*	*	*	*	*
ApproachDel:	7478.9			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	F			*			*			*		

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

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

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

Intersection #8 Eight Mile Road/Thornton Road

Cycle (sec): 130 Critical Vol./Cap.(X): 0.888
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 42.6
Optimal Cycle: 129 Level Of Service: D

Street Name:	Thornton Road						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	0	1	1 0	0 1	0	1 0	2 0	1	1 0	1 1	0
Volume Module:												
Base Vol:	120	100	120	30	170	50	110	1080	230	120	650	90
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:	120	100	120	30	170	50	110	1080	230	120	650	90
Added Vol:	123	0	42	0	0	0	0	351	125	42	363	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	243	100	162	30	170	50	110	1431	355	162	1013	90
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:	251	103	167	31	175	52	113	1475	366	167	1044	93
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	251	103	167	31	175	52	113	1475	366	167	1044	93
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:	251	103	167	31	175	52	113	1475	366	167	1044	93
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.95	0.95	0.93	0.93	0.83	0.93	0.92	0.92
Lanes:	1.00	1.00	1.00	1.00	0.77	0.23	1.00	2.00	1.00	1.00	1.84	0.16
Final Sat.:	1769	1862	1583	1769	1390	409	1769	3538	1583	1769	3210	285
Capacity Analysis Module:												
Vol/Sat:	0.14	0.06	0.11	0.02	0.13	0.13	0.06	0.42	0.23	0.09	0.33	0.33
Crit Moves:	****				****			****		****		
Green/Cycle:	0.16	0.20	0.20	0.10	0.14	0.14	0.09	0.47	0.47	0.11	0.48	0.48
Volume/Cap:	0.89	0.28	0.53	0.17	0.89	0.89	0.68	0.89	0.49	0.89	0.68	0.68
Delay/Veh:	80.6	44.5	48.3	53.8	83.9	83.9	67.4	37.7	24.3	93.7	27.1	27.1
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:	80.6	44.5	48.3	53.8	83.9	83.9	67.4	37.7	24.3	93.7	27.1	27.1
LOS by Move:	F	D	D	D	F	F	E	D	C	F	C	C
HCM2kAvgQ:	13	3	6	1	12	12	6	29	8	9	16	16

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

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

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

Intersection #9 Eight Mile Road/Davis Street

Cycle (sec):	130	Critical Vol./Cap.(X):	1.133
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	106.5
Optimal Cycle:	130	Level Of Service:	F

Street Name:	Davis Street						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 1 0			1 0 0 1 0			1 0 1 0 1			1 0 0 1 0		
Volume Module:												
Base Vol:	60	180	290	50	200	120	100	470	110	390	350	50
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	180	290	50	200	120	100	470	110	390	350	50
Added Vol:	96	0	0	0	0	50	51	251	91	0	259	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	156	180	290	50	200	170	151	721	201	390	609	50
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:	170	196	315	54	217	185	164	784	218	424	662	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	170	196	315	54	217	185	164	784	218	424	662	54
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:	170	196	315	54	217	185	164	784	218	424	662	54
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.89	0.89	0.93	0.91	0.91	0.93	0.98	0.83	0.93	0.97	0.97
Lanes:	1.00	0.38	0.62	1.00	0.54	0.46	1.00	1.00	1.00	1.00	0.92	0.08
Final Sat.:	1769	647	1042	1769	937	796	1769	1862	1583	1769	1702	140
Capacity Analysis Module:												
Vol/Sat:	0.10	0.30	0.30	0.03	0.23	0.23	0.09	0.42	0.14	0.24	0.39	0.39
Crit Moves:		****		****				****		****		
Green/Cycle:	0.09	0.26	0.26	0.05	0.22	0.22	0.11	0.36	0.36	0.20	0.46	0.46
Volume/Cap:	1.05	1.17	1.17	0.57	1.05	1.05	0.85	1.17	0.38	1.17	0.85	0.85
Delay/Veh:	143.6	147	146.7	68.1	110	110.2	85.9	134	31.3	153.8	40.0	40.0
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:	143.6	147	146.7	68.1	110	110.2	85.9	134	31.3	153.8	40.0	40.0
LOS by Move:	F	F	F	E	F	F	F	F	C	F	D	D
HCM2kAvgQ:	11	32	32	3	23	23	9	48	6	27	26	26

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

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

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

Intersection #10 Eight Mile Road/Lower Sacramento Road

Cycle (sec):	130	Critical Vol./Cap.(X):	0.989
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	68.3
Optimal Cycle:	130	Level Of Service:	E

Street Name:	Lower Sacramento Road						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	0 1		1 0 1	0 1		1 0 1	1 0		1 0 1	1 0	
Volume Module:												
Base Vol:	30	470	390	40	390	60	100	740	50	430	760	60
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:	30	470	390	40	390	60	100	740	50	430	760	60
Added Vol:	0	0	0	0	0	28	27	223	0	0	231	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	30	470	390	40	390	88	127	963	50	430	991	60
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:	32	505	419	43	419	95	137	1035	54	462	1066	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	505	419	43	419	95	137	1035	54	462	1066	65
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:	32	505	419	43	419	95	137	1035	54	462	1066	65
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.98	0.83	0.93	0.92	0.92	0.93	0.92	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.90	0.10	1.00	1.89	0.11
Final Sat.:	1769	1862	1583	1769	1862	1583	1769	3340	173	1769	3306	200
Capacity Analysis Module:												
Vol/Sat:	0.02	0.27	0.26	0.02	0.23	0.06	0.08	0.31	0.31	0.26	0.32	0.32
Crit Moves:		****		****				****		****		
Green/Cycle:	0.06	0.27	0.27	0.05	0.26	0.26	0.11	0.30	0.30	0.26	0.45	0.45
Volume/Cap:	0.30	1.02	1.00	0.45	0.88	0.23	0.72	1.02	1.02	1.02	0.72	0.72
Delay/Veh:	59.8	94.5	91.6	63.0	62.6	38.4	68.3	79.2	79.2	97.0	30.6	30.6
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:	59.8	94.5	91.6	63.0	62.6	38.4	68.3	79.2	79.2	97.0	30.6	30.6
LOS by Move:	E	F	F	E	E	D	E	E	E	F	C	C
HCM2kAvgQ:	2	27	22	2	19	3	7	30	30	25	17	17

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

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

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

Intersection #11 Eight Mile Road/West Lane

Cycle (sec):	130	Critical Vol./Cap.(X):	1.273
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	126.2
Optimal Cycle:	130	Level Of Service:	F

Street Name:	West Lane							Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound			
Movement:	L	T	R	L	T	R	L	T	R	L	T	R	
Control:	Protected			Protected			Protected			Protected			
Rights:	Include			Include			Include			Include			
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0	
Lanes:	1 0 1 1 0			1 0 1 1 0			1 0 1 0 1			1 0 0 1 0			
Volume Module:													
Base Vol:	240	620	110	10	510	400	400	500	260	140	540	20	
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Initial Bse:	240	620	110	10	510	400	400	500	260	140	540	20	
Added Vol:	0	0	0	0	0	57	55	168	0	0	174	0	
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0	
Initial Fut:	240	620	110	10	510	457	455	668	260	140	714	20	
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:	247	639	113	10	526	471	469	689	268	144	736	21	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	247	639	113	10	526	471	469	689	268	144	736	21	
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
FinalVolume:	247	639	113	10	526	471	469	689	268	144	736	21	
Saturation Flow Module:													
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Adjustment:	0.93	0.91	0.91	0.93	0.86	0.86	0.93	0.98	0.83	0.93	0.98	0.98	
Lanes:	1.00	1.70	0.30	1.00	1.05	0.95	1.00	1.00	1.00	1.00	0.97	0.03	
Final Sat.:	1769	2936	521	1769	1733	1553	1769	1862	1583	1769	1804	51	
Capacity Analysis Module:													
Vol/Sat:	0.14	0.22	0.22	0.01	0.30	0.30	0.27	0.37	0.17	0.08	0.41	0.41	
Crit Moves:	****				****		****				****		
Green/Cycle:	0.11	0.28	0.28	0.07	0.24	0.24	0.21	0.43	0.43	0.10	0.32	0.32	
Volume/Cap:	1.27	0.78	0.78	0.08	1.27	1.27	1.27	0.85	0.39	0.85	1.27	1.27	
Delay/Veh:	214.6	47.3	47.3	57.0	182	182.3	194.0	41.9	25.5	89.9	180	179.8	
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:	214.6	47.3	47.3	57.0	182	182.3	194.0	41.9	25.5	89.9	180	179.8	
LOS by Move:	F	D	D	E	F	F	F	D	C	F	F	F	
HCM2kAvgQ:	19	16	16	0	37	37	33	25	6	8	52	52	

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

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

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

Intersection #12 Eight Mile Road/SR 99 Frontage

Cycle (sec):	120	Critical Vol./Cap.(X):	1.025
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	73.6
Optimal Cycle:	130	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 1 0			1 0 0 1 0			1 0 0 1 0			1 0 0 1 0		
Volume Module:												
Base Vol:	210	40	160	60	180	90	60	330	180	200	310	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:	210	40	160	60	180	90	60	330	180	200	310	120
Added Vol:	100	0	0	0	0	0	0	102	66	0	74	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	310	40	160	60	180	90	60	432	246	200	384	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:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	333	43	172	65	194	97	65	465	265	215	413	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	333	43	172	65	194	97	65	465	265	215	413	129
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:	333	43	172	65	194	97	65	465	265	215	413	129
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.86	0.86	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.94	0.94
Lanes:	1.00	0.20	0.80	1.00	0.67	0.33	1.00	0.64	0.36	1.00	0.76	0.24
Final Sat.:	1769	328	1311	1769	1179	590	1769	1122	639	1769	1368	427
Capacity Analysis Module:												
Vol/Sat:	0.19	0.13	0.13	0.04	0.16	0.16	0.04	0.41	0.41	0.12	0.30	0.30
Crit Moves:	****				****			****		****		
Green/Cycle:	0.18	0.24	0.24	0.11	0.16	0.16	0.08	0.40	0.40	0.12	0.44	0.44
Volume/Cap:	1.02	0.55	0.55	0.34	1.02	1.02	0.43	1.02	1.02	1.02	0.69	0.69
Delay/Veh:	105.3	41.8	41.8	50.9	110	110.3	54.2	75.9	75.9	121.6	29.8	29.8
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:	105.3	41.8	41.8	50.9	110	110.3	54.2	75.9	75.9	121.6	29.8	29.8
LOS by Move:	F	D	D	D	F	F	D	E	E	F	C	C
HCM2kAvgQ:	18	7	7	3	16	16	3	35	35	13	17	17

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

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

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

Intersection #13 Mokelumne Circle/Scott Creek Drive

Cycle (sec): 65 Critical Vol./Cap.(X): 0.771
Loss Time (sec): 0 (Y+R=5.0 sec) Average Delay (sec/veh): 27.0
Optimal Cycle: 99 Level Of Service: C

Street Name:	Mokelumne Circle						Scott Creek Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 1 0			1 0 0 1 0			1 0 0 1 0			1 0 0 1 0		
Volume Module:												
Base Vol:	20	210	20	50	160	400	120	110	10	10	210	70
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:	20	210	20	50	160	400	120	110	10	10	210	70
Added Vol:	3	25	0	12	39	10	12	108	2	0	175	12
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	23	235	20	62	199	410	132	218	12	10	385	82
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:	25	255	22	67	216	446	143	237	13	11	418	89
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	25	255	22	67	216	446	143	237	13	11	418	89
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:	25	255	22	67	216	446	143	237	13	11	418	89
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.97	0.97	0.93	0.88	0.88	0.93	0.97	0.97	0.93	0.95	0.95
Lanes:	1.00	0.92	0.08	1.00	0.33	0.67	1.00	0.95	0.05	1.00	0.82	0.18
Final Sat.:	1769	1695	144	1769	547	1127	1769	1751	96	1769	1495	318
Capacity Analysis Module:												
Vol/Sat:	0.01	0.15	0.15	0.04	0.40	0.40	0.08	0.14	0.14	0.01	0.28	0.28
Crit Moves:	****				****		****				****	
Green/Cycle:	0.11	0.33	0.33	0.23	0.46	0.46	0.11	0.25	0.25	0.18	0.33	0.33
Volume/Cap:	0.13	0.45	0.45	0.16	0.86	0.86	0.75	0.53	0.53	0.03	0.86	0.86
Delay/Veh:	26.6	17.5	17.5	20.0	25.4	25.4	43.7	22.1	22.1	22.1	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:	26.6	17.5	17.5	20.0	25.4	25.4	43.7	22.1	22.1	22.1	32.8	32.8
LOS by Move:	C	B	B	C	C	C	D	C	C	C	C	C
HCM2kAvgQ:	1	4	4	1	14	14	5	5	5	0	13	13

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

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

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

Intersection #14 Trinity Parkway/Consumnes Drive

Cycle (sec):	130	Critical Vol./Cap.(X):	0.899
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	44.3
Optimal Cycle:	130	Level Of Service:	D

Street Name:	Trinity Parkway							Consumnes Drive							
Approach:	North Bound				South Bound			East Bound				West Bound			
Movement:	L	T	R		L	T	R	L	T	R		L	T	R	
Control:	Protected				Protected			Protected				Protected			
Rights:	Include				Include			Include				Include			
Min. Green:	7	10	0		7	10	0	7	10	0		7	10	0	
Lanes:	1 0	1	1	0	1 0	1	1	0	1 0	0	1	0	1 0	1	0 1
Volume Module:															
Base Vol:	230	290	0		0	300	270		150	0		100	0	0	0
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Initial Bse:	230	290	0		0	300	270		150	0		100	0	0	0
Added Vol:	133	823	38		41	715	5		4	5		114	51	9	92
PasserByVol:	0	0	0		0	0	0		0	0		0	0	0	0
Initial Fut:	363	1113	38		41	1015	275		154	5		214	51	9	92
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:	382	1172	40		43	1068	289		162	5		225	54	9	97
Reduct Vol:	0	0	0		0	0	0		0	0		0	0	0	0
Reduced Vol:	382	1172	40		43	1068	289		162	5		225	54	9	97
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:	382	1172	40		43	1068	289		162	5		225	54	9	97
Saturation Flow Module:															
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900		1900	1900	1900	1900
Adjustment:	0.93	0.93	0.93		0.93	0.90	0.90		0.93	0.84		0.84	0.93	0.98	0.83
Lanes:	1.00	1.93	0.07		1.00	1.57	0.43		1.00	0.02		0.98	1.00	1.00	1.00
Final Sat.:	1769	3404	116		1769	2695	730		1769	36		1552	1769	1862	1583
Capacity Analysis Module:															
Vol/Sat:	0.22	0.34	0.34		0.02	0.40	0.40		0.09	0.15		0.15	0.03	0.01	0.06
Crit Moves:	****					****				****			****		
Green/Cycle:	0.23	0.58	0.58		0.09	0.43	0.43		0.11	0.16		0.16	0.05	0.10	0.10
Volume/Cap:	0.92	0.60	0.60		0.27	0.92	0.92		0.80	0.92		0.92	0.56	0.05	0.63
Delay/Veh:	74.1	18.4	18.4		56.1	44.6	44.6		75.4	90.1		90.1	67.6	53.5	64.9
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:	74.1	18.4	18.4		56.1	44.6	44.6		75.4	90.1		90.1	67.6	53.5	64.9
LOS by Move:	E	B	B		E	D	D		E	F		F	E	D	E
HCM2kAvgQ:	18	11	11		2	30	30		8	12		12	3	0	5

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

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

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

Intersection #15 Trinity Parkway/McAuliffe Road

Cycle (sec): 130 Critical Vol./Cap.(X): 0.777
Loss Time (sec): 12 (Y+R=5.0 sec) Average Delay (sec/veh): 31.4
Optimal Cycle: 77 Level Of Service: C

Street Name:	Trinity Parkway						McAuliffe Road					
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			Permitted			Permitted		
Rights:	Include			Include			Include			Ovl		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	0 0 1 1 0			1 0 2 0 0			0 0 0 0 0			1 0 0 0 1		
Volume Module:												
Base Vol:	0	160	120	350	70	0	0	0	0	60	0	330
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	160	120	350	70	0	0	0	0	60	0	330
Added Vol:	0	650	0	324	643	0	0	0	0	0	0	314
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	810	120	674	713	0	0	0	0	60	0	644
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:	0	880	130	733	775	0	0	0	0	65	0	700
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	880	130	733	775	0	0	0	0	65	0	700
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:	0	880	130	733	775	0	0	0	0	65	0	700
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.91	0.93	0.93	1.00	1.00	1.00	1.00	0.98	1.00	0.83
Lanes:	0.00	1.74	0.26	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3023	448	1769	3538	0	0	0	0	1862	0	1583
Capacity Analysis Module:												
Vol/Sat:	0.00	0.29	0.29	0.41	0.22	0.00	0.00	0.00	0.00	0.04	0.00	0.44
Crit Moves:		****		****							****	
Green/Cycle:	0.00	0.34	0.34	0.49	0.67	0.00	0.00	0.00	0.00	0.08	0.00	0.56
Volume/Cap:	0.00	0.85	0.85	0.85	0.33	0.00	0.00	0.00	0.00	0.46	0.00	0.78
Delay/Veh:	0.0	45.5	45.5	37.1	9.3	0.0	0.0	0.0	0.0	59.7	0.0	26.7
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:	0.0	45.5	45.5	37.1	9.3	0.0	0.0	0.0	0.0	59.7	0.0	26.7
LOS by Move:	A	D	D	D	A	A	A	A	A	E	A	C
HCM2kAvgQ:	0	21	21	25	3	0	0	0	0	3	0	18

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

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

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

Intersection #16 Thornton Road/A.G. Spanos Boulevard (South)

Cycle (sec): 85 Critical Vol./Cap.(X): 1.011
Loss Time (sec): 10 (Y+R=5.0 sec) Average Delay (sec/veh): 52.7
Optimal Cycle: OPTIMIZED Level Of Service: D

Street Name:	Thornton Road						A.G. Spanos Boulevard (South)					
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			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 2 1 0			1 0 2 0 1			0 1 0 0 1			0 1 0 0 1		
Volume Module:												
Base Vol:	340	410	140	70	470	60	40	30	260	60	10	20
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:	340	410	140	70	470	60	40	30	260	60	10	20
Added Vol:	254	76	0	0	69	10	9	0	266	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	594	486	140	70	539	70	49	30	526	60	10	20
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:	646	528	152	76	586	76	53	33	572	65	11	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	646	528	152	76	586	76	53	33	572	65	11	22
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:	646	528	152	76	586	76	53	33	572	65	11	22
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.86	0.86	0.93	0.93	0.83	0.80	0.80	0.83	0.73	0.73	0.83
Lanes:	1.00	2.33	0.67	1.00	2.00	1.00	0.62	0.38	1.00	0.86	0.14	1.00
Final Sat.:	1769	3812	1098	1769	3538	1583	939	575	1583	1184	197	1583
Capacity Analysis Module:												
Vol/Sat:	0.37	0.14	0.14	0.04	0.17	0.05	0.06	0.06	0.36	0.06	0.06	0.01
Crit Moves:	****				****				****			
Green/Cycle:	0.36	0.33	0.33	0.20	0.16	0.16	0.36	0.36	0.36	0.36	0.36	0.36
Volume/Cap:	1.01	0.42	0.42	0.22	1.01	0.29	0.16	0.16	1.01	0.15	0.15	0.04
Delay/Veh:	65.5	22.4	22.4	29.1	75.6	31.8	18.7	18.7	67.9	18.7	18.7	17.8
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:	65.5	22.4	22.4	29.1	75.6	31.8	18.7	18.7	67.9	18.7	18.7	17.8
LOS by Move:	E	C	C	C	E	C	B	B	E	B	B	B
HCM2kAvgQ:	25	5	5	2	14	2	1	1	22	1	1	0

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

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

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

Intersection #17 Thornton Road/Wagner Heights

Cycle (sec): 120 Critical Vol./Cap.(X): 0.916
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 40.3
Optimal Cycle: OPTIMIZED Level Of Service: D

Street Name:	Thornton Road						Wagner Heights					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	0	1	1 0 2	0	1	1 0 1	0	1	1 0 1	0	1
Volume Module:												
Base Vol:	90	850	40	50	570	110	130	130	120	70	130	80
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:	90	850	40	50	570	110	130	130	120	70	130	80
Added Vol:	0	265	0	0	265	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	90	1115	40	50	835	110	130	130	120	70	130	80
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:	93	1149	41	52	861	113	134	134	124	72	134	82
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	93	1149	41	52	861	113	134	134	124	72	134	82
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:	93	1149	41	52	861	113	134	134	124	72	134	82
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.93	0.83	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1769	1862	1583	1769	3538	1583	1769	1862	1583	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.05	0.62	0.03	0.03	0.24	0.07	0.08	0.07	0.08	0.04	0.07	0.05
Crit Moves:		****		****			****				****	
Green/Cycle:	0.14	0.65	0.65	0.06	0.57	0.57	0.08	0.10	0.10	0.07	0.08	0.08
Volume/Cap:	0.39	0.96	0.04	0.50	0.43	0.13	0.96	0.75	0.82	0.61	0.86	0.63
Delay/Veh:	48.3	36.2	7.7	58.6	15.0	12.1	117.5	69.3	81.3	63.4	90.5	62.3
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:	48.3	36.2	7.7	58.6	15.0	12.1	117.5	69.3	81.3	63.4	90.5	62.3
LOS by Move:	D	D	A	E	B	B	F	E	F	E	F	E
HCM2kAvgQ:	3	39	0	3	6	1	8	6	7	4	7	4

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

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

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

Intersection #19 Mariners Drive/Otto Drive

Average Delay (sec/veh): 12.9 Worst Case Level Of Service: C[19.7]

Street Name:	Mariners Drive									Otto Drive								
Approach:	North Bound					South Bound				East Bound					West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	1	0	1	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0
Volume Module:																				
Base Vol:	180	140		0		0	60		10		10		0		20		0		0	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	180	140		0		0	60		10		10		0		20		0		0	
Added Vol:	650	0		0		0	0		0		0		0		643		0		0	
PasserByVol:	0	0		0		0	0		0		0		0		0		0		0	
Initial Fut:	830	140		0		0	60		10		10		0		663		0		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	
PHF Adj:	0.92	0.92		0.92		0.92	0.92		0.92		0.92		0.92		0.92		0.92		0.92	
PHF Volume:	902	152		0		0	65		11		11		0		721		0		0	
Reduct Vol:	0	0		0		0	0		0		0		0		0		0		0	
FinalVolume:	902	152		0		0	65		11		11		0		721		0		0	
Critical Gap Module:																				
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx					6.4	xxxx			6.2	xxxxx	xxxx	xxxxx		
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx					3.5	xxxx			3.3	xxxxx	xxxx	xxxxx		
Capacity Module:																				
Cnflict Vol:	76	xxxx	xxxxx	xxxx	xxxx	xxxxx					2027	xxxx			71	xxxx	xxxx	xxxxx		
Potent Cap.:	1523	xxxx	xxxxx	xxxx	xxxx	xxxxx					63	xxxx			992	xxxx	xxxx	xxxxx		
Move Cap.:	1523	xxxx	xxxxx	xxxx	xxxx	xxxxx					33	xxxx			992	xxxx	xxxx	xxxxx		
Volume/Cap:	0.59	xxxx	xxxx	xxxx	xxxx	xxxx					0.33	xxxx			0.73	xxxx	xxxx	xxxx		
Level Of Service Module:																				
2Way95thQ:	4.1	xxxx	xxxxx	xxxx	xxxx	xxxxx					1.1	xxxx			6.7	xxxx	xxxx	xxxxx		
Control Del:	10.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx					157.8	xxxx			17.6	xxxxx	xxxx	xxxxx		
LOS by Move:	B	*		*		*	*		*		F	*			C	*	*	*		
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx					xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx					xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx					xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
Shared LOS:	*	*		*		*	*		*		*	*			*	*	*	*		
ApproachDel:	xxxxxx					xxxxxx					19.7					xxxxxx				
ApproachLOS:	*					*					C					*				

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		0.97	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3437		3433	4347		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3437		3433	4347		1770	1863	1583	1770	1863	1583
Volume (vph)	10	40	10	560	40	1190	10	40	280	1123	40	10
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)	10	42	10	583	42	1240	10	42	292	1170	42	10
RTOR Reduction (vph)	0	7	0	0	649	0	0	0	271	0	0	6
Lane Group Flow (vph)	10	45	0	583	633	0	10	42	21	1170	42	4
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	5.3	38.6		11.0	44.3		8.4	8.4	8.4	52.0	52.0	52.0
Effective Green, g (s)	6.3	39.6		12.0	45.3		9.4	9.4	9.4	53.0	53.0	53.0
Actuated g/C Ratio	0.05	0.30		0.09	0.35		0.07	0.07	0.07	0.41	0.41	0.41
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	2.0	6.0		2.0	6.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	86	1047		317	1515		128	135	114	722	760	645
v/s Ratio Prot	c0.01	0.02		c0.17	c0.29		0.01	0.02		c0.66	0.02	
v/s Ratio Perm									0.18			0.01
v/c Ratio	0.12	0.04		1.84	1.03dr		0.08	0.31	0.19	1.62	0.06	0.01
Uniform Delay, d1	59.2	31.8		59.0	32.3		56.3	57.2	56.7	38.5	23.3	22.9
Progression Factor	1.00	1.00		0.97	1.76		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.1		388.5	0.8		0.1	0.5	0.3	285.6	0.0	0.0
Delay (s)	59.4	31.9		445.9	57.5		56.4	57.7	57.0	324.1	23.3	22.9
Level of Service	E	C		F	E		E	E	E	F	C	C
Approach Delay (s)		36.4			178.9			57.1			311.3	
Approach LOS		D			F			E			F	

Intersection Summary			
HCM Average Control Delay	210.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.44		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	103.3%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.91					0.95	0.95	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3539	1583	3433	5085					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3539	1583	3433	5085					1681	1681	1583
Volume (vph)	0	848	595	1270	1710	0	0	0	0	471	0	80
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	902	633	1351	1819	0	0	0	0	501	0	85
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	29
Lane Group Flow (vph)	0	902	633	1351	1819	0	0	0	0	251	250	56
Turn Type			Free	Prot						Perm		Perm
Protected Phases		2		1	6						4	
Permitted Phases			Free							4		4
Actuated Green, G (s)		39.2	130.0	55.6	98.8					22.6	22.6	22.6
Effective Green, g (s)		39.6	130.0	55.6	99.2					22.8	22.8	22.8
Actuated g/C Ratio		0.30	1.00	0.43	0.76					0.18	0.18	0.18
Clearance Time (s)		4.4		4.0	4.4					4.2	4.2	4.2
Vehicle Extension (s)		3.0		3.0	3.0					2.0	2.0	2.0
Lane Grp Cap (vph)		1078	1583	1468	3880					295	295	278
v/s Ratio Prot		c0.25		c0.39	0.36							
v/s Ratio Perm			0.40							c0.15	0.15	0.04
v/c Ratio		0.84	0.40	0.92	0.47					0.85	0.85	0.20
Uniform Delay, d1		42.2	0.0	35.1	5.7					52.0	51.9	45.8
Progression Factor		0.35	1.00	0.52	0.24					1.00	1.00	1.00
Incremental Delay, d2		0.8	0.1	7.7	0.2					19.7	18.9	0.1
Delay (s)		15.5	0.1	26.0	1.6					71.6	70.8	46.0
Level of Service		B	A	C	A					E	E	D
Approach Delay (s)		9.1			12.0			0.0			67.6	
Approach LOS		A			B			A			E	

Intersection Summary			
HCM Average Control Delay	17.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	120.1%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.81	1.00	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			7544	1583	1681	1681	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			7544	1583	1681	1681	2787			
Volume (vph)	110	1209	0	0	1896	489	1084	0	1540	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	1314	0	0	2061	532	1178	0	1674	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	104	0	0	8	0	0	0
Lane Group Flow (vph)	120	1314	0	0	2061	428	589	589	1666	0	0	0
Turn Type	Prot					Perm	Split		custom			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			1 8			
Actuated Green, G (s)	11.6	49.4			53.8	53.8	51.3	51.3	71.3			
Effective Green, g (s)	11.6	50.0			54.4	54.4	52.0	52.0	72.0			
Actuated g/C Ratio	0.09	0.38			0.42	0.42	0.40	0.40	0.55			
Clearance Time (s)	4.0	4.6			4.6	4.6	4.7	4.7				
Vehicle Extension (s)	2.0	3.0			3.0	3.0	2.0	2.0				
Lane Grp Cap (vph)	158	1361			3157	662	672	672	1544			
v/s Ratio Prot	0.07	c0.37			0.27		0.35	0.35				
v/s Ratio Perm						0.27			c0.60			
v/c Ratio	0.76	0.97			0.65	0.65	0.88	0.88	1.08			
Uniform Delay, d1	57.8	39.2			30.2	30.1	36.0	36.0	29.0			
Progression Factor	0.27	0.46			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	10.9	13.1			1.1	4.8	12.0	12.0	47.6			
Delay (s)	26.5	31.1			31.3	35.0	48.0	48.0	76.6			
Level of Service	C	C			C	C	D	D	E			
Approach Delay (s)		30.7			32.1			64.8			0.0	
Approach LOS		C			C			E			A	

Intersection Summary			
HCM Average Control Delay	45.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	120.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

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

Intersection #26 Hammer Lane/Thornton Road

Cycle (sec):	130	Critical Vol./Cap.(X):	0.892
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	43.9
Optimal Cycle:	130	Level Of Service:	D

Street Name:	Thornton Road						Hammer Lane					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	2 0 2 1 0			1 0 2 1 0			1 0 3 0 1			1 0 3 0 1		
Volume Module:												
Base Vol:	360	750	50	350	530	40	110	990	200	40	1400	710
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:	360	750	50	350	530	40	110	990	200	40	1400	710
Added Vol:	61	125	0	27	122	0	0	178	63	0	166	38
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	421	875	50	377	652	40	110	1168	263	40	1566	748
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:	430	893	51	385	665	41	112	1192	268	41	1598	763
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	430	893	51	385	665	41	112	1192	268	41	1598	763
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:	430	893	51	385	665	41	112	1192	268	41	1598	763
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.88	0.88	0.93	0.88	0.88	0.93	0.89	0.83	0.93	0.89	0.83
Lanes:	2.00	2.84	0.16	1.00	2.83	0.17	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	3432	4770	273	1769	4746	291	1769	5083	1583	1769	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.13	0.19	0.19	0.22	0.14	0.14	0.06	0.23	0.17	0.02	0.31	0.48
Crit Moves:		****		****			****				****	
Green/Cycle:	0.21	0.21	0.21	0.24	0.24	0.24	0.07	0.34	0.34	0.08	0.35	0.60
Volume/Cap:	0.59	0.89	0.89	0.89	0.59	0.59	0.89	0.68	0.49	0.29	0.89	0.81
Delay/Veh:	47.1	59.7	59.7	67.7	44.5	44.5	108.7	35.7	32.6	57.6	43.6	17.3
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:	47.1	59.7	59.7	67.7	44.5	44.5	108.7	35.7	32.6	57.6	43.6	17.3
LOS by Move:	D	E	E	E	D	D	F	D	C	E	D	B
HCM2kAvgQ:	8	16	16	18	9	9	7	14	8	2	25	20

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

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

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

Intersection #27 Thornton Road/Whistler Way

Cycle (sec):	60	Critical Vol./Cap.(X):	0.441
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	20.2
Optimal Cycle:	50	Level Of Service:	C

Street Name:	Thornton Road						Whistler Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 2 0 1			1 0 1 1 0			1 0 1 0 1			1 0 0 1 0		
Volume Module:												
Base Vol:	110	300	90	90	360	30	30	40	90	100	40	40
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:	110	300	90	90	360	30	30	40	90	100	40	40
Added Vol:	0	85	0	2	80	44	40	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	110	385	90	92	440	74	70	40	90	100	40	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:	120	418	98	100	478	80	76	43	98	109	43	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	120	418	98	100	478	80	76	43	98	109	43	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:	120	418	98	100	478	80	76	43	98	109	43	45
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.91	0.91	0.93	0.98	0.83	0.93	0.91	0.91
Lanes:	1.00	2.00	1.00	1.00	1.71	0.29	1.00	1.00	1.00	1.00	0.49	0.51
Final Sat.:	1769	3538	1583	1769	2962	498	1769	1862	1583	1769	850	871
Capacity Analysis Module:												
Vol/Sat:	0.07	0.12	0.06	0.06	0.16	0.16	0.04	0.02	0.06	0.06	0.05	0.05
Crit Moves:	****				****		****				****	
Green/Cycle:	0.13	0.26	0.26	0.19	0.32	0.32	0.12	0.17	0.17	0.12	0.17	0.17
Volume/Cap:	0.51	0.45	0.23	0.31	0.51	0.51	0.37	0.14	0.37	0.53	0.31	0.31
Delay/Veh:	26.0	18.7	17.6	21.6	17.1	17.1	25.6	21.5	23.1	27.5	22.6	22.6
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:	26.0	18.7	17.6	21.6	17.1	17.1	25.6	21.5	23.1	27.5	22.6	22.6
LOS by Move:	C	B	B	C	B	B	C	C	C	C	C	C
HCM2kAvgQ:	3	4	2	2	5	5	2	1	2	3	2	2

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

Future 2025
Without and With Project Conditions

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
AM Peak Hour

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

****

Intersection #1 Eight Mile Road/Westlake Drive

****

Cycle (sec): 130 Critical Vol./Cap.(X): 0.315
Loss Time (sec): 12 (Y+R=5.0 sec) Average Delay (sec/veh): 26.2
Optimal Cycle: 36 Level Of Service: C

****

Street Name:	Westlake Villages Drive						Eight Mile Road					
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:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	10	0	230	0	0	0	0	10	10	150	10	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:	10	0	230	0	0	0	0	10	10	150	10	0
Added Vol:	0	0	27	0	0	0	0	0	0	17	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	0	257	0	0	0	0	10	10	167	10	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:	11	0	279	0	0	0	0	11	11	182	11	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	0	279	0	0	0	0	11	11	182	11	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:	11	0	279	0	0	0	0	11	11	182	11	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.88	1.00	0.83	1.00	1.00	1.00	1.00	0.86	0.86	0.93	0.93	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	2.00	0.00
Final Sat.:	1678	0	1583	0	0	0	0	1636	1636	1769	3538	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.18	0.00	0.00	0.00	0.00	0.01	0.01	0.10	0.00	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.53	0.00	0.53	0.00	0.00	0.00	0.00	0.08	0.08	0.31	0.27	0.00
Volume/Cap:	0.01	0.00	0.34	0.00	0.00	0.00	0.00	0.09	0.09	0.34	0.01	0.00
Delay/Veh:	14.7	0.0	18.0	0.0	0.0	0.0	0.0	55.9	55.9	35.3	34.5	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:	14.7	0.0	18.0	0.0	0.0	0.0	0.0	55.9	55.9	35.3	34.5	0.0
LOS by Move:	B	A	B	A	A	A	A	E	E	D	C	A
HCM2kAvgQ:	0	0	4	0	0	0	0	0	0	5	0	0

****

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

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Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
AM Peak Hour

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

****

Intersection #2 Eight Mile Road/Regatta Drive

****

Cycle (sec): 130 Critical Vol./Cap.(X): 0.113
Loss Time (sec): 8 (Y+R=5.0 sec) Average Delay (sec/veh): 20.2
Optimal Cycle: 32 Level Of Service: C

****

Street Name:	Eight Mile Road						Regatta Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Permitted			Permitted			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	0 0	1! 0	1	0 0	0 0	0	0 0	2 1	0	2 0	3 0	0
Volume Module:												
Base Vol:	10	0	50	0	0	0	0	330	10	70	150	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:	10	0	50	0	0	0	0	330	10	70	150	0
Added Vol:	0	0	23	0	0	0	0	27	0	16	17	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	0	73	0	0	0	0	357	10	86	167	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:	11	0	79	0	0	0	0	388	11	93	182	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	0	79	0	0	0	0	388	11	93	182	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:	11	0	79	0	0	0	0	388	11	93	182	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.79	1.00	1.00	1.00	1.00	0.89	0.89	0.90	0.89	1.00
Lanes:	0.21	0.00	1.79	0.00	0.00	0.00	0.00	2.92	0.08	2.00	3.00	0.00
Final Sat.:	327	0	2700	0	0	0	0	4925	138	3432	5083	0
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.08	0.08	0.03	0.04	0.00
Crit Moves:								****		****		
Green/Cycle:	0.21	0.00	0.21	0.00	0.00	0.00	0.00	0.52	0.52	0.19	0.71	0.00
Volume/Cap:	0.16	0.00	0.14	0.00	0.00	0.00	0.00	0.15	0.15	0.14	0.05	0.00
Delay/Veh:	42.1	0.0	41.9	0.0	0.0	0.0	0.0	16.3	16.3	43.9	5.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.1	0.0	41.9	0.0	0.0	0.0	0.0	16.3	16.3	43.9	5.7	0.0
LOS by Move:	D	A	D	A	A	A	A	B	B	D	A	A
HCM2kAvgQ:	2	0	1	0	0	0	0	2	2	2	0	0

****

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

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Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
AM Peak Hour

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

Intersection #3 Eight Mile Road/Mokelumne Circle

Cycle (sec):	130	Critical Vol./Cap.(X):	0.900
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	38.9
Optimal Cycle:	124	Level Of Service:	D

Street Name:	Mokelumne Circle						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Permitted			Permitted			Permitted			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 2 1 0			1 0 3 0 0		
Volume Module:												
Base Vol:	10	0	650	0	0	0	0	370	10	330	210	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:	10	0	650	0	0	0	0	370	10	330	210	0
Added Vol:	5	0	65	0	0	0	0	42	9	49	27	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	0	715	0	0	0	0	412	19	379	237	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:	16	0	777	0	0	0	0	448	21	412	258	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	0	777	0	0	0	0	448	21	412	258	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
Final Vol.:	16	0	777	0	0	0	0	448	21	412	258	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.86	1.00	0.83	1.00	1.00	1.00	1.00	0.89	0.89	0.93	0.89	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	2.87	0.13	1.00	3.00	0.00
Final Sat.:	1640	0	1583	0	0	0	0	4825	223	1769	5083	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.49	0.00	0.00	0.00	0.00	0.09	0.09	0.23	0.05	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.55	0.00	0.80	0.00	0.00	0.00	0.00	0.10	0.10	0.26	0.36	0.00
Volume/Cap:	0.02	0.00	0.61	0.00	0.00	0.00	0.00	0.90	0.90	0.90	0.14	0.00
Delay/Veh:	13.6	0.0	5.8	0.0	0.0	0.0	0.0	76.2	76.2	67.0	27.9	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:	13.6	0.0	5.8	0.0	0.0	0.0	0.0	76.2	76.2	67.0	27.9	0.0
LOS by Move:	B	A	A	A	A	A	A	E	E	E	C	A
HCM2kAvgQ:	0	0	2	0	0	0	0	10	10	19	2	0

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.86		0.97	0.95	1.00	0.88
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6363		3433	3539	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6363		3433	3539	1770	2787
Volume (vph)	1075	52	893	579	37	980
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1168	57	971	629	40	1065
RTOR Reduction (vph)	4	0	0	0	0	21
Lane Group Flow (vph)	1221	0	971	629	40	1044
Turn Type			Prot			pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases						4
Actuated Green, G (s)	68.1		40.0	112.1	8.9	48.9
Effective Green, g (s)	69.1		40.0	113.1	8.9	48.9
Actuated g/C Ratio	0.53		0.31	0.87	0.07	0.38
Clearance Time (s)	5.0		4.0	5.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3382		1056	3079	121	1134
v/s Ratio Prot	c0.19		0.28	0.18	0.02	c0.28
v/s Ratio Perm						0.09
v/c Ratio	0.36		0.92	0.20	0.33	0.92
Uniform Delay, d1	17.7		43.4	1.3	57.7	38.7
Progression Factor	1.00		0.71	0.37	1.00	1.00
Incremental Delay, d2	0.3		11.6	0.1	1.6	12.1
Delay (s)	18.0		42.7	0.6	59.3	50.8
Level of Service	B		D	A	E	D
Approach Delay (s)	18.0			26.1	51.1	
Approach LOS	B			C	D	

Intersection Summary			
HCM Average Control Delay	30.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.4%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.86	0.86	0.97	0.95					0.95	0.95	1.00
Frt		0.95	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		4564	1362	3433	3539					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		4564	1362	3433	3539					1681	1681	1583
Volume (vph)	0	860	1194	460	1221	0	0	0	0	310	0	250
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	935	1298	500	1327	0	0	0	0	337	0	272
RTOR Reduction (vph)	0	44	228	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1362	599	500	1327	0	0	0	0	169	168	272
Turn Type			Perm	Prot						Perm		Free
Protected Phases		2		1	6						4	
Permitted Phases			2							4		Free
Actuated Green, G (s)		73.4	73.4	23.8	101.2					18.8	18.8	130.0
Effective Green, g (s)		74.4	74.4	23.8	102.2					19.8	19.8	130.0
Actuated g/C Ratio		0.57	0.57	0.18	0.79					0.15	0.15	1.00
Clearance Time (s)		5.0	5.0	4.0	5.0					5.0	5.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		2612	779	629	2782					256	256	1583
v/s Ratio Prot		0.31		c0.15	0.37							
v/s Ratio Perm			0.61							0.10	0.10	0.17
v/c Ratio		0.52	0.77	0.79	0.48					0.66	0.66	0.17
Uniform Delay, d1		16.9	21.2	50.8	4.8					51.9	51.9	0.0
Progression Factor		0.84	1.34	0.88	0.68					1.00	1.00	1.00
Incremental Delay, d2		0.6	5.6	6.4	0.5					6.2	5.9	0.2
Delay (s)		14.8	33.9	50.9	3.7					58.2	57.8	0.2
Level of Service		B	C	D	A					E	E	A
Approach Delay (s)		21.9			16.7			0.0			32.2	
Approach LOS		C			B			A			C	

Intersection Summary			
HCM Average Control Delay	21.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.5%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.86		0.95	0.95	1.00			
Frt	1.00	1.00			0.97		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			6216		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			6216		1681	1681	1583			
Volume (vph)	210	960	0	0	1043	260	639	0	510	0	0	0
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)	226	1032	0	0	1122	280	687	0	548	0	0	0
RTOR Reduction (vph)	0	0	0	0	28	0	0	0	0	0	0	0
Lane Group Flow (vph)	226	1032	0	0	1374	0	344	343	548	0	0	0
Turn Type	Prot						Perm		Free			
Protected Phases	5	2			6			8				
Permitted Phases							8		Free			
Actuated Green, G (s)	18.9	90.2			67.3		30.8	30.8	130.0			
Effective Green, g (s)	18.9	91.2			68.3		30.8	30.8	130.0			
Actuated g/C Ratio	0.15	0.70			0.53		0.24	0.24	1.00			
Clearance Time (s)	4.0	5.0			5.0		4.0	4.0				
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Lane Grp Cap (vph)	257	2483			3266		398	398	1583			
v/s Ratio Prot	c0.13	c0.29			0.22							
v/s Ratio Perm							c0.20	0.20	0.35			
v/c Ratio	0.88	0.42			0.42		0.86	0.86	0.35			
Uniform Delay, d1	54.4	8.2			18.8		47.6	47.6	0.0			
Progression Factor	1.01	0.17			0.83		1.00	1.00	1.00			
Incremental Delay, d2	25.2	0.5			0.4		17.4	17.2	0.6			
Delay (s)	80.3	1.9			16.0		65.0	64.7	0.6			
Level of Service	F	A			B		E	E	A			
Approach Delay (s)		16.0			16.0			36.3			0.0	
Approach LOS		B			B			D			A	

Intersection Summary			
HCM Average Control Delay	22.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.86		1.00	0.86	1.00	
Frt	1.00		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	6401		1770	6408	1695	
Flt Permitted	1.00		0.95	1.00	0.98	
Satd. Flow (perm)	6401		1770	6408	1695	
Volume (vph)	1460	10	10	1293	10	10
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1460	10	10	1293	10	10
RTOR Reduction (vph)	0	0	0	0	10	0
Lane Group Flow (vph)	1470	0	10	1293	10	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	111.5		1.5	117.0	3.0	
Effective Green, g (s)	112.5		1.5	118.0	4.0	
Actuated g/C Ratio	0.87		0.01	0.91	0.03	
Clearance Time (s)	5.0		4.0	5.0	5.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	5539		20	5816	52	
v/s Ratio Prot	c0.23		c0.01	0.20	c0.01	
v/s Ratio Perm						
v/c Ratio	0.27		0.50	0.22	0.20	
Uniform Delay, d1	1.5		63.9	0.7	61.4	
Progression Factor	0.28		1.00	1.00	1.00	
Incremental Delay, d2	0.1		18.3	0.1	1.9	
Delay (s)	0.5		82.2	0.8	63.3	
Level of Service	A		F	A	E	
Approach Delay (s)	0.5			1.4	63.3	
Approach LOS	A			A	E	

Intersection Summary			
HCM Average Control Delay	1.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	31.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
AM Peak Hour

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

****

Intersection #8 Eight Mile Road/Thornton Road

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Cycle (sec): 130 Critical Vol./Cap.(X): 0.629
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 47.9
Optimal Cycle: 63 Level Of Service: D

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Street Name:	Thornton Road						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 0 1			1 0 2 0 1			2 0 4 0 1			2 0 3 1 0		
Volume Module:												
Base Vol:	250	120	240	60	210	90	80	1120	110	220	840	70
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:	250	120	240	60	210	90	80	1120	110	220	840	70
Added Vol:	68	0	111	0	0	0	0	122	48	53	174	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	318	120	351	60	210	90	80	1242	158	273	1014	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	338	128	373	64	223	96	85	1321	168	290	1079	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	338	128	373	64	223	96	85	1321	168	290	1079	74
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:	338	128	373	64	223	96	85	1321	168	290	1079	74
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.93	0.83	0.90	0.89	0.83	0.90	0.88	0.88
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	4.00	1.00	2.00	3.74	0.26
Final Sat.:	1769	3538	1583	1769	3538	1583	3432	6778	1583	3432	6277	433
Capacity Analysis Module:												
Vol/Sat:	0.19	0.04	0.24	0.04	0.06	0.06	0.02	0.19	0.11	0.08	0.17	0.17
Crit Moves:			****	****				****		****		
Green/Cycle:	0.18	0.35	0.35	0.05	0.22	0.22	0.10	0.29	0.29	0.13	0.32	0.32
Volume/Cap:	1.06	0.10	0.67	0.72	0.29	0.27	0.25	0.67	0.37	0.65	0.54	0.54
Delay/Veh:	121.2	28.5	39.2	85.9	42.4	42.5	54.4	41.6	37.2	57.1	36.6	36.6
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:	121.2	28.5	39.2	85.9	42.4	42.5	54.4	41.6	37.2	57.1	36.6	36.6
LOS by Move:	F	C	D	F	D	D	D	D	D	E	D	D
HCM2kAvgQ:	20	1	12	4	4	3	2	13	5	7	10	10

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

Traffix 7.8.0115 (c) 2007 Dowling Assoc. Licensed to FEHR & PEERS, W.C.

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
AM Peak Hour

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

Intersection #9 Eight Mile Road/Davis Street

Cycle (sec):	130	Critical Vol./Cap.(X):	0.593
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	36.4
Optimal Cycle:	59	Level Of Service:	D

Street Name:	Davis Street						Eight Mile Road					
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			Include			Ovl			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 0 1			1 0 2 0 1			2 0 4 0 1			2 0 3 1 0		
Volume Module:												
Base Vol:	130	160	500	70	270	40	40	730	210	430	750	50
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:	130	160	500	70	270	40	40	730	210	430	750	50
Added Vol:	42	0	0	0	0	31	29	172	31	0	154	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	172	160	500	70	270	71	69	902	241	430	904	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	183	170	532	74	287	76	73	960	256	457	962	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	183	170	532	74	287	76	73	960	256	457	962	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	183	170	532	74	287	76	73	960	256	457	962	53
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.93	0.83	0.90	0.89	0.83	0.90	0.88	0.88
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	4.00	1.00	2.00	3.79	0.21
Final Sat.:	1769	3538	1583	1769	3538	1583	3432	6778	1583	3432	6371	352
Capacity Analysis Module:												
Vol/Sat:	0.10	0.05	0.34	0.04	0.08	0.05	0.02	0.14	0.16	0.13	0.15	0.15
Crit Moves:			****	****				****		****		
Green/Cycle:	0.23	0.34	0.57	0.07	0.18	0.18	0.08	0.24	0.47	0.22	0.39	0.39
Volume/Cap:	0.45	0.14	0.59	0.59	0.45	0.26	0.27	0.59	0.34	0.59	0.39	0.39
Delay/Veh:	43.6	29.6	19.4	65.9	47.9	46.2	56.9	44.5	22.0	46.3	29.0	29.0
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:	43.6	29.6	19.4	65.9	47.9	46.2	56.9	44.5	22.0	46.3	29.0	29.0
LOS by Move:	D	C	B	E	D	D	E	D	C	D	C	C
HCM2kAvgQ:	6	2	10	4	5	3	2	9	5	9	7	7

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
AM Peak Hour

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

Intersection #10 Eight Mile Road/Lower Sacramento Road

Cycle (sec):	130	Critical Vol./Cap.(X):	0.834
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	40.1
Optimal Cycle:	106	Level Of Service:	D

Street Name:	Lower Sacramento Road						Eight Mile Road					
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			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 2 0 1			2 0 2 0 1			2 0 4 0 1			2 0 3 1 0		
Volume Module:												
Base Vol:	50	200	640	160	430	90	60	1350	140	580	1230	90
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:	50	200	640	160	430	90	60	1350	140	580	1230	90
Added Vol:	0	0	0	0	0	17	19	153	0	0	137	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	50	200	640	160	430	107	79	1503	140	580	1367	90
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:	54	217	696	174	467	116	86	1634	152	630	1486	98
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	217	696	174	467	116	86	1634	152	630	1486	98
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	54	217	696	174	467	116	86	1634	152	630	1486	98
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.93	0.83	0.90	0.93	0.83	0.90	0.89	0.83	0.90	0.88	0.88
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	4.00	1.00	2.00	3.75	0.25
Final Sat.:	3432	3538	1583	3432	3538	1583	3432	6778	1583	3432	6302	415
Capacity Analysis Module:												
Vol/Sat:	0.02	0.06	0.44	0.05	0.13	0.07	0.03	0.24	0.10	0.18	0.24	0.24
Crit Moves:			****	****				****		****		
Green/Cycle:	0.07	0.31	0.53	0.06	0.30	0.30	0.06	0.29	0.29	0.22	0.45	0.45
Volume/Cap:	0.23	0.20	0.83	0.83	0.44	0.25	0.43	0.83	0.33	0.83	0.52	0.52
Delay/Veh:	57.7	33.4	33.2	84.5	37.2	34.8	60.5	46.5	36.8	56.3	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:	57.7	33.4	33.2	84.5	37.2	34.8	60.5	46.5	36.8	56.3	25.8	25.8
LOS by Move:	E	C	C	F	D	C	E	D	D	E	C	C
HCM2kAvgQ:	1	3	22	6	7	3	2	18	4	14	10	10

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
AM Peak Hour

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

Intersection #11 Eight Mile Road/West Lane

Cycle (sec):	130	Critical Vol./Cap.(X):	1.126
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	59.7
Optimal Cycle:	130	Level Of Service:	E

Street Name:	West Lane						Eight Mile Road					
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			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 2 0 1			2 0 2 0 1			2 0 3 1 0			2 0 3 0 1		
Volume Module:												
Base Vol:	470	360	130	40	610	580	340	1410	760	210	900	20
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:	470	360	130	40	610	580	340	1410	760	210	900	20
Added Vol:	0	0	0	0	0	34	39	114	0	0	103	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	470	360	130	40	610	614	379	1524	760	210	1003	20
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:	490	375	135	42	635	640	395	1588	792	219	1045	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	490	375	135	42	635	640	395	1588	792	219	1045	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	490	375	135	42	635	640	395	1588	792	219	1045	21
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.93	0.83	0.90	0.93	0.83	0.90	0.85	0.85	0.90	0.89	0.83
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.:	3432	3538	1583	3432	3538	1583	3432	4829	1610	3432	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.14	0.11	0.09	0.01	0.18	0.40	0.12	0.33	0.49	0.06	0.21	0.01
Crit Moves:	****					****			****	****		
Green/Cycle:	0.13	0.30	0.30	0.09	0.26	0.43	0.18	0.44	0.44	0.06	0.32	0.32
Volume/Cap:	1.13	0.36	0.29	0.14	0.70	0.93	0.65	0.75	1.13	1.13	0.65	0.04
Delay/Veh:	138.9	36.1	35.4	55.2	46.2	54.4	52.2	31.8	100.0	163.8	39.2	30.8
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:	138.9	36.1	35.4	55.2	46.2	54.4	52.2	31.8	100.0	163.8	39.2	30.8
LOS by Move:	F	D	D	E	D	D	D	C	F	F	D	C
HCM2kAvgQ:	17	6	4	1	13	28	8	18	50	9	13	0

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
AM Peak Hour

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

Intersection #12 Eight Mile Road/SR 99 Frontage

Cycle (sec): 130 Critical Vol./Cap.(X): 0.856
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 40.6
Optimal Cycle: 114 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						Include						Include						Include					
Min. Green:	4	10		0			4	10		0			4	10		0			4	10		0		
Lanes:	1	0	1	0	1		1	0	1	0	1		1	0	2	1	0		1	0	1	1	0	
Volume Module:																								
Base Vol:	240	10		590			20	30		10			10	1320		240			160	750		20		
Growth Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
Initial Bse:	240	10		590			20	30		10			10	1320		240			160	750		20		
Added Vol:	0	0		0			0	0		0			0	114		0			0	103		0		
PasserByVol:	0	0		0			0	0		0			0	0		0			0	0		0		
Initial Fut:	240	10		590			20	30		10			10	1434		240			160	853		20		
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:	250	10		615			21	31		10			10	1494		250			167	889		21		
Reduct Vol:	0	0		0			0	0		0			0	0		0			0	0		0		
Reduced Vol:	250	10		615			21	31		10			10	1494		250			167	889		21		
PCE Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
MLF Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
Final Vol.:	250	10		615			21	31		10			10	1494		250			167	889		21		
Saturation Flow Module:																								
Sat/Lane:	1900	1900		1900			1900	1900		1900			1900	1900		1900			1900	1900		1900		
Adjustment:	0.93	0.98		0.83			0.93	0.98		0.83			0.93	0.87		0.87			0.93	0.93		0.93		
Lanes:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	2.57		0.43			1.00	1.95		0.05		
Final Sat.:	1769	1862		1583			1769	1862		1583			1769	4263		713			1769	3446		81		
Capacity Analysis Module:																								
Vol/Sat:	0.14	0.01		0.39			0.01	0.02		0.01			0.01	0.35		0.35			0.09	0.26		0.26		
Crit Moves:				****			****							****					****					
Green/Cycle:	0.24	0.34		0.44			0.03	0.13		0.13			0.05	0.40		0.40			0.11	0.45		0.45		
Volume/Cap:	0.59	0.02		0.87			0.38	0.13		0.05			0.11	0.87		0.87			0.87	0.57		0.57		
Delay/Veh:	46.2	28.8		44.4			66.2	50.3		49.7			59.0	40.4		40.4			89.9	26.5		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:	46.2	28.8		44.4			66.2	50.3		49.7			59.0	40.4		40.4			89.9	26.5		26.5		
LOS by Move:	D	C		D			E	D		D			E	D		D			F	C		C		
HCM2kAvgQ:	9	0		25			1	1		0			0	26		26			9	14		14		

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
AM Peak Hour

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

Intersection #13 Mokelumne Circle/Scott Creek Drive

Cycle (sec):	130	Critical Vol./Cap.(X):	0.642
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	32.4
Optimal Cycle:	55	Level Of Service:	C

Street Name:	Mokelumne Circle						Scott Creek Drive					
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:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 0 1 0			1 0 0 1 0			1 0 0 1 0			1 0 0 1 0		
Volume Module:												
Base Vol:	10	220	10	20	80	240	430	240	10	10	20	10
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:	10	220	10	20	80	240	430	240	10	10	20	10
Added Vol:	2	34	0	6	14	38	31	48	2	0	56	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	254	10	26	94	278	461	288	12	10	76	15
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:	13	276	11	28	102	302	501	313	13	11	83	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	276	11	28	102	302	501	313	13	11	83	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	13	276	11	28	102	302	501	313	13	11	83	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.34	0.97	0.97	0.46	0.87	0.87	0.93	0.97	0.97	0.93	0.96	0.96
Lanes:	1.00	0.96	0.04	1.00	0.25	0.75	1.00	0.96	0.04	1.00	0.84	0.16
Final Sat.:	652	1781	70	883	418	1236	1769	1777	74	1769	1516	299
Capacity Analysis Module:												
Vol/Sat:	0.02	0.16	0.16	0.03	0.24	0.24	0.28	0.18	0.18	0.01	0.05	0.05
Crit Moves:					****		****				****	
Green/Cycle:	0.38	0.38	0.38	0.38	0.38	0.38	0.44	0.45	0.45	0.08	0.08	0.08
Volume/Cap:	0.05	0.41	0.41	0.08	0.64	0.64	0.64	0.39	0.39	0.08	0.64	0.64
Delay/Veh:	25.5	29.8	29.8	25.8	35.2	35.2	30.1	24.3	24.3	55.8	66.4	66.4
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:	25.5	29.8	29.8	25.8	35.2	35.2	30.1	24.3	24.3	55.8	66.4	66.4
LOS by Move:	C	C	C	C	D	D	C	C	C	E	E	E
HCM2kAvgQ:	0	7	7	1	12	12	14	7	7	0	5	5

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
AM Peak Hour

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

Intersection #14 Trinity Parkway/Consumnes Drive

Cycle (sec):	130	Critical Vol./Cap.(X):	0.846
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	48.3
Optimal Cycle:	110	Level Of Service:	D

Street Name:	Trinity Parkway						Consumnes Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1	1 0		1 0 1	1 0		1 0 0	1 0		1 0 1	0 1	
Volume Module:												
Base Vol:	150	180	0	0	150	60	130	0	480	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	150	180	0	0	150	60	130	0	480	0	0	0
Added Vol:	55	500	44	37	429	2	3	8	87	36	3	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	205	680	44	37	579	62	133	8	567	36	3	11
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:	223	739	48	40	629	67	145	9	616	39	3	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	223	739	48	40	629	67	145	9	616	39	3	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	223	739	48	40	629	67	145	9	616	39	3	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.92	0.92	0.93	0.92	0.92	0.93	0.83	0.83	0.93	0.98	0.83
Lanes:	1.00	1.88	0.12	1.00	1.81	0.19	1.00	0.01	0.99	1.00	1.00	1.00
Final Sat.:	1769	3293	213	1769	3148	337	1769	22	1564	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.13	0.22	0.22	0.02	0.20	0.20	0.08	0.39	0.39	0.02	0.00	0.01
Crit Moves:	****				****			****		****		
Green/Cycle:	0.15	0.34	0.34	0.05	0.24	0.24	0.25	0.46	0.46	0.03	0.24	0.24
Volume/Cap:	0.85	0.67	0.67	0.49	0.85	0.85	0.32	0.85	0.85	0.72	0.01	0.03
Delay/Veh:	76.3	38.3	38.3	65.1	56.0	56.0	39.8	40.3	40.3	99.5	37.7	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:	76.3	38.3	38.3	65.1	56.0	56.0	39.8	40.3	40.3	99.5	37.7	37.9
LOS by Move:	E	D	D	E	E	E	D	D	D	F	D	D
HCM2kAvgQ:	11	14	14	2	16	16	4	23	23	3	0	0

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
AM Peak Hour

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

Intersection #15 Trinity Parkway/McAuliffe Road

Cycle (sec):	65	Critical Vol./Cap.(X):	0.627
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	18.8
Optimal Cycle:	47	Level Of Service:	B

Street Name:	Trinity Parkway						McAuliffe Road					
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			Permitted			Permitted		
Rights:	Include			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	0 0 1	1 0		1 0 2	0 0		0 0 0	0 0		1 0 0	0 1	
Volume Module:												
Base Vol:	0	120	50	260	350	0	0	0	0	120	0	310
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	120	50	260	350	0	0	0	0	120	0	310
Added Vol:	0	615	46	149	377	0	0	0	0	15	0	198
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	735	96	409	727	0	0	0	0	135	0	508
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:	0	799	104	445	790	0	0	0	0	147	0	552
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	799	104	445	790	0	0	0	0	147	0	552
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	799	104	445	790	0	0	0	0	147	0	552
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.92	0.92	0.93	0.93	1.00	1.00	1.00	1.00	0.98	1.00	0.83
Lanes:	0.00	1.77	0.23	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3076	402	1769	3538	0	0	0	0	1862	0	1583
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.26	0.25	0.22	0.00	0.00	0.00	0.00	0.08	0.00	0.35
Crit Moves:		****		****							****	
Green/Cycle:	0.00	0.34	0.34	0.33	0.52	0.00	0.00	0.00	0.00	0.15	0.00	0.48
Volume/Cap:	0.00	0.77	0.77	0.77	0.43	0.00	0.00	0.00	0.00	0.51	0.00	0.73
Delay/Veh:	0.0	22.6	22.6	26.2	9.9	0.0	0.0	0.0	0.0	26.8	0.0	17.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	22.6	22.6	26.2	9.9	0.0	0.0	0.0	0.0	26.8	0.0	17.1
LOS by Move:	A	C	C	C	A	A	A	A	A	C	A	B
HCM2kAvgQ:	0	10	10	10	4	0	0	0	0	3	0	9

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
AM Peak Hour

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

****

Intersection #16 Thornton Road/A.G. Spanos Boulevard (South)

****

Cycle (sec):	95	Critical Vol./Cap.(X):	0.809
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	28.9
Optimal Cycle:	73	Level Of Service:	C

****

Street Name:	Thornton Road						A.G. Spanos Boulevard (South)					
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			Permitted			Prot+Permit		
Rights:	Include			Include			Ovl			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 1 0			1 0 2 0 1			0 1 0 0 1			0 1 0 0 1		
Volume Module:												
Base Vol:	360	300	50	10	610	100	70	10	420	130	10	20
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:	360	300	50	10	610	100	70	10	420	130	10	20
Added Vol:	167	81	0	0	44	4	5	0	121	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	527	381	50	10	654	104	75	10	541	130	10	20
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:	573	414	54	11	711	113	82	11	588	141	11	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	573	414	54	11	711	113	82	11	588	141	11	22
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	573	414	54	11	711	113	82	11	588	141	11	22
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.88	0.88	0.93	0.93	0.83	0.63	0.63	0.83	0.94	0.94	0.83
Lanes:	1.00	2.65	0.35	1.00	2.00	1.00	0.88	0.12	1.00	0.93	0.07	1.00
Final Sat.:	1769	4417	580	1769	3538	1583	1058	141	1583	1653	127	1583
Capacity Analysis Module:												
Vol/Sat:	0.32	0.09	0.09	0.01	0.20	0.07	0.08	0.08	0.37	0.09	0.09	0.01
Crit Moves:	****				****		****			****		
Green/Cycle:	0.41	0.47	0.47	0.19	0.25	0.25	0.11	0.11	0.51	0.21	0.21	0.21
Volume/Cap:	0.79	0.20	0.20	0.03	0.79	0.28	0.73	0.73	0.72	0.47	0.40	0.06
Delay/Veh:	30.7	14.7	14.7	31.5	38.1	28.9	60.8	60.8	21.2	33.2	32.9	29.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.7	14.7	14.7	31.5	38.1	28.9	60.8	60.8	21.2	33.2	32.9	29.9
LOS by Move:	C	B	B	C	D	C	E	E	C	C	C	C
HCM2kAvgQ:	15	2	2	0	12	3	4	4	12	4	4	0

****

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
AM Peak Hour

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

Intersection #17 Thornton Road/Wagner Heights

Cycle (sec):	95	Critical Vol./Cap.(X):	0.770
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	29.8
Optimal Cycle:	79	Level Of Service:	C

Street Name:	Thornton Road						Wagner Heights					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1	1 0		1 0 2	0 1		1 0 1	0 1		1 0 1	0 1	
Volume Module:												
Base Vol:	80	440	50	130	1270	110	100	200	160	80	220	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:	80	440	50	130	1270	110	100	200	160	80	220	190
Added Vol:	0	160	0	0	119	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	80	600	50	130	1389	110	100	200	160	80	220	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:	83	625	52	135	1447	115	104	208	167	83	229	198
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	83	625	52	135	1447	115	104	208	167	83	229	198
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	83	625	52	135	1447	115	104	208	167	83	229	198
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.92	0.92	0.93	0.93	0.83	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	1.85	0.15	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1769	3226	269	1769	3538	1583	1769	1862	1583	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.05	0.19	0.19	0.08	0.41	0.07	0.06	0.11	0.11	0.05	0.12	0.13
Crit Moves:	****				****		****					****
Green/Cycle:	0.06	0.42	0.42	0.17	0.53	0.53	0.08	0.17	0.17	0.07	0.16	0.16
Volume/Cap:	0.77	0.46	0.46	0.46	0.77	0.14	0.77	0.67	0.63	0.67	0.76	0.77
Delay/Veh:	71.8	19.7	19.7	36.7	19.7	11.3	66.2	42.4	41.4	55.8	48.5	51.3
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:	71.8	19.7	19.7	36.7	19.7	11.3	66.2	42.4	41.4	55.8	48.5	51.3
LOS by Move:	E	B	B	D	B	B	E	D	D	E	D	D
HCM2kAvgQ:	4	6	6	4	16	1	5	7	5	4	8	7

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		0.97	0.95	
Frt	1.00	0.95		1.00	1.00	0.85	1.00	0.93		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3368		1770	3539	1583	1770	3276		3433	3471	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3368		1770	3539	1583	1770	3276		3433	3471	
Volume (vph)	139	540	257	10	177	369	86	244	240	493	313	46
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)	151	587	279	11	192	401	93	265	261	536	340	50
RTOR Reduction (vph)	0	32	0	0	0	150	0	150	0	0	11	0
Lane Group Flow (vph)	151	834	0	11	192	251	93	376	0	536	379	0
Turn Type	Prot			Prot		pm+ov	Prot			Prot		
Protected Phases	5	2		1	6	7	3	8		7	4	
Permitted Phases						6						
Actuated Green, G (s)	28.2	68.3		1.6	41.7	66.3	12.0	19.5		24.6	32.1	
Effective Green, g (s)	28.2	68.3		1.6	41.7	66.3	12.0	19.5		24.6	32.1	
Actuated g/C Ratio	0.22	0.53		0.01	0.32	0.51	0.09	0.15		0.19	0.25	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	384	1769		22	1135	856	163	491		650	857	
v/s Ratio Prot	c0.09	c0.25		0.01	0.05	0.06	0.05	c0.11		c0.16	0.11	
v/s Ratio Perm						0.10						
v/c Ratio	0.39	0.47		0.50	0.17	0.29	0.57	0.77		0.82	0.44	
Uniform Delay, d1	43.6	19.5		63.8	31.7	18.4	56.5	53.1		50.6	41.4	
Progression Factor	1.00	1.00		0.78	0.41	0.30	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.0	0.9		16.4	0.3	0.2	4.8	7.0		8.4	0.4	
Delay (s)	46.6	20.4		66.4	13.4	5.7	61.3	60.1		59.0	41.8	
Level of Service	D	C		E	B	A	E	E		E	D	
Approach Delay (s)		24.3			9.3			60.3			51.7	
Approach LOS		C			A			E			D	

Intersection Summary			
HCM Average Control Delay	36.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.3%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.87		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5040		1770	3529		1770	1630		1770	1841	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5040		1770	3529		1770	1630		1770	1841	
Volume (vph)	10	1198	75	110	521	10	35	60	300	10	120	10
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)	11	1302	82	120	566	11	38	65	326	11	130	11
RTOR Reduction (vph)	0	4	0	0	1	0	0	134	0	0	3	0
Lane Group Flow (vph)	11	1380	0	120	576	0	38	257	0	11	138	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	5.8	73.0		14.2	81.4		7.1	25.2		1.6	19.7	
Effective Green, g (s)	5.8	73.0		14.2	81.4		7.1	25.2		1.6	19.7	
Actuated g/C Ratio	0.04	0.56		0.11	0.63		0.05	0.19		0.01	0.15	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	79	2830		193	2210		97	316		22	279	
v/s Ratio Prot	0.01	c0.27		c0.07	0.16		c0.02	c0.16		0.01	0.08	
v/s Ratio Perm												
v/c Ratio	0.14	0.49		0.62	0.26		0.39	0.81		0.50	0.50	
Uniform Delay, d1	59.7	17.2		55.3	10.9		59.4	50.2		63.8	50.6	
Progression Factor	1.13	0.57		1.44	0.25		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.5		6.0	0.3		2.6	14.7		16.8	1.4	
Delay (s)	68.4	10.4		85.7	3.0		62.0	64.9		80.6	52.0	
Level of Service	E	B		F	A		E	E		F	D	
Approach Delay (s)		10.8			17.2			64.6			54.1	
Approach LOS		B			B			E			D	

Intersection Summary			
HCM Average Control Delay	23.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.2%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	
Lane Util. Factor		0.91		1.00	0.95					1.00	1.00	
Frt		0.88		1.00	1.00					1.00	0.85	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		4480		1770	3539					1770	1583	
Flt Permitted		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (perm)		4480		1770	3539					1770	1583	
Volume (vph)	0	309	1189	680	570	0	0	0	0	510	0	61
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	336	1292	739	620	0	0	0	0	554	0	66
RTOR Reduction (vph)	0	388	0	0	0	0	0	0	0	0	47	0
Lane Group Flow (vph)	0	1240	0	739	620	0	0	0	0	554	19	0
Turn Type				Prot						Split		
Protected Phases		2		1	6					4	4	
Permitted Phases												
Actuated Green, G (s)		32.0		49.0	85.0					37.0	37.0	
Effective Green, g (s)		32.0		49.0	85.0					37.0	37.0	
Actuated g/C Ratio		0.25		0.38	0.65					0.28	0.28	
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1103		667	2314					504	451	
v/s Ratio Prot		c0.36		c0.42	0.18					c0.31	0.04	
v/s Ratio Perm												
v/c Ratio		1.65dr		1.11	0.27					1.10	0.04	
Uniform Delay, d1		49.0		40.5	9.4					46.5	33.7	
Progression Factor		0.69		1.21	0.49					1.00	1.00	
Incremental Delay, d2		66.4		67.1	0.3					69.9	0.0	
Delay (s)		100.3		116.1	4.9					116.4	33.7	
Level of Service		F		F	A					F	C	
Approach Delay (s)		100.3			65.4			0.0			107.6	
Approach LOS		F			E			A			F	

Intersection Summary			
HCM Average Control Delay	88.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.91		0.95	0.95	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			4994		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			4994		1681	1681	1583			
Volume (vph)	233	586	0	0	739	100	511	0	250	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	253	637	0	0	803	109	555	0	272	0	0	0
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	216	0	0	0
Lane Group Flow (vph)	253	637	0	0	901	0	278	277	56	0	0	0
Turn Type	Prot						Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases									8			
Actuated Green, G (s)	21.5	95.4			69.9		26.6	26.6	26.6			
Effective Green, g (s)	21.5	95.4			69.9		26.6	26.6	26.6			
Actuated g/C Ratio	0.17	0.73			0.54		0.20	0.20	0.20			
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Lane Grp Cap (vph)	293	2597			2685		344	344	324			
v/s Ratio Prot	c0.14	0.18			c0.18		c0.17	0.16				
v/s Ratio Perm									0.04			
v/c Ratio	0.86	0.25			0.34		0.81	0.81	0.17			
Uniform Delay, d1	52.8	5.6			17.0		49.3	49.2	42.6			
Progression Factor	1.53	0.00			1.00		1.00	1.00	1.00			
Incremental Delay, d2	13.8	0.1			0.3		13.0	12.8	0.3			
Delay (s)	94.5	0.1			17.3		62.3	62.1	42.9			
Level of Service	F	A			B		E	E	D			
Approach Delay (s)		26.9			17.3			55.8			0.0	
Approach LOS		C			B			E			A	

Intersection Summary			
HCM Average Control Delay	32.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.8%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0		4.0		4.0	4.0	
Lane Util. Factor				0.97		1.00		1.00		0.97	1.00	
Frt				1.00		0.85		0.87		1.00	1.00	
Flt Protected				0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)				3433		1583		1627		3433	1863	
Flt Permitted				0.95		1.00		1.00		0.95	1.00	
Satd. Flow (perm)				3433		1583		1627		3433	1863	
Volume (vph)	0	0	0	150	0	359	0	10	150	650	10	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	163	0	390	0	11	163	707	11	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	150	0	0	0	0
Lane Group Flow (vph)	0	0	0	163	0	390	0	24	0	707	11	0
Turn Type				Prot		Free	Split			Split		
Protected Phases				1	6		4	4		8	8	
Permitted Phases						Free						
Actuated Green, G (s)				76.2		130.0		9.5		30.3	30.3	
Effective Green, g (s)				76.2		130.0		10.5		31.3	31.3	
Actuated g/C Ratio				0.59		1.00		0.08		0.24	0.24	
Clearance Time (s)				4.0				5.0		5.0	5.0	
Vehicle Extension (s)				3.0				3.0		3.0	3.0	
Lane Grp Cap (vph)				2012		1583		131		827	449	
v/s Ratio Prot				0.05				0.01		c0.21	0.01	
v/s Ratio Perm						c0.25						
v/c Ratio				0.08		0.25		0.18		0.85	0.02	
Uniform Delay, d1				11.7		0.0		55.8		47.2	37.7	
Progression Factor				0.83		1.00		1.00		1.00	1.00	
Incremental Delay, d2				0.0		0.4		0.7		8.6	0.0	
Delay (s)				9.7		0.4		56.4		55.8	37.7	
Level of Service				A		A		E		E	D	
Approach Delay (s)		0.0			3.1			56.4			55.5	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM Average Control Delay	35.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	42.6%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		0.97	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3532		3433	4866		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3532		3433	4866		1770	1863	1583	1770	1863	1583
Volume (vph)	10	730	10	160	409	165	10	20	150	345	10	10
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)	11	793	11	174	445	179	11	22	163	375	11	11
RTOR Reduction (vph)	0	1	0	0	40	0	0	0	148	0	0	8
Lane Group Flow (vph)	11	803	0	174	584	0	11	22	15	375	11	3
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	1.6	57.1		12.2	67.7		10.9	10.9	10.9	30.8	30.8	30.8
Effective Green, g (s)	1.6	58.1		12.2	68.7		11.9	11.9	11.9	31.8	31.8	31.8
Actuated g/C Ratio	0.01	0.45		0.09	0.53		0.09	0.09	0.09	0.24	0.24	0.24
Clearance Time (s)	4.0	5.0		4.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	22	1579		322	2571		162	171	145	433	456	387
v/s Ratio Prot	0.01	c0.23		c0.05	0.13		0.01	0.01		c0.21	0.01	
v/s Ratio Perm									0.10			0.01
v/c Ratio	0.50	0.51		0.54	0.23		0.07	0.13	0.10	0.87	0.02	0.01
Uniform Delay, d1	63.8	25.7		56.2	16.4		54.0	54.3	54.2	47.1	37.3	37.2
Progression Factor	0.63	0.17		0.69	0.37		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.4	1.1		1.8	0.2		0.2	0.3	0.3	16.4	0.0	0.0
Delay (s)	55.7	5.4		40.4	6.2		54.2	54.6	54.5	63.5	37.3	37.2
Level of Service	E	A		D	A		D	D	D	E	D	D
Approach Delay (s)		6.1			13.7			54.5			62.0	
Approach LOS		A			B			D			E	

Intersection Summary			
HCM Average Control Delay	23.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.8%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.91					0.95	0.95	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3539	1583	3433	5085					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3539	1583	3433	5085					1681	1681	1583
Volume (vph)	0	609	616	1580	655	0	0	0	0	510	0	80
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)	0	655	662	1699	704	0	0	0	0	548	0	86
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	69
Lane Group Flow (vph)	0	655	662	1699	704	0	0	0	0	274	274	17
Turn Type			Free	Prot						Perm		Perm
Protected Phases		2		1	6						4	
Permitted Phases			Free							4		4
Actuated Green, G (s)		23.7	130.0	68.0	95.7					24.3	24.3	24.3
Effective Green, g (s)		24.7	130.0	68.0	96.7					25.3	25.3	25.3
Actuated g/C Ratio		0.19	1.00	0.52	0.74					0.19	0.19	0.19
Clearance Time (s)		5.0		4.0	5.0					5.0	5.0	5.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		672	1583	1796	3782					327	327	308
v/s Ratio Prot		c0.19		c0.49	0.14							
v/s Ratio Perm			0.42							c0.16	0.16	0.01
v/c Ratio		0.97	0.42	0.95	0.19					0.84	0.84	0.05
Uniform Delay, d1		52.3	0.0	29.3	5.0					50.4	50.4	42.6
Progression Factor		0.83	1.00	0.48	0.18					1.00	1.00	1.00
Incremental Delay, d2		25.7	0.7	9.9	0.1					16.8	16.8	0.1
Delay (s)		69.0	0.7	24.1	1.0					67.2	67.2	42.7
Level of Service		E	A	C	A					E	E	D
Approach Delay (s)		34.6			17.3			0.0			63.9	
Approach LOS		C			B			A			E	

Intersection Summary			
HCM Average Control Delay	29.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.6%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.81	1.00	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			7544	1583	1681	1681	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			7544	1583	1681	1681	2787			
Volume (vph)	120	999	0	0	1824	350	411	0	670	0	0	0
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)	129	1074	0	0	1961	376	442	0	720	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	57	0	0	86	0	0	0
Lane Group Flow (vph)	129	1074	0	0	1961	319	221	221	634	0	0	0
Turn Type	Prot					Perm	Perm		custom			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		1 8			
Actuated Green, G (s)	18.5	81.0			66.5	66.5	31.0	31.0	39.0			
Effective Green, g (s)	18.5	82.0			67.5	67.5	32.0	32.0	40.0			
Actuated g/C Ratio	0.14	0.63			0.52	0.52	0.25	0.25	0.31			
Clearance Time (s)	4.0	5.0			5.0	5.0	5.0	5.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	252	2232			3917	822	414	414	858			
v/s Ratio Prot	0.07	c0.30			c0.26							
v/s Ratio Perm						0.20	0.13	0.13	c0.23			
v/c Ratio	0.51	0.48			0.50	0.39	0.53	0.53	0.74			
Uniform Delay, d1	51.6	12.7			20.3	18.8	42.5	42.5	40.3			
Progression Factor	0.11	0.45			0.43	0.27	1.00	1.00	1.00			
Incremental Delay, d2	0.5	0.4			0.2	0.5	1.3	1.3	3.4			
Delay (s)	6.1	6.1			8.9	5.5	43.9	43.9	43.7			
Level of Service	A	A			A	A	D	D	D			
Approach Delay (s)		6.1			8.4			43.7			0.0	
Approach LOS		A			A			D			A	

Intersection Summary			
HCM Average Control Delay	16.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
AM Peak Hour

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

Intersection #26 Hammer Lane/Thornton Road

Cycle (sec):	130	Critical Vol./Cap.(X):	0.714
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	33.5
Optimal Cycle:	76	Level Of Service:	C

Street Name:	Thornton Road						Hammer Lane					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 2 1 0			1 0 2 1 0			1 0 3 0 1			1 0 3 0 1		
Volume Module:												
Base Vol:	90	210	20	370	1020	40	60	1130	200	50	1290	280
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:	90	210	20	370	1020	40	60	1130	200	50	1290	280
Added Vol:	50	64	0	22	46	0	0	105	70	0	107	20
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	274	20	392	1066	40	60	1235	270	50	1397	300
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	149	291	21	417	1134	43	64	1314	287	53	1486	319
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	149	291	21	417	1134	43	64	1314	287	53	1486	319
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	149	291	21	417	1134	43	64	1314	287	53	1486	319
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.88	0.88	0.93	0.89	0.89	0.93	0.89	0.83	0.93	0.89	0.83
Lanes:	2.00	2.80	0.20	1.00	2.89	0.11	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	3432	4690	342	1769	4875	183	1769	5083	1583	1769	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.04	0.06	0.06	0.24	0.23	0.23	0.04	0.26	0.18	0.03	0.29	0.20
Crit Moves:		****		****			****				****	
Green/Cycle:	0.07	0.09	0.09	0.33	0.35	0.35	0.05	0.41	0.41	0.05	0.41	0.74
Volume/Cap:	0.66	0.71	0.71	0.71	0.66	0.66	0.71	0.63	0.44	0.61	0.71	0.27
Delay/Veh:	66.5	63.3	63.3	42.4	36.6	36.6	84.6	27.5	24.8	73.1	29.5	0.5
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:	66.5	63.3	63.3	42.4	36.6	36.6	84.6	27.5	24.8	73.1	29.5	0.5
LOS by Move:	E	E	E	D	D	D	F	C	C	E	C	A
HCM2kAvgQ:	4	6	6	15	14	14	4	14	7	3	17	1

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
AM Peak Hour

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

Intersection #27 Thornton Road/Whistler Way

Cycle (sec):	95	Critical Vol./Cap.(X):	0.403
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	30.4
Optimal Cycle:	44	Level Of Service:	C

Street Name:	Thornton Road						Whistler Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 0 1			1 0 1 1 0			1 0 1 0 1			1 0 0 1 0		
Volume Module:												
Base Vol:	80	260	70	90	290	50	40	50	90	210	80	80
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:	80	260	70	90	290	50	40	50	90	210	80	80
Added Vol:	0	86	0	1	48	17	25	0	0	0	0	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	80	346	70	91	338	67	65	50	90	210	80	82
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:	87	376	76	99	367	73	71	54	98	228	87	89
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	87	376	76	99	367	73	71	54	98	228	87	89
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:	87	376	76	99	367	73	71	54	98	228	87	89
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.91	0.91	0.93	0.98	0.83	0.93	0.91	0.91
Lanes:	1.00	2.00	1.00	1.00	1.67	0.33	1.00	1.00	1.00	1.00	0.49	0.51
Final Sat.:	1769	3538	1583	1769	2879	571	1769	1862	1583	1769	850	871
Capacity Analysis Module:												
Vol/Sat:	0.05	0.11	0.05	0.06	0.13	0.13	0.04	0.03	0.06	0.13	0.10	0.10
Crit Moves:	****				****			****		****		
Green/Cycle:	0.12	0.28	0.28	0.14	0.30	0.30	0.12	0.11	0.11	0.31	0.29	0.29
Volume/Cap:	0.42	0.39	0.17	0.39	0.42	0.42	0.34	0.28	0.59	0.42	0.35	0.35
Delay/Veh:	40.4	28.2	26.4	37.8	26.7	26.7	39.5	39.9	45.9	26.8	26.8	26.8
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:	40.4	28.2	26.4	37.8	26.7	26.7	39.5	39.9	45.9	26.8	26.8	26.8
LOS by Move:	D	C	C	D	C	C	D	D	D	C	C	C
HCM2kAvgQ:	3	4	2	3	5	5	2	2	4	5	4	4

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

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Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
PM Peak Hour

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

****

Intersection #1 Eight Mile Road/Westlake Drive

****

Cycle (sec): 130 Critical Vol./Cap.(X): 0.499
Loss Time (sec): 12 (Y+R=5.0 sec) Average Delay (sec/veh): 29.5
Optimal Cycle: 42 Level Of Service: C

****

Street Name:	Westlake Villages Drive									Eight Mile Road								
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:	4	10	0			4	10	0			4	10	0			4	10	0		
Lanes:	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0	1	0	2	0	0
Volume Module:																				
Base Vol:	10	0	250			0	0	0			0	10	10			360	10	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:	10	0	250			0	0	0			0	10	10			360	10	0		
Added Vol:	0	0	39			0	0	0			0	0	0			44	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	10	0	289			0	0	0			0	10	10			404	10	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:	11	0	314			0	0	0			0	11	11			439	11	0		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	11	0	314			0	0	0			0	11	11			439	11	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:	11	0	314			0	0	0			0	11	11			439	11	0		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	0.88	1.00	0.83			1.00	1.00	1.00			1.00	0.86	0.86			0.93	0.93	1.00		
Lanes:	1.00	0.00	1.00			0.00	0.00	0.00			0.00	1.00	1.00			1.00	2.00	0.00		
Final Sat.:	1665	0	1583			0	0	0			0	1636	1636			1769	3538	0		
Capacity Analysis Module:																				
Vol/Sat:	0.01	0.00	0.20			0.00	0.00	0.00			0.00	0.01	0.01			0.25	0.00	0.00		
Crit Moves:			****									****				****				
Green/Cycle:	0.37	0.00	0.37			0.00	0.00	0.00			0.00	0.08	0.08			0.46	0.38	0.00		
Volume/Cap:	0.02	0.00	0.54			0.00	0.00	0.00			0.00	0.09	0.09			0.54	0.01	0.00		
Delay/Veh:	26.1	0.0	33.3			0.0	0.0	0.0			0.0	55.9	55.9			25.8	24.7	0.0		
User DelAdj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
AdjDel/Veh:	26.1	0.0	33.3			0.0	0.0	0.0			0.0	55.9	55.9			25.8	24.7	0.0		
LOS by Move:	C	A	C			A	A	A			A	E	E			C	C	A		
HCM2kAvgQ:	0	0	9			0	0	0			0	0	0			10	0	0		

****

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

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Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
PM Peak Hour

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

****

Intersection #2 Eight Mile Road/Regatta Drive

****

Cycle (sec): 130 Critical Vol./Cap.(X): 0.134
Loss Time (sec): 8 (Y+R=5.0 sec) Average Delay (sec/veh): 21.8
Optimal Cycle: 32 Level Of Service: C

****

Street Name:	Eight Mile Road						Regatta Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Permitted			Permitted			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	0 0	1! 0	1	0 0	0 0	0	0 0	2 1	0	2 0	3 0	0
Volume Module:												
Base Vol:	10	0	110	0	0	0	0	250	10	150	360	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:	10	0	110	0	0	0	0	250	10	150	360	0
Added Vol:	0	0	41	0	0	0	0	39	0	44	44	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	0	151	0	0	0	0	289	10	194	404	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:	11	0	164	0	0	0	0	314	11	211	439	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	0	164	0	0	0	0	314	11	211	439	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:	11	0	164	0	0	0	0	314	11	211	439	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.79	1.00	1.00	1.00	1.00	0.89	0.89	0.90	0.89	1.00
Lanes:	0.11	0.00	1.89	0.00	0.00	0.00	0.00	2.90	0.10	2.00	3.00	0.00
Final Sat.:	177	0	2847	0	0	0	0	4889	169	3432	5083	0
Capacity Analysis Module:												
Vol/Sat:	0.06	0.00	0.06	0.00	0.00	0.00	0.00	0.06	0.06	0.06	0.09	0.00
Crit Moves:								****		****		
Green/Cycle:	0.21	0.00	0.21	0.00	0.00	0.00	0.00	0.52	0.52	0.19	0.71	0.00
Volume/Cap:	0.29	0.00	0.27	0.00	0.00	0.00	0.00	0.12	0.12	0.32	0.12	0.00
Delay/Veh:	43.5	0.0	43.3	0.0	0.0	0.0	0.0	16.0	16.0	45.7	6.0	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:	43.5	0.0	43.3	0.0	0.0	0.0	0.0	16.0	16.0	45.7	6.0	0.0
LOS by Move:	D	A	D	A	A	A	A	B	B	D	A	A
HCM2kAvgQ:	3	0	3	0	0	0	0	2	2	4	0	0

****

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

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Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Eight Mile Road/Mokelumne Circle

Cycle (sec):	130	Critical Vol./Cap.(X):	1.074
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	57.2
Optimal Cycle:	130	Level Of Service:	E

Street Name:	Mokelumne Circle						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Permitted			Permitted			Permitted			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 2 1 0			1 0 3 0 0		
Volume Module:												
Base Vol:	10	0	450	0	0	0	0	350	10	850	500	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:	10	0	450	0	0	0	0	350	10	850	500	0
Added Vol:	15	0	31	0	0	0	0	66	13	45	74	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	0	481	0	0	0	0	416	23	895	574	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:	27	0	523	0	0	0	0	452	25	973	624	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	27	0	523	0	0	0	0	452	25	973	624	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
Final Vol.:	27	0	523	0	0	0	0	452	25	973	624	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.82	1.00	0.83	1.00	1.00	1.00	1.00	0.88	0.88	0.93	0.89	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	2.84	0.16	1.00	3.00	0.00
Final Sat.:	1564	0	1583	0	0	0	0	4778	264	1769	5083	0
Capacity Analysis Module:												
Vol/Sat:	0.02	0.00	0.33	0.00	0.00	0.00	0.00	0.09	0.09	0.55	0.12	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.31	0.00	0.82	0.00	0.00	0.00	0.00	0.09	0.09	0.51	0.60	0.00
Volume/Cap:	0.06	0.00	0.40	0.00	0.00	0.00	0.00	1.07	1.07	1.07	0.20	0.00
Delay/Veh:	31.8	0.0	3.4	0.0	0.0	0.0	0.0	123	123.2	83.6	11.9	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:	31.8	0.0	3.4	0.0	0.0	0.0	0.0	123	123.2	83.6	11.9	0.0
LOS by Move:	C	A	A	A	A	A	A	F	F	F	B	A
HCM2kAvgQ:	1	0	1	0	0	0	0	12	12	51	2	0

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.86		0.97	0.95	1.00	0.88
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6305		3433	3539	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6305		3433	3539	1770	2787
Volume (vph)	801	96	1599	1375	94	1581
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	861	103	1719	1478	101	1700
RTOR Reduction (vph)	14	0	0	0	0	1
Lane Group Flow (vph)	950	0	1719	1478	101	1699
Turn Type			Prot			pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases						4
Actuated Green, G (s)	40.8		62.0	106.8	14.2	76.2
Effective Green, g (s)	41.8		62.0	107.8	14.2	76.2
Actuated g/C Ratio	0.32		0.48	0.83	0.11	0.59
Clearance Time (s)	5.0		4.0	5.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2027		1637	2935	193	1719
v/s Ratio Prot	0.15		c0.50	c0.42	0.06	c0.47
v/s Ratio Perm						0.14
v/c Ratio	0.47		1.05	0.50	0.52	0.99
Uniform Delay, d1	35.2		34.0	3.3	54.7	26.5
Progression Factor	1.00		1.25	1.14	1.00	1.00
Incremental Delay, d2	0.8		28.8	0.2	2.5	18.8
Delay (s)	36.0		71.4	3.9	57.3	45.3
Level of Service	D		E	A	E	D
Approach Delay (s)	36.0			40.2	45.9	
Approach LOS	D			D	D	

Intersection Summary			
HCM Average Control Delay	41.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	75.2%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.86	0.86	0.97	0.95					0.95	0.95	1.00
Frt		0.96	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		4606	1362	3433	3539					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		4606	1362	3433	3539					1681	1681	1583
Volume (vph)	0	1224	1158	390	2537	0	0	0	0	570	0	437
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	1302	1232	415	2699	0	0	0	0	606	0	465
RTOR Reduction (vph)	0	51	312	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1752	419	415	2699	0	0	0	0	303	303	465
Turn Type			Perm	Prot						Perm		Free
Protected Phases		2		1	6						4	
Permitted Phases			2							4		Free
Actuated Green, G (s)		70.3	70.3	19.0	93.3					26.7	26.7	130.0
Effective Green, g (s)		71.3	71.3	19.0	94.3					27.7	27.7	130.0
Actuated g/C Ratio		0.55	0.55	0.15	0.73					0.21	0.21	1.00
Clearance Time (s)		5.0	5.0	4.0	5.0					5.0	5.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		2526	747	502	2567					358	358	1583
v/s Ratio Prot		0.39		0.12	c0.76							
v/s Ratio Perm			0.54							0.18	0.18	0.29
v/c Ratio		0.69	0.56	0.83	1.05					0.85	0.85	0.29
Uniform Delay, d1		21.4	19.2	53.9	17.9					49.1	49.1	0.0
Progression Factor		1.13	1.95	0.68	0.82					1.00	1.00	1.00
Incremental Delay, d2		0.9	1.7	1.1	24.4					16.6	16.6	0.5
Delay (s)		25.0	39.1	37.9	39.0					65.7	65.7	0.5
Level of Service		C	D	D	D					E	E	A
Approach Delay (s)		29.1			38.9			0.0			37.4	
Approach LOS		C			D			A			D	

Intersection Summary			
HCM Average Control Delay	34.9	HCM Level of Service	C
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	131.6%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.86		0.95	0.95	1.00			
Frt	1.00	1.00			0.97		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			6218		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			6218		1681	1681	1583			
Volume (vph)	366	1428	0	0	1303	320	1624	0	520	0	0	0
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)	394	1535	0	0	1401	344	1746	0	559	0	0	0
RTOR Reduction (vph)	0	0	0	0	34	0	0	0	0	0	0	0
Lane Group Flow (vph)	394	1535	0	0	1711	0	873	873	559	0	0	0
Turn Type	Prot						Perm		Free			
Protected Phases	5	2			6			8				
Permitted Phases							8		Free			
Actuated Green, G (s)	26.0	61.0			31.0		60.0	60.0	130.0			
Effective Green, g (s)	26.0	62.0			32.0		60.0	60.0	130.0			
Actuated g/C Ratio	0.20	0.48			0.25		0.46	0.46	1.00			
Clearance Time (s)	4.0	5.0			5.0		4.0	4.0				
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Lane Grp Cap (vph)	354	1688			1531		776	776	1583			
v/s Ratio Prot	c0.22	0.43			c0.28							
v/s Ratio Perm							c0.52	0.52	0.35			
v/c Ratio	1.11	0.91			1.12		1.12	1.12	0.35			
Uniform Delay, d1	52.0	31.4			49.0		35.0	35.0	0.0			
Progression Factor	0.55	0.64			0.95		1.00	1.00	1.00			
Incremental Delay, d2	77.3	7.0			62.1		72.5	72.5	0.6			
Delay (s)	105.7	27.1			108.9		107.5	107.5	0.6			
Level of Service	F	C			F		F	F	A			
Approach Delay (s)		43.2			108.9			81.5			0.0	
Approach LOS		D			F			F			A	

Intersection Summary			
HCM Average Control Delay	77.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	116.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.86		1.00	0.86	1.00	
Frt	1.00		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	6403		1770	6408	1695	
Flt Permitted	1.00		0.95	1.00	0.98	
Satd. Flow (perm)	6403		1770	6408	1695	
Volume (vph)	1938	10	10	1613	10	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2107	11	11	1753	11	11
RTOR Reduction (vph)	0	0	0	0	11	0
Lane Group Flow (vph)	2118	0	11	1753	11	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	89.5		1.5	95.0	3.0	
Effective Green, g (s)	90.5		1.5	96.0	4.0	
Actuated g/C Ratio	0.84		0.01	0.89	0.04	
Clearance Time (s)	5.0		4.0	5.0	5.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	5365		25	5696	63	
v/s Ratio Prot	c0.33		0.01	c0.27	c0.01	
v/s Ratio Perm						
v/c Ratio	0.39		0.44	0.31	0.18	
Uniform Delay, d1	2.1		52.8	0.9	50.4	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.2		11.9	0.1	1.4	
Delay (s)	2.3		64.7	1.1	51.8	
Level of Service	A		E	A	D	
Approach Delay (s)	2.3			1.5	51.8	
Approach LOS	A			A	D	

Intersection Summary			
HCM Average Control Delay	2.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
PM Peak Hour

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

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Intersection #8 Eight Mile Road/Thornton Road

****

Cycle (sec): 130 Critical Vol./Cap.(X): 0.823
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 49.7
Optimal Cycle: 102 Level Of Service: D

****

Street Name:	Thornton Road						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 0 1			1 0 2 0 1			2 0 4 0 1			2 0 3 1 0		
Volume Module:												
Base Vol:	110	150	390	90	160	90	120	1350	230	210	1050	40
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:	110	150	390	90	160	90	120	1350	230	210	1050	40
Added Vol:	104	0	94	0	0	0	0	302	126	131	269	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	214	150	484	90	160	90	120	1652	356	341	1319	40
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:	221	155	499	93	165	93	124	1703	367	352	1360	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	221	155	499	93	165	93	124	1703	367	352	1360	41
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:	221	155	499	93	165	93	124	1703	367	352	1360	41
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.93	0.83	0.90	0.89	0.83	0.90	0.89	0.89
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	4.00	1.00	2.00	3.88	0.12
Final Sat.:	1769	3538	1583	1769	3538	1583	3432	6778	1583	3432	6552	199
Capacity Analysis Module:												
Vol/Sat:	0.12	0.04	0.32	0.05	0.05	0.06	0.04	0.25	0.23	0.10	0.21	0.21
Crit Moves:			****	****				****		****		
Green/Cycle:	0.18	0.35	0.35	0.05	0.22	0.22	0.10	0.29	0.29	0.13	0.32	0.32
Volume/Cap:	0.69	0.12	0.90	1.05	0.21	0.27	0.36	0.87	0.80	0.79	0.65	0.65
Delay/Veh:	56.4	28.8	57.9	171.4	41.6	42.4	55.3	48.1	52.3	63.9	38.6	38.6
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:	56.4	28.8	57.9	171.4	41.6	42.4	55.3	48.1	52.3	63.9	38.6	38.6
LOS by Move:	E	C	E	F	D	D	E	D	D	E	D	D
HCM2kAvgQ:	9	2	22	7	3	3	3	20	15	9	13	13

****

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

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Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
PM Peak Hour

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

Intersection #9 Eight Mile Road/Davis Street

Cycle (sec):	130	Critical Vol./Cap.(X):	0.889
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	43.4
Optimal Cycle:	129	Level Of Service:	D

Street Name:	Davis Street						Eight Mile Road					
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			Include			Ovl			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 0 1			1 0 2 0 1			2 0 4 0 1			2 0 3 1 0		
Volume Module:												
Base Vol:	270	210	790	50	150	80	50	1020	400	490	770	40
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:	270	210	790	50	150	80	50	1020	400	490	770	40
Added Vol:	70	0	0	0	0	52	52	265	79	0	278	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	340	210	790	50	150	132	102	1285	479	490	1048	40
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:	370	228	859	54	163	143	111	1397	521	533	1139	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	370	228	859	54	163	143	111	1397	521	533	1139	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	370	228	859	54	163	143	111	1397	521	533	1139	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.93	0.83	0.90	0.89	0.83	0.90	0.89	0.89
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	4.00	1.00	2.00	3.85	0.15
Final Sat.:	1769	3538	1583	1769	3538	1583	3432	6778	1583	3432	6489	248
Capacity Analysis Module:												
Vol/Sat:	0.21	0.06	0.54	0.03	0.05	0.09	0.03	0.21	0.33	0.16	0.18	0.18
Crit Moves:			****	****				****		****		
Green/Cycle:	0.33	0.44	0.61	0.03	0.14	0.14	0.06	0.23	0.56	0.17	0.34	0.34
Volume/Cap:	0.64	0.15	0.89	0.89	0.32	0.64	0.51	0.89	0.59	0.89	0.51	0.51
Delay/Veh:	39.5	22.2	31.7	139.0	50.5	58.5	61.0	54.9	19.8	67.6	34.2	34.2
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:	39.5	22.2	31.7	139.0	50.5	58.5	61.0	54.9	19.8	67.6	34.2	34.2
LOS by Move:	D	C	C	F	D	E	E	D	B	E	C	C
HCM2kAvgQ:	12	2	26	4	3	6	3	18	10	14	9	9

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
PM Peak Hour

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

Intersection #10 Eight Mile Road/Lower Sacramento Road

Cycle (sec):	130	Critical Vol./Cap.(X):	0.826
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	38.6
Optimal Cycle:	103	Level Of Service:	D

Street Name:	Lower Sacramento Road						Eight Mile Road					
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			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 2 0 1			2 0 2 0 1			2 0 4 0 1			2 0 3 1 0		
Volume Module:												
Base Vol:	240	400	600	70	340	50	90	1620	260	800	1250	180
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	240	400	600	70	340	50	90	1620	260	800	1250	180
Added Vol:	0	0	0	0	0	31	29	236	0	0	247	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	240	400	600	70	340	81	119	1856	260	800	1497	180
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:	258	430	645	75	366	87	128	1996	280	860	1610	194
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	258	430	645	75	366	87	128	1996	280	860	1610	194
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	258	430	645	75	366	87	128	1996	280	860	1610	194
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.93	0.83	0.90	0.93	0.83	0.90	0.89	0.83	0.90	0.88	0.88
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	4.00	1.00	2.00	3.57	0.43
Final Sat.:	3432	3538	1583	3432	3538	1583	3432	6778	1583	3432	5953	716
Capacity Analysis Module:												
Vol/Sat:	0.08	0.12	0.41	0.02	0.10	0.06	0.04	0.29	0.18	0.25	0.27	0.27
Crit Moves:			****	****				****		****		
Green/Cycle:	0.09	0.19	0.49	0.03	0.13	0.13	0.08	0.35	0.35	0.30	0.58	0.58
Volume/Cap:	0.81	0.64	0.83	0.71	0.81	0.43	0.47	0.83	0.50	0.83	0.47	0.47
Delay/Veh:	72.4	50.8	35.9	82.8	65.9	53.9	58.5	40.9	33.6	48.0	16.0	16.0
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:	72.4	50.8	35.9	82.8	65.9	53.9	58.5	40.9	33.6	48.0	16.0	16.0
LOS by Move:	E	D	D	F	E	D	E	D	C	D	B	B
HCM2kAvgQ:	7	9	22	3	10	4	3	21	8	18	7	7

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
PM Peak Hour

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

Intersection #11 Eight Mile Road/West Lane

Cycle (sec):	130	Critical Vol./Cap.(X):	1.048
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	66.2
Optimal Cycle:	130	Level Of Service:	E

Street Name:	West Lane						Eight Mile Road					
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			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 2 0 1			2 0 2 0 1			2 0 3 1 0			2 0 3 0 1		
Volume Module:												
Base Vol:	700	530	250	30	510	410	640	1220	560	300	1540	30
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:	700	530	250	30	510	410	640	1220	560	300	1540	30
Added Vol:	0	0	0	0	0	61	58	176	2	0	186	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	700	530	250	30	510	471	698	1396	562	300	1726	30
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:	722	546	258	31	526	486	720	1439	579	309	1779	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	722	546	258	31	526	486	720	1439	579	309	1779	31
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	722	546	258	31	526	486	720	1439	579	309	1779	31
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.93	0.83	0.90	0.93	0.83	0.90	0.85	0.85	0.90	0.89	0.83
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.:	3432	3538	1583	3432	3538	1583	3432	4865	1622	3432	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.21	0.15	0.16	0.01	0.15	0.31	0.21	0.30	0.36	0.09	0.35	0.02
Crit Moves:	****				****		****				****	
Green/Cycle:	0.20	0.29	0.29	0.05	0.14	0.34	0.20	0.43	0.43	0.11	0.33	0.33
Volume/Cap:	1.05	0.54	0.57	0.17	1.05	0.90	1.05	0.69	0.84	0.84	1.05	0.06
Delay/Veh:	99.3	39.5	41.0	59.1	109	58.1	99.4	31.1	36.0	72.2	78.8	29.4
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:	99.3	39.5	41.0	59.1	109	58.1	99.4	31.1	36.0	72.2	78.8	29.4
LOS by Move:	F	D	D	E	F	E	F	C	D	E	E	C
HCM2kAvgQ:	21	9	9	1	17	21	21	16	23	9	35	1

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
PM Peak Hour

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

Intersection #12 Eight Mile Road/SR 99 Frontage

Cycle (sec):	130	Critical Vol./Cap.(X):	1.047
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	78.5
Optimal Cycle:	130	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1	0 1		1 0 1	0 1		1 0 2	1 0		1 0 1	1 0	
Volume Module:												
Base Vol:	370	20	330	20	30	10	10	1150	250	550	1240	20
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:	370	20	330	20	30	10	10	1150	250	550	1240	20
Added Vol:	0	0	0	0	0	0	0	176	0	0	186	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	370	20	330	20	30	10	10	1326	250	550	1426	20
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:	398	22	355	22	32	11	11	1426	269	591	1533	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	398	22	355	22	32	11	11	1426	269	591	1533	22
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	398	22	355	22	32	11	11	1426	269	591	1533	22
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.98	0.83	0.93	0.87	0.87	0.93	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.52	0.48	1.00	1.97	0.03
Final Sat.:	1769	1862	1583	1769	1862	1583	1769	4174	787	1769	3482	49
Capacity Analysis Module:												
Vol/Sat:	0.22	0.01	0.22	0.01	0.02	0.01	0.01	0.34	0.34	0.33	0.44	0.44
Crit Moves:	****				****			****		****		
Green/Cycle:	0.20	0.20	0.49	0.08	0.08	0.08	0.04	0.30	0.30	0.30	0.56	0.56
Volume/Cap:	1.13	0.06	0.45	0.15	0.23	0.09	0.16	1.13	1.13	1.13	0.78	0.78
Delay/Veh:	138.6	42.4	21.8	56.3	57.2	56.1	61.4	111	111.2	124.5	24.5	24.5
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:	138.6	42.4	21.8	56.3	57.2	56.1	61.4	111	111.2	124.5	24.5	24.5
LOS by Move:	F	D	C	E	E	E	E	F	F	F	C	C
HCM2kAvgQ:	25	1	9	1	1	0	1	37	37	35	26	26

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
PM Peak Hour

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

Intersection #13 Mokelumne Circle/Scott Creek Drive

Cycle (sec):	130	Critical Vol./Cap.(X):	0.925
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	47.9
Optimal Cycle:	130	Level Of Service:	D

Street Name:	Mokelumne Circle						Scott Creek Drive					
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:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 0 1 0			1 0 0 1 0			1 0 0 1 0			1 0 0 1 0		
Volume Module:												
Base Vol:	10	90	10	10	420	430	340	30	10	10	40	30
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:	10	90	10	10	420	430	340	30	10	10	40	30
Added Vol:	3	25	0	12	39	7	8	18	2	0	17	12
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	115	10	22	459	437	348	48	12	10	57	42
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:	14	125	11	24	499	475	378	52	13	11	62	46
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	14	125	11	24	499	475	378	52	13	11	62	46
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	14	125	11	24	499	475	378	52	13	11	62	46
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.13	0.97	0.97	0.65	0.91	0.91	0.93	0.95	0.95	0.93	0.92	0.92
Lanes:	1.00	0.92	0.08	1.00	0.51	0.49	1.00	0.80	0.20	1.00	0.58	0.42
Final Sat.:	240	1692	147	1238	884	842	1769	1445	361	1769	1003	739
Capacity Analysis Module:												
Vol/Sat:	0.06	0.07	0.07	0.02	0.56	0.56	0.21	0.04	0.04	0.01	0.06	0.06
Crit Moves:					****		****				****	
Green/Cycle:	0.60	0.60	0.60	0.60	0.60	0.60	0.23	0.22	0.22	0.09	0.08	0.08
Volume/Cap:	0.10	0.12	0.12	0.03	0.94	0.94	0.94	0.17	0.17	0.07	0.80	0.80
Delay/Veh:	11.2	11.1	11.1	10.5	38.6	38.6	78.5	41.4	41.4	54.7	87.4	87.4
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:	11.2	11.1	11.1	10.5	38.6	38.6	78.5	41.4	41.4	54.7	87.4	87.4
LOS by Move:	B	B	B	B	D	D	E	D	D	D	F	F
HCM2kAvgQ:	0	1	1	0	36	36	19	2	2	0	6	6

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
PM Peak Hour

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

Intersection #14 Trinity Parkway/Consumnes Drive

Cycle (sec): 130 Critical Vol./Cap.(X): 1.010
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 59.7
Optimal Cycle: OPTIMIZED Level Of Service: E

Street Name:	Trinity Parkway						Consumnes Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1	1 0		1 0 1	1 0		1 0 0	1 0		1 0 1	0 1	
Volume Module:												
Base Vol:	370	210	0	0	150	150	90	0	130	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	370	210	0	0	150	150	90	0	130	0	0	0
Added Vol:	142	903	51	14	835	5	4	5	123	107	9	30
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	512	1113	51	14	985	155	94	5	253	107	9	30
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:	539	1172	54	15	1037	163	99	5	266	113	9	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	539	1172	54	15	1037	163	99	5	266	113	9	32
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	539	1172	54	15	1037	163	99	5	266	113	9	32
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.92	0.92	0.93	0.91	0.91	0.93	0.84	0.84	0.93	0.98	0.83
Lanes:	1.00	1.91	0.09	1.00	1.73	0.27	1.00	0.02	0.98	1.00	1.00	1.00
Final Sat.:	1769	3359	154	1769	2996	471	1769	31	1558	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.30	0.35	0.35	0.01	0.35	0.35	0.06	0.17	0.17	0.06	0.01	0.02
Crit Moves:	****				****			****		****		
Green/Cycle:	0.30	0.59	0.59	0.05	0.34	0.34	0.10	0.17	0.17	0.06	0.13	0.13
Volume/Cap:	1.01	0.59	0.59	0.16	1.01	1.01	0.57	1.01	1.01	1.01	0.04	0.15
Delay/Veh:	86.8	17.0	17.0	59.7	71.2	71.2	60.6	111	111.4	148.7	49.0	50.0
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:	86.8	17.0	17.0	59.7	71.2	71.2	60.6	111	111.4	148.7	49.0	50.0
LOS by Move:	F	B	B	E	E	E	E	F	F	F	D	D
HCM2kAvgQ:	28	11	11	1	32	32	5	16	16	8	0	1

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
PM Peak Hour

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

Intersection #15 Trinity Parkway/McAuliffe Road

Cycle (sec):	130	Critical Vol./Cap.(X):	0.776
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	31.0
Optimal Cycle:	77	Level Of Service:	C

Street Name:	Trinity Parkway						McAuliffe Road					
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			Permitted			Permitted		
Rights:	Include			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	0 0 1	1 0		1 0 2	0 0		0 0 0	0 0		1 0 0	0 1	
Volume Module:												
Base Vol:	0	270	110	210	130	0	0	0	0	60	0	280
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	270	110	210	130	0	0	0	0	60	0	280
Added Vol:	0	809	26	318	917	0	0	0	0	44	0	298
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1079	136	528	1047	0	0	0	0	104	0	578
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:	0	1173	148	574	1138	0	0	0	0	113	0	628
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1173	148	574	1138	0	0	0	0	113	0	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
Final Vol.:	0	1173	148	574	1138	0	0	0	0	113	0	628
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.92	0.92	0.93	0.93	1.00	1.00	1.00	1.00	0.98	1.00	0.83
Lanes:	0.00	1.78	0.22	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3088	389	1769	3538	0	0	0	0	1862	0	1583
Capacity Analysis Module:												
Vol/Sat:	0.00	0.38	0.38	0.32	0.32	0.00	0.00	0.00	0.00	0.06	0.00	0.40
Crit Moves:		****		****							****	
Green/Cycle:	0.00	0.45	0.45	0.38	0.76	0.00	0.00	0.00	0.00	0.08	0.00	0.46
Volume/Cap:	0.00	0.85	0.85	0.85	0.42	0.00	0.00	0.00	0.00	0.79	0.00	0.86
Delay/Veh:	0.0	36.5	36.5	46.4	5.7	0.0	0.0	0.0	0.0	83.8	0.0	41.9
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:	0.0	36.5	36.5	46.4	5.7	0.0	0.0	0.0	0.0	83.8	0.0	41.9
LOS by Move:	A	D	D	D	A	A	A	A	A	F	A	D
HCM2kAvgQ:	0	25	25	22	1	0	0	0	0	6	0	23

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
PM Peak Hour

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

Intersection #16 Thornton Road/A.G. Spanos Boulevard (South)

Cycle (sec):	95	Critical Vol./Cap.(X):	0.788
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	23.5
Optimal Cycle:	73	Level Of Service:	C

Street Name:	Thornton Road						A.G. Spanos Boulevard (South)					
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			Permitted			Permitted		
Rights:	Include			Include			Ovl			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 1 0			1 0 2 0 1			0 1 0 0 1			0 1 0 0 1		
Volume Module:												
Base Vol:	420	550	150	60	450	110	90	40	380	60	10	20
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:	420	550	150	60	450	110	90	40	380	60	10	20
Added Vol:	238	82	0	0	115	10	9	0	260	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	658	632	150	60	565	120	99	40	640	60	10	20
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:	715	687	163	65	614	130	108	43	696	65	11	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	715	687	163	65	614	130	108	43	696	65	11	22
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	715	687	163	65	614	130	108	43	696	65	11	22
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.87	0.87	0.93	0.93	0.83	0.72	0.72	0.83	0.48	0.48	0.83
Lanes:	1.00	2.42	0.58	1.00	2.00	1.00	0.71	0.29	1.00	0.86	0.14	1.00
Final Sat.:	1769	3989	947	1769	3538	1583	972	393	1583	782	130	1583
Capacity Analysis Module:												
Vol/Sat:	0.40	0.17	0.17	0.04	0.17	0.08	0.11	0.11	0.44	0.08	0.08	0.01
Crit Moves:	****				****			****				
Green/Cycle:	0.51	0.59	0.59	0.14	0.22	0.22	0.14	0.14	0.65	0.14	0.14	0.14
Volume/Cap:	0.79	0.29	0.29	0.26	0.79	0.37	0.79	0.79	0.67	0.59	0.59	0.10
Delay/Veh:	23.6	9.7	9.7	36.7	40.3	32.2	58.7	58.7	11.9	45.6	45.6	35.8
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:	23.6	9.7	9.7	36.7	40.3	32.2	58.7	58.7	11.9	45.6	45.6	35.8
LOS by Move:	C	A	A	D	D	C	E	E	B	D	D	D
HCM2kAvgQ:	16	3	3	2	11	3	6	6	8	3	3	1

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
PM Peak Hour

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

Intersection #17 Thornton Road/Wagner Heights

Cycle (sec):	95	Critical Vol./Cap.(X):	1.003
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	50.3
Optimal Cycle:	130	Level Of Service:	D

Street Name:	Thornton Road						Wagner Heights					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1	1 0		1 0 2	0 1		1 0 1	0 1		1 0 1	0 1	
Volume Module:												
Base Vol:	100	1070	60	170	630	110	130	140	120	90	150	400
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:	100	1070	60	170	630	110	130	140	120	90	150	400
Added Vol:	0	229	0	0	261	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	100	1299	60	170	891	110	130	140	120	90	150	400
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:	103	1339	62	175	919	113	134	144	124	93	155	412
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	1339	62	175	919	113	134	144	124	93	155	412
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	103	1339	62	175	919	113	134	144	124	93	155	412
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.92	0.92	0.93	0.93	0.83	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	1.91	0.09	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1769	3358	155	1769	3538	1583	1769	1862	1583	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.06	0.40	0.40	0.10	0.26	0.07	0.08	0.08	0.08	0.05	0.08	0.26
Crit Moves:		****		****			****					****
Green/Cycle:	0.09	0.40	0.40	0.10	0.41	0.41	0.08	0.22	0.22	0.11	0.26	0.26
Volume/Cap:	0.64	1.00	1.00	1.00	0.64	0.18	1.00	0.35	0.35	0.47	0.32	1.00
Delay/Veh:	50.1	53.5	53.5	111.7	23.7	18.2	122.6	31.5	31.6	41.3	28.8	80.3
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:	50.1	53.5	53.5	111.7	23.7	18.2	122.6	31.5	31.6	41.3	28.8	80.3
LOS by Move:	D	D	D	F	C	B	F	C	C	D	C	F
HCM2kAvgQ:	4	29	29	9	11	2	8	4	3	3	3	18

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	0.95		0.97	0.95	
Frt	1.00	0.95			1.00	0.85	1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3365			3539	1583	1770	3367		3433	3417	
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3365			3539	1583	1770	3367		3433	3417	
Volume (vph)	78	298	145	0	528	731	246	396	190	564	444	133
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)	85	324	158	0	574	795	267	430	207	613	483	145
RTOR Reduction (vph)	0	36	0	0	0	46	0	46	0	0	23	0
Lane Group Flow (vph)	85	446	0	0	574	749	267	591	0	613	605	0
Turn Type	Prot			Prot		pm+ov	Prot			Prot		
Protected Phases	5	2		1	6	7	3	8		7	4	
Permitted Phases						6						
Actuated Green, G (s)	9.5	54.1			40.6	78.1	23.9	26.4		37.5	40.0	
Effective Green, g (s)	9.5	54.1			40.6	78.1	23.9	26.4		37.5	40.0	
Actuated g/C Ratio	0.07	0.42			0.31	0.60	0.18	0.20		0.29	0.31	
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	129	1400			1105	1000	325	684		990	1051	
v/s Ratio Prot	c0.05	0.13			0.16	c0.22	0.15	c0.18		0.18	0.18	
v/s Ratio Perm						0.26						
v/c Ratio	0.66	0.32			0.52	0.75	0.82	0.86		0.62	0.58	
Uniform Delay, d1	58.7	25.5			36.7	18.8	51.0	50.1		40.1	37.9	
Progression Factor	1.00	1.00			1.22	1.24	1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.5	0.6			1.5	2.7	15.3	11.0		1.2	0.8	
Delay (s)	70.2	26.1			46.4	26.1	66.3	61.0		41.2	38.6	
Level of Service	E	C			D	C	E	E		D	D	
Approach Delay (s)		32.7			34.6			62.6			39.9	
Approach LOS		C			C			E			D	

Intersection Summary			
HCM Average Control Delay	42.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.6%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.91		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5041		1770	3535		1770	1695		1770	1827	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5041		1770	3535		1770	1695		1770	1827	
Volume (vph)	10	991	62	300	1175	10	84	140	210	10	70	10
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)	11	1077	67	326	1277	11	91	152	228	11	76	11
RTOR Reduction (vph)	0	4	0	0	0	0	0	40	0	0	4	0
Lane Group Flow (vph)	11	1140	0	326	1288	0	91	340	0	11	83	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	1.4	58.8		27.5	84.9		11.8	26.2		1.5	15.9	
Effective Green, g (s)	1.4	58.8		27.5	84.9		11.8	26.2		1.5	15.9	
Actuated g/C Ratio	0.01	0.45		0.21	0.65		0.09	0.20		0.01	0.12	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	19	2280		374	2309		161	342		20	223	
v/s Ratio Prot	0.01	0.23		c0.18	c0.36		c0.05	c0.20		0.01	0.05	
v/s Ratio Perm												
v/c Ratio	0.58	0.50		0.87	0.56		0.57	0.99		0.55	0.37	
Uniform Delay, d1	64.0	25.2		49.5	12.3		56.6	51.8		63.9	52.4	
Progression Factor	0.99	0.75		1.34	0.26		1.00	1.00		1.00	1.00	
Incremental Delay, d2	32.5	0.7		17.4	0.9		4.5	46.9		28.9	1.0	
Delay (s)	95.9	19.7		83.6	4.1		61.1	98.7		92.8	53.5	
Level of Service	F	B		F	A		E	F		F	D	
Approach Delay (s)		20.4			20.2			91.5			57.9	
Approach LOS		C			C			F			E	

Intersection Summary			
HCM Average Control Delay	31.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.4%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	
Lane Util. Factor		0.91		1.00	0.95					1.00	1.00	
Frt		0.90		1.00	1.00					1.00	0.85	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		4588		1770	3539					1770	1583	
Flt Permitted		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (perm)		4588		1770	3539					1770	1583	
Volume (vph)	0	418	782	340	1207	0	0	0	0	200	0	269
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	454	850	370	1312	0	0	0	0	217	0	292
RTOR Reduction (vph)	0	195	0	0	0	0	0	0	0	0	66	0
Lane Group Flow (vph)	0	1109	0	370	1312	0	0	0	0	217	226	0
Turn Type				Prot						Split		
Protected Phases		2		1	6					4	4	
Permitted Phases												
Actuated Green, G (s)		63.5		31.6	99.1					22.9	22.9	
Effective Green, g (s)		63.5		31.6	99.1					22.9	22.9	
Actuated g/C Ratio		0.49		0.24	0.76					0.18	0.18	
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		2241		430	2698					312	279	
v/s Ratio Prot		c0.28		c0.21	0.37					0.12	c0.18	
v/s Ratio Perm												
v/c Ratio		0.87dr		0.86	0.49					0.70	0.81	
Uniform Delay, d1		22.4		47.1	5.8					50.3	51.5	
Progression Factor		0.25		1.16	0.27					1.00	1.00	
Incremental Delay, d2		0.7		13.3	0.5					6.6	16.1	
Delay (s)		6.3		68.1	2.1					56.9	67.6	
Level of Service		A		E	A					E	E	
Approach Delay (s)		6.3			16.6			0.0			63.0	
Approach LOS		A			B			A			E	

Intersection Summary			
HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	98.8%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.91		0.95	0.95	1.00			
Frt	1.00	1.00			0.97		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			4913		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			4913		1681	1681	1583			
Volume (vph)	252	366	0	0	547	160	1000	0	700	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	274	398	0	0	595	174	1087	0	761	0	0	0
RTOR Reduction (vph)	0	0	0	0	35	0	0	0	205	0	0	0
Lane Group Flow (vph)	274	398	0	0	734	0	544	543	556	0	0	0
Turn Type	Prot						Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases									8			
Actuated Green, G (s)	23.9	69.4			41.5		52.6	52.6	52.6			
Effective Green, g (s)	23.9	69.4			41.5		52.6	52.6	52.6			
Actuated g/C Ratio	0.18	0.53			0.32		0.40	0.40	0.40			
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Lane Grp Cap (vph)	325	1889			1568		680	680	641			
v/s Ratio Prot	c0.15	0.11			c0.15		0.32	0.32				
v/s Ratio Perm									c0.35			
v/c Ratio	0.84	0.21			0.47		0.80	0.80	0.87			
Uniform Delay, d1	51.2	15.9			35.4		34.1	34.0	35.5			
Progression Factor	0.78	0.24			1.00		1.00	1.00	1.00			
Incremental Delay, d2	17.0	0.2			1.0		6.7	6.5	11.9			
Delay (s)	57.0	4.1			36.4		40.8	40.6	47.4			
Level of Service	E	A			D		D	D	D			
Approach Delay (s)		25.7			36.4			43.4			0.0	
Approach LOS		C			D			D			A	

Intersection Summary			
HCM Average Control Delay	38.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.7%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0		4.0		4.0	4.0	
Lane Util. Factor				0.97		1.00		1.00		0.97	1.00	
Frt				1.00		0.85		0.87		1.00	1.00	
Flt Protected				0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)				3433		1583		1627		3433	1863	
Flt Permitted				0.95		1.00		1.00		0.95	1.00	
Satd. Flow (perm)				3433		1583		1627		3433	1863	
Volume (vph)	0	0	0	270	0	892	0	10	150	588	10	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	293	0	970	0	11	163	639	11	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	150	0	0	0	0
Lane Group Flow (vph)	0	0	0	293	0	970	0	24	0	639	11	0
Turn Type				Prot		Free	Split			Split		
Protected Phases				1	6		4	4		8	8	
Permitted Phases						Free						
Actuated Green, G (s)				78.5		130.0		9.5		28.0	28.0	
Effective Green, g (s)				78.5		130.0		10.5		29.0	29.0	
Actuated g/C Ratio				0.60		1.00		0.08		0.22	0.22	
Clearance Time (s)				4.0				5.0		5.0	5.0	
Vehicle Extension (s)				3.0				3.0		3.0	3.0	
Lane Grp Cap (vph)				2073		1583		131		766	416	
v/s Ratio Prot				0.09				0.01		c0.19	0.01	
v/s Ratio Perm						c0.61						
v/c Ratio				0.14		0.61		0.18		0.83	0.03	
Uniform Delay, d1				11.2		0.0		55.8		48.2	39.5	
Progression Factor				0.68		1.00		1.00		1.00	1.00	
Incremental Delay, d2				0.0		1.5		0.7		7.8	0.0	
Delay (s)				7.6		1.5		56.4		56.0	39.5	
Level of Service				A		A		E		E	D	
Approach Delay (s)		0.0			2.9			56.4			55.7	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM Average Control Delay	23.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	44.3%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		0.97	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3531		3433	4843		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3531		3433	4843		1770	1863	1583	1770	1863	1583
Volume (vph)	10	618	10	200	1062	494	10	40	150	352	10	10
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)	10	644	10	208	1106	515	10	42	156	367	10	10
RTOR Reduction (vph)	0	1	0	0	47	0	0	0	141	0	0	8
Lane Group Flow (vph)	10	653	0	208	1574	0	10	42	15	367	10	2
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	0.8	54.9		15.1	69.2		11.6	11.6	11.6	29.4	29.4	29.4
Effective Green, g (s)	0.8	55.9		15.1	70.2		12.6	12.6	12.6	30.4	30.4	30.4
Actuated g/C Ratio	0.01	0.43		0.12	0.54		0.10	0.10	0.10	0.23	0.23	0.23
Clearance Time (s)	4.0	5.0		4.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	11	1518		399	2615		172	181	153	414	436	370
v/s Ratio Prot	0.01	0.19		c0.06	c0.33		0.01	0.02		c0.21	0.01	
v/s Ratio Perm									0.10			0.01
v/c Ratio	0.91	0.43		0.52	0.60		0.06	0.23	0.10	0.89	0.02	0.01
Uniform Delay, d1	64.6	25.9		54.0	20.4		53.3	54.2	53.5	48.1	38.4	38.2
Progression Factor	0.80	0.18		0.89	0.73		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	207.2	0.8		1.1	0.9		0.1	0.7	0.3	19.8	0.0	0.0
Delay (s)	259.2	5.5		49.2	15.8		53.5	54.9	53.8	67.9	38.4	38.2
Level of Service	F	A		D	B		D	D	D	E	D	D
Approach Delay (s)		9.3			19.6			54.0			66.4	
Approach LOS		A			B			D			E	

Intersection Summary			
HCM Average Control Delay	25.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.1%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.91					0.95	0.95	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3539	1583	3433	5085					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3539	1583	3433	5085					1681	1681	1583
Volume (vph)	0	662	458	1230	1656	0	0	0	0	530	0	100
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	704	487	1309	1762	0	0	0	0	564	0	106
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	25
Lane Group Flow (vph)	0	704	487	1309	1762	0	0	0	0	282	282	81
Turn Type			Free	Prot						Perm		Perm
Protected Phases		2		1	6						4	
Permitted Phases			Free							4		4
Actuated Green, G (s)		46.8	130.0	43.0	93.8					26.2	26.2	26.2
Effective Green, g (s)		47.8	130.0	43.0	94.8					27.2	27.2	27.2
Actuated g/C Ratio		0.37	1.00	0.33	0.73					0.21	0.21	0.21
Clearance Time (s)		5.0		4.0	5.0					5.0	5.0	5.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		1301	1583	1136	3708					352	352	331
v/s Ratio Prot		c0.20		c0.38	0.35							
v/s Ratio Perm			0.31							c0.17	0.17	0.05
v/c Ratio		0.54	0.31	1.15	0.48					0.80	0.80	0.24
Uniform Delay, d1		32.4	0.0	43.5	7.3					48.8	48.8	42.8
Progression Factor		0.89	1.00	0.22	1.45					1.00	1.00	1.00
Incremental Delay, d2		1.4	0.4	76.9	0.2					12.3	12.3	0.4
Delay (s)		30.3	0.4	86.6	10.8					61.1	61.1	43.2
Level of Service		C	A	F	B					E	E	D
Approach Delay (s)		18.1			43.1			0.0			58.3	
Approach LOS		B			D			A			E	

Intersection Summary			
HCM Average Control Delay	39.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	141.5%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.81	1.00	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			7544	1583	1681	1681	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			7544	1583	1681	1681	2787			
Volume (vph)	200	992	0	0	1855	890	1031	0	1540	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	1078	0	0	2016	967	1121	0	1674	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	197	0	0	23	0	0	0
Lane Group Flow (vph)	217	1078	0	0	2016	770	561	560	1651	0	0	0
Turn Type	Prot					Perm	Perm		custom			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		1 8			
Actuated Green, G (s)	19.4	51.0			54.6	54.6	42.0	42.0	69.0			
Effective Green, g (s)	19.4	52.0			55.6	55.6	43.0	43.0	70.0			
Actuated g/C Ratio	0.15	0.40			0.43	0.43	0.33	0.33	0.54			
Clearance Time (s)	4.0	5.0			5.0	5.0	5.0	5.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	264	1416			3227	677	556	556	1501			
v/s Ratio Prot	c0.12	0.30			0.27							
v/s Ratio Perm						c0.49	0.33	0.33	c0.59			
v/c Ratio	0.82	0.76			0.62	1.14	1.01	1.01	1.10			
Uniform Delay, d1	53.6	33.6			29.1	37.2	43.5	43.5	30.0			
Progression Factor	0.55	0.87			0.28	0.68	1.00	1.00	1.00			
Incremental Delay, d2	16.4	3.2			0.1	63.4	40.4	40.0	55.6			
Delay (s)	46.1	32.6			8.2	88.6	83.9	83.5	85.6			
Level of Service	D	C			A	F	F	F	F			
Approach Delay (s)		34.9			34.2			84.8			0.0	
Approach LOS		C			C			F			A	

Intersection Summary			
HCM Average Control Delay	54.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	141.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
PM Peak Hour

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

Intersection #26 Hammer Lane/Thornton Road

Cycle (sec):	130	Critical Vol./Cap.(X):	0.869
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	41.6
Optimal Cycle:	119	Level Of Service:	D

Street Name:	Thornton Road						Hammer Lane					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 2 1 0			1 0 2 1 0			1 0 3 0 1			1 0 3 0 1		
Volume Module:												
Base Vol:	490	750	50	310	480	20	110	1290	220	40	1390	670
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:	490	750	50	310	480	20	110	1290	220	40	1390	670
Added Vol:	97	99	0	37	107	0	0	172	84	0	187	28
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	587	849	50	347	587	20	110	1462	304	40	1577	698
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:	599	866	51	354	599	20	112	1492	310	41	1609	712
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	599	866	51	354	599	20	112	1492	310	41	1609	712
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	599	866	51	354	599	20	112	1492	310	41	1609	712
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.88	0.88	0.93	0.89	0.89	0.93	0.89	0.83	0.93	0.89	0.83
Lanes:	2.00	2.83	0.17	1.00	2.90	0.10	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	3432	4762	280	1769	4891	167	1769	5083	1583	1769	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.17	0.18	0.18	0.20	0.12	0.12	0.06	0.29	0.20	0.02	0.32	0.45
Crit Moves:		****		****			****				****	
Green/Cycle:	0.26	0.21	0.21	0.23	0.18	0.18	0.07	0.40	0.40	0.04	0.36	0.59
Volume/Cap:	0.68	0.87	0.87	0.87	0.68	0.68	0.87	0.74	0.50	0.56	0.87	0.76
Delay/Veh:	45.4	57.6	57.6	65.9	51.7	51.7	102.1	31.7	27.2	70.2	40.5	15.0
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:	45.4	57.6	57.6	65.9	51.7	51.7	102.1	31.7	27.2	70.2	40.5	15.0
LOS by Move:	D	E	E	E	D	D	F	C	C	E	D	B
HCM2kAvgQ:	11	16	16	16	9	9	7	18	8	2	24	16

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
PM Peak Hour

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

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Intersection #27 Thornton Road/Whistler Way

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Cycle (sec):	95	Critical Vol./Cap.(X):	0.455
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	26.6
Optimal Cycle:	46	Level Of Service:	C

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Street Name:	Thornton Road						Whistler Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 0 1			1 0 1 1 0			1 0 1 0 1			1 0 0 1 0		
Volume Module:												
Base Vol:	120	550	100	90	360	40	80	40	110	110	40	40
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:	120	550	100	90	360	40	80	40	110	110	40	40
Added Vol:	0	91	0	2	126	44	40	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	120	641	100	92	486	84	120	40	110	110	40	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:	130	697	109	100	528	91	130	43	120	120	43	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	130	697	109	100	528	91	130	43	120	120	43	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:	130	697	109	100	528	91	130	43	120	120	43	45
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.91	0.91	0.93	0.98	0.83	0.93	0.91	0.91
Lanes:	1.00	2.00	1.00	1.00	1.71	0.29	1.00	1.00	1.00	1.00	0.49	0.51
Final Sat.:	1769	3538	1583	1769	2950	510	1769	1862	1583	1769	850	871
Capacity Analysis Module:												
Vol/Sat:	0.07	0.20	0.07	0.06	0.18	0.18	0.07	0.02	0.08	0.07	0.05	0.05
Crit Moves:		****		****			****				****	
Green/Cycle:	0.16	0.43	0.43	0.12	0.39	0.39	0.16	0.17	0.17	0.11	0.11	0.11
Volume/Cap:	0.45	0.46	0.16	0.46	0.45	0.45	0.46	0.14	0.45	0.63	0.46	0.46
Delay/Veh:	37.1	19.2	16.5	40.1	21.4	21.4	37.2	33.9	36.9	47.2	41.1	41.1
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:	37.1	19.2	16.5	40.1	21.4	21.4	37.2	33.9	36.9	47.2	41.1	41.1
LOS by Move:	D	B	B	D	C	C	D	C	D	D	D	D
HCM2kAvgQ:	4	6	2	3	6	6	4	1	4	4	3	3

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

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Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
AM Peak Hour

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

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Intersection #1 Eight Mile Road/Westlake Drive

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Cycle (sec):	130	Critical Vol./Cap.(X):	0.454
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	35.2
Optimal Cycle:	39	Level Of Service:	D

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Street Name:	Westlake Villages Drive							Eight Mile Road					
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:	4	10	0	4	10	0	4	10	0	4	10	0	
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0			
Volume Module:													
Base Vol:	10	0	230	0	0	0	0	10	10	150	10	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:	10	0	230	0	0	0	0	10	10	150	10	0	
Added Vol:	0	0	27	0	0	0	0	411	0	17	129	0	
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0	
Initial Fut:	10	0	257	0	0	0	0	421	10	167	139	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:	11	0	279	0	0	0	0	458	11	182	151	0	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	11	0	279	0	0	0	0	458	11	182	151	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:	11	0	279	0	0	0	0	458	11	182	151	0	
Saturation Flow Module:													
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Adjustment:	0.88	1.00	0.83	1.00	1.00	1.00	1.00	0.93	0.93	0.93	0.93	1.00	
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	1.95	0.05	1.00	2.00	0.00	
Final Sat.:	1666	0	1583	0	0	0	0	3445	82	1769	3538	0	
Capacity Analysis Module:													
Vol/Sat:	0.01	0.00	0.18	0.00	0.00	0.00	0.00	0.13	0.13	0.10	0.04	0.00	
Crit Moves:			****					****		****			
Green/Cycle:	0.39	0.00	0.39	0.00	0.00	0.00	0.00	0.29	0.29	0.23	0.37	0.00	
Volume/Cap:	0.02	0.00	0.45	0.00	0.00	0.00	0.00	0.45	0.45	0.45	0.12	0.00	
Delay/Veh:	24.4	0.0	30.0	0.0	0.0	0.0	0.0	37.8	37.8	44.2	26.9	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:	24.4	0.0	30.0	0.0	0.0	0.0	0.0	37.8	37.8	44.2	26.9	0.0	
LOS by Move:	C	A	C	A	A	A	A	D	D	D	C	A	
HCM2kAvgQ:	0	0	7	0	0	0	0	7	7	6	2	0	

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

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Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
AM Peak Hour

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

Intersection #2 Eight Mile Road/Regatta Drive

Cycle (sec): 130 Critical Vol./Cap.(X): 0.207
Loss Time (sec): 8 (Y+R=5.0 sec) Average Delay (sec/veh): 18.5
Optimal Cycle: 32 Level Of Service: B

Street Name:	Eight Mile Road						Regatta Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Permitted			Permitted			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	0 0	1! 0	1	0 0	0 0	0	0 0	2 1	0	2 0	3 0	0
Volume Module:												
Base Vol:	10	0	50	0	0	0	0	330	10	70	150	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:	10	0	50	0	0	0	0	330	10	70	150	0
Added Vol:	0	0	23	0	0	0	0	439	0	16	146	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	0	73	0	0	0	0	769	10	86	296	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:	11	0	79	0	0	0	0	836	11	93	322	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	0	79	0	0	0	0	836	11	93	322	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:	11	0	79	0	0	0	0	836	11	93	322	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.79	1.00	1.00	1.00	1.00	0.89	0.89	0.90	0.89	1.00
Lanes:	0.21	0.00	1.79	0.00	0.00	0.00	0.00	2.96	0.04	2.00	3.00	0.00
Final Sat.:	327	0	2700	0	0	0	0	5008	65	3432	5083	0
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.17	0.17	0.03	0.06	0.00
Crit Moves:								****		****		
Green/Cycle:	0.21	0.00	0.21	0.00	0.00	0.00	0.00	0.52	0.52	0.19	0.71	0.00
Volume/Cap:	0.16	0.00	0.14	0.00	0.00	0.00	0.00	0.32	0.32	0.14	0.09	0.00
Delay/Veh:	42.1	0.0	41.9	0.0	0.0	0.0	0.0	18.0	18.0	43.9	5.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.1	0.0	41.9	0.0	0.0	0.0	0.0	18.0	18.0	43.9	5.8	0.0
LOS by Move:	D	A	D	A	A	A	A	B	B	D	A	A
HCM2kAvgQ:	2	0	1	0	0	0	0	5	5	2	0	0

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

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Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Eight Mile Road/Mokelumne Circle

Cycle (sec):	130	Critical Vol./Cap.(X):	0.993
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	51.8
Optimal Cycle:	130	Level Of Service:	D

Street Name:	Mokelumne Circle						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Permitted			Permitted			Permitted			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 2 1 0			1 0 3 0 0		
Volume Module:												
Base Vol:	10	0	650	0	0	0	0	370	10	330	210	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:	10	0	650	0	0	0	0	370	10	330	210	0
Added Vol:	5	0	65	0	0	0	0	439	9	49	152	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	0	715	0	0	0	0	809	19	379	362	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:	16	0	777	0	0	0	0	879	21	412	393	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	0	777	0	0	0	0	879	21	412	393	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
Final Vol.:	16	0	777	0	0	0	0	879	21	412	393	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.86	1.00	0.83	1.00	1.00	1.00	1.00	0.89	0.89	0.93	0.89	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	2.93	0.07	1.00	3.00	0.00
Final Sat.:	1637	0	1583	0	0	0	0	4952	116	1769	5083	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.49	0.00	0.00	0.00	0.00	0.18	0.18	0.23	0.08	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.49	0.00	0.73	0.00	0.00	0.00	0.00	0.18	0.18	0.23	0.41	0.00
Volume/Cap:	0.02	0.00	0.67	0.00	0.00	0.00	0.00	0.99	0.99	0.99	0.19	0.00
Delay/Veh:	16.8	0.0	11.0	0.0	0.0	0.0	0.0	81.4	81.4	91.9	24.3	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:	16.8	0.0	11.0	0.0	0.0	0.0	0.0	81.4	81.4	91.9	24.3	0.0
LOS by Move:	B	A	B	A	A	A	A	F	F	F	C	A
HCM2kAvgQ:	0	0	4	0	0	0	0	18	18	22	3	0

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.86		0.97	0.95	1.00	0.88
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6328		3433	3539	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6328		3433	3539	1770	2787
Volume (vph)	1398	126	893	680	60	980
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1520	137	971	739	65	1065
RTOR Reduction (vph)	9	0	0	0	0	5
Lane Group Flow (vph)	1648	0	971	739	65	1060
Turn Type			Prot			pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases						4
Actuated Green, G (s)	65.7		40.0	109.7	11.3	51.3
Effective Green, g (s)	66.7		40.0	110.7	11.3	51.3
Actuated g/C Ratio	0.51		0.31	0.85	0.09	0.39
Clearance Time (s)	5.0		4.0	5.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3247		1056	3014	154	1186
v/s Ratio Prot	c0.26		0.28	0.21	0.04	c0.28
v/s Ratio Perm						0.11
v/c Ratio	0.51		0.92	0.25	0.42	0.89
Uniform Delay, d1	20.8		43.4	1.8	56.3	36.8
Progression Factor	1.00		0.63	0.41	1.00	1.00
Incremental Delay, d2	0.6		11.5	0.2	1.9	8.8
Delay (s)	21.4		38.9	0.9	58.1	45.6
Level of Service	C		D	A	E	D
Approach Delay (s)	21.4			22.5	46.4	
Approach LOS	C			C	D	

Intersection Summary			
HCM Average Control Delay	28.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.3%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.86	0.86	0.97	0.95					0.95	0.95	1.00
Frt		0.95	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		4565	1362	3433	3539					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		4565	1362	3433	3539					1681	1681	1583
Volume (vph)	0	996	1381	460	1301	0	0	0	0	310	0	272
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	1083	1501	500	1414	0	0	0	0	337	0	296
RTOR Reduction (vph)	0	44	228	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1583	729	500	1414	0	0	0	0	169	168	296
Turn Type			Perm	Prot						Perm		Free
Protected Phases		2		1	6						4	
Permitted Phases			2							4		Free
Actuated Green, G (s)		73.4	73.4	23.8	101.2					18.8	18.8	130.0
Effective Green, g (s)		74.4	74.4	23.8	102.2					19.8	19.8	130.0
Actuated g/C Ratio		0.57	0.57	0.18	0.79					0.15	0.15	1.00
Clearance Time (s)		5.0	5.0	4.0	5.0					5.0	5.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		2613	779	629	2782					256	256	1583
v/s Ratio Prot		0.36		c0.15	0.40							
v/s Ratio Perm			0.70							0.10	0.10	0.19
v/c Ratio		0.61	0.94	0.79	0.51					0.66	0.66	0.19
Uniform Delay, d1		18.2	25.6	50.8	5.0					51.9	51.9	0.0
Progression Factor		1.10	1.67	0.83	0.84					1.00	1.00	1.00
Incremental Delay, d2		0.8	15.9	6.3	0.6					6.2	5.9	0.3
Delay (s)		20.8	58.7	48.4	4.7					58.2	57.8	0.3
Level of Service		C	E	D	A					E	E	A
Approach Delay (s)		34.9			16.2			0.0			31.0	
Approach LOS		C			B			A			C	

Intersection Summary			
HCM Average Control Delay	27.4	HCM Level of Service	C
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	106.1%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.86		0.95	0.95	1.00			
Frt	1.00	1.00			0.97		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			6219		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			6219		1681	1681	1583			
Volume (vph)	278	1028	0	0	1064	260	697	0	510	0	0	0
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)	299	1105	0	0	1144	280	749	0	548	0	0	0
RTOR Reduction (vph)	0	0	0	0	29	0	0	0	0	0	0	0
Lane Group Flow (vph)	299	1105	0	0	1395	0	375	374	548	0	0	0
Turn Type	Prot						Perm		Free			
Protected Phases	5	2			6			8				
Permitted Phases							8		Free			
Actuated Green, G (s)	20.0	87.2			63.2		33.8	33.8	130.0			
Effective Green, g (s)	20.0	88.2			64.2		33.8	33.8	130.0			
Actuated g/C Ratio	0.15	0.68			0.49		0.26	0.26	1.00			
Clearance Time (s)	4.0	5.0			5.0		4.0	4.0				
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Lane Grp Cap (vph)	272	2401			3071		437	437	1583			
v/s Ratio Prot	c0.17	c0.31			0.22							
v/s Ratio Perm							c0.22	0.22	0.35			
v/c Ratio	1.10	0.46			0.45		0.86	0.86	0.35			
Uniform Delay, d1	55.0	9.8			21.5		45.8	45.8	0.0			
Progression Factor	0.89	0.24			0.85		1.00	1.00	1.00			
Incremental Delay, d2	80.1	0.6			0.5		15.3	15.1	0.6			
Delay (s)	129.1	2.9			18.7		61.1	60.9	0.6			
Level of Service	F	A			B		E	E	A			
Approach Delay (s)		29.8			18.7			35.5			0.0	
Approach LOS		C			B			D			A	

Intersection Summary			
HCM Average Control Delay	27.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.86		1.00	0.86	1.00	
Frt	1.00		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	6402		1770	6408	1695	
Flt Permitted	1.00		0.95	1.00	0.98	
Satd. Flow (perm)	6402		1770	6408	1695	
Volume (vph)	1528	10	10	1314	10	10
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1528	10	10	1314	10	10
RTOR Reduction (vph)	0	0	0	0	10	0
Lane Group Flow (vph)	1538	0	10	1314	10	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	111.5		1.5	117.0	3.0	
Effective Green, g (s)	112.5		1.5	118.0	4.0	
Actuated g/C Ratio	0.87		0.01	0.91	0.03	
Clearance Time (s)	5.0		4.0	5.0	5.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	5540		20	5816	52	
v/s Ratio Prot	c0.24		c0.01	0.21	c0.01	
v/s Ratio Perm						
v/c Ratio	0.28		0.50	0.23	0.20	
Uniform Delay, d1	1.6		63.9	0.7	61.4	
Progression Factor	0.26		1.00	1.00	1.00	
Incremental Delay, d2	0.1		18.3	0.1	1.9	
Delay (s)	0.5		82.2	0.8	63.3	
Level of Service	A		F	A	E	
Approach Delay (s)	0.5			1.4	63.3	
Approach LOS	A			A	E	

Intersection Summary			
HCM Average Control Delay	1.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	32.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
AM Peak Hour

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

Intersection #8 Eight Mile Road/Thornton Road

Cycle (sec): 130 Critical Vol./Cap.(X): 0.627
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 48.9
Optimal Cycle: 63 Level Of Service: D

Street Name:	Thornton Road									Eight Mile Road							
Approach:	North Bound				South Bound				East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected					Protected					Protected					Protected				
Rights:	Include					Include					Include					Include				
Min. Green:	4	10		0		4	10		0		4	10		0		4	10		0	
Lanes:	1	0	2	0	1	1	0	2	0	1	2	0	4	0	1	2	0	3	1	0
Volume Module:																				
Base Vol:	250	120		240		60	210		90		80	1120		110		220	840		70	
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:	250	120		240		60	210		90		80	1120		110		220	840		70	
Added Vol:	77	0		111		0	0		0		0	190		76		53	196		0	
PasserByVol:	0	0		0		0	0		0		0	0		0		0	0		0	
Initial Fut:	327	120		351		60	210		90		80	1310		186		273	1036		70	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
PHF Adj:	0.94	0.94		0.94		0.94	0.94		0.94		0.94	0.94		0.94		0.94	0.94		0.94	
PHF Volume:	348	128		373		64	223		96		85	1394		198		290	1102		74	
Reduct Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
Reduced Vol:	348	128		373		64	223		96		85	1394		198		290	1102		74	
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:	348	128		373		64	223		96		85	1394		198		290	1102		74	
Saturation Flow Module:																				
Sat/Lane:	1900	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900	
Adjustment:	0.93	0.93		0.83		0.93	0.93		0.83		0.90	0.89		0.83		0.90	0.88		0.88	
Lanes:	1.00	2.00		1.00		1.00	2.00		1.00		2.00	4.00		1.00		2.00	3.75		0.25	
Final Sat.:	1769	3538		1583		1769	3538		1583		3432	6778		1583		3432	6292		425	
Capacity Analysis Module:																				
Vol/Sat:	0.20	0.04		0.24		0.04	0.06		0.06		0.02	0.21		0.13		0.08	0.18		0.18	
Crit Moves:	****						****					****				****				
Green/Cycle:	0.18	0.35		0.35		0.05	0.22		0.22		0.10	0.29		0.29		0.13	0.32		0.32	
Volume/Cap:	1.09	0.10		0.67		0.72	0.29		0.27		0.25	0.71		0.43		0.65	0.55		0.55	
Delay/Veh:	130.8	28.5		39.2		85.9	42.4		42.5		54.4	42.5		38.1		57.1	36.7		36.7	
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:	130.8	28.5		39.2		85.9	42.4		42.5		54.4	42.5		38.1		57.1	36.7		36.7	
LOS by Move:	F	C		D		F	D		D		D	D		D		E	D		D	
HCM2kAvgQ:	21	1		12		4	4		3		2	14		6		7	10		10	

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

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Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
AM Peak Hour

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

Intersection #9 Eight Mile Road/Davis Street

Cycle (sec):	130	Critical Vol./Cap.(X):	0.604
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	36.4
Optimal Cycle:	60	Level Of Service:	D

Street Name:	Davis Street						Eight Mile Road					
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			Include			Ovl			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 0 1			1 0 2 0 1			2 0 4 0 1			2 0 3 1 0		
Volume Module:												
Base Vol:	130	160	500	70	270	40	40	730	210	430	750	50
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:	130	160	500	70	270	40	40	730	210	430	750	50
Added Vol:	42	0	0	0	0	33	36	233	31	0	173	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	172	160	500	70	270	73	76	963	241	430	923	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	183	170	532	74	287	78	81	1024	256	457	982	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	183	170	532	74	287	78	81	1024	256	457	982	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	183	170	532	74	287	78	81	1024	256	457	982	53
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.93	0.83	0.90	0.89	0.83	0.90	0.88	0.88
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	4.00	1.00	2.00	3.79	0.21
Final Sat.:	1769	3538	1583	1769	3538	1583	3432	6778	1583	3432	6378	346
Capacity Analysis Module:												
Vol/Sat:	0.10	0.05	0.34	0.04	0.08	0.05	0.02	0.15	0.16	0.13	0.15	0.15
Crit Moves:			****	****				****		****		
Green/Cycle:	0.23	0.34	0.56	0.07	0.18	0.18	0.08	0.25	0.48	0.22	0.39	0.39
Volume/Cap:	0.46	0.14	0.60	0.60	0.46	0.28	0.30	0.60	0.34	0.60	0.39	0.39
Delay/Veh:	44.1	30.2	20.4	66.9	48.3	46.7	57.2	43.6	21.4	46.9	28.4	28.4
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:	44.1	30.2	20.4	66.9	48.3	46.7	57.2	43.6	21.4	46.9	28.4	28.4
LOS by Move:	D	C	C	E	D	D	E	D	C	D	C	C
HCM2kAvgQ:	6	2	10	4	5	3	2	10	5	9	7	7

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
AM Peak Hour

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

Intersection #10 Eight Mile Road/Lower Sacramento Road

Cycle (sec):	130	Critical Vol./Cap.(X):	0.844
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	40.4
Optimal Cycle:	109	Level Of Service:	D

Street Name:	Lower Sacramento Road						Eight Mile Road					
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			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 2 0 1			2 0 2 0 1			2 0 4 0 1			2 0 3 1 0		
Volume Module:												
Base Vol:	50	200	640	160	430	90	60	1350	140	580	1230	90
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:	50	200	640	160	430	90	60	1350	140	580	1230	90
Added Vol:	0	0	0	0	0	19	26	207	0	0	154	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	50	200	640	160	430	109	86	1557	140	580	1384	90
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:	54	217	696	174	467	118	93	1692	152	630	1504	98
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	54	217	696	174	467	118	93	1692	152	630	1504	98
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	54	217	696	174	467	118	93	1692	152	630	1504	98
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.93	0.83	0.90	0.93	0.83	0.90	0.89	0.83	0.90	0.88	0.88
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	4.00	1.00	2.00	3.76	0.24
Final Sat.:	3432	3538	1583	3432	3538	1583	3432	6778	1583	3432	6307	410
Capacity Analysis Module:												
Vol/Sat:	0.02	0.06	0.44	0.05	0.13	0.07	0.03	0.25	0.10	0.18	0.24	0.24
Crit Moves:			****	****				****		****		
Green/Cycle:	0.07	0.30	0.52	0.06	0.29	0.29	0.06	0.30	0.30	0.22	0.45	0.45
Volume/Cap:	0.23	0.20	0.84	0.84	0.45	0.25	0.46	0.84	0.32	0.84	0.52	0.52
Delay/Veh:	57.8	33.7	34.6	86.4	37.6	35.2	60.9	46.4	36.1	57.4	25.5	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:	57.8	33.7	34.6	86.4	37.6	35.2	60.9	46.4	36.1	57.4	25.5	25.5
LOS by Move:	E	C	C	F	D	D	E	D	D	E	C	C
HCM2kAvgQ:	1	3	23	6	7	3	2	19	4	15	10	10

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
AM Peak Hour

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

Intersection #11 Eight Mile Road/West Lane

Cycle (sec):	130	Critical Vol./Cap.(X):	1.124
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	59.5
Optimal Cycle:	130	Level Of Service:	E

Street Name:	West Lane							Eight Mile Road					
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			Include			Include			
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0	
Lanes:	2 0 2 0 1			2 0 2 0 1			2 0 3 1 0			2 0 3 0 1			
Volume Module:													
Base Vol:	470	360	130	40	610	580	340	1410	760	210	900	20	
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:	470	360	130	40	610	580	340	1410	760	210	900	20	
Added Vol:	0	0	0	0	0	38	52	155	0	0	115	0	
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0	
Initial Fut:	470	360	130	40	610	618	392	1565	760	210	1015	20	
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:	490	375	135	42	635	644	408	1630	792	219	1057	21	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	490	375	135	42	635	644	408	1630	792	219	1057	21	
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Final Vol.:	490	375	135	42	635	644	408	1630	792	219	1057	21	
Saturation Flow Module:													
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Adjustment:	0.90	0.93	0.83	0.90	0.93	0.83	0.90	0.85	0.85	0.90	0.89	0.83	
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.:	3432	3538	1583	3432	3538	1583	3432	4834	1611	3432	5083	1583	
Capacity Analysis Module:													
Vol/Sat:	0.14	0.11	0.09	0.01	0.18	0.41	0.12	0.34	0.49	0.06	0.21	0.01	
Crit Moves:	****					****			****	****			
Green/Cycle:	0.13	0.30	0.30	0.09	0.26	0.44	0.18	0.44	0.44	0.06	0.31	0.31	
Volume/Cap:	1.12	0.36	0.29	0.14	0.70	0.93	0.66	0.77	1.12	1.12	0.66	0.04	
Delay/Veh:	138.1	36.2	35.5	55.2	46.3	54.6	52.3	32.3	99.0	163.0	39.7	31.0	
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:	138.1	36.2	35.5	55.2	46.3	54.6	52.3	32.3	99.0	163.0	39.7	31.0	
LOS by Move:	F	D	D	E	D	D	D	C	F	F	D	C	
HCM2kAvgQ:	17	6	4	1	13	28	9	19	49	9	13	0	

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
AM Peak Hour

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

Intersection #12 Eight Mile Road/SR 99 Frontage

Cycle (sec):	130	Critical Vol./Cap.(X):	0.866
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	41.0
Optimal Cycle:	118	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				Include				Include				Include			
Min. Green:	4	10	0		4	10	0		4	10	0		4	10	0	
Lanes:	1 0	1 0	1		1 0	1 0	1		1 0	2 1	0		1 0	1 1	0	
Volume Module:																
Base Vol:	240	10	590		20	30	10		10	1320	240		160	750	20	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	240	10	590		20	30	10		10	1320	240		160	750	20	
Added Vol:	0	0	0		0	0	0		0	155	0		0	115	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	240	10	590		20	30	10		10	1475	240		160	865	20	
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:	250	10	615		21	31	10		10	1536	250		167	901	21	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	250	10	615		21	31	10		10	1536	250		167	901	21	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Final Vol.:	250	10	615		21	31	10		10	1536	250		167	901	21	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.93	0.98	0.83		0.93	0.98	0.83		0.93	0.87	0.87		0.93	0.93	0.93	
Lanes:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	2.58	0.42		1.00	1.95	0.05	
Final Sat.:	1769	1862	1583		1769	1862	1583		1769	4280	696		1769	3447	80	
Capacity Analysis Module:																
Vol/Sat:	0.14	0.01	0.39		0.01	0.02	0.01		0.01	0.36	0.36		0.09	0.26	0.26	
Crit Moves:			****		****					****			****			
Green/Cycle:	0.24	0.33	0.44		0.03	0.13	0.13		0.05	0.41	0.41		0.11	0.46	0.46	
Volume/Cap:	0.60	0.02	0.88		0.38	0.13	0.05		0.11	0.88	0.88		0.88	0.57	0.57	
Delay/Veh:	46.7	29.1	46.1		66.2	50.5	49.8		59.0	40.7	40.7		92.4	26.2	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:	46.7	29.1	46.1		66.2	50.5	49.8		59.0	40.7	40.7		92.4	26.2	26.2	
LOS by Move:	D	C	D		E	D	D		E	D	D		F	C	C	
HCM2kAvgQ:	9	0	25		1	1	0		0	27	27		9	14	14	

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
AM Peak Hour

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

Intersection #13 Mokelumne Circle/Scott Creek Drive

Cycle (sec):	130	Critical Vol./Cap.(X):	0.698
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	35.1
Optimal Cycle:	62	Level Of Service:	D

Street Name:	Mokelumne Circle						Scott Creek Drive					
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:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 0	1 0		1 0 0	1 0		1 0 0	1 0		1 0 0	1 0	
Volume Module:												
Base Vol:	10	220	10	20	80	240	430	240	10	10	20	10
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:	10	220	10	20	80	240	430	240	10	10	20	10
Added Vol:	2	34	0	6	14	38	31	330	2	0	144	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	254	10	26	94	278	461	570	12	10	164	15
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:	13	276	11	28	102	302	501	620	13	11	178	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	276	11	28	102	302	501	620	13	11	178	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	13	276	11	28	102	302	501	620	13	11	178	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.31	0.97	0.97	0.44	0.87	0.87	0.93	0.98	0.98	0.93	0.97	0.97
Lanes:	1.00	0.96	0.04	1.00	0.25	0.75	1.00	0.98	0.02	1.00	0.92	0.08
Final Sat.:	587	1781	70	840	418	1236	1769	1818	38	1769	1684	154
Capacity Analysis Module:												
Vol/Sat:	0.02	0.16	0.16	0.03	0.24	0.24	0.28	0.34	0.34	0.01	0.11	0.11
Crit Moves:					****		****				****	
Green/Cycle:	0.35	0.35	0.35	0.35	0.35	0.35	0.41	0.51	0.51	0.05	0.15	0.15
Volume/Cap:	0.06	0.44	0.44	0.10	0.70	0.70	0.70	0.67	0.67	0.13	0.70	0.70
Delay/Veh:	28.2	33.0	33.0	28.5	40.1	40.1	35.1	25.4	25.4	60.2	59.9	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:	28.2	33.0	33.0	28.5	40.1	40.1	35.1	25.4	25.4	60.2	59.9	59.9
LOS by Move:	C	C	C	C	D	D	D	C	C	E	E	E
HCM2kAvgQ:	0	8	8	1	14	14	15	15	15	1	8	8

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
AM Peak Hour

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

Intersection #14 Trinity Parkway/Consumnes Drive

Cycle (sec):	130	Critical Vol./Cap.(X):	0.947
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	56.2
Optimal Cycle:	130	Level Of Service:	E

Street Name:	Trinity Parkway						Consumnes Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1	1 0		1 0 1	1 0		1 0 0	1 0		1 0 1	0 1	
Volume Module:												
Base Vol:	150	180	0	0	150	60	130	0	480	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	150	180	0	0	150	60	130	0	480	0	0	0
Added Vol:	55	590	44	37	718	2	3	8	87	36	3	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	205	770	44	37	868	62	133	8	567	36	3	11
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:	223	837	48	40	943	67	145	9	616	39	3	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	223	837	48	40	943	67	145	9	616	39	3	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	223	837	48	40	943	67	145	9	616	39	3	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.92	0.92	0.93	0.92	0.92	0.93	0.83	0.83	0.93	0.98	0.83
Lanes:	1.00	1.89	0.11	1.00	1.87	0.13	1.00	0.01	0.99	1.00	1.00	1.00
Final Sat.:	1769	3320	190	1769	3269	233	1769	22	1564	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.13	0.25	0.25	0.02	0.29	0.29	0.08	0.39	0.39	0.02	0.00	0.01
Crit Moves:	****				****			****		****		
Green/Cycle:	0.13	0.39	0.39	0.05	0.30	0.30	0.23	0.41	0.41	0.03	0.21	0.21
Volume/Cap:	0.96	0.65	0.65	0.48	0.96	0.96	0.36	0.96	0.96	0.72	0.01	0.04
Delay/Veh:	102.5	33.8	33.8	64.7	62.4	62.4	42.7	61.7	61.7	99.5	40.2	40.4
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:	102.5	33.8	33.8	64.7	62.4	62.4	42.7	61.7	61.7	99.5	40.2	40.4
LOS by Move:	F	C	C	E	E	E	D	E	E	F	D	D
HCM2kAvgQ:	13	14	14	2	25	25	5	29	29	3	0	0

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
AM Peak Hour

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

Intersection #15 Trinity Parkway/McAuliffe Road

Cycle (sec):	65	Critical Vol./Cap.(X):	0.687
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	20.1
Optimal Cycle:	52	Level Of Service:	C

Street Name:	Trinity Parkway						McAuliffe Road					
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			Permitted			Permitted		
Rights:	Include			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	0 0 1	1 0		1 0 2	0 0		0 0 0	0 0		1 0 0	0 1	
Volume Module:												
Base Vol:	0	120	50	260	350	0	0	0	0	120	0	310
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	120	50	260	350	0	0	0	0	120	0	310
Added Vol:	0	693	46	190	625	0	0	0	0	15	0	210
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	813	96	450	975	0	0	0	0	135	0	520
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:	0	884	104	489	1060	0	0	0	0	147	0	565
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	884	104	489	1060	0	0	0	0	147	0	565
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	884	104	489	1060	0	0	0	0	147	0	565
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.92	0.92	0.93	0.93	1.00	1.00	1.00	1.00	0.98	1.00	0.83
Lanes:	0.00	1.79	0.21	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3114	368	1769	3538	0	0	0	0	1862	0	1583
Capacity Analysis Module:												
Vol/Sat:	0.00	0.28	0.28	0.28	0.30	0.00	0.00	0.00	0.00	0.08	0.00	0.36
Crit Moves:		****		****							****	
Green/Cycle:	0.00	0.34	0.34	0.33	0.55	0.00	0.00	0.00	0.00	0.15	0.00	0.48
Volume/Cap:	0.00	0.85	0.85	0.85	0.55	0.00	0.00	0.00	0.00	0.51	0.00	0.74
Delay/Veh:	0.0	26.0	26.0	31.6	9.8	0.0	0.0	0.0	0.0	26.8	0.0	17.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	26.0	26.0	31.6	9.8	0.0	0.0	0.0	0.0	26.8	0.0	17.6
LOS by Move:	A	C	C	C	A	A	A	A	A	C	A	B
HCM2kAvgQ:	0	12	12	12	6	0	0	0	0	3	0	10

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
AM Peak Hour

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

Intersection #16 Thornton Road/A.G. Spanos Boulevard (South)

Cycle (sec):	95	Critical Vol./Cap.(X):	0.818
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	29.5
Optimal Cycle:	75	Level Of Service:	C

Street Name:	Thornton Road						A.G. Spanos Boulevard (South)					
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			Permitted			Prot+Permit		
Rights:	Include			Include			Ovl			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 1 0			1 0 2 0 1			0 1 0 0 1			0 1 0 0 1		
Volume Module:												
Base Vol:	360	300	50	10	610	100	70	10	420	130	10	20
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:	360	300	50	10	610	100	70	10	420	130	10	20
Added Vol:	180	81	0	0	44	4	5	0	162	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	540	381	50	10	654	104	75	10	582	130	10	20
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:	587	414	54	11	711	113	82	11	633	141	11	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	587	414	54	11	711	113	82	11	633	141	11	22
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	587	414	54	11	711	113	82	11	633	141	11	22
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.88	0.88	0.93	0.93	0.83	0.63	0.63	0.83	0.94	0.94	0.83
Lanes:	1.00	2.65	0.35	1.00	2.00	1.00	0.88	0.12	1.00	0.93	0.07	1.00
Final Sat.:	1769	4417	580	1769	3538	1583	1058	141	1583	1653	127	1583
Capacity Analysis Module:												
Vol/Sat:	0.33	0.09	0.09	0.01	0.20	0.07	0.08	0.08	0.40	0.09	0.09	0.01
Crit Moves:	****				****		****			****		
Green/Cycle:	0.41	0.47	0.47	0.19	0.25	0.25	0.11	0.11	0.52	0.21	0.21	0.21
Volume/Cap:	0.80	0.20	0.20	0.03	0.80	0.29	0.73	0.73	0.77	0.47	0.40	0.06
Delay/Veh:	31.0	14.6	14.6	31.5	38.9	29.2	60.8	60.8	23.0	33.4	33.0	30.0
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:	31.0	14.6	14.6	31.5	38.9	29.2	60.8	60.8	23.0	33.4	33.0	30.0
LOS by Move:	C	B	B	C	D	C	E	E	C	C	C	C
HCM2kAvgQ:	16	2	2	0	12	3	4	4	14	4	4	0

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
AM Peak Hour

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

Intersection #17 Thornton Road/Wagner Heights

Cycle (sec):	95	Critical Vol./Cap.(X):	0.791
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	30.3
Optimal Cycle:	83	Level Of Service:	C

Street Name:	Thornton Road						Wagner Heights					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1	1 0		1 0 2	0 1		1 0 1	0 1		1 0 1	0 1	
Volume Module:												
Base Vol:	80	440	50	130	1270	110	100	200	160	80	220	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:	80	440	50	130	1270	110	100	200	160	80	220	190
Added Vol:	0	179	0	0	180	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	80	619	50	130	1450	110	100	200	160	80	220	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:	83	645	52	135	1510	115	104	208	167	83	229	198
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	83	645	52	135	1510	115	104	208	167	83	229	198
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	83	645	52	135	1510	115	104	208	167	83	229	198
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.92	0.92	0.93	0.93	0.83	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	1.85	0.15	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1769	3237	262	1769	3538	1583	1769	1862	1583	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.05	0.20	0.20	0.08	0.43	0.07	0.06	0.11	0.11	0.05	0.12	0.13
Crit Moves:	****				****		****					****
Green/Cycle:	0.06	0.43	0.43	0.17	0.54	0.54	0.07	0.16	0.16	0.07	0.16	0.16
Volume/Cap:	0.79	0.46	0.46	0.46	0.79	0.13	0.79	0.68	0.64	0.68	0.78	0.79
Delay/Veh:	76.3	19.3	19.3	36.9	19.9	10.9	70.1	43.7	42.6	58.1	50.8	54.1
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:	76.3	19.3	19.3	36.9	19.9	10.9	70.1	43.7	42.6	58.1	50.8	54.1
LOS by Move:	E	B	B	D	B	B	E	D	D	E	D	D
HCM2kAvgQ:	4	6	6	4	17	1	5	7	6	4	8	8

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		0.97	0.95	
Frt	1.00	0.95		1.00	1.00	0.85	1.00	0.93		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3368		1770	3539	1583	1770	3294		3433	3488	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3368		1770	3539	1583	1770	3294		3433	3488	
Volume (vph)	139	540	257	10	177	411	86	280	240	626	429	46
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)	151	587	279	11	192	447	93	304	261	680	466	50
RTOR Reduction (vph)	0	37	0	0	0	164	0	124	0	0	6	0
Lane Group Flow (vph)	151	829	0	11	192	283	93	441	0	680	510	0
Turn Type	Prot			Prot		pm+ov	Prot			Prot		
Protected Phases	5	2		1	6	7	3	8		7	4	
Permitted Phases						6						
Actuated Green, G (s)	32.2	63.6		2.4	33.8	60.8	8.0	21.0		27.0	40.0	
Effective Green, g (s)	32.2	63.6		2.4	33.8	60.8	8.0	21.0		27.0	40.0	
Actuated g/C Ratio	0.25	0.49		0.02	0.26	0.47	0.06	0.16		0.21	0.31	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	438	1648		33	920	789	109	532		713	1073	
v/s Ratio Prot	c0.09	c0.25		0.01	0.05	0.07	0.05	c0.13		c0.20	0.15	
v/s Ratio Perm						0.10						
v/c Ratio	0.34	0.50		0.33	0.21	0.36	0.85	0.83		0.95	0.48	
Uniform Delay, d1	40.2	22.5		63.0	37.6	22.1	60.4	52.8		50.9	36.5	
Progression Factor	1.00	1.00		0.80	0.43	0.31	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	1.1		5.7	0.5	0.3	43.8	10.3		22.8	0.3	
Delay (s)	42.4	23.6		56.0	16.7	7.2	104.3	63.0		73.7	36.8	
Level of Service	D	C		E	B	A	F	E		E	D	
Approach Delay (s)		26.4			10.8			68.9			57.8	
Approach LOS		C			B			E			E	

Intersection Summary			
HCM Average Control Delay	42.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.1%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.87		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5044		1770	3530		1770	1630		1770	1841	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5044		1770	3530		1770	1630		1770	1841	
Volume (vph)	10	1330	75	110	562	10	35	60	300	10	120	10
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)	11	1446	82	120	611	11	38	65	326	11	130	11
RTOR Reduction (vph)	0	4	0	0	1	0	0	134	0	0	3	0
Lane Group Flow (vph)	11	1524	0	120	621	0	38	257	0	11	138	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	5.8	73.0		14.2	81.4		7.1	25.2		1.6	19.7	
Effective Green, g (s)	5.8	73.0		14.2	81.4		7.1	25.2		1.6	19.7	
Actuated g/C Ratio	0.04	0.56		0.11	0.63		0.05	0.19		0.01	0.15	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	79	2832		193	2210		97	316		22	279	
v/s Ratio Prot	0.01	c0.30		c0.07	0.18		c0.02	c0.16		0.01	0.08	
v/s Ratio Perm												
v/c Ratio	0.14	0.54		0.62	0.28		0.39	0.81		0.50	0.50	
Uniform Delay, d1	59.7	17.9		55.3	11.0		59.4	50.2		63.8	50.6	
Progression Factor	1.14	0.47		1.44	0.23		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.5		5.9	0.3		2.6	14.7		16.8	1.4	
Delay (s)	68.3	8.9		85.6	2.8		62.0	64.9		80.6	52.0	
Level of Service	E	A		F	A		E	E		F	D	
Approach Delay (s)		9.3			16.2			64.6			54.1	
Approach LOS		A			B			E			D	

Intersection Summary			
HCM Average Control Delay	21.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.8%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	
Lane Util. Factor		0.91		1.00	0.95					1.00	1.00	
Frt		0.88		1.00	1.00					1.00	0.85	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		4477		1770	3539					1770	1583	
Flt Permitted		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (perm)		4477		1770	3539					1770	1583	
Volume (vph)	0	329	1301	680	611	0	0	0	0	510	0	61
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	358	1414	739	664	0	0	0	0	554	0	66
RTOR Reduction (vph)	0	355	0	0	0	0	0	0	0	0	49	0
Lane Group Flow (vph)	0	1417	0	739	664	0	0	0	0	554	17	0
Turn Type				Prot						Split		
Protected Phases		2		1	6					4	4	
Permitted Phases												
Actuated Green, G (s)		38.0		46.0	88.0					34.0	34.0	
Effective Green, g (s)		38.0		46.0	88.0					34.0	34.0	
Actuated g/C Ratio		0.29		0.35	0.68					0.26	0.26	
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1309		626	2396					463	414	
v/s Ratio Prot		c0.40		c0.42	0.19					c0.31	0.04	
v/s Ratio Perm												
v/c Ratio		1.71dr		1.18	0.28					1.20	0.04	
Uniform Delay, d1		46.0		42.0	8.4					48.0	35.8	
Progression Factor		0.69		1.19	0.52					1.00	1.00	
Incremental Delay, d2		48.5		95.8	0.3					107.9	0.0	
Delay (s)		80.0		145.7	4.6					155.9	35.9	
Level of Service		E		F	A					F	D	
Approach Delay (s)		80.0			78.9			0.0			143.1	
Approach LOS		E			E			A			F	

Intersection Summary			
HCM Average Control Delay	89.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.91		0.95	0.95	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			4995		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			4995		1681	1681	1583			
Volume (vph)	233	607	0	0	745	100	546	0	250	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	253	660	0	0	810	109	593	0	272	0	0	0
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	212	0	0	0
Lane Group Flow (vph)	253	660	0	0	908	0	297	296	60	0	0	0
Turn Type	Prot						Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases									8			
Actuated Green, G (s)	21.5	93.4			67.9		28.6	28.6	28.6			
Effective Green, g (s)	21.5	93.4			67.9		28.6	28.6	28.6			
Actuated g/C Ratio	0.17	0.72			0.52		0.22	0.22	0.22			
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Lane Grp Cap (vph)	293	2543			2609		370	370	348			
v/s Ratio Prot	c0.14	0.19			c0.18		c0.18	0.18				
v/s Ratio Perm									0.04			
v/c Ratio	0.86	0.26			0.35		0.80	0.80	0.17			
Uniform Delay, d1	52.8	6.3			18.1		48.0	48.0	41.1			
Progression Factor	1.50	0.00			1.00		1.00	1.00	1.00			
Incremental Delay, d2	13.5	0.1			0.4		11.9	11.7	0.2			
Delay (s)	92.9	0.1			18.5		59.9	59.7	41.3			
Level of Service	F	A			B		E	E	D			
Approach Delay (s)		25.8			18.5			54.0			0.0	
Approach LOS		C			B			D			A	

Intersection Summary			
HCM Average Control Delay	32.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.5%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0		4.0		4.0	4.0	
Lane Util. Factor				0.97		1.00		1.00		0.97	1.00	
Frt				1.00		0.85		0.87		1.00	1.00	
Flt Protected				0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)				3433		1583		1627		3433	1863	
Flt Permitted				0.95		1.00		1.00		0.95	1.00	
Satd. Flow (perm)				3433		1583		1627		3433	1863	
Volume (vph)	0	0	0	150	0	396	0	10	150	765	10	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	163	0	430	0	11	163	832	11	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	150	0	0	0	0
Lane Group Flow (vph)	0	0	0	163	0	430	0	24	0	832	11	0
Turn Type				Prot		Free	Split			Split		
Protected Phases				1	6		4	4		8	8	
Permitted Phases						Free						
Actuated Green, G (s)				70.7		130.0		9.5		35.8	35.8	
Effective Green, g (s)				70.7		130.0		10.5		36.8	36.8	
Actuated g/C Ratio				0.54		1.00		0.08		0.28	0.28	
Clearance Time (s)				4.0				5.0		5.0	5.0	
Vehicle Extension (s)				3.0				3.0		3.0	3.0	
Lane Grp Cap (vph)				1867		1583		131		972	527	
v/s Ratio Prot				0.05				0.01		c0.24	0.01	
v/s Ratio Perm						c0.27						
v/c Ratio				0.09		0.27		0.18		0.86	0.02	
Uniform Delay, d1				14.2		0.0		55.8		44.1	33.6	
Progression Factor				0.87		1.00		1.00		1.00	1.00	
Incremental Delay, d2				0.0		0.4		0.7		7.5	0.0	
Delay (s)				12.4		0.4		56.4		51.6	33.6	
Level of Service				B		A		E		D	C	
Approach Delay (s)		0.0			3.7			56.4			51.4	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM Average Control Delay	34.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	45.9%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		0.97	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3533		3433	4880		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3533		3433	4880		1770	1863	1583	1770	1863	1583
Volume (vph)	10	845	10	160	446	165	10	20	150	345	10	10
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)	11	918	11	174	485	179	11	22	163	375	11	11
RTOR Reduction (vph)	0	1	0	0	37	0	0	0	129	0	0	8
Lane Group Flow (vph)	11	928	0	174	627	0	11	22	34	375	11	3
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	1.6	57.9		11.4	67.7		11.3	11.3	11.3	30.4	30.4	30.4
Effective Green, g (s)	1.6	58.9		11.4	68.7		12.3	12.3	12.3	31.4	31.4	31.4
Actuated g/C Ratio	0.01	0.45		0.09	0.53		0.09	0.09	0.09	0.24	0.24	0.24
Clearance Time (s)	4.0	5.0		4.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	22	1601		301	2579		167	176	150	428	450	382
v/s Ratio Prot	0.01	c0.26		c0.05	0.14		0.01	0.01		c0.21	0.01	
v/s Ratio Perm									0.10			0.01
v/c Ratio	0.50	0.58		0.58	0.24		0.07	0.12	0.22	0.88	0.02	0.01
Uniform Delay, d1	63.8	26.4		57.0	16.6		53.6	53.9	54.4	47.4	37.6	37.5
Progression Factor	0.63	0.17		0.72	0.39		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.6	1.3		2.7	0.2		0.2	0.3	0.8	17.8	0.0	0.0
Delay (s)	54.8	5.9		43.6	6.6		53.8	54.2	55.2	65.3	37.6	37.5
Level of Service	D	A		D	A		D	D	E	E	D	D
Approach Delay (s)		6.4			14.3			55.0			63.7	
Approach LOS		A			B			E			E	

Intersection Summary			
HCM Average Control Delay	22.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	64.0%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.91					0.95	0.95	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3539	1583	3433	5085					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3539	1583	3433	5085					1681	1681	1583
Volume (vph)	0	650	690	1580	691	0	0	0	0	510	0	80
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)	0	699	742	1699	743	0	0	0	0	548	0	86
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	69
Lane Group Flow (vph)	0	699	742	1699	743	0	0	0	0	274	274	17
Turn Type			Free	Prot						Perm		Perm
Protected Phases		2		1	6						4	
Permitted Phases			Free							4		4
Actuated Green, G (s)		26.7	130.0	65.0	95.7					24.3	24.3	24.3
Effective Green, g (s)		27.7	130.0	65.0	96.7					25.3	25.3	25.3
Actuated g/C Ratio		0.21	1.00	0.50	0.74					0.19	0.19	0.19
Clearance Time (s)		5.0		4.0	5.0					5.0	5.0	5.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		754	1583	1717	3782					327	327	308
v/s Ratio Prot		c0.20		c0.49	0.15							
v/s Ratio Perm			0.47							c0.16	0.16	0.01
v/c Ratio		0.93	0.47	0.99	0.20					0.84	0.84	0.05
Uniform Delay, d1		50.2	0.0	32.2	5.0					50.4	50.4	42.6
Progression Factor		0.78	1.00	0.43	0.19					1.00	1.00	1.00
Incremental Delay, d2		15.8	0.8	17.6	0.1					16.8	16.8	0.1
Delay (s)		55.2	0.8	31.3	1.1					67.2	67.2	42.7
Level of Service		E	A	C	A					E	E	D
Approach Delay (s)		27.2			22.1			0.0			63.9	
Approach LOS		C			C			A			E	

Intersection Summary			
HCM Average Control Delay	29.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.7%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.81	1.00	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			7544	1583	1681	1681	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			7544	1583	1681	1681	2787			
Volume (vph)	120	1040	0	0	1837	350	434	0	670	0	0	0
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)	129	1118	0	0	1975	376	467	0	720	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	57	0	0	75	0	0	0
Lane Group Flow (vph)	129	1118	0	0	1975	319	234	233	645	0	0	0
Turn Type	Prot					Perm	Perm		custom			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		1 8			
Actuated Green, G (s)	18.2	79.6			65.5	65.5	32.3	32.3	40.4			
Effective Green, g (s)	18.2	80.6			66.5	66.5	33.3	33.3	41.4			
Actuated g/C Ratio	0.14	0.62			0.51	0.51	0.26	0.26	0.32			
Clearance Time (s)	4.0	5.0			5.0	5.0	5.0	5.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	248	2194			3859	810	431	431	888			
v/s Ratio Prot	0.07	c0.32			0.26							
v/s Ratio Perm						0.20	0.14	0.14	c0.23			
v/c Ratio	0.52	0.51			0.51	0.39	0.54	0.54	0.73			
Uniform Delay, d1	51.8	13.7			21.0	19.4	41.8	41.7	39.3			
Progression Factor	0.18	0.61			0.43	0.26	1.00	1.00	1.00			
Incremental Delay, d2	0.7	0.4			0.2	0.5	1.4	1.4	3.0			
Delay (s)	9.8	8.8			9.3	5.6	43.2	43.1	42.3			
Level of Service	A	A			A	A	D	D	D			
Approach Delay (s)		8.9			8.7			42.6			0.0	
Approach LOS		A			A			D			A	

Intersection Summary			
HCM Average Control Delay	17.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
AM Peak Hour

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

Intersection #26 Hammer Lane/Thornton Road

Cycle (sec):	130	Critical Vol./Cap.(X):	0.731
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	34.2
Optimal Cycle:	79	Level Of Service:	C

Street Name:	Thornton Road						Hammer Lane					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 2 1 0			1 0 2 1 0			1 0 3 0 1			1 0 3 0 1		
Volume Module:												
Base Vol:	90	210	20	370	1020	40	60	1130	200	50	1290	280
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:	90	210	20	370	1020	40	60	1130	200	50	1290	280
Added Vol:	54	70	0	43	67	0	0	118	83	0	112	27
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	144	280	20	413	1087	40	60	1248	283	50	1402	307
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	153	298	21	439	1156	43	64	1328	301	53	1491	327
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	153	298	21	439	1156	43	64	1328	301	53	1491	327
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	153	298	21	439	1156	43	64	1328	301	53	1491	327
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.88	0.88	0.93	0.89	0.89	0.93	0.89	0.83	0.93	0.89	0.83
Lanes:	2.00	2.80	0.20	1.00	2.89	0.11	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	3432	4697	335	1769	4878	180	1769	5083	1583	1769	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.04	0.06	0.06	0.25	0.24	0.24	0.04	0.26	0.19	0.03	0.29	0.21
Crit Moves:		****		****			****				****	
Green/Cycle:	0.07	0.09	0.09	0.34	0.36	0.36	0.05	0.40	0.40	0.05	0.40	0.74
Volume/Cap:	0.66	0.73	0.73	0.73	0.66	0.66	0.73	0.65	0.47	0.63	0.73	0.28
Delay/Veh:	66.1	64.1	64.1	42.3	35.9	35.9	87.8	28.7	26.0	75.5	30.8	0.4
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:	66.1	64.1	64.1	42.3	35.9	35.9	87.8	28.7	26.0	75.5	30.8	0.4
LOS by Move:	E	E	E	D	D	D	F	C	C	E	C	A
HCM2kAvgQ:	4	6	6	15	14	14	4	14	8	3	18	1

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
AM Peak Hour

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

Intersection #27 Thornton Road/Whistler Way

Cycle (sec):	95	Critical Vol./Cap.(X):	0.413
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	30.2
Optimal Cycle:	44	Level Of Service:	C

Street Name:	Thornton Road						Whistler Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 0 1			1 0 1 1 0			1 0 1 0 1			1 0 0 1 0		
Volume Module:												
Base Vol:	80	260	70	90	290	50	40	50	90	210	80	80
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:	80	260	70	90	290	50	40	50	90	210	80	80
Added Vol:	0	94	0	1	75	17	25	0	0	0	0	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	80	354	70	91	365	67	65	50	90	210	80	82
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:	87	385	76	99	397	73	71	54	98	228	87	89
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	87	385	76	99	397	73	71	54	98	228	87	89
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:	87	385	76	99	397	73	71	54	98	228	87	89
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.91	0.91	0.93	0.98	0.83	0.93	0.91	0.91
Lanes:	1.00	2.00	1.00	1.00	1.69	0.31	1.00	1.00	1.00	1.00	0.49	0.51
Final Sat.:	1769	3538	1583	1769	2920	536	1769	1862	1583	1769	850	871
Capacity Analysis Module:												
Vol/Sat:	0.05	0.11	0.05	0.06	0.14	0.14	0.04	0.03	0.06	0.13	0.10	0.10
Crit Moves:	****				****			****		****		
Green/Cycle:	0.11	0.28	0.28	0.15	0.31	0.31	0.12	0.11	0.11	0.30	0.29	0.29
Volume/Cap:	0.43	0.38	0.17	0.38	0.43	0.43	0.35	0.28	0.59	0.43	0.35	0.35
Delay/Veh:	40.7	27.7	25.9	37.7	26.1	26.1	39.7	39.9	45.9	27.4	27.2	27.2
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:	40.7	27.7	25.9	37.7	26.1	26.1	39.7	39.9	45.9	27.4	27.2	27.2
LOS by Move:	D	C	C	D	C	C	D	D	D	C	C	C
HCM2kAvgQ:	3	5	2	3	5	5	2	2	4	5	4	4

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

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Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
PM Peak Hour

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

****

Intersection #1 Eight Mile Road/Westlake Drive

****

Cycle (sec): 130 Critical Vol./Cap.(X): 0.580
Loss Time (sec): 12 (Y+R=5.0 sec) Average Delay (sec/veh): 33.3
Optimal Cycle: 48 Level Of Service: C

****

Street Name:	Westlake Villages Drive									Eight Mile Road								
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:	4	10	0			4	10	0			4	10	0			4	10	0		
Lanes:	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0	1	0	2	0	0
Volume Module:																				
Base Vol:	10	0	250			0	0	0			0	10	10			360	10	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:	10	0	250			0	0	0			0	10	10			360	10	0		
Added Vol:	0	0	39			0	0	0			0	237	0			44	411	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	10	0	289			0	0	0			0	247	10			404	421	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:	11	0	314			0	0	0			0	268	11			439	458	0		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	11	0	314			0	0	0			0	268	11			439	458	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:	11	0	314			0	0	0			0	268	11			439	458	0		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	0.87	1.00	0.83			1.00	1.00	1.00			1.00	0.93	0.93			0.93	0.93	1.00		
Lanes:	1.00	0.00	1.00			0.00	0.00	0.00			0.00	1.92	0.08			1.00	2.00	0.00		
Final Sat.:	1661	0	1583			0	0	0			0	3380	137			1769	3538	0		
Capacity Analysis Module:																				
Vol/Sat:	0.01	0.00	0.20			0.00	0.00	0.00			0.00	0.08	0.08			0.25	0.13	0.00		
Crit Moves:			****									****				****				
Green/Cycle:	0.34	0.00	0.34			0.00	0.00	0.00			0.00	0.14	0.14			0.43	0.46	0.00		
Volume/Cap:	0.02	0.00	0.58			0.00	0.00	0.00			0.00	0.58	0.58			0.58	0.28	0.00		
Delay/Veh:	28.3	0.0	36.6			0.0	0.0	0.0			0.0	54.4	54.4			29.4	22.1	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:	28.3	0.0	36.6			0.0	0.0	0.0			0.0	54.4	54.4			29.4	22.1	0.0		
LOS by Move:	C	A	D			A	A	A			A	D	D			C	C	A		
HCM2kAvgQ:	0	0	10			0	0	0			0	6	6			12	5	0		

****

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

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Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
PM Peak Hour

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

****

Intersection #2 Eight Mile Road/Regatta Drive

****

Cycle (sec): 130 Critical Vol./Cap.(X): 0.186
Loss Time (sec): 8 (Y+R=5.0 sec) Average Delay (sec/veh): 17.8
Optimal Cycle: 32 Level Of Service: B

****

Street Name:	Eight Mile Road						Regatta Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Permitted			Permitted			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	0 0	1! 0	1	0 0	0 0	0	0 0	2 1	0	2 0	3 0	0
Volume Module:												
Base Vol:	10	0	110	0	0	0	0	250	10	150	360	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:	10	0	110	0	0	0	0	250	10	150	360	0
Added Vol:	0	0	41	0	0	0	0	276	0	44	456	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	0	151	0	0	0	0	526	10	194	816	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:	11	0	164	0	0	0	0	572	11	211	887	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	0	164	0	0	0	0	572	11	211	887	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:	11	0	164	0	0	0	0	572	11	211	887	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.79	1.00	1.00	1.00	1.00	0.89	0.89	0.90	0.89	1.00
Lanes:	0.11	0.00	1.89	0.00	0.00	0.00	0.00	2.94	0.06	2.00	3.00	0.00
Final Sat.:	177	0	2844	0	0	0	0	4973	95	3432	5083	0
Capacity Analysis Module:												
Vol/Sat:	0.06	0.00	0.06	0.00	0.00	0.00	0.00	0.11	0.11	0.06	0.17	0.00
Crit Moves:											****	
Green/Cycle:	0.21	0.00	0.21	0.00	0.00	0.00	0.00	0.52	0.52	0.19	0.71	0.00
Volume/Cap:	0.29	0.00	0.27	0.00	0.00	0.00	0.00	0.22	0.22	0.32	0.25	0.00
Delay/Veh:	43.5	0.0	43.3	0.0	0.0	0.0	0.0	17.0	17.0	45.7	6.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.5	0.0	43.3	0.0	0.0	0.0	0.0	17.0	17.0	45.7	6.7	0.0
LOS by Move:	D	A	D	A	A	A	A	B	B	D	A	A
HCM2kAvgQ:	3	0	3	0	0	0	0	3	3	4	1	0

****

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

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Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
PM Peak Hour

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

Intersection #3 Eight Mile Road/Mokelumne Circle

Cycle (sec):	130	Critical Vol./Cap.(X):	1.128
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	65.3
Optimal Cycle:	130	Level Of Service:	E

Street Name:	Mokelumne Circle						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Permitted			Permitted			Permitted			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 2 1 0			1 0 3 0 0		
Volume Module:												
Base Vol:	10	0	450	0	0	0	0	350	10	850	500	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:	10	0	450	0	0	0	0	350	10	850	500	0
Added Vol:	15	0	31	0	0	0	0	296	13	45	472	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	0	481	0	0	0	0	646	23	895	972	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:	27	0	523	0	0	0	0	702	25	973	1057	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	27	0	523	0	0	0	0	702	25	973	1057	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
Final Vol.:	27	0	523	0	0	0	0	702	25	973	1057	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.82	1.00	0.83	1.00	1.00	1.00	1.00	0.89	0.89	0.93	0.89	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	2.90	0.10	1.00	3.00	0.00
Final Sat.:	1562	0	1583	0	0	0	0	4884	174	1769	5083	0
Capacity Analysis Module:												
Vol/Sat:	0.02	0.00	0.33	0.00	0.00	0.00	0.00	0.14	0.14	0.55	0.21	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.29	0.00	0.78	0.00	0.00	0.00	0.00	0.13	0.13	0.49	0.61	0.00
Volume/Cap:	0.06	0.00	0.42	0.00	0.00	0.00	0.00	1.13	1.13	1.13	0.34	0.00
Delay/Veh:	33.1	0.0	4.9	0.0	0.0	0.0	0.0	133	133.1	105.6	12.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.1	0.0	4.9	0.0	0.0	0.0	0.0	133	133.1	105.6	12.2	0.0
LOS by Move:	C	A	A	A	A	A	A	F	F	F	B	A
HCM2kAvgQ:	1	0	1	0	0	0	0	18	18	55	4	0

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.86		0.97	0.95	1.00	0.88
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6288		3433	3539	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6288		3433	3539	1770	2787
Volume (vph)	987	140	1599	1698	169	1581
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1061	151	1719	1826	182	1700
RTOR Reduction (vph)	17	0	0	0	0	0
Lane Group Flow (vph)	1195	0	1719	1826	182	1700
Turn Type			Prot			pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases						4
Actuated Green, G (s)	36.6		62.0	102.6	18.4	80.4
Effective Green, g (s)	37.6		62.0	103.6	18.4	80.4
Actuated g/C Ratio	0.29		0.48	0.80	0.14	0.62
Clearance Time (s)	5.0		4.0	5.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1819		1637	2820	251	1809
v/s Ratio Prot	0.19		c0.50	c0.52	0.10	c0.45
v/s Ratio Perm						0.16
v/c Ratio	0.66		1.05	0.65	0.73	0.94
Uniform Delay, d1	40.5		34.0	5.5	53.4	22.6
Progression Factor	1.00		1.20	0.98	1.00	1.00
Incremental Delay, d2	1.9		24.5	0.1	9.9	10.1
Delay (s)	42.4		65.3	5.5	63.3	32.6
Level of Service	D		E	A	E	C
Approach Delay (s)	42.4			34.5	35.6	
Approach LOS	D			C	D	

Intersection Summary			
HCM Average Control Delay	36.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.6%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.86	0.86	0.97	0.95					0.95	0.95	1.00
Frt		0.96	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		4602	1362	3433	3539					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		4602	1362	3433	3539					1681	1681	1583
Volume (vph)	0	1302	1265	390	2792	0	0	0	0	570	0	505
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	1385	1346	415	2970	0	0	0	0	606	0	537
RTOR Reduction (vph)	0	51	317	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1882	481	415	2970	0	0	0	0	303	303	537
Turn Type			Perm	Prot						Perm		Free
Protected Phases		2		1	6						4	
Permitted Phases			2							4		Free
Actuated Green, G (s)		69.1	69.1	20.0	93.1					26.9	26.9	130.0
Effective Green, g (s)		70.1	70.1	20.0	94.1					27.9	27.9	130.0
Actuated g/C Ratio		0.54	0.54	0.15	0.72					0.21	0.21	1.00
Clearance Time (s)		5.0	5.0	4.0	5.0					5.0	5.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		2482	734	528	2562					361	361	1583
v/s Ratio Prot		0.42		0.12	c0.84							
v/s Ratio Perm			0.59							0.18	0.18	0.34
v/c Ratio		0.76	0.66	0.79	1.16					0.84	0.84	0.34
Uniform Delay, d1		23.3	21.4	52.9	18.0					48.9	48.9	0.0
Progression Factor		1.03	1.33	0.75	0.76					1.00	1.00	1.00
Incremental Delay, d2		1.2	2.4	0.7	72.1					15.6	15.6	0.6
Delay (s)		25.2	30.7	40.3	85.7					64.5	64.5	0.6
Level of Service		C	C	D	F					E	E	A
Approach Delay (s)		26.8			80.1			0.0			34.5	
Approach LOS		C			F			A			C	

Intersection Summary			
HCM Average Control Delay	52.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	142.2%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.86		0.95	0.95	1.00			
Frt	1.00	1.00			0.97		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			6226		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			6226		1681	1681	1583			
Volume (vph)	405	1468	0	0	1371	320	1811	0	520	0	0	0
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)	435	1578	0	0	1474	344	1947	0	559	0	0	0
RTOR Reduction (vph)	0	0	0	0	32	0	0	0	0	0	0	0
Lane Group Flow (vph)	435	1578	0	0	1786	0	974	973	559	0	0	0
Turn Type	Prot						Perm		Free			
Protected Phases	5	2			6			8				
Permitted Phases							8		Free			
Actuated Green, G (s)	26.0	61.0			31.0		60.0	60.0	130.0			
Effective Green, g (s)	26.0	62.0			32.0		60.0	60.0	130.0			
Actuated g/C Ratio	0.20	0.48			0.25		0.46	0.46	1.00			
Clearance Time (s)	4.0	5.0			5.0		4.0	4.0				
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Lane Grp Cap (vph)	354	1688			1533		776	776	1583			
v/s Ratio Prot	c0.25	0.45			c0.29							
v/s Ratio Perm							c0.58	0.58	0.35			
v/c Ratio	1.23	0.93			1.16		1.26	1.25	0.35			
Uniform Delay, d1	52.0	32.1			49.0		35.0	35.0	0.0			
Progression Factor	0.53	0.66			0.95		1.00	1.00	1.00			
Incremental Delay, d2	120.6	8.7			81.4		125.3	124.7	0.6			
Delay (s)	148.0	29.9			128.2		160.3	159.7	0.6			
Level of Service	F	C			F		F	F	A			
Approach Delay (s)		55.4			128.2			124.5			0.0	
Approach LOS		E			F			F			A	

Intersection Summary			
HCM Average Control Delay	103.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	124.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.86		1.00	0.86	1.00	
Frt	1.00		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	6403		1770	6408	1695	
Flt Permitted	1.00		0.95	1.00	0.98	
Satd. Flow (perm)	6403		1770	6408	1695	
Volume (vph)	1978	10	10	1681	10	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2150	11	11	1827	11	11
RTOR Reduction (vph)	0	0	0	0	11	0
Lane Group Flow (vph)	2161	0	11	1827	11	0
Turn Type			Prot			
Protected Phases	2		1	6	8	
Permitted Phases						
Actuated Green, G (s)	111.4		1.5	116.9	3.1	
Effective Green, g (s)	112.4		1.5	117.9	4.1	
Actuated g/C Ratio	0.86		0.01	0.91	0.03	
Clearance Time (s)	5.0		4.0	5.0	5.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	5536		20	5812	53	
v/s Ratio Prot	c0.34		0.01	c0.29	c0.01	
v/s Ratio Perm						
v/c Ratio	0.39		0.55	0.31	0.21	
Uniform Delay, d1	1.8		63.9	0.8	61.4	
Progression Factor	0.19		1.00	1.00	1.00	
Incremental Delay, d2	0.1		28.9	0.1	2.0	
Delay (s)	0.5		92.8	0.9	63.4	
Level of Service	A		F	A	E	
Approach Delay (s)	0.5			1.5	63.4	
Approach LOS	A			A	E	

Intersection Summary			
HCM Average Control Delay	1.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	38.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
PM Peak Hour

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

Intersection #8 Eight Mile Road/Thornton Road

Cycle (sec): 130 Critical Vol./Cap.(X): 0.829
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 50.8
Optimal Cycle: 104 Level Of Service: D

Street Name:	Thornton Road						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 0 1			1 0 2 0 1			2 0 4 0 1			2 0 3 1 0		
Volume Module:												
Base Vol:	110	150	390	90	160	90	120	1350	230	210	1050	40
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:	110	150	390	90	160	90	120	1350	230	210	1050	40
Added Vol:	131	0	94	0	0	0	0	341	142	131	337	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	241	150	484	90	160	90	120	1691	372	341	1387	40
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:	248	155	499	93	165	93	124	1743	384	352	1430	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	248	155	499	93	165	93	124	1743	384	352	1430	41
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:	248	155	499	93	165	93	124	1743	384	352	1430	41
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.93	0.83	0.90	0.89	0.83	0.90	0.89	0.89
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	4.00	1.00	2.00	3.89	0.11
Final Sat.:	1769	3538	1583	1769	3538	1583	3432	6778	1583	3432	6561	189
Capacity Analysis Module:												
Vol/Sat:	0.14	0.04	0.32	0.05	0.05	0.06	0.04	0.26	0.24	0.10	0.22	0.22
Crit Moves:			****	****				****		****		
Green/Cycle:	0.18	0.35	0.35	0.05	0.22	0.22	0.10	0.29	0.29	0.13	0.32	0.32
Volume/Cap:	0.78	0.12	0.90	1.05	0.21	0.27	0.36	0.89	0.84	0.79	0.68	0.68
Delay/Veh:	62.6	28.8	57.9	171.4	41.6	42.4	55.3	49.4	55.8	63.9	39.3	39.3
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:	62.6	28.8	57.9	171.4	41.6	42.4	55.3	49.4	55.8	63.9	39.3	39.3
LOS by Move:	E	C	E	F	D	D	E	D	E	E	D	D
HCM2kAvgQ:	11	2	22	7	3	3	3	21	16	9	14	14

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

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Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
PM Peak Hour

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

Intersection #9 Eight Mile Road/Davis Street

Cycle (sec):	130	Critical Vol./Cap.(X):	0.895
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	43.8
Optimal Cycle:	130	Level Of Service:	D

Street Name:	Davis Street						Eight Mile Road					
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			Include			Ovl			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 0 1			1 0 2 0 1			2 0 4 0 1			2 0 3 1 0		
Volume Module:												
Base Vol:	270	210	790	50	150	80	50	1020	400	490	770	40
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:	270	210	790	50	150	80	50	1020	400	490	770	40
Added Vol:	70	0	0	0	0	59	56	300	79	0	339	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	340	210	790	50	150	139	106	1320	479	490	1109	40
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:	370	228	859	54	163	151	115	1435	521	533	1205	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	370	228	859	54	163	151	115	1435	521	533	1205	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	370	228	859	54	163	151	115	1435	521	533	1205	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.93	0.83	0.90	0.89	0.83	0.90	0.89	0.89
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	4.00	1.00	2.00	3.86	0.14
Final Sat.:	1769	3538	1583	1769	3538	1583	3432	6778	1583	3432	6509	235
Capacity Analysis Module:												
Vol/Sat:	0.21	0.06	0.54	0.03	0.05	0.10	0.03	0.21	0.33	0.16	0.19	0.19
Crit Moves:			****	****				****		****		
Green/Cycle:	0.32	0.43	0.61	0.03	0.15	0.15	0.06	0.24	0.56	0.17	0.35	0.35
Volume/Cap:	0.65	0.15	0.90	0.90	0.31	0.65	0.53	0.90	0.59	0.90	0.53	0.53
Delay/Veh:	40.6	22.4	32.9	141.4	50.0	58.8	61.6	55.0	20.1	68.6	34.3	34.3
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:	40.6	22.4	32.9	141.4	50.0	58.8	61.6	55.0	20.1	68.6	34.3	34.3
LOS by Move:	D	C	C	F	D	E	E	E	C	E	C	C
HCM2kAvgQ:	12	2	27	4	3	7	3	18	10	14	10	10

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
PM Peak Hour

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

Intersection #10 Eight Mile Road/Lower Sacramento Road

Cycle (sec):	130	Critical Vol./Cap.(X):	0.831
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	38.7
Optimal Cycle:	105	Level Of Service:	D

Street Name:	Lower Sacramento Road						Eight Mile Road					
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			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 2 0 1			2 0 2 0 1			2 0 4 0 1			2 0 3 1 0		
Volume Module:												
Base Vol:	240	400	600	70	340	50	90	1620	260	800	1250	180
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	240	400	600	70	340	50	90	1620	260	800	1250	180
Added Vol:	0	0	0	0	0	37	33	267	0	0	302	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	240	400	600	70	340	87	123	1887	260	800	1552	180
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:	258	430	645	75	366	94	132	2029	280	860	1669	194
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	258	430	645	75	366	94	132	2029	280	860	1669	194
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	258	430	645	75	366	94	132	2029	280	860	1669	194
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.93	0.83	0.90	0.93	0.83	0.90	0.89	0.83	0.90	0.88	0.88
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	4.00	1.00	2.00	3.58	0.42
Final Sat.:	3432	3538	1583	3432	3538	1583	3432	6778	1583	3432	5976	693
Capacity Analysis Module:												
Vol/Sat:	0.08	0.12	0.41	0.02	0.10	0.06	0.04	0.30	0.18	0.25	0.28	0.28
Crit Moves:			****	****				****		****		
Green/Cycle:	0.09	0.19	0.49	0.03	0.13	0.13	0.08	0.36	0.36	0.30	0.58	0.58
Volume/Cap:	0.82	0.65	0.84	0.71	0.82	0.47	0.48	0.84	0.49	0.84	0.48	0.48
Delay/Veh:	73.1	51.0	36.7	82.8	66.5	54.4	58.6	40.9	33.2	48.6	16.1	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:	73.1	51.0	36.7	82.8	66.5	54.4	58.6	40.9	33.2	48.6	16.1	16.1
LOS by Move:	E	D	D	F	E	D	E	D	C	D	B	B
HCM2kAvgQ:	7	9	22	3	10	4	3	21	8	18	8	8

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
PM Peak Hour

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

Intersection #11 Eight Mile Road/West Lane

Cycle (sec):	130	Critical Vol./Cap.(X):	1.059
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	68.5
Optimal Cycle:	130	Level Of Service:	E

Street Name:	West Lane							Eight Mile Road					
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			Include			Include			
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0	
Lanes:	2 0 2 0 1			2 0 2 0 1			2 0 3 1 0			2 0 3 0 1			
Volume Module:													
Base Vol:	700	530	250	30	510	410	640	1220	560	300	1540	30	
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:	700	530	250	30	510	410	640	1220	560	300	1540	30	
Added Vol:	0	0	0	0	0	75	65	200	2	0	227	0	
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0	
Initial Fut:	700	530	250	30	510	485	705	1420	562	300	1767	30	
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:	722	546	258	31	526	500	727	1464	579	309	1822	31	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	722	546	258	31	526	500	727	1464	579	309	1822	31	
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Final Vol.:	722	546	258	31	526	500	727	1464	579	309	1822	31	
Saturation Flow Module:													
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Adjustment:	0.90	0.93	0.83	0.90	0.93	0.83	0.90	0.85	0.85	0.90	0.89	0.83	
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.:	3432	3538	1583	3432	3538	1583	3432	4865	1622	3432	5083	1583	
Capacity Analysis Module:													
Vol/Sat:	0.21	0.15	0.16	0.01	0.15	0.32	0.21	0.30	0.36	0.09	0.36	0.02	
Crit Moves:	****				****		****				****		
Green/Cycle:	0.20	0.28	0.28	0.05	0.14	0.34	0.20	0.43	0.43	0.11	0.34	0.34	
Volume/Cap:	1.06	0.54	0.57	0.17	1.06	0.93	1.06	0.70	0.83	0.83	1.06	0.06	
Delay/Veh:	103.4	39.9	41.5	59.1	113	64.0	103.2	31.0	35.4	71.4	82.4	29.1	
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:	103.4	39.9	41.5	59.1	113	64.0	103.2	31.0	35.4	71.4	82.4	29.1	
LOS by Move:	F	D	D	E	F	E	F	C	D	E	F	C	
HCM2kAvgQ:	22	9	9	1	17	23	22	16	23	8	36	1	

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
PM Peak Hour

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

Intersection #12 Eight Mile Road/SR 99 Frontage

Cycle (sec):	130	Critical Vol./Cap.(X):	1.053
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	79.7
Optimal Cycle:	130	Level Of Service:	E

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Ovl				Include				Include				Include			
Min. Green:	4	10	0		4	10	0		4	10	0		4	10	0	
Lanes:	1 0	1 0	1		1 0	1 0	1		1 0	2 1	0		1 0	1 1	0	
Volume Module:																
Base Vol:	370	20	330		20	30	10		10	1150	250		550	1240	20	
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:	370	20	330		20	30	10		10	1150	250		550	1240	20	
Added Vol:	0	0	0		0	0	0		0	200	0		0	227	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	370	20	330		20	30	10		10	1350	250		550	1467	20	
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:	398	22	355		22	32	11		11	1452	269		591	1577	22	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	398	22	355		22	32	11		11	1452	269		591	1577	22	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Final Vol.:	398	22	355		22	32	11		11	1452	269		591	1577	22	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.93	0.98	0.83		0.93	0.98	0.83		0.93	0.87	0.87		0.93	0.93	0.93	
Lanes:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	2.53	0.47		1.00	1.97	0.03	
Final Sat.:	1769	1862	1583		1769	1862	1583		1769	4190	776		1769	3483	47	
Capacity Analysis Module:																
Vol/Sat:	0.22	0.01	0.22		0.01	0.02	0.01		0.01	0.35	0.35		0.33	0.45	0.45	
Crit Moves:	****					****				****			****			
Green/Cycle:	0.20	0.20	0.49		0.08	0.08	0.08		0.04	0.31	0.31		0.30	0.56	0.56	
Volume/Cap:	1.13	0.06	0.46		0.15	0.23	0.09		0.16	1.13	1.13		1.13	0.80	0.80	
Delay/Veh:	140.9	42.5	22.0		56.4	57.2	56.1		61.6	113	113.4		126.9	25.2	25.2	
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:	140.9	42.5	22.0		56.4	57.2	56.1		61.6	113	113.4		126.9	25.2	25.2	
LOS by Move:	F	D	C		E	E	E		E	F	F		F	C	C	
HCM2kAvgQ:	25	1	9		1	1	0		1	37	37		35	28	28	

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
PM Peak Hour

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

Intersection #13 Mokelumne Circle/Scott Creek Drive

Cycle (sec):	130	Critical Vol./Cap.(X):	1.106
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	95.4
Optimal Cycle:	130	Level Of Service:	F

Street Name:	Mokelumne Circle						Scott Creek Drive					
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:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 0 1 0			1 0 0 1 0			1 0 0 1 0			1 0 0 1 0		
Volume Module:												
Base Vol:	10	90	10	10	420	430	340	30	10	10	40	30
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:	10	90	10	10	420	430	340	30	10	10	40	30
Added Vol:	3	25	0	12	39	7	8	181	2	0	299	12
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	115	10	22	459	437	348	211	12	10	339	42
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:	14	125	11	24	499	475	378	229	13	11	368	46
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	14	125	11	24	499	475	378	229	13	11	368	46
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	14	125	11	24	499	475	378	229	13	11	368	46
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.06	0.97	0.97	0.65	0.91	0.91	0.93	0.97	0.97	0.93	0.96	0.96
Lanes:	1.00	0.92	0.08	1.00	0.51	0.49	1.00	0.95	0.05	1.00	0.89	0.11
Final Sat.:	112	1692	147	1238	884	842	1769	1748	99	1769	1630	202
Capacity Analysis Module:												
Vol/Sat:	0.13	0.07	0.07	0.02	0.56	0.56	0.21	0.13	0.13	0.01	0.23	0.23
Crit Moves:					****		****				****	
Green/Cycle:	0.51	0.51	0.51	0.51	0.51	0.51	0.19	0.32	0.32	0.08	0.20	0.20
Volume/Cap:	0.25	0.14	0.14	0.04	1.11	1.11	1.11	0.41	0.41	0.08	1.11	1.11
Delay/Veh:	20.1	16.9	16.9	15.9	95.6	95.6	132.8	34.8	34.8	56.2	130	130.1
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:	20.1	16.9	16.9	15.9	95.6	95.6	132.8	34.8	34.8	56.2	130	130.1
LOS by Move:	C	B	B	B	F	F	F	C	C	E	F	F
HCM2kAvgQ:	1	2	2	0	53	53	23	7	7	0	25	25

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
PM Peak Hour

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

Intersection #14 Trinity Parkway/Consumnes Drive

Cycle (sec): 130 Critical Vol./Cap.(X): 1.066
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 66.7
Optimal Cycle: OPTIMIZED Level Of Service: E

Street Name:	Trinity Parkway						Consumnes Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1	1 0		1 0 1	1 0		1 0 0	1 0		1 0 1	0 1	
Volume Module:												
Base Vol:	370	210	0	0	150	150	90	0	130	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	370	210	0	0	150	150	90	0	130	0	0	0
Added Vol:	142	1192	51	14	1001	5	4	5	123	107	9	30
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	512	1402	51	14	1151	155	94	5	253	107	9	30
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:	539	1476	54	15	1212	163	99	5	266	113	9	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	539	1476	54	15	1212	163	99	5	266	113	9	32
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	539	1476	54	15	1212	163	99	5	266	113	9	32
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.93	0.93	0.91	0.91	0.93	0.84	0.84	0.93	0.98	0.83
Lanes:	1.00	1.93	0.07	1.00	1.76	0.24	1.00	0.02	0.98	1.00	1.00	1.00
Final Sat.:	1769	3397	124	1769	3062	412	1769	31	1558	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.30	0.43	0.43	0.01	0.40	0.40	0.06	0.17	0.17	0.06	0.01	0.02
Crit Moves:	****				****			****		****		
Green/Cycle:	0.29	0.61	0.61	0.04	0.37	0.37	0.09	0.16	0.16	0.06	0.13	0.13
Volume/Cap:	1.07	0.71	0.71	0.19	1.07	1.07	0.60	1.07	1.07	1.07	0.04	0.16
Delay/Veh:	105.3	18.3	18.3	61.2	85.7	85.7	62.9	130	129.6	167.7	49.8	50.9
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:	105.3	18.3	18.3	61.2	85.7	85.7	62.9	130	129.6	167.7	49.8	50.9
LOS by Move:	F	B	B	E	F	F	E	F	F	F	D	D
HCM2kAvgQ:	30	15	15	1	39	39	5	17	17	8	0	1

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
PM Peak Hour

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

Intersection #15 Trinity Parkway/McAuliffe Road

Cycle (sec):	130	Critical Vol./Cap.(X):	0.971
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	42.8
Optimal Cycle:	130	Level Of Service:	D

Street Name:	Trinity Parkway							McAuliffe Road					
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			Permitted			Permitted			
Rights:	Include			Include			Include			Ovl			
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0	
Lanes:	0 0 1	1 0		1 0 2	0 0		0 0 0	0 0		1 0 0	0 1		
Volume Module:													
Base Vol:	0	270	110	210	130	0	0	0	0	60	0	280	
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Initial Bse:	0	270	110	210	130	0	0	0	0	60	0	280	
Added Vol:	0	1057	26	341	1060	0	0	0	0	44	0	339	
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0	
Initial Fut:	0	1327	136	551	1190	0	0	0	0	104	0	619	
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:	0	1442	148	599	1293	0	0	0	0	113	0	673	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	0	1442	148	599	1293	0	0	0	0	113	0	673	
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Final Vol.:	0	1442	148	599	1293	0	0	0	0	113	0	673	
Saturation Flow Module:													
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Adjustment:	1.00	0.92	0.92	0.93	0.93	1.00	1.00	1.00	1.00	0.76	1.00	0.83	
Lanes:	0.00	1.81	0.19	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	
Final Sat.:	0	3164	324	1769	3538	0	0	0	0	1439	0	1583	
Capacity Analysis Module:													
Vol/Sat:	0.00	0.46	0.46	0.34	0.37	0.00	0.00	0.00	0.00	0.08	0.00	0.43	
Crit Moves:		****		****								****	
Green/Cycle:	0.00	0.47	0.47	0.35	0.75	0.00	0.00	0.00	0.00	0.09	0.00	0.44	
Volume/Cap:	0.00	0.97	0.97	0.97	0.48	0.00	0.00	0.00	0.00	0.88	0.00	0.97	
Delay/Veh:	0.0	49.4	49.4	70.5	6.3	0.0	0.0	0.0	0.0	104.0	0.0	62.6	
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
AdjDel/Veh:	0.0	49.4	49.4	70.5	6.3	0.0	0.0	0.0	0.0	104.0	0.0	62.6	
LOS by Move:	A	D	D	E	A	A	A	A	A	F	A	E	
HCM2kAvgQ:	0	38	38	29	1	0	0	0	0	7	0	31	

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
PM Peak Hour

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

Intersection #16 Thornton Road/A.G. Spanos Boulevard (South)

Cycle (sec):	95	Critical Vol./Cap.(X):	0.817
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	24.3
Optimal Cycle:	80	Level Of Service:	C

Street Name:	Thornton Road						A.G. Spanos Boulevard (South)					
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			Permitted			Permitted		
Rights:	Include			Include			Ovl			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 1 0			1 0 2 0 1			0 1 0 0 1			0 1 0 0 1		
Volume Module:												
Base Vol:	420	550	150	60	450	110	90	40	380	60	10	20
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:	420	550	150	60	450	110	90	40	380	60	10	20
Added Vol:	279	82	0	0	115	10	9	0	284	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	699	632	150	60	565	120	99	40	664	60	10	20
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:	760	687	163	65	614	130	108	43	722	65	11	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	760	687	163	65	614	130	108	43	722	65	11	22
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	760	687	163	65	614	130	108	43	722	65	11	22
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.87	0.87	0.93	0.93	0.83	0.72	0.72	0.83	0.47	0.47	0.83
Lanes:	1.00	2.42	0.58	1.00	2.00	1.00	0.71	0.29	1.00	0.86	0.14	1.00
Final Sat.:	1769	3989	947	1769	3538	1583	972	393	1583	768	128	1583
Capacity Analysis Module:												
Vol/Sat:	0.43	0.17	0.17	0.04	0.17	0.08	0.11	0.11	0.46	0.08	0.08	0.01
Crit Moves:	****				****			****				
Green/Cycle:	0.53	0.59	0.59	0.15	0.21	0.21	0.14	0.14	0.66	0.14	0.14	0.14
Volume/Cap:	0.82	0.29	0.29	0.25	0.82	0.39	0.82	0.82	0.69	0.63	0.63	0.10
Delay/Veh:	24.4	9.6	9.6	36.6	42.6	32.8	63.8	63.8	12.0	48.8	48.8	36.2
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:	24.4	9.6	9.6	36.6	42.6	32.8	63.8	63.8	12.0	48.8	48.8	36.2
LOS by Move:	C	A	A	D	D	C	E	E	B	D	D	D
HCM2kAvgQ:	18	3	3	2	11	3	7	7	8	3	3	1

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
PM Peak Hour

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

Intersection #17 Thornton Road/Wagner Heights

Cycle (sec):	95	Critical Vol./Cap.(X):	1.024
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	53.1
Optimal Cycle:	130	Level Of Service:	D

Street Name:	Thornton Road						Wagner Heights					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1	1 0		1 0 2	0 1		1 0 1	0 1		1 0 1	0 1	
Volume Module:												
Base Vol:	100	1070	60	170	630	110	130	140	120	90	150	400
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:	100	1070	60	170	630	110	130	140	120	90	150	400
Added Vol:	0	290	0	0	296	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	100	1360	60	170	926	110	130	140	120	90	150	400
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:	103	1402	62	175	955	113	134	144	124	93	155	412
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	1402	62	175	955	113	134	144	124	93	155	412
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	103	1402	62	175	955	113	134	144	124	93	155	412
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.93	0.93	0.93	0.83	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	1.92	0.08	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1769	3368	149	1769	3538	1583	1769	1862	1583	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.06	0.42	0.42	0.10	0.27	0.07	0.08	0.08	0.08	0.05	0.08	0.26
Crit Moves:		****		****			****					****
Green/Cycle:	0.09	0.41	0.41	0.10	0.41	0.41	0.07	0.22	0.22	0.11	0.25	0.25
Volume/Cap:	0.65	1.02	1.02	1.02	0.65	0.17	1.02	0.35	0.36	0.48	0.33	1.02
Delay/Veh:	51.2	58.3	58.3	118.2	23.4	17.7	129.2	31.9	32.0	41.7	29.2	86.6
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:	51.2	58.3	58.3	118.2	23.4	17.7	129.2	31.9	32.0	41.7	29.2	86.6
LOS by Move:	D	E	E	F	C	B	F	C	C	D	C	F
HCM2kAvgQ:	4	31	31	10	11	2	8	4	3	3	4	19

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95			0.95	1.00	1.00	0.95		0.97	0.95	
Frt	1.00	0.95			1.00	0.85	1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3365			3539	1583	1770	3395		3433	3429	
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3365			3539	1583	1770	3395		3433	3429	
Volume (vph)	78	298	145	0	528	864	246	512	190	641	510	133
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)	85	324	158	0	574	939	267	557	207	697	554	145
RTOR Reduction (vph)	0	42	0	0	0	21	0	29	0	0	17	0
Lane Group Flow (vph)	85	440	0	0	574	918	267	735	0	697	682	0
Turn Type	Prot			Prot		pm+ov	Prot			Prot		
Protected Phases	5	2		1	6	7	3	8		7	4	
Permitted Phases						6						
Actuated Green, G (s)	7.0	38.5			27.5	77.4	23.9	29.6		49.9	55.6	
Effective Green, g (s)	7.0	38.5			27.5	77.4	23.9	29.6		49.9	55.6	
Actuated g/C Ratio	0.05	0.30			0.21	0.60	0.18	0.23		0.38	0.43	
Clearance Time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	95	997			749	991	325	773		1318	1467	
v/s Ratio Prot	c0.05	0.13			0.16	c0.36	0.15	c0.22		0.20	0.20	
v/s Ratio Perm						0.22						
v/c Ratio	0.89	0.44			0.77	0.93	0.82	0.95		0.53	0.47	
Uniform Delay, d1	61.1	37.0			48.2	23.7	51.0	49.5		31.0	26.6	
Progression Factor	1.00	1.00			1.19	0.47	1.00	1.00		1.00	1.00	
Incremental Delay, d2	59.1	1.4			6.1	12.0	15.3	21.1		0.4	0.2	
Delay (s)	120.2	38.5			63.6	23.1	66.3	70.6		31.3	26.8	
Level of Service	F	D			E	C	E	E		C	C	
Approach Delay (s)		50.7			38.5			69.5			29.1	
Approach LOS		D			D			E			C	

Intersection Summary			
HCM Average Control Delay	44.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.0%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.91		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5044		1770	3535		1770	1695		1770	1827	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5044		1770	3535		1770	1695		1770	1827	
Volume (vph)	10	1067	62	300	1308	10	84	140	210	10	70	10
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)	11	1160	67	326	1422	11	91	152	228	11	76	11
RTOR Reduction (vph)	0	4	0	0	0	0	0	40	0	0	4	0
Lane Group Flow (vph)	11	1223	0	326	1433	0	91	340	0	11	83	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	2.8	59.0		27.3	83.5		11.8	26.2		1.5	15.9	
Effective Green, g (s)	2.8	59.0		27.3	83.5		11.8	26.2		1.5	15.9	
Actuated g/C Ratio	0.02	0.45		0.21	0.64		0.09	0.20		0.01	0.12	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	38	2289		372	2271		161	342		20	223	
v/s Ratio Prot	0.01	0.24		c0.18	c0.41		c0.05	c0.20		0.01	0.05	
v/s Ratio Perm												
v/c Ratio	0.29	0.53		0.88	0.63		0.57	0.99		0.55	0.37	
Uniform Delay, d1	62.6	25.6		49.7	14.0		56.6	51.8		63.9	52.4	
Progression Factor	1.03	0.61		1.16	0.34		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.5	0.7		17.3	1.1		4.5	46.9		28.9	1.0	
Delay (s)	68.1	16.4		75.2	5.9		61.1	98.7		92.8	53.5	
Level of Service	E	B		E	A		E	F		F	D	
Approach Delay (s)		16.9			18.8			91.5			57.9	
Approach LOS		B			B			F			E	

Intersection Summary			
HCM Average Control Delay	28.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.1%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	
Lane Util. Factor		0.91		1.00	0.95					1.00	1.00	
Frt		0.90		1.00	1.00					1.00	0.85	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		4579		1770	3539					1770	1583	
Flt Permitted		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (perm)		4579		1770	3539					1770	1583	
Volume (vph)	0	430	847	340	1339	0	0	0	0	200	0	269
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	467	921	370	1455	0	0	0	0	217	0	292
RTOR Reduction (vph)	0	203	0	0	0	0	0	0	0	0	54	0
Lane Group Flow (vph)	0	1185	0	370	1455	0	0	0	0	217	238	0
Turn Type				Prot						Split		
Protected Phases		2		1	6					4	4	
Permitted Phases												
Actuated Green, G (s)		58.2		36.3	98.5					23.5	23.5	
Effective Green, g (s)		58.2		36.3	98.5					23.5	23.5	
Actuated g/C Ratio		0.45		0.28	0.76					0.18	0.18	
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		2050		494	2681					320	286	
v/s Ratio Prot		c0.30		c0.21	0.41					0.12	c0.18	
v/s Ratio Perm												
v/c Ratio		1.00dr		0.75	0.54					0.68	0.83	
Uniform Delay, d1		26.7		42.7	6.5					49.7	51.3	
Progression Factor		0.30		1.05	0.64					1.00	1.00	
Incremental Delay, d2		1.0		4.6	0.6					5.6	18.3	
Delay (s)		9.0		49.4	4.7					55.3	69.6	
Level of Service		A		D	A					E	E	
Approach Delay (s)		9.0			13.8			0.0			63.5	
Approach LOS		A			B			A			E	

Intersection Summary			
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.91		0.95	0.95	1.00			
Frt	1.00	1.00			0.97		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			4917		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			4917		1681	1681	1583			
Volume (vph)	252	378	0	0	567	160	1112	0	700	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	274	411	0	0	616	174	1209	0	761	0	0	0
RTOR Reduction (vph)	0	0	0	0	34	0	0	0	190	0	0	0
Lane Group Flow (vph)	274	411	0	0	756	0	605	604	571	0	0	0
Turn Type	Prot						Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases									8			
Actuated Green, G (s)	23.9	66.5			38.6		55.5	55.5	55.5			
Effective Green, g (s)	23.9	66.5			38.6		55.5	55.5	55.5			
Actuated g/C Ratio	0.18	0.51			0.30		0.43	0.43	0.43			
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Lane Grp Cap (vph)	325	1810			1460		718	718	676			
v/s Ratio Prot	c0.15	0.12			c0.15		0.36	0.36				
v/s Ratio Perm									c0.36			
v/c Ratio	0.84	0.23			0.52		0.84	0.84	0.85			
Uniform Delay, d1	51.2	17.5			38.0		33.3	33.3	33.4			
Progression Factor	0.95	0.40			1.00		1.00	1.00	1.00			
Incremental Delay, d2	17.0	0.3			1.3		8.9	8.8	9.5			
Delay (s)	65.4	7.4			39.3		42.2	42.1	42.9			
Level of Service	E	A			D		D	D	D			
Approach Delay (s)		30.6			39.3			42.5			0.0	
Approach LOS		C			D			D			A	

Intersection Summary			
HCM Average Control Delay	39.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.4%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0		4.0		4.0	4.0	
Lane Util. Factor				0.97		1.00		1.00		0.97	1.00	
Frt				1.00		0.85		0.87		1.00	1.00	
Flt Protected				0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)				3433		1583		1627		3433	1863	
Flt Permitted				0.95		1.00		1.00		0.95	1.00	
Satd. Flow (perm)				3433		1583		1627		3433	1863	
Volume (vph)	0	0	0	270	0	1008	0	10	150	655	10	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	293	0	1096	0	11	163	712	11	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	150	0	0	0	0
Lane Group Flow (vph)	0	0	0	293	0	1096	0	24	0	712	11	0
Turn Type				Prot		Free	Split			Split		
Protected Phases				1	6		4	4		8	8	
Permitted Phases						Free						
Actuated Green, G (s)				75.5		130.0		9.5		31.0	31.0	
Effective Green, g (s)				75.5		130.0		10.5		32.0	32.0	
Actuated g/C Ratio				0.58		1.00		0.08		0.25	0.25	
Clearance Time (s)				4.0				5.0		5.0	5.0	
Vehicle Extension (s)				3.0				3.0		3.0	3.0	
Lane Grp Cap (vph)				1994		1583		131		845	459	
v/s Ratio Prot				0.09				0.01		c0.21	0.01	
v/s Ratio Perm						c0.69						
v/c Ratio				0.15		0.69		0.18		0.84	0.02	
Uniform Delay, d1				12.5		0.0		55.8		46.6	37.2	
Progression Factor				0.53		1.00		1.00		1.00	1.00	
Incremental Delay, d2				0.0		2.1		0.7		7.7	0.0	
Delay (s)				6.6		2.1		56.4		54.3	37.2	
Level of Service				A		A		E		D	D	
Approach Delay (s)		0.0			3.0			56.4			54.0	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM Average Control Delay	23.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	46.2%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		0.97	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3532		3433	4860		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3532		3433	4860		1770	1863	1583	1770	1863	1583
Volume (vph)	10	685	10	200	1178	494	10	40	150	352	10	10
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)	10	714	10	208	1227	515	10	42	156	367	10	10
RTOR Reduction (vph)	0	1	0	0	43	0	0	0	141	0	0	8
Lane Group Flow (vph)	10	723	0	208	1699	0	10	42	15	367	10	2
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases									8			4
Actuated Green, G (s)	1.6	55.0		15.4	68.8		11.6	11.6	11.6	29.0	29.0	29.0
Effective Green, g (s)	1.6	56.0		15.4	69.8		12.6	12.6	12.6	30.0	30.0	30.0
Actuated g/C Ratio	0.01	0.43		0.12	0.54		0.10	0.10	0.10	0.23	0.23	0.23
Clearance Time (s)	4.0	5.0		4.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	22	1521		407	2609		172	181	153	408	430	365
v/s Ratio Prot	0.01	c0.20		0.06	c0.36		0.01	0.02		c0.21	0.01	
v/s Ratio Perm									0.10			0.01
v/c Ratio	0.45	0.48		0.51	0.65		0.06	0.23	0.10	0.90	0.02	0.01
Uniform Delay, d1	63.8	26.5		53.8	21.4		53.3	54.2	53.5	48.5	38.7	38.5
Progression Factor	1.54	0.15		0.80	0.48		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.7	0.9		1.0	1.1		0.1	0.7	0.3	21.9	0.0	0.0
Delay (s)	110.9	5.0		44.2	11.4		53.5	54.9	53.8	70.5	38.7	38.5
Level of Service	F	A		D	B		D	D	D	E	D	D
Approach Delay (s)		6.5			14.9			54.0			68.8	
Approach LOS		A			B			D			E	

Intersection Summary			
HCM Average Control Delay	21.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.3%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.91					0.95	0.95	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3539	1583	3433	5085					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3539	1583	3433	5085					1681	1681	1583
Volume (vph)	0	685	502	1230	1772	0	0	0	0	530	0	100
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	729	534	1309	1885	0	0	0	0	564	0	106
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	20
Lane Group Flow (vph)	0	729	534	1309	1885	0	0	0	0	282	282	86
Turn Type			Free	Prot						Perm		Perm
Protected Phases		2		1	6						4	
Permitted Phases			Free							4		4
Actuated Green, G (s)		46.8	130.0	43.0	93.8					26.2	26.2	26.2
Effective Green, g (s)		47.8	130.0	43.0	94.8					27.2	27.2	27.2
Actuated g/C Ratio		0.37	1.00	0.33	0.73					0.21	0.21	0.21
Clearance Time (s)		5.0		4.0	5.0					5.0	5.0	5.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		1301	1583	1136	3708					352	352	331
v/s Ratio Prot		c0.21		c0.38	0.37							
v/s Ratio Perm			0.34							c0.17	0.17	0.05
v/c Ratio		0.56	0.34	1.15	0.51					0.80	0.80	0.26
Uniform Delay, d1		32.7	0.0	43.5	7.6					48.8	48.8	43.0
Progression Factor		1.01	1.00	0.27	1.93					1.00	1.00	1.00
Incremental Delay, d2		1.5	0.5	76.8	0.2					12.3	12.3	0.4
Delay (s)		34.4	0.5	88.7	14.8					61.1	61.1	43.4
Level of Service		C	A	F	B					E	E	D
Approach Delay (s)		20.1			45.1			0.0			58.3	
Approach LOS		C			D			A			E	

Intersection Summary			
HCM Average Control Delay	40.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	142.1%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.81	1.00	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			7544	1583	1681	1681	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			7544	1583	1681	1681	2787			
Volume (vph)	200	1015	0	0	1896	890	1106	0	1540	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	1103	0	0	2061	967	1202	0	1674	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	193	0	0	21	0	0	0
Lane Group Flow (vph)	217	1103	0	0	2061	774	601	601	1653	0	0	0
Turn Type	Prot					Perm	Perm		custom			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		1 8			
Actuated Green, G (s)	19.2	51.0			54.8	54.8	42.0	42.0	69.0			
Effective Green, g (s)	19.2	52.0			55.8	55.8	43.0	43.0	70.0			
Actuated g/C Ratio	0.15	0.40			0.43	0.43	0.33	0.33	0.54			
Clearance Time (s)	4.0	5.0			5.0	5.0	5.0	5.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	261	1416			3238	679	556	556	1501			
v/s Ratio Prot	0.12	c0.31			0.27							
v/s Ratio Perm						c0.49	0.36	0.36	c0.59			
v/c Ratio	0.83	0.78			0.64	1.14	1.08	1.08	1.10			
Uniform Delay, d1	53.8	34.0			29.1	37.1	43.5	43.5	30.0			
Progression Factor	0.99	0.60			0.28	0.71	1.00	1.00	1.00			
Incremental Delay, d2	17.4	3.5			0.1	64.9	61.9	61.9	56.1			
Delay (s)	70.5	24.1			8.3	91.3	105.4	105.4	86.1			
Level of Service	E	C			A	F	F	F	F			
Approach Delay (s)		31.7			34.8			94.2			0.0	
Approach LOS		C			C			F			A	

Intersection Summary			
HCM Average Control Delay	57.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	142.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
PM Peak Hour

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

Intersection #26 Hammer Lane/Thornton Road

Cycle (sec):	130	Critical Vol./Cap.(X):	0.885
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	42.6
Optimal Cycle:	127	Level Of Service:	D

Street Name:	Thornton Road						Hammer Lane					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 2 1 0			1 0 2 1 0			1 0 3 0 1			1 0 3 0 1		
Volume Module:												
Base Vol:	490	750	50	310	480	20	110	1290	220	40	1390	670
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:	490	750	50	310	480	20	110	1290	220	40	1390	670
Added Vol:	111	119	0	49	119	0	0	180	92	0	200	49
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	601	869	50	359	599	20	110	1470	312	40	1590	719
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:	613	887	51	366	611	20	112	1500	318	41	1622	734
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	613	887	51	366	611	20	112	1500	318	41	1622	734
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	613	887	51	366	611	20	112	1500	318	41	1622	734
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.88	0.88	0.93	0.89	0.89	0.93	0.89	0.83	0.93	0.89	0.83
Lanes:	2.00	2.84	0.16	1.00	2.90	0.10	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	3432	4768	274	1769	4894	163	1769	5083	1583	1769	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.18	0.19	0.19	0.21	0.12	0.12	0.06	0.30	0.20	0.02	0.32	0.46
Crit Moves:		****		****			****				****	
Green/Cycle:	0.26	0.21	0.21	0.23	0.18	0.18	0.07	0.39	0.39	0.04	0.36	0.59
Volume/Cap:	0.68	0.88	0.88	0.88	0.68	0.68	0.88	0.75	0.51	0.56	0.88	0.78
Delay/Veh:	45.3	58.8	58.8	67.8	51.7	51.7	106.5	32.5	27.9	71.2	42.0	15.9
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:	45.3	58.8	58.8	67.8	51.7	51.7	106.5	32.5	27.9	71.2	42.0	15.9
LOS by Move:	D	E	E	E	D	D	F	C	C	E	D	B
HCM2kAvgQ:	12	16	16	17	9	9	7	18	9	2	24	17

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
PM Peak Hour

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

Intersection #27 Thornton Road/Whistler Way

Cycle (sec):	95	Critical Vol./Cap.(X):	0.465
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	26.3
Optimal Cycle:	46	Level Of Service:	C

Street Name:	Thornton Road						Whistler Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 0 1			1 0 1 1 0			1 0 1 0 1			1 0 0 1 0		
Volume Module:												
Base Vol:	120	550	100	90	360	40	80	40	110	110	40	40
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:	120	550	100	90	360	40	80	40	110	110	40	40
Added Vol:	0	119	0	2	141	44	40	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	120	669	100	92	501	84	120	40	110	110	40	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:	130	727	109	100	545	91	130	43	120	120	43	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	130	727	109	100	545	91	130	43	120	120	43	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:	130	727	109	100	545	91	130	43	120	120	43	45
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.91	0.91	0.93	0.98	0.83	0.93	0.91	0.91
Lanes:	1.00	2.00	1.00	1.00	1.71	0.29	1.00	1.00	1.00	1.00	0.49	0.51
Final Sat.:	1769	3538	1583	1769	2963	497	1769	1862	1583	1769	850	871
Capacity Analysis Module:												
Vol/Sat:	0.07	0.21	0.07	0.06	0.18	0.18	0.07	0.02	0.08	0.07	0.05	0.05
Crit Moves:		****		****			****				****	
Green/Cycle:	0.16	0.44	0.44	0.12	0.40	0.40	0.16	0.16	0.16	0.10	0.11	0.11
Volume/Cap:	0.46	0.47	0.16	0.47	0.46	0.46	0.47	0.14	0.46	0.64	0.47	0.47
Delay/Veh:	37.2	18.9	16.0	40.5	21.1	21.1	37.5	34.3	37.3	48.4	41.5	41.5
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:	37.2	18.9	16.0	40.5	21.1	21.1	37.5	34.3	37.3	48.4	41.5	41.5
LOS by Move:	D	B	B	D	C	C	D	C	D	D	D	D
HCM2kAvgQ:	4	7	1	3	6	6	4	1	4	5	3	3

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

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Future 2035
Without and With Project Conditions

Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
AM Peak Hour

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

Intersection #1 Eight Mile Road/Westlake Drive

Cycle (sec):	130	Critical Vol./Cap.(X):	0.587
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	32.4
Optimal Cycle:	58	Level Of Service:	C

Street Name:	Westlake Drive						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 0 1 1			2 0 0 1 0			1 0 2 1 0			1 0 2 1 0		
Volume Module:												
Base Vol:	10	10	300	80	10	10	10	1170	10	180	560	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:	10	10	300	80	10	10	10	1170	10	180	560	0
Added Vol:	0	0	16	23	0	0	0	0	0	12	0	28
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	10	316	103	10	10	10	1170	10	192	560	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:	11	11	343	112	11	11	11	1272	11	209	609	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	11	343	112	11	11	11	1272	11	209	609	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:	11	11	343	112	11	11	11	1272	11	209	609	30
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.84	0.84	0.90	0.91	0.91	0.93	0.89	0.89	0.93	0.89	0.89
Lanes:	1.00	0.06	1.94	2.00	0.50	0.50	1.00	2.97	0.03	1.00	2.86	0.14
Final Sat.:	1769	98	3086	3432	861	861	1769	5035	43	1769	4807	240
Capacity Analysis Module:												
Vol/Sat:	0.01	0.11	0.11	0.03	0.01	0.01	0.01	0.25	0.25	0.12	0.13	0.13
Crit Moves:		****		****				****		****		
Green/Cycle:	0.07	0.19	0.19	0.06	0.18	0.18	0.12	0.43	0.43	0.20	0.51	0.51
Volume/Cap:	0.09	0.59	0.59	0.59	0.07	0.07	0.05	0.59	0.59	0.59	0.25	0.25
Delay/Veh:	56.9	49.5	49.5	64.6	44.9	44.9	50.3	28.6	28.6	49.6	18.1	18.1
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:	56.9	49.5	49.5	64.6	44.9	44.9	50.3	28.6	28.6	49.6	18.1	18.1
LOS by Move:	E	D	D	E	D	D	D	C	C	D	B	B
HCM2kAvgQ:	0	7	7	3	1	1	0	12	12	8	4	4

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

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Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
AM Peak Hour

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

****

Intersection #2 Eight Mile Road/Regatta Drive

****

Cycle (sec): 130 Critical Vol./Cap.(X): 0.802
Loss Time (sec): 12 (Y+R=5.0 sec) Average Delay (sec/veh): 53.1
Optimal Cycle: 84 Level Of Service: D

****

Street Name:	Eight Mile Road						Regatta Drive					
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:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 0 0 2			0 0 0 0 0			0 0 2 1 0			2 0 4 0 0		
Volume Module:												
Base Vol:	60	0	650	0	0	0	0	1540	20	190	730	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:	60	0	650	0	0	0	0	1540	20	190	730	0
Added Vol:	13	0	135	0	0	0	0	33	7	57	28	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	73	0	785	0	0	0	0	1573	27	247	758	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:	79	0	853	0	0	0	0	1710	29	268	824	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	0	853	0	0	0	0	1710	29	268	824	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:	79	0	853	0	0	0	0	1710	29	268	824	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.60	1.00	0.73	1.00	1.00	1.00	1.00	0.89	0.89	0.90	0.89	1.00
Lanes:	2.00	0.00	2.00	0.00	0.00	0.00	0.00	2.95	0.05	2.00	4.00	0.00
Final Sat.:	2276	0	2786	0	0	0	0	4982	86	3432	6778	0
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.31	0.00	0.00	0.00	0.00	0.34	0.34	0.08	0.12	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.31	0.00	0.31	0.00	0.00	0.00	0.00	0.34	0.34	0.27	0.61	0.00
Volume/Cap:	0.11	0.00	0.99	0.00	0.00	0.00	0.00	1.01	1.01	0.29	0.20	0.00
Delay/Veh:	32.1	0.0	72.2	0.0	0.0	0.0	0.0	66.9	66.9	37.8	11.3	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:	32.1	0.0	72.2	0.0	0.0	0.0	0.0	66.9	66.9	37.8	11.3	0.0
LOS by Move:	C	A	E	A	A	A	A	E	E	D	B	A
HCM2kAvgQ:	1	0	25	0	0	0	0	32	32	4	2	0

****

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

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Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
AM Peak Hour

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

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Intersection #3 Eight Mile Road/Mokelumne Circle

****

Cycle (sec): 130 Critical Vol./Cap.(X): 0.936
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 47.9
Optimal Cycle: 130 Level Of Service: D

****

Street Name:	Mokelumne Circle						Eight Mile Road					
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			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1 0 1			2 0 1 0 1			1 0 2 1 0			1 0 3 0 1		
Volume Module:												
Base Vol:	10	130	150	720	60	50	150	1710	40	20	860	280
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:	10	130	150	720	60	50	150	1710	40	20	860	280
Added Vol:	11	10	105	19	13	0	0	152	15	72	74	28
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	21	140	255	739	73	50	150	1862	55	92	934	308
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:	23	152	277	803	79	54	163	2024	60	100	1015	335
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	152	277	803	79	54	163	2024	60	100	1015	335
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:	23	152	277	803	79	54	163	2024	60	100	1015	335
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.90	0.98	0.83	0.93	0.89	0.89	0.93	0.89	0.83
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	1.00	2.91	0.09	1.00	3.00	1.00
Final Sat.:	1769	1862	1583	3432	1862	1583	1769	4918	145	1769	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.01	0.08	0.18	0.23	0.04	0.03	0.09	0.41	0.41	0.06	0.20	0.21
Crit Moves:			****	****				****		****		
Green/Cycle:	0.11	0.13	0.19	0.25	0.27	0.27	0.16	0.44	0.44	0.06	0.34	0.59
Volume/Cap:	0.12	0.64	0.94	0.94	0.16	0.13	0.58	0.94	0.94	0.94	0.58	0.36
Delay/Veh:	52.7	60.0	87.7	64.9	36.4	36.1	53.9	42.9	42.9	127.5	35.7	13.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.7	60.0	87.7	64.9	36.4	36.1	53.9	42.9	42.9	127.5	35.7	13.9
LOS by Move:	D	E	F	E	D	D	D	D	D	F	D	B
HCM2kAvgQ:	1	7	15	20	2	1	7	32	32	7	11	4

****

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

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Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6337		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6337		3433	6408	1770	2787
Volume (vph)	2645	211	875	1212	122	674
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2875	229	951	1317	133	733
RTOR Reduction (vph)	8	0	0	0	0	0
Lane Group Flow (vph)	3096	0	951	1317	133	733
Turn Type			Prot			pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases						4
Actuated Green, G (s)	61.9		39.1	105.0	16.0	55.1
Effective Green, g (s)	62.9		39.1	106.0	16.0	55.1
Actuated g/C Ratio	0.48		0.30	0.82	0.12	0.42
Clearance Time (s)	5.0		4.0	5.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3066		1033	5225	218	1267
v/s Ratio Prot	c0.49		c0.28	0.21	0.08	c0.17
v/s Ratio Perm						0.09
v/c Ratio	1.01		0.92	0.25	0.61	0.58
Uniform Delay, d1	33.5		43.9	2.8	54.0	28.6
Progression Factor	1.00		1.23	1.22	1.00	1.00
Incremental Delay, d2	18.7		9.4	0.1	5.0	0.6
Delay (s)	52.2		63.3	3.5	59.0	29.2
Level of Service	D		E	A	E	C
Approach Delay (s)	52.2			28.5	33.8	
Approach LOS	D			C	C	

Intersection Summary			
HCM Average Control Delay	41.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.6%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.86	0.86	0.97	0.95					0.95	0.95	1.00
Frt		0.95	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		4565	1362	3433	3539					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		4565	1362	3433	3539					1681	1681	1583
Volume (vph)	0	1552	1768	1030	1886	0	0	0	0	530	0	200
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	1687	1922	1120	2050	0	0	0	0	576	0	217
RTOR Reduction (vph)	0	66	291	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2469	783	1120	2050	0	0	0	0	288	288	217
Turn Type			Perm	Prot						Perm		Free
Protected Phases		2		1	6						4	
Permitted Phases			2							4		Free
Actuated Green, G (s)		57.4	57.4	33.0	94.4					25.6	25.6	130.0
Effective Green, g (s)		58.4	58.4	33.0	95.4					26.6	26.6	130.0
Actuated g/C Ratio		0.45	0.45	0.25	0.73					0.20	0.20	1.00
Clearance Time (s)		5.0	5.0	4.0	5.0					5.0	5.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		2051	612	871	2597					344	344	1583
v/s Ratio Prot		0.56		c0.33	0.58							
v/s Ratio Perm			0.79							0.17	0.17	0.14
v/c Ratio		1.20	1.28	1.29	0.79					0.84	0.84	0.14
Uniform Delay, d1		35.8	35.8	48.5	10.9					49.6	49.6	0.0
Progression Factor		0.64	0.95	0.39	1.29					1.00	1.00	1.00
Incremental Delay, d2		93.7	130.3	132.6	1.2					16.1	16.1	0.2
Delay (s)		116.5	164.3	151.5	15.3					65.7	65.7	0.2
Level of Service		F	F	F	B					E	E	A
Approach Delay (s)		130.7			63.4			0.0			47.8	
Approach LOS		F			E			A			D	

Intersection Summary			
HCM Average Control Delay	93.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.42		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	147.8%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.86		0.95	0.95	1.00			
Frt	1.00	1.00			0.97		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			6236		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			6236		1681	1681	1583			
Volume (vph)	175	1907	0	0	2026	440	889	0	910	0	0	0
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)	188	2051	0	0	2178	473	956	0	978	0	0	0
RTOR Reduction (vph)	0	0	0	0	28	0	0	0	0	0	0	0
Lane Group Flow (vph)	188	2051	0	0	2623	0	478	478	978	0	0	0
Turn Type	Prot						Perm		Free			
Protected Phases	5	2			6			8				
Permitted Phases							8		Free			
Actuated Green, G (s)	17.6	80.4			58.8		40.6	40.6	130.0			
Effective Green, g (s)	17.6	81.4			59.8		40.6	40.6	130.0			
Actuated g/C Ratio	0.14	0.63			0.46		0.31	0.31	1.00			
Clearance Time (s)	4.0	5.0			5.0		4.0	4.0				
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Lane Grp Cap (vph)	240	2216			2869		525	525	1583			
v/s Ratio Prot	0.11	c0.58			0.42							
v/s Ratio Perm							c0.28	0.28	0.62			
v/c Ratio	0.78	0.93			0.91		0.91	0.91	0.62			
Uniform Delay, d1	54.4	21.6			32.7		43.0	43.0	0.0			
Progression Factor	1.38	0.30			0.61		1.00	1.00	1.00			
Incremental Delay, d2	1.6	0.9			5.0		20.0	20.0	1.8			
Delay (s)	76.5	7.3			24.8		62.9	62.9	1.8			
Level of Service	E	A			C		E	E	A			
Approach Delay (s)		13.1			24.8			32.0			0.0	
Approach LOS		B			C			C			A	

Intersection Summary			
HCM Average Control Delay	23.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	118.0%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		1.00	0.86	1.00		1.00		0.97	1.00	0.88
Frt	1.00	1.00		1.00	1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	1.00
Satd. Flow (prot)	3433	6404		1770	6408	1583		1750		3433	1863	2787
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	1.00
Satd. Flow (perm)	3433	6404		1770	6408	1583		1750		3433	1863	2787
Volume (vph)	526	2281	10	10	1881	30	10	10	10	240	10	575
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	526	2281	10	10	1881	30	10	10	10	240	10	575
RTOR Reduction (vph)	0	0	0	0	0	14	0	10	0	0	0	497
Lane Group Flow (vph)	526	2291	0	10	1881	16	0	20	0	240	10	78
Turn Type	Prot			Prot		Perm	Split			Split		Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases						6						4
Actuated Green, G (s)	31.2	90.6		0.8	60.2	60.2		3.0		17.6	17.6	17.6
Effective Green, g (s)	31.2	91.6		0.8	61.2	61.2		4.0		17.6	17.6	17.6
Actuated g/C Ratio	0.24	0.70		0.01	0.47	0.47		0.03		0.14	0.14	0.14
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0		5.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	824	4512		11	3017	745		54		465	252	377
v/s Ratio Prot	c0.15	0.36		0.01	c0.29			c0.02		0.07	0.01	
v/s Ratio Perm						0.02						0.21
v/c Ratio	0.64	0.51		0.91	0.62	0.02		0.38		0.52	0.04	0.21
Uniform Delay, d1	44.3	8.8		64.6	25.8	18.4		61.8		52.2	48.9	50.0
Progression Factor	0.86	0.41		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.9	0.2		217.6	1.0	0.1		4.4		1.0	0.1	0.3
Delay (s)	38.9	3.8		282.1	26.8	18.4		66.1		53.2	48.9	50.3
Level of Service	D	A		F	C	B		E		D	D	D
Approach Delay (s)		10.4			28.0			66.1			51.1	
Approach LOS		B			C			E			D	

Intersection Summary			
HCM Average Control Delay	22.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
AM Peak Hour

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

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Intersection #8 Eight Mile Road/Thornton Road

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Cycle (sec):	130	Critical Vol./Cap.(X):	1.188
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	101.2
Optimal Cycle:	130	Level Of Service:	F

****

Street Name:	Thornton Road						Eight Mile Road					
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			Include			Ovl			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 0 1			1 0 2 0 1			2 0 4 0 1			2 0 3 1 0		
Volume Module:												
Base Vol:	280	500	430	420	1170	120	140	1670	630	540	1320	600
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:	280	500	430	420	1170	120	140	1670	630	540	1320	600
Added Vol:	61	49	140	0	37	34	58	148	45	68	126	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	341	549	570	420	1207	154	198	1818	675	608	1446	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:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	363	584	606	447	1284	164	211	1934	718	647	1538	638
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	363	584	606	447	1284	164	211	1934	718	647	1538	638
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:	363	584	606	447	1284	164	211	1934	718	647	1538	638
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.93	0.83	0.90	0.89	0.83	0.90	0.85	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	4.00	1.00	2.00	3.00	1.00
Final Sat.:	1769	3538	1583	1769	3538	1583	3432	6778	1583	3432	4860	1620
Capacity Analysis Module:												
Vol/Sat:	0.21	0.17	0.38	0.25	0.36	0.10	0.06	0.29	0.45	0.19	0.32	0.39
Crit Moves:	****				****			****		****		
Green/Cycle:	0.17	0.21	0.37	0.27	0.31	0.31	0.06	0.24	0.41	0.16	0.33	0.60
Volume/Cap:	1.19	0.79	1.04	0.94	1.19	0.34	0.95	1.19	1.10	1.19	0.95	0.65
Delay/Veh:	166.4	54.7	90.7	72.2	139	35.4	106.3	141	103.6	156.7	51.5	17.3
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:	166.4	54.7	90.7	72.2	139	35.4	106.3	141	103.6	156.7	51.5	17.3
LOS by Move:	F	D	F	E	F	D	F	F	F	F	D	B
HCM2kAvgQ:	24	13	32	21	42	5	7	34	40	23	26	12

****

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

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Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
AM Peak Hour

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

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Intersection #9 Eight Mile Road/Davis Street

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Cycle (sec): 130 Critical Vol./Cap.(X): 0.941
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 45.7
Optimal Cycle: 130 Level Of Service: D

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Street Name:	Davis Street						Eight Mile Road					
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			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 0 1			1 0 2 0 1			2 0 4 0 1			2 0 4 0 1		
Volume Module:												
Base Vol:	240	200	660	30	470	170	160	1740	750	520	1590	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	240	200	660	30	470	170	160	1740	750	520	1590	40
Added Vol:	20	0	0	0	0	34	50	214	24	0	140	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	260	200	660	30	470	204	210	1954	774	520	1730	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	277	213	702	32	500	217	223	2079	823	553	1840	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	277	213	702	32	500	217	223	2079	823	553	1840	43
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:	277	213	702	32	500	217	223	2079	823	553	1840	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.93	0.83	0.90	0.89	0.83	0.90	0.89	0.83
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	4.00	1.00	2.00	4.00	1.00
Final Sat.:	1769	3538	1583	1769	3538	1583	3432	6778	1583	3432	6778	1583
Capacity Analysis Module:												
Vol/Sat:	0.16	0.06	0.44	0.02	0.14	0.14	0.07	0.31	0.52	0.16	0.27	0.03
Crit Moves:			****	****					****	****		
Green/Cycle:	0.17	0.30	0.46	0.03	0.16	0.26	0.11	0.38	0.55	0.17	0.44	0.44
Volume/Cap:	0.91	0.20	0.95	0.59	0.91	0.52	0.61	0.80	0.94	0.95	0.61	0.06
Delay/Veh:	82.7	34.4	56.0	77.7	73.5	42.3	58.6	37.8	44.9	79.9	28.0	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:	82.7	34.4	56.0	77.7	73.5	42.3	58.6	37.8	44.9	79.9	28.0	20.7
LOS by Move:	F	C	E	E	E	D	E	D	D	E	C	C
HCM2kAvgQ:	14	3	31	2	14	7	5	21	33	15	13	1

****

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

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Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
AM Peak Hour

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

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Intersection #10 Eight Mile Road/Lower Sacramento Road

****

Cycle (sec):	130	Critical Vol./Cap.(X):	1.092
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	70.5
Optimal Cycle:	130	Level Of Service:	E

****

Street Name:	Lower Sacramento Road						Eight Mile Road					
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			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 2 0 1			2 0 2 0 1			2 0 4 0 1			2 0 3 1 0		
Volume Module:												
Base Vol:	140	430	590	180	670	90	200	2490	320	870	1830	110
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:	140	430	590	180	670	90	200	2490	320	870	1830	110
Added Vol:	11	33	1	0	23	37	58	138	18	0	92	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	151	463	591	180	693	127	258	2628	338	870	1922	110
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:	164	503	642	196	753	138	280	2857	367	946	2089	120
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	164	503	642	196	753	138	280	2857	367	946	2089	120
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:	164	503	642	196	753	138	280	2857	367	946	2089	120
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.93	0.83	0.90	0.93	0.83	0.90	0.89	0.83	0.90	0.88	0.88
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	4.00	1.00	2.00	3.78	0.22
Final Sat.:	3432	3538	1583	3432	3538	1583	3432	6778	1583	3432	6359	364
Capacity Analysis Module:												
Vol/Sat:	0.05	0.14	0.41	0.06	0.21	0.09	0.08	0.42	0.23	0.28	0.33	0.33
Crit Moves:	****				****			****		****		
Green/Cycle:	0.04	0.17	0.42	0.07	0.19	0.32	0.13	0.39	0.39	0.25	0.51	0.51
Volume/Cap:	1.09	0.83	0.96	0.83	1.09	0.27	0.64	1.09	0.60	1.09	0.64	0.64
Delay/Veh:	162.4	61.9	61.7	81.8	114	33.0	57.2	88.4	33.6	107.5	23.6	23.6
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:	162.4	61.9	61.7	81.8	114	33.0	57.2	88.4	33.6	107.5	23.6	23.6
LOS by Move:	F	E	E	F	F	C	E	F	C	F	C	C
HCM2kAvgQ:	7	12	30	6	24	4	6	43	11	28	14	14

****

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

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Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
AM Peak Hour

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

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Intersection #11 Eight Mile Road/West Lane

****

Cycle (sec): 130 Critical Vol./Cap.(X): 1.521
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 147.2
Optimal Cycle: 130 Level Of Service: F

****

Street Name:	West Lane									Eight Mile Road					
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			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0	2 0	1	2 0	2 0	1	2 0	3 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	480	370	160	110	900	550	320	2470	1150	580	1730	40
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:	480	370	160	110	900	550	320	2470	1150	580	1730	40
Added Vol:	1	0	0	0	0	24	34	104	1	0	67	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	481	370	160	110	900	574	354	2574	1151	580	1797	40
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:	501	385	167	115	938	598	369	2681	1199	604	1872	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	501	385	167	115	938	598	369	2681	1199	604	1872	42
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:	501	385	167	115	938	598	369	2681	1199	604	1872	42
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.93	0.83	0.90	0.93	0.83	0.90	0.85	0.85	0.90	0.89	0.83
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.:	3432	3538	1583	3432	3538	1583	3432	4849	1616	3432	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.15	0.11	0.11	0.03	0.26	0.38	0.11	0.55	0.74	0.18	0.37	0.03
Crit Moves:	****					****			****	****		
Green/Cycle:	0.10	0.21	0.33	0.06	0.18	0.31	0.14	0.49	0.49	0.12	0.47	0.47
Volume/Cap:	1.52	0.52	0.32	0.52	1.49	1.20	0.79	1.13	1.52	1.52	0.79	0.06
Delay/Veh:	308.4	46.2	33.5	61.1	283	154.0	63.1	97.8	270.0	304.6	31.1	19.0
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:	308.4	46.2	33.5	61.1	283	154.0	63.1	97.8	270.0	304.6	31.1	19.0
LOS by Move:	F	D	C	E	F	F	E	F	F	F	C	B
HCM2kAvgQ:	23	7	4	3	41	39	9	56	107	27	22	1

****

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

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Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
AM Peak Hour

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

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Intersection #12 Eight Mile Road/SR 99 Frontage

****

Cycle (sec):	130	Critical Vol./Cap.(X):	1.177
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	112.6
Optimal Cycle:	130	Level Of Service:	F

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1 0 1			1 0 1 0 1			1 0 3 1 0			1 0 3 1 0		
Volume Module:												
Base Vol:	290	20	290	30	30	10	10	2710	830	450	2010	20
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:	290	20	290	30	30	10	10	2710	830	450	2010	20
Added Vol:	0	0	0	0	0	0	0	104	0	0	67	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	290	20	290	30	30	10	10	2814	830	450	2077	20
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:	302	21	302	31	31	10	10	2931	865	469	2164	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	302	21	302	31	31	10	10	2931	865	469	2164	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	302	21	302	31	31	10	10	2931	865	469	2164	21
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.98	0.83	0.93	0.86	0.86	0.93	0.89	0.89
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.09	0.91	1.00	3.96	0.04
Final Sat.:	1769	1862	1583	1769	1862	1583	1769	5056	1491	1769	6706	65
Capacity Analysis Module:												
Vol/Sat:	0.17	0.01	0.19	0.02	0.02	0.01	0.01	0.58	0.58	0.26	0.32	0.32
Crit Moves:	****				****			****		****		
Green/Cycle:	0.13	0.15	0.36	0.06	0.08	0.08	0.06	0.46	0.46	0.21	0.61	0.61
Volume/Cap:	1.27	0.07	0.53	0.29	0.22	0.09	0.10	1.27	1.27	1.27	0.53	0.53
Delay/Veh:	206.3	47.5	33.9	59.9	57.1	56.1	58.5	159	159.3	192.4	14.9	14.9
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:	206.3	47.5	33.9	59.9	57.1	56.1	58.5	159	159.3	192.4	14.9	14.9
LOS by Move:	F	D	C	E	E	E	E	F	F	F	B	B
HCM2kAvgQ:	22	1	10	1	1	0	0	69	69	33	14	14

****

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

Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
AM Peak Hour

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

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Intersection #13 Mokelumne Circle/Scott Creek Drive

****

Cycle (sec):	65	Critical Vol./Cap.(X):	0.351
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	17.8
Optimal Cycle:	36	Level Of Service:	B

****

Street Name:	Mokelumne Circle						Scott Creek Drive					
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:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 0 1 0			1 0 0 1 0			1 0 0 1 0			1 0 0 1 0		
Volume Module:												
Base Vol:	10	90	10	70	30	20	180	60	10	10	10	20
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:	10	90	10	70	30	20	180	60	10	10	10	20
Added Vol:	2	53	0	19	20	62	65	41	1	0	37	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	143	10	89	50	82	245	101	11	10	47	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:	13	155	11	97	54	89	266	110	12	11	51	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	155	11	97	54	89	266	110	12	11	51	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
Final Vol.:	13	155	11	97	54	89	266	110	12	11	51	29
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.65	0.97	0.97	0.61	0.89	0.89	0.93	0.97	0.97	0.93	0.93	0.93
Lanes:	1.00	0.93	0.07	1.00	0.38	0.62	1.00	0.90	0.10	1.00	0.64	0.36
Final Sat.:	1229	1723	120	1158	640	1049	1769	1654	180	1769	1118	642
Capacity Analysis Module:												
Vol/Sat:	0.01	0.09	0.09	0.08	0.08	0.08	0.15	0.07	0.07	0.01	0.05	0.05
Crit Moves:		****					****				****	
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.41	0.41	0.41	0.16	0.15	0.15
Volume/Cap:	0.04	0.36	0.36	0.34	0.34	0.34	0.36	0.16	0.16	0.04	0.30	0.30
Delay/Veh:	18.6	20.7	20.7	20.8	20.6	20.6	13.5	12.4	12.4	23.0	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:	18.6	20.7	20.7	20.8	20.6	20.6	13.5	12.4	12.4	23.0	25.0	25.0
LOS by Move:	B	C	C	C	C	C	B	B	B	C	C	C
HCM2kAvgQ:	0	3	3	2	2	2	3	1	1	0	2	2

****

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

Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
AM Peak Hour

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

Intersection #14 Trinity Parkway/Consumnes Drive

Cycle (sec): 130 Critical Vol./Cap.(X): 1.001
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 81.3
Optimal Cycle: 130 Level Of Service: F

Street Name:	Trinity Parkway						Consumnes Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1	1 0		1 0 1	1 0		1 0 0	1 0		1 0 1	0 1	
Volume Module:												
Base Vol:	110	280	0	60	150	240	90	0	670	0	0	50
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:	110	280	0	60	150	240	90	0	670	0	0	50
Added Vol:	30	484	64	68	385	10	32	12	79	33	11	12
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	764	64	128	535	250	122	12	749	33	11	62
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:	152	830	70	139	582	272	133	13	814	36	12	67
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	152	830	70	139	582	272	133	13	814	36	12	67
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	152	830	70	139	582	272	133	13	814	36	12	67
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.92	0.92	0.93	0.89	0.89	0.93	0.83	0.83	0.93	0.98	0.83
Lanes:	1.00	1.85	0.15	1.00	1.36	0.64	1.00	0.02	0.98	1.00	1.00	1.00
Final Sat.:	1769	3225	270	1769	2295	1073	1769	25	1561	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.09	0.26	0.26	0.08	0.25	0.25	0.07	0.52	0.52	0.02	0.01	0.04
Crit Moves:		****		****				****		****		
Green/Cycle:	0.08	0.25	0.25	0.08	0.25	0.25	0.27	0.51	0.51	0.03	0.28	0.35
Volume/Cap:	1.02	1.01	1.01	1.01	1.02	1.02	0.28	1.01	1.01	0.66	0.02	0.12
Delay/Veh:	139.6	82.1	82.1	140.4	86.1	86.1	37.9	66.4	66.4	88.3	34.3	28.5
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:	139.6	82.1	82.1	140.4	86.1	86.1	37.9	66.4	66.4	88.3	34.3	28.5
LOS by Move:	F	F	F	F	F	F	D	E	E	F	C	C
HCM2kAvgQ:	10	25	25	9	24	24	4	41	41	3	0	1

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

Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
AM Peak Hour

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

Intersection #15 Trinity Parkway/McAuliffe Road

Cycle (sec):	65	Critical Vol./Cap.(X):	0.505
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	11.1
Optimal Cycle:	39	Level Of Service:	B

Street Name:	Trinity Parkway						McAuliffe Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Permitted			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	0 0 1	1 0		1 0 2	0 0		0 0 0	0 0		1 0 0	0 1	
Volume Module:												
Base Vol:	0	360	40	30	790	0	0	0	0	90	0	80
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	360	40	30	790	0	0	0	0	90	0	80
Added Vol:	0	622	65	88	369	0	0	0	0	22	0	86
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	982	105	118	1159	0	0	0	0	112	0	166
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:	0	1067	114	128	1260	0	0	0	0	122	0	180
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1067	114	128	1260	0	0	0	0	122	0	180
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1067	114	128	1260	0	0	0	0	122	0	180
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.92	0.92	0.93	0.93	1.00	1.00	1.00	1.00	0.75	1.00	0.83
Lanes:	0.00	1.81	0.19	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3148	337	1769	3538	0	0	0	0	1432	0	1583
Capacity Analysis Module:												
Vol/Sat:	0.00	0.34	0.34	0.07	0.36	0.00	0.00	0.00	0.00	0.09	0.00	0.11
Crit Moves:		****		****							****	
Green/Cycle:	0.00	0.55	0.55	0.12	0.66	0.00	0.00	0.00	0.00	0.15	0.00	0.27
Volume/Cap:	0.00	0.62	0.62	0.62	0.54	0.00	0.00	0.00	0.00	0.55	0.00	0.42
Delay/Veh:	0.0	10.8	10.8	33.1	6.0	0.0	0.0	0.0	0.0	28.5	0.0	20.2
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:	0.0	10.8	10.8	33.1	6.0	0.0	0.0	0.0	0.0	28.5	0.0	20.2
LOS by Move:	A	B	B	C	A	A	A	A	A	C	A	C
HCM2kAvgQ:	0	7	7	4	4	0	0	0	0	3	0	3

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

Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
AM Peak Hour

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

Intersection #16 Thornton Road/A.G. Spanos Boulevard (South)

Cycle (sec):	110	Critical Vol./Cap.(X):	0.946
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	33.0
Optimal Cycle:	130	Level Of Service:	C

Street Name:	Thornton Road						A.G. Spanos Boulevard (South)					
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			Permitted			Permitted		
Rights:	Include			Include			Ovl			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 1 0			1 0 2 1 0			0 1 0 0 1			0 1 0 0 1		
Volume Module:												
Base Vol:	200	1000	60	20	2410	50	60	10	380	150	10	30
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:	200	1000	60	20	2410	50	60	10	380	150	10	30
Added Vol:	55	145	9	0	82	4	4	0	52	3	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	255	1145	69	20	2492	54	64	10	432	153	10	30
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:	277	1245	75	22	2709	59	70	11	470	166	11	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	277	1245	75	22	2709	59	70	11	470	166	11	33
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	277	1245	75	22	2709	59	70	11	470	166	11	33
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.88	0.88	0.93	0.89	0.89	0.66	0.66	0.83	0.66	0.66	0.83
Lanes:	1.00	2.83	0.17	1.00	2.94	0.06	0.86	0.14	1.00	0.94	0.06	1.00
Final Sat.:	1769	4751	286	1769	4961	107	1077	168	1583	1174	77	1583
Capacity Analysis Module:												
Vol/Sat:	0.16	0.26	0.26	0.01	0.55	0.55	0.06	0.06	0.30	0.14	0.14	0.02
Crit Moves:	****				****				****			
Green/Cycle:	0.17	0.65	0.65	0.09	0.58	0.58	0.15	0.15	0.31	0.15	0.15	0.15
Volume/Cap:	0.95	0.40	0.40	0.14	0.95	0.95	0.44	0.44	0.95	0.96	0.96	0.14
Delay/Veh:	83.6	9.1	9.1	46.4	29.2	29.2	44.3	44.3	64.1	99.9	99.9	41.0
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:	83.6	9.1	9.1	46.4	29.2	29.2	44.3	44.3	64.1	99.9	99.9	41.0
LOS by Move:	F	A	A	D	C	C	D	D	E	F	F	D
HCM2kAvgQ:	13	4	4	1	34	34	3	3	20	10	10	1

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

Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
AM Peak Hour

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

Intersection #17 Thornton Road/Wagner Heights

Cycle (sec):	110	Critical Vol./Cap.(X):	0.872
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	34.8
Optimal Cycle:	111	Level Of Service:	C

Street Name:	Thornton Road						Wagner Heights					
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:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 1 0			1 0 2 1 0			1 0 1 0 1			1 0 1 0 1		
Volume Module:												
Base Vol:	90	570	70	380	2180	120	100	180	180	120	180	250
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:	90	570	70	380	2180	120	100	180	180	120	180	250
Added Vol:	22	107	0	0	159	0	0	0	59	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	112	677	70	380	2339	120	100	180	239	120	180	250
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:	117	705	73	396	2436	125	104	188	249	125	188	260
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	117	705	73	396	2436	125	104	188	249	125	188	260
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	117	705	73	396	2436	125	104	188	249	125	188	260
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.88	0.88	0.93	0.89	0.89	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	2.72	0.28	1.00	2.85	0.15	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1769	4542	470	1769	4801	246	1769	1862	1583	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.07	0.16	0.16	0.22	0.51	0.51	0.06	0.10	0.16	0.07	0.10	0.16
Crit Moves:	****				****			****		****		
Green/Cycle:	0.08	0.27	0.27	0.39	0.58	0.58	0.07	0.12	0.19	0.08	0.12	0.51
Volume/Cap:	0.87	0.58	0.58	0.58	0.87	0.87	0.81	0.87	0.82	0.87	0.81	0.32
Delay/Veh:	92.3	35.4	35.4	27.7	22.6	22.6	81.2	77.6	59.1	90.0	66.1	15.9
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:	92.3	35.4	35.4	27.7	22.6	22.6	81.2	77.6	59.1	90.0	66.1	15.9
LOS by Move:	F	D	D	C	C	C	F	E	E	F	E	B
HCM2kAvgQ:	6	8	8	10	25	25	6	9	10	7	8	4

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3539	1583	3433	3539	1583
Volume (vph)	325	1509	309	193	475	409	106	353	194	811	262	127
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)	353	1640	336	210	516	445	115	384	211	882	285	138
RTOR Reduction (vph)	0	0	111	0	0	312	0	0	132	0	0	97
Lane Group Flow (vph)	353	1640	225	210	516	133	115	384	79	882	285	41
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	29.0	55.8	55.8	12.0	38.8	38.8	7.8	19.2	19.2	27.0	38.4	38.4
Effective Green, g (s)	29.0	55.8	55.8	12.0	38.8	38.8	7.8	19.2	19.2	27.0	38.4	38.4
Actuated g/C Ratio	0.22	0.43	0.43	0.09	0.30	0.30	0.06	0.15	0.15	0.21	0.30	0.30
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	395	1519	679	163	1056	472	206	523	234	713	1045	468
v/s Ratio Prot	0.20	c0.46		c0.12	0.15		0.03	c0.11		c0.26	0.08	
v/s Ratio Perm			0.14			0.08			0.05			0.03
v/c Ratio	0.89	1.08	0.33	1.29	0.49	0.28	0.56	0.73	0.34	1.24	0.27	0.09
Uniform Delay, d1	49.0	37.1	24.7	59.0	37.5	34.9	59.4	53.0	49.7	51.5	35.1	33.1
Progression Factor	1.00	1.00	1.00	0.89	0.81	0.92	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.1	47.9	1.3	164.8	1.5	1.3	3.3	5.3	0.9	118.5	0.1	0.1
Delay (s)	74.1	85.0	26.0	217.5	31.8	33.6	62.7	58.3	50.6	170.0	35.2	33.2
Level of Service	E	F	C	F	C	C	E	E	D	F	D	C
Approach Delay (s)		74.8			65.8			56.7			126.1	
Approach LOS		E			E			E			F	

Intersection Summary			
HCM Average Control Delay	82.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	98.6%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.86		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5037		1770	3523		1770	1595		1770	1815	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5037		1770	3523		1770	1595		1770	1815	
Volume (vph)	10	2363	161	120	983	30	84	10	230	60	50	10
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)	11	2568	175	130	1068	33	91	11	250	65	54	11
RTOR Reduction (vph)	0	4	0	0	1	0	0	227	0	0	6	0
Lane Group Flow (vph)	11	2739	0	130	1100	0	91	34	0	65	59	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	5.8	79.5		14.0	87.7		10.7	12.1		8.4	9.8	
Effective Green, g (s)	5.8	79.5		14.0	87.7		10.7	12.1		8.4	9.8	
Actuated g/C Ratio	0.04	0.61		0.11	0.67		0.08	0.09		0.06	0.08	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	79	3080		191	2377		146	148		114	137	
v/s Ratio Prot	0.01	c0.54		c0.07	0.31		c0.05	0.02		0.04	c0.03	
v/s Ratio Perm												
v/c Ratio	0.14	0.89		0.68	0.46		0.62	0.23		0.57	0.43	
Uniform Delay, d1	59.7	21.5		55.8	10.0		57.7	54.6		59.0	57.4	
Progression Factor	1.27	0.27		1.32	0.38		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.4		9.0	0.6		8.0	0.8		6.7	2.1	
Delay (s)	75.6	6.3		82.9	4.5		65.7	55.4		65.8	59.6	
Level of Service	E	A		F	A		E	E		E	E	
Approach Delay (s)		6.6			12.7			58.1			62.7	
Approach LOS		A			B			E			E	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.3%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	
Lane Util. Factor		0.91		1.00	0.95					1.00	1.00	
Frt		0.90		1.00	1.00					1.00	0.85	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		4563		1770	3539					1770	1583	
Flt Permitted		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (perm)		4563		1770	3539					1770	1583	
Volume (vph)	0	837	1817	990	970	0	0	0	0	160	0	163
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	910	1975	1076	1054	0	0	0	0	174	0	177
RTOR Reduction (vph)	0	205	0	0	0	0	0	0	0	0	154	0
Lane Group Flow (vph)	0	2680	0	1076	1054	0	0	0	0	174	23	0
Turn Type				Prot						Split		
Protected Phases		2		1	6					4	4	
Permitted Phases												
Actuated Green, G (s)		53.9		47.0	104.9					17.1	17.1	
Effective Green, g (s)		53.9		47.0	104.9					17.1	17.1	
Actuated g/C Ratio		0.41		0.36	0.81					0.13	0.13	
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1892		640	2856					233	208	
v/s Ratio Prot		c0.63		c0.61	0.30					0.10	c0.11	
v/s Ratio Perm												
v/c Ratio		2.26dr		1.68	0.37					0.75	0.11	
Uniform Delay, d1		38.0		41.5	3.5					54.4	49.8	
Progression Factor		0.42		0.99	0.92					1.00	1.00	
Incremental Delay, d2		189.1		311.9	0.3					12.3	0.2	
Delay (s)		205.1		353.0	3.5					66.6	50.0	
Level of Service		F		F	A					E	D	
Approach Delay (s)		205.1			180.0			0.0			58.2	
Approach LOS		F			F			A			E	

Intersection Summary			
HCM Average Control Delay	185.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.49		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	117.3%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.91		0.95	0.95	1.00			
Frt	1.00	1.00			1.00		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			5068		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			5068		1681	1681	1583			
Volume (vph)	230	766	0	0	1278	30	681	0	400	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	250	833	0	0	1389	33	740	0	435	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	143	0	0	0
Lane Group Flow (vph)	250	833	0	0	1420	0	370	370	292	0	0	0
Turn Type	Prot						Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases									8			
Actuated Green, G (s)	21.2	88.2			63.0		33.8	33.8	33.8			
Effective Green, g (s)	21.2	88.2			63.0		33.8	33.8	33.8			
Actuated g/C Ratio	0.16	0.68			0.48		0.26	0.26	0.26			
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Lane Grp Cap (vph)	289	2401			2456		437	437	412			
v/s Ratio Prot	c0.14	0.24			c0.28		c0.22	0.22				
v/s Ratio Perm									0.18			
v/c Ratio	0.87	0.35			0.58		0.85	0.85	0.71			
Uniform Delay, d1	53.0	8.8			24.0		45.6	45.6	43.6			
Progression Factor	0.63	0.22			1.00		1.00	1.00	1.00			
Incremental Delay, d2	8.7	0.1			1.0		14.1	14.1	5.5			
Delay (s)	42.1	2.1			25.0		59.7	59.7	49.2			
Level of Service	D	A			C		E	E	D			
Approach Delay (s)		11.3			25.0			55.8			0.0	
Approach LOS		B			C			E			A	

Intersection Summary			
HCM Average Control Delay	30.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.3%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	3433	1863	2787	1770	3539	1583	3433	3532	
Flt Permitted	0.72	1.00	1.00	0.95	1.00	1.00	0.47	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1343	1863	1583	3433	1863	2787	870	3539	1583	3433	3532	
Volume (vph)	16	134	11	438	51	736	4	340	909	1444	457	6
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)	17	146	12	476	55	800	4	370	988	1570	497	7
RTOR Reduction (vph)	0	0	10	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	17	146	2	476	55	800	4	370	988	1570	503	0
Turn Type	Perm		Perm	Prot		Free	Perm		Free	Prot		
Protected Phases		2		1	6			4		3	8	
Permitted Phases	2		2			Free	4		Free			
Actuated Green, G (s)	21.9	21.9	21.9	17.0	41.9	130.0	18.1	18.1	130.0	56.0	78.1	
Effective Green, g (s)	21.9	21.9	21.9	17.0	42.9	130.0	19.1	19.1	130.0	56.0	79.1	
Actuated g/C Ratio	0.17	0.17	0.17	0.13	0.33	1.00	0.15	0.15	1.00	0.43	0.61	
Clearance Time (s)	4.0	4.0	4.0	4.0	5.0		5.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	226	314	267	449	615	2787	128	520	1583	1479	2149	
v/s Ratio Prot		0.08		c0.14	0.03			0.10		c0.46	0.14	
v/s Ratio Perm	0.01		0.01			0.29	0.00		0.62			
v/c Ratio	0.08	0.46	0.01	1.06	0.09	0.29	0.03	0.71	0.62	1.06	0.23	
Uniform Delay, d1	45.5	48.8	45.0	56.5	30.1	0.0	47.5	52.8	0.0	37.0	11.6	
Progression Factor	1.00	1.00	1.00	1.20	1.80	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	4.9	0.1	56.9	0.3	0.2	0.1	4.6	1.9	41.6	0.1	
Delay (s)	46.2	53.6	45.1	124.9	54.5	0.2	47.6	57.4	1.9	78.6	11.7	
Level of Service	D	D	D	F	D	A	D	E	A	E	B	
Approach Delay (s)		52.3			47.0			17.1			62.4	
Approach LOS		D			D			B			E	

Intersection Summary			
HCM Average Control Delay	45.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.5%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.90	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5082		1770	5085	1583	1770	1589	1504	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5082		1770	5085	1583	1770	1589	1504	1770	1863	1583
Volume (vph)	10	2467	10	160	1205	314	10	30	150	581	50	10
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)	11	2682	11	174	1310	341	11	33	163	632	54	11
RTOR Reduction (vph)	0	0	0	0	0	157	0	63	84	0	0	8
Lane Group Flow (vph)	11	2693	0	174	1310	184	11	40	9	632	54	3
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	1.6	54.5		13.0	65.9	65.9	11.5	11.5	11.5	32.0	32.0	32.0
Effective Green, g (s)	1.6	55.5		13.0	66.9	66.9	12.5	12.5	12.5	33.0	33.0	33.0
Actuated g/C Ratio	0.01	0.43		0.10	0.51	0.51	0.10	0.10	0.10	0.25	0.25	0.25
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
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
Lane Grp Cap (vph)	22	2170		177	2617	815	170	153	145	449	473	402
v/s Ratio Prot	0.01	c0.53		c0.10	0.26		0.01	c0.06		c0.36	0.03	
v/s Ratio Perm						0.22			0.06			0.01
v/c Ratio	0.50	1.24		0.98	0.50	0.23	0.06	0.26	0.06	1.41	0.11	0.01
Uniform Delay, d1	63.8	37.2		58.4	20.6	17.3	53.4	54.5	53.4	48.5	37.3	36.3
Progression Factor	1.25	0.56		1.02	0.81	1.18	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.1	110.4		59.5	0.6	0.6	0.2	0.9	0.2	196.3	0.1	0.0
Delay (s)	87.6	131.1		119.3	17.4	21.1	53.6	55.4	53.6	244.8	37.4	36.3
Level of Service	F	F		F	B	C	D	E	D	F	D	D
Approach Delay (s)		131.0			27.8			54.5			225.5	
Approach LOS		F			C			D			F	

Intersection Summary			
HCM Average Control Delay	105.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	105.6%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.91					0.95	0.95	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3539	1583	3433	5085					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3539	1583	3433	5085					1681	1681	1583
Volume (vph)	0	1588	1611	1580	1524	0	0	0	0	742	0	154
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)	0	1708	1732	1699	1639	0	0	0	0	798	0	166
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	45
Lane Group Flow (vph)	0	1708	1732	1699	1639	0	0	0	0	399	399	121
Turn Type			Free	Prot						Perm		Perm
Protected Phases		2		1	6						4	
Permitted Phases			Free							4		4
Actuated Green, G (s)		46.0	130.0	45.0	95.0					25.0	25.0	25.0
Effective Green, g (s)		47.0	130.0	45.0	96.0					26.0	26.0	26.0
Actuated g/C Ratio		0.36	1.00	0.35	0.74					0.20	0.20	0.20
Clearance Time (s)		5.0		4.0	5.0					5.0	5.0	5.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		1279	1583	1188	3755					336	336	317
v/s Ratio Prot		c0.48		c0.49	0.32							
v/s Ratio Perm			c1.09							0.24	0.24	0.08
v/c Ratio		1.34	1.09	1.43	0.44					1.19	1.19	0.38
Uniform Delay, d1		41.5	65.0	42.5	6.6					52.0	52.0	45.0
Progression Factor		0.53	1.00	1.32	1.42					1.00	1.00	1.00
Incremental Delay, d2		151.4	43.5	196.1	0.2					110.3	110.3	0.8
Delay (s)		173.4	108.5	252.4	9.5					162.3	162.3	45.8
Level of Service		F	F	F	A					F	F	D
Approach Delay (s)		140.7			133.1			0.0			142.3	
Approach LOS		F			F			A			F	

Intersection Summary			
HCM Average Control Delay	137.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	115.0%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.81	1.00	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			7544	1583	1681	1681	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			7544	1583	1681	1681	2787			
Volume (vph)	262	2068	0	0	2224	431	880	0	680	0	0	0
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)	282	2224	0	0	2391	463	946	0	731	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	75	0	0	3	0	0	0
Lane Group Flow (vph)	282	2224	0	0	2391	388	473	473	728	0	0	0
Turn Type	Prot					Perm	Perm		custom			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		1 8			
Actuated Green, G (s)	26.7	70.2			47.5	47.5	41.8	41.8	49.8			
Effective Green, g (s)	26.7	71.2			48.5	48.5	42.8	42.8	50.8			
Actuated g/C Ratio	0.21	0.55			0.37	0.37	0.33	0.33	0.39			
Clearance Time (s)	4.0	5.0			5.0	5.0	5.0	5.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	364	1938			2814	591	553	553	1089			
v/s Ratio Prot	0.16	c0.63			c0.32							
v/s Ratio Perm						0.25	c0.28	0.28	0.26			
v/c Ratio	0.77	1.15			0.85	0.66	0.86	0.86	0.67			
Uniform Delay, d1	48.8	29.4			37.4	33.8	40.7	40.7	32.7			
Progression Factor	1.47	0.83			0.54	0.37	1.00	1.00	1.00			
Incremental Delay, d2	1.0	67.1			1.6	2.6	12.3	12.3	1.6			
Delay (s)	72.7	91.3			21.9	15.1	53.0	53.0	34.2			
Level of Service	E	F			C	B	D	D	C			
Approach Delay (s)		89.2			20.8			44.8			0.0	
Approach LOS		F			C			D			A	

Intersection Summary			
HCM Average Control Delay	50.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	115.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
AM Peak Hour

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

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Intersection #26 Hammer Lane/Thornton Road

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Cycle (sec): 130 Critical Vol./Cap.(X): 0.789
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 36.0
Optimal Cycle: 92 Level Of Service: D

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Street Name:	Thornton Road									Hammer Lane								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected					Protected					Protected					Protected				
Rights:	Include					Include					Include					Ovl				
Min. Green:	4	10		0		4	10		0		4	10		0		4	10		0	
Lanes:	2	0	2	1	0	2	0	2	1	0	1	0	3	0	1	1	0	3	0	1
Volume Module:																				
Base Vol:	70	230		30		710	1210		80		50	1200		220		60	930		330	
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:	70	230		30		710	1210		80		50	1200		220		60	930		330	
Added Vol:	79	30		0		42	35		10		28	366		167		0	241		19	
PasserByVol:	0	0		0		0	0		0		0	0		0		0	0		0	
Initial Fut:	149	260		30		752	1245		90		78	1566		387		60	1171		349	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
PHF Adj:	0.94	0.94		0.94		0.94	0.94		0.94		0.94	0.94		0.94		0.94	0.94		0.94	
PHF Volume:	159	277		32		800	1324		96		83	1666		412		64	1246		371	
Reduct Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
Reduced Vol:	159	277		32		800	1324		96		83	1666		412		64	1246		371	
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:	159	277		32		800	1324		96		83	1666		412		64	1246		371	
Saturation Flow Module:																				
Sat/Lane:	1900	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900	
Adjustment:	0.90	0.88		0.88		0.90	0.88		0.88		0.93	0.89		0.83		0.93	0.89		0.83	
Lanes:	2.00	2.69		0.31		2.00	2.80		0.20		1.00	3.00		1.00		1.00	3.00		1.00	
Final Sat.:	3432	4489		518		3432	4693		339		1769	5083		1583		1769	5083		1583	
Capacity Analysis Module:																				
Vol/Sat:	0.05	0.06		0.06		0.23	0.28		0.28		0.05	0.33		0.26		0.04	0.25		0.23	
Crit Moves:	****						****					****				****				
Green/Cycle:	0.06	0.10		0.10		0.31	0.36		0.36		0.07	0.42		0.42		0.05	0.39		0.70	
Volume/Cap:	0.79	0.60		0.60		0.75	0.79		0.79		0.63	0.79		0.63		0.79	0.63		0.34	
Delay/Veh:	79.1	57.6		57.6		42.9	39.8		39.8		68.2	31.1		28.3		100.7	30.1		2.1	
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:	79.1	57.6		57.6		42.9	39.8		39.8		68.2	31.1		28.3		100.7	30.1		2.1	
LOS by Move:	E	E		E		D	D		D		E	C		C		F	C		A	
HCM2kAvgQ:	5	5		5		15	19		19		4	21		12		4	13		2	

****

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

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Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
AM Peak Hour

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

****

Intersection #27 Thornton Road/Whistler Way

****

Cycle (sec):	95	Critical Vol./Cap.(X):	0.829
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	28.5
Optimal Cycle:	91	Level Of Service:	C

****

Street Name:	Thornton Road						Whistler Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 3 1 0			1 0 2 1 0			1 0 1 0 1			1 0 0 1 0		
Volume Module:												
Base Vol:	40	970	80	100	2230	30	40	50	40	210	70	100
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:	40	970	80	100	2230	30	40	50	40	210	70	100
Added Vol:	0	149	0	10	86	14	19	0	0	0	0	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	40	1119	80	110	2316	44	59	50	40	210	70	104
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	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:	43	1216	87	120	2517	48	64	54	43	228	76	113
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	1216	87	120	2517	48	64	54	43	228	76	113
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:	43	1216	87	120	2517	48	64	54	43	228	76	113
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.88	0.88	0.93	0.89	0.89	0.93	0.98	0.83	0.93	0.89	0.89
Lanes:	1.00	3.73	0.27	1.00	2.94	0.06	1.00	1.00	1.00	1.00	0.40	0.60
Final Sat.:	1769	6262	448	1769	4974	94	1769	1862	1583	1769	682	1013
Capacity Analysis Module:												
Vol/Sat:	0.02	0.19	0.19	0.07	0.51	0.51	0.04	0.03	0.03	0.13	0.11	0.11
Crit Moves:	****				****			****		****		
Green/Cycle:	0.04	0.44	0.44	0.15	0.55	0.55	0.07	0.11	0.11	0.14	0.18	0.18
Volume/Cap:	0.58	0.45	0.45	0.45	0.93	0.93	0.54	0.28	0.26	0.93	0.63	0.63
Delay/Veh:	56.0	18.9	18.9	37.8	26.2	26.2	48.0	39.9	39.9	78.8	40.4	40.4
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:	56.0	18.9	18.9	37.8	26.2	26.2	48.0	39.9	39.9	78.8	40.4	40.4
LOS by Move:	E	B	B	D	C	C	D	D	D	E	D	D
HCM2kAvgQ:	2	6	6	4	28	28	3	2	1	10	6	6

****

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

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Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
PM Peak Hour

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

****

Intersection #1 Eight Mile Road/Westlake Drive

****

Cycle (sec): 130 Critical Vol./Cap.(X): 0.606
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 27.6
Optimal Cycle: 61 Level Of Service: C

****

Street Name:	Westlake Drive						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 0 1 1			2 0 0 1 0			1 0 2 1 0			1 0 2 1 0		
Volume Module:												
Base Vol:	10	10	150	10	10	10	60	950	80	330	1120	70
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:	10	10	150	10	10	10	60	950	80	330	1120	70
Added Vol:	0	0	33	48	0	0	0	0	0	35	0	44
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	10	183	58	10	10	60	950	80	365	1120	114
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:	11	11	199	63	11	11	65	1033	87	397	1217	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	11	199	63	11	11	65	1033	87	397	1217	124
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:	11	11	199	63	11	11	65	1033	87	397	1217	124
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.84	0.84	0.90	0.91	0.91	0.93	0.88	0.88	0.93	0.88	0.88
Lanes:	1.00	0.10	1.90	2.00	0.50	0.50	1.00	2.77	0.23	1.00	2.72	0.28
Final Sat.:	1769	166	3030	3432	861	861	1769	4632	390	1769	4549	463
Capacity Analysis Module:												
Vol/Sat:	0.01	0.07	0.07	0.02	0.01	0.01	0.04	0.22	0.22	0.22	0.27	0.27
Crit Moves:		****		****				****		****		
Green/Cycle:	0.04	0.11	0.11	0.03	0.10	0.10	0.09	0.37	0.37	0.37	0.65	0.65
Volume/Cap:	0.15	0.61	0.61	0.60	0.13	0.13	0.41	0.61	0.61	0.61	0.41	0.41
Delay/Veh:	61.3	58.4	58.4	71.2	53.7	53.7	57.7	34.0	34.0	34.9	11.1	11.1
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:	61.3	58.4	58.4	71.2	53.7	53.7	57.7	34.0	34.0	34.9	11.1	11.1
LOS by Move:	E	E	E	E	D	D	E	C	C	C	B	B
HCM2kAvgQ:	1	5	5	2	1	1	3	12	12	12	4	4

****

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

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Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
PM Peak Hour

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

****

Intersection #2 Eight Mile Road/Regatta Drive

****

Cycle (sec): 130 Critical Vol./Cap.(X): 0.660
Loss Time (sec): 12 (Y+R=5.0 sec) Average Delay (sec/veh): 29.8
Optimal Cycle: 57 Level Of Service: C

****

Street Name:	Eight Mile Road						Regatta Drive					
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:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 0 0 2			0 0 0 0 0			0 0 2 1 0			2 0 4 0 0		
Volume Module:												
Base Vol:	70	0	300	0	0	0	0	1090	110	360	1510	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:	70	0	300	0	0	0	0	1090	110	360	1510	0
Added Vol:	6	0	106	0	0	0	0	72	10	154	72	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	76	0	406	0	0	0	0	1162	120	514	1582	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:	83	0	441	0	0	0	0	1263	130	559	1720	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	83	0	441	0	0	0	0	1263	130	559	1720	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:	83	0	441	0	0	0	0	1263	130	559	1720	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.60	1.00	0.73	1.00	1.00	1.00	1.00	0.88	0.88	0.90	0.89	1.00
Lanes:	2.00	0.00	2.00	0.00	0.00	0.00	0.00	2.72	0.28	2.00	4.00	0.00
Final Sat.:	2265	0	2786	0	0	0	0	4543	469	3432	6778	0
Capacity Analysis Module:												
Vol/Sat:	0.04	0.00	0.16	0.00	0.00	0.00	0.00	0.28	0.28	0.16	0.25	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.31	0.00	0.31	0.00	0.00	0.00	0.00	0.34	0.34	0.27	0.61	0.00
Volume/Cap:	0.12	0.00	0.51	0.00	0.00	0.00	0.00	0.82	0.82	0.60	0.42	0.00
Delay/Veh:	32.2	0.0	37.3	0.0	0.0	0.0	0.0	42.4	42.4	42.5	13.3	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:	32.2	0.0	37.3	0.0	0.0	0.0	0.0	42.4	42.4	42.5	13.3	0.0
LOS by Move:	C	A	D	A	A	A	A	D	D	D	B	A
HCM2kAvgQ:	1	0	8	0	0	0	0	20	20	10	6	0

****

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

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Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
PM Peak Hour

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

****

Intersection #3 Eight Mile Road/Mokelumne Circle

****

Cycle (sec): 130 Critical Vol./Cap.(X): 0.821
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 38.6
Optimal Cycle: 101 Level Of Service: D

****

Street Name:	Mokelumne Circle						Eight Mile Road					
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			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1 0 1			2 0 1 0 1			1 0 2 1 0			1 0 3 0 1		
Volume Module:												
Base Vol:	60	130	20	470	210	160	110	1220	20	210	1650	680
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	60	130	20	470	210	160	110	1220	20	210	1650	680
Added Vol:	23	5	51	37	32	0	0	158	20	77	203	58
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	83	135	71	507	242	160	110	1378	40	287	1853	738
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:	90	147	77	551	263	174	120	1498	43	312	2014	802
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	90	147	77	551	263	174	120	1498	43	312	2014	802
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:	90	147	77	551	263	174	120	1498	43	312	2014	802
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.90	0.98	0.83	0.93	0.89	0.89	0.93	0.89	0.83
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	1.00	2.92	0.08	1.00	3.00	1.00
Final Sat.:	1769	1862	1583	3432	1862	1583	1769	4920	143	1769	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.05	0.08	0.05	0.16	0.14	0.11	0.07	0.30	0.30	0.18	0.40	0.51
Crit Moves:		****		****				****		****		
Green/Cycle:	0.08	0.10	0.31	0.20	0.21	0.21	0.09	0.37	0.37	0.21	0.50	0.70
Volume/Cap:	0.66	0.82	0.16	0.82	0.66	0.51	0.79	0.82	0.82	0.82	0.79	0.73
Delay/Veh:	69.6	82.8	32.6	58.1	50.8	46.4	82.5	40.0	40.0	62.0	28.7	14.7
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:	69.6	82.8	32.6	58.1	50.8	46.4	82.5	40.0	40.0	62.0	28.7	14.7
LOS by Move:	E	F	C	E	D	D	F	D	D	E	C	B
HCM2kAvgQ:	5	8	2	13	10	6	7	21	21	14	22	9

****

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

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Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6278		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6278		3433	6408	1770	2787
Volume (vph)	1691	265	1382	2560	318	1436
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1818	285	1486	2753	342	1544
RTOR Reduction (vph)	21	0	0	0	0	0
Lane Group Flow (vph)	2082	0	1486	2753	342	1544
Turn Type			Prot			pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases						4
Actuated Green, G (s)	42.5		48.0	94.5	26.5	74.5
Effective Green, g (s)	43.5		48.0	95.5	26.5	74.5
Actuated g/C Ratio	0.33		0.37	0.73	0.20	0.57
Clearance Time (s)	5.0		4.0	5.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2101		1268	4707	361	1683
v/s Ratio Prot	c0.33		c0.43	0.43	0.19	c0.34
v/s Ratio Perm						0.22
v/c Ratio	0.99		1.17	0.58	0.95	0.92
Uniform Delay, d1	43.1		41.0	8.0	51.1	25.0
Progression Factor	1.00		0.88	0.19	1.00	1.00
Incremental Delay, d2	17.6		78.2	0.0	33.6	8.3
Delay (s)	60.6		114.2	1.5	84.6	33.3
Level of Service	E		F	A	F	C
Approach Delay (s)	60.6			41.0	42.6	
Approach LOS	E			D	D	

Intersection Summary			
HCM Average Control Delay	46.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.0%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.86	0.86	0.97	0.95					0.95	0.95	1.00
Frt		0.96	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		4623	1362	3433	3539					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		4623	1362	3433	3539					1681	1681	1583
Volume (vph)	0	1619	1508	990	3634	0	0	0	0	840	0	309
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	1722	1604	1053	3866	0	0	0	0	894	0	329
RTOR Reduction (vph)	0	47	334	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2262	683	1053	3866	0	0	0	0	447	447	329
Turn Type			Perm	Prot						Perm		Free
Protected Phases		2		1	6						4	
Permitted Phases			2							4		Free
Actuated Green, G (s)		53.0	53.0	30.0	87.0					33.0	33.0	130.0
Effective Green, g (s)		54.0	54.0	30.0	88.0					34.0	34.0	130.0
Actuated g/C Ratio		0.42	0.42	0.23	0.68					0.26	0.26	1.00
Clearance Time (s)		5.0	5.0	4.0	5.0					5.0	5.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1920	566	792	2396					440	440	1583
v/s Ratio Prot		0.50		0.31	c1.09							
v/s Ratio Perm			0.75							0.27	0.27	0.21
v/c Ratio		1.18	1.21	1.33	1.61					1.02	1.02	0.21
Uniform Delay, d1		38.0	38.0	50.0	21.0					48.0	48.0	0.0
Progression Factor		1.19	1.77	1.64	0.95					1.00	1.00	1.00
Incremental Delay, d2		82.0	98.2	149.1	276.3					47.0	47.0	0.3
Delay (s)		127.1	165.3	231.1	296.2					95.0	95.0	0.3
Level of Service		F	F	F	F					F	F	A
Approach Delay (s)		138.8			282.2			0.0			69.5	
Approach LOS		F			F			A			E	

Intersection Summary			
HCM Average Control Delay	204.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.55		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	185.0%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.86		0.95	0.95	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			6268		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			6268		1681	1681	1583			
Volume (vph)	262	2197	0	0	2649	450	1975	0	1100	0	0	0
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)	282	2362	0	0	2848	484	2124	0	1183	0	0	0
RTOR Reduction (vph)	0	0	0	0	24	0	0	0	0	0	0	0
Lane Group Flow (vph)	282	2362	0	0	3308	0	1062	1062	1183	0	0	0
Turn Type	Prot						Perm		Free			
Protected Phases	5	2			6			8				
Permitted Phases							8		Free			
Actuated Green, G (s)	17.0	65.0			44.0		56.0	56.0	130.0			
Effective Green, g (s)	17.0	66.0			45.0		56.0	56.0	130.0			
Actuated g/C Ratio	0.13	0.51			0.35		0.43	0.43	1.00			
Clearance Time (s)	4.0	5.0			5.0		4.0	4.0				
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Lane Grp Cap (vph)	231	1797			2170		724	724	1583			
v/s Ratio Prot	0.16	c0.67			c0.53							
v/s Ratio Perm							c0.63	0.63	0.75			
v/c Ratio	1.22	1.31			1.52		1.47	1.47	0.75			
Uniform Delay, d1	56.5	32.0			42.5		37.0	37.0	0.0			
Progression Factor	1.15	1.30			0.52		1.00	1.00	1.00			
Incremental Delay, d2	111.2	142.6			237.5		217.6	217.6	3.3			
Delay (s)	176.3	184.2			259.4		254.6	254.6	3.3			
Level of Service	F	F			F		F	F	A			
Approach Delay (s)		183.4			259.4			164.7			0.0	
Approach LOS		F			F			F			A	

Intersection Summary			
HCM Average Control Delay	204.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	165.2%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		1.00	0.86	1.00		1.00		0.97	1.00	0.88
Frt	1.00	1.00		1.00	1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	1.00
Satd. Flow (prot)	3433	6404		1770	6408	1583		1750		3433	1863	2787
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	1.00
Satd. Flow (perm)	3433	6404		1770	6408	1583		1750		3433	1863	2787
Volume (vph)	630	2657	10	10	2456	210	10	10	10	90	10	633
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)	685	2888	11	11	2670	228	11	11	11	98	11	688
RTOR Reduction (vph)	0	0	0	0	0	75	0	11	0	0	0	629
Lane Group Flow (vph)	685	2899	0	11	2670	153	0	22	0	98	11	59
Turn Type	Prot			Prot		Perm	Split			Split		Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases						6						4
Actuated Green, G (s)	29.3	95.1		1.6	67.4	67.4		4.2		11.1	11.1	11.1
Effective Green, g (s)	29.3	96.1		1.6	68.4	68.4		5.2		11.1	11.1	11.1
Actuated g/C Ratio	0.23	0.74		0.01	0.53	0.53		0.04		0.09	0.09	0.09
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0		5.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	774	4734		22	3372	833		70		293	159	238
v/s Ratio Prot	c0.20	0.45		0.01	c0.42			c0.02		0.03	0.01	
v/s Ratio Perm						0.14						0.25
v/c Ratio	0.89	0.61		0.50	0.79	0.18		0.32		0.33	0.07	0.25
Uniform Delay, d1	48.7	8.1		63.8	25.0	16.2		60.7		56.0	54.7	55.5
Progression Factor	0.73	2.03		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	1.3	0.1		16.8	2.0	0.5		2.6		0.7	0.2	0.5
Delay (s)	36.6	16.4		80.6	27.0	16.6		63.3		56.7	54.9	56.1
Level of Service	D	B		F	C	B		E		E	D	E
Approach Delay (s)		20.3			26.4			63.3			56.1	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM Average Control Delay	26.8	HCM Level of Service	C
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
PM Peak Hour

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

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Intersection #8 Eight Mile Road/Thornton Road

****

Cycle (sec): 130 Critical Vol./Cap.(X): 1.413
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 188.6
Optimal Cycle: 130 Level Of Service: F

****

Street Name:	Thornton Road						Eight Mile Road					
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			Include			Ovl			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 0 1			1 0 2 0 1			2 0 4 0 1			2 0 3 1 0		
Volume Module:												
Base Vol:	520	1090	640	680	810	100	140	1830	440	480	1760	570
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:	520	1090	640	680	810	100	140	1830	440	480	1760	570
Added Vol:	126	55	120	0	63	75	59	245	133	165	266	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	646	1145	760	680	873	175	199	2075	573	645	2026	570
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:	666	1180	784	701	900	180	205	2139	591	665	2089	588
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	666	1180	784	701	900	180	205	2139	591	665	2089	588
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:	666	1180	784	701	900	180	205	2139	591	665	2089	588
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.93	0.83	0.90	0.89	0.83	0.90	0.86	0.86
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	4.00	1.00	2.00	3.12	0.88
Final Sat.:	1769	3538	1583	1769	3538	1583	3432	6778	1583	3432	5115	1439
Capacity Analysis Module:												
Vol/Sat:	0.38	0.33	0.50	0.40	0.25	0.11	0.06	0.32	0.37	0.19	0.41	0.41
Crit Moves:		****		****				****		****		
Green/Cycle:	0.31	0.24	0.37	0.28	0.21	0.21	0.05	0.22	0.53	0.14	0.31	0.59
Volume/Cap:	1.22	1.41	1.33	1.41	1.22	0.55	1.30	1.41	0.70	1.41	1.30	0.69
Delay/Veh:	160.4	243	199.2	244.4	163	47.9	235.0	240	25.4	254.3	183	18.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	160.4	243	199.2	244.4	163	47.9	235.0	240	25.4	254.3	183	18.6
LOS by Move:	F	F	F	F	F	D	F	F	C	F	F	B
HCM2kAvgQ:	43	48	56	54	32	7	9	46	15	28	51	14

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

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Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
PM Peak Hour

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

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Intersection #9 Eight Mile Road/Davis Street

****

Cycle (sec): 130 Critical Vol./Cap.(X): 1.306
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 119.1
Optimal Cycle: 130 Level Of Service: F

****

Street Name:	Davis Street						Eight Mile Road					
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			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 0 1			1 0 2 0 1			2 0 4 0 1			2 0 4 0 1		
Volume Module:												
Base Vol:	570	460	650	40	280	270	230	1930	300	850	2150	40
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:	570	460	650	40	280	270	230	1930	300	850	2150	40
Added Vol:	49	0	0	0	0	81	70	251	44	0	301	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	619	460	650	40	280	351	300	2181	344	850	2451	40
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:	673	500	707	43	304	382	326	2371	374	924	2664	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	673	500	707	43	304	382	326	2371	374	924	2664	43
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:	673	500	707	43	304	382	326	2371	374	924	2664	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.93	0.83	0.90	0.89	0.83	0.90	0.89	0.83
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	4.00	1.00	2.00	4.00	1.00
Final Sat.:	1769	3538	1583	1769	3538	1583	3432	6778	1583	3432	6778	1583
Capacity Analysis Module:												
Vol/Sat:	0.38	0.14	0.45	0.02	0.09	0.24	0.10	0.35	0.24	0.27	0.39	0.03
Crit Moves:	****					****		****		****		
Green/Cycle:	0.29	0.34	0.55	0.06	0.11	0.20	0.09	0.27	0.56	0.21	0.38	0.38
Volume/Cap:	1.31	0.41	0.81	0.41	0.77	1.18	1.03	1.31	0.42	1.31	1.03	0.07
Delay/Veh:	197.4	32.9	29.7	61.5	65.0	160.5	117.5	189	16.9	199.5	66.1	25.6
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:	197.4	32.9	29.7	61.5	65.0	160.5	117.5	189	16.9	199.5	66.1	25.6
LOS by Move:	F	C	C	E	E	F	F	F	B	F	E	C
HCM2kAvgQ:	48	7	21	2	8	25	11	46	6	35	37	1

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

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Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
PM Peak Hour

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

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Intersection #10 Eight Mile Road/Lower Sacramento Road

****

Cycle (sec): 130 Critical Vol./Cap.(X): 1.121
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 83.8
Optimal Cycle: 130 Level Of Service: F

****

Street Name:	Lower Sacramento Road						Eight Mile Road					
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			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 2 0 1			2 0 2 0 1			2 0 4 0 1			2 0 3 1 0		
Volume Module:												
Base Vol:	370	720	800	80	820	210	150	2300	240	660	2500	240
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:	370	720	800	80	820	210	150	2300	240	660	2500	240
Added Vol:	26	31	1	0	37	74	60	169	22	1	201	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	396	751	801	80	857	284	210	2469	262	661	2701	240
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:	426	808	861	86	922	305	226	2655	282	711	2904	258
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	426	808	861	86	922	305	226	2655	282	711	2904	258
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:	426	808	861	86	922	305	226	2655	282	711	2904	258
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.93	0.83	0.90	0.93	0.83	0.90	0.89	0.83	0.90	0.88	0.88
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	4.00	1.00	2.00	3.67	0.33
Final Sat.:	3432	3538	1583	3432	3538	1583	3432	6778	1583	3432	6150	546
Capacity Analysis Module:												
Vol/Sat:	0.12	0.23	0.54	0.03	0.26	0.19	0.07	0.39	0.18	0.21	0.47	0.47
Crit Moves:	****				****			****		****		
Green/Cycle:	0.11	0.31	0.50	0.03	0.23	0.30	0.07	0.35	0.35	0.18	0.47	0.47
Volume/Cap:	1.12	0.73	1.10	0.81	1.12	0.65	1.01	1.12	0.51	1.12	1.01	1.01
Delay/Veh:	141.1	42.4	94.0	99.3	120	42.9	122.8	103	34.3	127.0	52.5	52.5
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:	141.1	42.4	94.0	99.3	120	42.9	122.8	103	34.3	127.0	52.5	52.5
LOS by Move:	F	D	F	F	F	D	F	F	C	F	D	D
HCM2kAvgQ:	15	15	47	3	29	11	8	42	8	23	42	42

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

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Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
PM Peak Hour

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

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Intersection #11 Eight Mile Road/West Lane

****

Cycle (sec): 130 Critical Vol./Cap.(X): 1.334
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 134.2
Optimal Cycle: 130 Level Of Service: F

****

Street Name:	West Lane						Eight Mile Road					
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			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 2 0 1			2 0 2 0 1			2 0 3 1 0			2 0 3 0 1		
Volume Module:												
Base Vol:	1040	900	550	80	550	390	520	2150	710	270	2450	150
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:	1040	900	550	80	550	390	520	2150	710	270	2450	150
Added Vol:	3	0	0	0	0	55	47	119	3	0	144	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1043	900	550	80	550	445	567	2269	713	270	2594	150
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:	1075	928	567	82	567	459	585	2339	735	278	2674	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1075	928	567	82	567	459	585	2339	735	278	2674	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:	1075	928	567	82	567	459	585	2339	735	278	2674	155
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.93	0.83	0.90	0.93	0.83	0.90	0.86	0.86	0.90	0.89	0.83
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.04	0.96	2.00	3.00	1.00
Final Sat.:	3432	3538	1583	3432	3538	1583	3432	4971	1562	3432	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.31	0.26	0.36	0.02	0.16	0.29	0.17	0.47	0.47	0.08	0.53	0.10
Crit Moves:	****				****		****				****	
Green/Cycle:	0.23	0.32	0.40	0.04	0.12	0.25	0.13	0.45	0.45	0.08	0.39	0.39
Volume/Cap:	1.33	0.82	0.90	0.68	1.33	1.17	1.33	1.06	1.06	1.06	1.33	0.25
Delay/Veh:	208.6	45.7	53.5	76.2	223	149.4	222.0	70.3	70.3	131.2	193	26.6
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:	208.6	45.7	53.5	76.2	223	149.4	222.0	70.3	70.3	131.2	193	26.6
LOS by Move:	F	D	D	E	F	F	F	E	E	F	F	C
HCM2kAvgQ:	41	19	24	3	23	29	23	44	44	10	70	3

****

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

Traffix 7.8.0115 (c) 2007 Dowling Assoc. Licensed to FEHR & PEERS, W.C.

Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
PM Peak Hour

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

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Intersection #12 Eight Mile Road/SR 99 Frontage

****

Cycle (sec):	130	Critical Vol./Cap.(X):	1.462
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	210.6
Optimal Cycle:	130	Level Of Service:	F

****

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected						Protected						Protected					
Rights:	Ovl						Include						Include						Include					
Min. Green:	4	10		0			4	10		0			4	10		0			4	10		0		
Lanes:	1	0	1	0	1		1	0	1	0	1		1	0	3	1	0		1	0	3	1	0	
Volume Module:																								
Base Vol:	1100	30	450		20	40		20		10	2010	450		280	2190		20							
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:	1100	30	450		20	40		20		10	2010	450		280	2190		20							
Added Vol:	0	0	0		0	0		0		0	119	0		0	144		0							
PasserByVol:	0	0	0		0	0		0		0	0	0		0	0		0							
Initial Fut:	1100	30	450		20	40		20		10	2129	450		280	2334		20							
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:	1183	32	484		22	43		22		11	2289	484		301	2510		22							
Reduct Vol:	0	0	0		0	0		0		0	0	0		0	0		0							
Reduced Vol:	1183	32	484		22	43		22		11	2289	484		301	2510		22							
PCE Adj:	1.00	1.00	1.00		1.00	1.00		1.00		1.00	1.00	1.00		1.00	1.00		1.00							
MLF Adj:	1.00	1.00	1.00		1.00	1.00		1.00		1.00	1.00	1.00		1.00	1.00		1.00							
Final Vol.:	1183	32	484		22	43		22		11	2289	484		301	2510		22							
Saturation Flow Module:																								
Sat/Lane:	1900	1900	1900		1900	1900		1900		1900	1900	1900		1900	1900		1900							
Adjustment:	0.93	0.98	0.83		0.93	0.98		0.83		0.93	0.87	0.87		0.93	0.89		0.89							
Lanes:	1.00	1.00	1.00		1.00	1.00		1.00		1.00	3.30	0.70		1.00	3.97		0.03							
Final Sat.:	1769	1862	1583		1769	1862		1583		1769	5450	1152		1769	6713		58							
Capacity Analysis Module:																								
Vol/Sat:	0.67	0.02	0.31		0.01	0.02		0.01		0.01	0.42	0.42		0.17	0.37		0.37							
Crit Moves:	****					****					****			****										
Green/Cycle:	0.42	0.41	0.52		0.09	0.08		0.08		0.03	0.27	0.27		0.11	0.34		0.34							
Volume/Cap:	1.57	0.04	0.59		0.13	0.30		0.18		0.20	1.57	1.57		1.57	1.09		1.09							
Delay/Veh:	301.9	23.1	23.0		54.5	57.9		56.8		63.2	309	308.6		339.8	89.3		89.3							
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:	301.9	23.1	23.0		54.5	57.9		56.8		63.2	309	308.6		339.8	89.3		89.3							
LOS by Move:	F	C	C		D	E		E		E	F	F		F	F		F							
HCM2kAvgQ:	99	1	14		1	2		1		1	65	65		27	38		38							

****

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

Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
PM Peak Hour

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

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Intersection #13 Mokelumne Circle/Scott Creek Drive

****

Cycle (sec):	65	Critical Vol./Cap.(X):	0.587
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	15.5
Optimal Cycle:	44	Level Of Service:	B

****

Street Name:	Mokelumne Circle						Scott Creek Drive					
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:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 0 1 0			1 0 0 1 0			1 0 0 1 0			1 0 0 1 0		
Volume Module:												
Base Vol:	20	90	20	50	140	250	20	40	10	10	80	100
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:	20	90	20	50	140	250	20	40	10	10	80	100
Added Vol:	2	37	0	40	61	29	23	25	2	0	30	19
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	127	20	90	201	279	43	65	12	10	110	119
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:	24	138	22	98	218	303	47	71	13	11	120	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	138	22	98	218	303	47	71	13	11	120	129
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	24	138	22	98	218	303	47	71	13	11	120	129
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.38	0.96	0.96	0.64	0.89	0.89	0.93	0.96	0.96	0.93	0.90	0.90
Lanes:	1.00	0.86	0.14	1.00	0.42	0.58	1.00	0.84	0.16	1.00	0.48	0.52
Final Sat.:	719	1576	248	1208	712	988	1769	1536	284	1769	825	892
Capacity Analysis Module:												
Vol/Sat:	0.03	0.09	0.09	0.08	0.31	0.31	0.03	0.05	0.05	0.01	0.14	0.14
Crit Moves:					****		****				****	
Green/Cycle:	0.51	0.51	0.51	0.51	0.51	0.51	0.06	0.22	0.22	0.09	0.24	0.24
Volume/Cap:	0.06	0.17	0.17	0.16	0.60	0.60	0.43	0.21	0.21	0.07	0.60	0.60
Delay/Veh:	8.1	8.6	8.6	8.5	12.3	12.3	32.1	21.2	21.2	27.5	24.3	24.3
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:	8.1	8.6	8.6	8.5	12.3	12.3	32.1	21.2	21.2	27.5	24.3	24.3
LOS by Move:	A	A	A	A	B	B	C	C	C	C	C	C
HCM2kAvgQ:	0	1	1	1	7	7	1	1	1	0	5	5

****

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

Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
PM Peak Hour

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

Intersection #14 Trinity Parkway/Consumnes Drive

Cycle (sec):	130	Critical Vol./Cap.(X):	1.291
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	127.5
Optimal Cycle:	130	Level Of Service:	F

Street Name:	Trinity Parkway						Consumnes Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1	1 0		1 0 1	1 0		1 0 0	1 0		1 0 1	0 1	
Volume Module:												
Base Vol:	630	250	0	270	510	100	80	0	230	0	0	250
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:	630	250	0	270	510	100	80	0	230	0	0	250
Added Vol:	117	734	51	29	754	31	28	30	77	77	33	51
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	747	984	51	299	1264	131	108	30	307	77	33	301
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:	786	1036	54	315	1331	138	114	32	323	81	35	317
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	786	1036	54	315	1331	138	114	32	323	81	35	317
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	786	1036	54	315	1331	138	114	32	323	81	35	317
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.92	0.92	0.93	0.92	0.92	0.93	0.85	0.85	0.93	0.98	0.83
Lanes:	1.00	1.90	0.10	1.00	1.81	0.19	1.00	0.09	0.91	1.00	1.00	1.00
Final Sat.:	1769	3340	173	1769	3161	328	1769	143	1464	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.44	0.31	0.31	0.18	0.42	0.42	0.06	0.22	0.22	0.05	0.02	0.20
Crit Moves:	****				****			****		****		
Green/Cycle:	0.34	0.43	0.43	0.24	0.33	0.33	0.09	0.17	0.17	0.04	0.11	0.36
Volume/Cap:	1.29	0.73	0.73	0.73	1.29	1.29	0.68	1.29	1.29	1.29	0.17	0.56
Delay/Veh:	185.6	32.9	32.9	51.3	181	181.4	68.2	209	209.3	272.9	52.5	34.9
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:	185.6	32.9	32.9	51.3	181	181.4	68.2	209	209.3	272.9	52.5	34.9
LOS by Move:	F	C	C	D	F	F	E	F	F	F	D	C
HCM2kAvgQ:	54	18	18	12	53	53	6	26	26	7	1	9

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

Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
PM Peak Hour

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

Intersection #15 Trinity Parkway/McAuliffe Road

Cycle (sec):	65	Critical Vol./Cap.(X):	1.099
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	45.1
Optimal Cycle:	130	Level Of Service:	D

Street Name:	Trinity Parkway						McAuliffe Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Permitted			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	0 0 1	1 0		1 0 2	0 0		0 0 0	0 0		1 0 0	0 1	
Volume Module:												
Base Vol:	0	720	100	90	650	0	0	0	0	80	0	160
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	720	100	90	650	0	0	0	0	80	0	160
Added Vol:	0	676	36	189	849	0	0	0	0	62	0	201
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1396	136	279	1499	0	0	0	0	142	0	361
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:	0	1517	148	303	1629	0	0	0	0	154	0	392
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1517	148	303	1629	0	0	0	0	154	0	392
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1517	148	303	1629	0	0	0	0	154	0	392
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.92	0.92	0.93	0.93	1.00	1.00	1.00	1.00	0.75	1.00	0.83
Lanes:	0.00	1.82	0.18	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3182	310	1769	3538	0	0	0	0	1432	0	1583
Capacity Analysis Module:												
Vol/Sat:	0.00	0.48	0.48	0.17	0.46	0.00	0.00	0.00	0.00	0.11	0.00	0.25
Crit Moves:		****		****								****
Green/Cycle:	0.00	0.43	0.43	0.16	0.59	0.00	0.00	0.00	0.00	0.23	0.00	0.38
Volume/Cap:	0.00	1.10	1.10	1.10	0.78	0.00	0.00	0.00	0.00	0.48	0.00	0.65
Delay/Veh:	0.0	73.6	73.6	110.7	12.1	0.0	0.0	0.0	0.0	23.0	0.0	19.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	73.6	73.6	110.7	12.1	0.0	0.0	0.0	0.0	23.0	0.0	19.0
LOS by Move:	A	E	E	F	B	A	A	A	A	C	A	B
HCM2kAvgQ:	0	32	32	14	12	0	0	0	0	3	0	7

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

Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
PM Peak Hour

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

Intersection #16 Thornton Road/A.G. Spanos Boulevard (South)

Cycle (sec):	110	Critical Vol./Cap.(X):	0.853
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	26.1
Optimal Cycle:	95	Level Of Service:	C

Street Name:	Thornton Road						A.G. Spanos Boulevard (South)					
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			Permitted			Permitted		
Rights:	Include			Include			Ovl			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 1 0			1 0 2 1 0			0 1 0 0 1			0 1 0 0 1		
Volume Module:												
Base Vol:	300	2400	160	140	1530	90	40	30	210	80	10	90
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:	300	2400	160	140	1530	90	40	30	210	80	10	90
Added Vol:	116	135	5	0	172	10	9	0	113	9	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	416	2535	165	140	1702	100	49	30	323	89	10	90
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:	452	2755	179	152	1850	109	53	33	351	97	11	98
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	452	2755	179	152	1850	109	53	33	351	97	11	98
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	452	2755	179	152	1850	109	53	33	351	97	11	98
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.88	0.88	0.93	0.88	0.88	0.59	0.59	0.83	0.62	0.62	0.83
Lanes:	1.00	2.82	0.18	1.00	2.83	0.17	0.62	0.38	1.00	0.90	0.10	1.00
Final Sat.:	1769	4730	308	1769	4763	280	701	429	1583	1056	119	1583
Capacity Analysis Module:												
Vol/Sat:	0.26	0.58	0.58	0.09	0.39	0.39	0.08	0.08	0.22	0.09	0.09	0.06
Crit Moves:		****		****							****	
Green/Cycle:	0.31	0.68	0.68	0.10	0.47	0.47	0.11	0.11	0.42	0.11	0.11	0.11
Volume/Cap:	0.82	0.85	0.85	0.85	0.82	0.82	0.71	0.71	0.53	0.85	0.85	0.58
Delay/Veh:	44.7	15.5	15.5	79.3	27.4	27.4	64.9	64.9	24.7	87.9	87.9	51.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.7	15.5	15.5	79.3	27.4	27.4	64.9	64.9	24.7	87.9	87.9	51.5
LOS by Move:	D	B	B	E	C	C	E	E	C	F	F	D
HCM2kAvgQ:	16	18	18	8	21	21	4	4	8	6	6	4

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

Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
PM Peak Hour

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

Intersection #17 Thornton Road/Wagner Heights

Cycle (sec): 110 Critical Vol./Cap.(X): 1.028
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 53.7
Optimal Cycle: 130 Level Of Service: D

Street Name:	Thornton Road						Wagner Heights					
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:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 1 0			1 0 2 1 0			1 0 1 0 1			1 0 1 0 1		
Volume Module:												
Base Vol:	100	2130	70	360	960	110	140	160	130	90	170	410
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:	100	2130	70	360	960	110	140	160	130	90	170	410
Added Vol:	63	222	0	0	182	0	0	0	39	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	163	2352	70	360	1142	110	140	160	169	90	170	410
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:	168	2425	72	371	1177	113	144	165	174	93	175	423
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	168	2425	72	371	1177	113	144	165	174	93	175	423
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	168	2425	72	371	1177	113	144	165	174	93	175	423
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.89	0.89	0.93	0.88	0.88	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	2.91	0.09	1.00	2.74	0.26	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1769	4917	146	1769	4576	441	1769	1862	1583	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.09	0.49	0.49	0.21	0.26	0.26	0.08	0.09	0.11	0.05	0.09	0.27
Crit Moves:		****		****			****				****	
Green/Cycle:	0.18	0.48	0.48	0.20	0.50	0.50	0.08	0.11	0.29	0.06	0.09	0.30
Volume/Cap:	0.52	1.03	1.03	1.03	0.52	0.52	1.03	0.82	0.38	0.84	1.03	0.90
Delay/Veh:	41.9	54.6	54.6	98.6	18.8	18.8	134.3	70.2	31.4	91.4	127	57.9
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:	41.9	54.6	54.6	98.6	18.8	18.8	134.3	70.2	31.4	91.4	127	57.9
LOS by Move:	D	D	D	F	B	B	F	E	C	F	F	E
HCM2kAvgQ:	5	40	40	19	8	8	9	8	4	5	10	17

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3539	1583	3433	3539	1583
Volume (vph)	256	794	181	220	1646	817	307	450	202	664	494	373
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)	278	863	197	239	1789	888	334	489	220	722	537	405
RTOR Reduction (vph)	0	0	124	0	0	266	0	0	182	0	0	205
Lane Group Flow (vph)	278	863	73	239	1789	622	334	489	38	722	537	200
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	18.0	48.4	48.4	20.4	50.8	50.8	17.5	22.2	22.2	23.0	27.7	27.7
Effective Green, g (s)	18.0	48.4	48.4	20.4	50.8	50.8	17.5	22.2	22.2	23.0	27.7	27.7
Actuated g/C Ratio	0.14	0.37	0.37	0.16	0.39	0.39	0.13	0.17	0.17	0.18	0.21	0.21
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	245	1318	589	278	1383	619	462	604	270	607	754	337
v/s Ratio Prot	c0.16	0.24		0.14	c0.51		0.10	c0.14		c0.21	0.15	
v/s Ratio Perm			0.05			0.39			0.02			0.13
v/c Ratio	1.13	0.65	0.12	0.86	1.29	1.00	0.72	0.81	0.14	1.19	0.71	0.59
Uniform Delay, d1	56.0	33.9	26.9	53.4	39.6	39.6	53.9	51.9	45.8	53.5	47.5	46.1
Progression Factor	1.00	1.00	1.00	0.81	1.29	1.74	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	98.6	2.5	0.4	2.6	132.6	11.9	5.5	7.9	0.2	101.0	3.2	2.8
Delay (s)	154.6	36.4	27.3	45.9	183.9	80.8	59.5	59.8	46.0	154.5	50.6	48.8
Level of Service	F	D	C	D	F	F	E	E	D	F	D	D
Approach Delay (s)		59.6			141.2			56.8			95.3	
Approach LOS		E			F			E			F	

Intersection Summary			
HCM Average Control Delay	101.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	104.4%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.86		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5021		1770	3525		1770	1598		1770	1770	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5021		1770	3525		1770	1598		1770	1770	
Volume (vph)	20	1501	138	330	2473	70	200	10	180	30	20	10
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)	22	1632	150	359	2688	76	217	11	196	33	22	11
RTOR Reduction (vph)	0	7	0	0	1	0	0	164	0	0	10	0
Lane Group Flow (vph)	22	1775	0	359	2763	0	217	43	0	33	23	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	4.2	58.6		29.0	83.4		19.1	21.0		5.4	7.3	
Effective Green, g (s)	4.2	58.6		29.0	83.4		19.1	21.0		5.4	7.3	
Actuated g/C Ratio	0.03	0.45		0.22	0.64		0.15	0.16		0.04	0.06	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	57	2263		395	2261		260	258		74	99	
v/s Ratio Prot	0.01	0.35		c0.20	c0.78		c0.12	0.03		0.02	c0.01	
v/s Ratio Perm												
v/c Ratio	0.39	0.78		0.91	1.22		0.83	0.17		0.45	0.23	
Uniform Delay, d1	61.6	30.3		49.2	23.3		53.9	47.0		60.8	58.7	
Progression Factor	1.32	0.44		1.17	0.83		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.2	1.4		3.2	100.3		20.0	0.3		4.2	1.2	
Delay (s)	83.3	14.9		60.8	119.6		74.0	47.3		65.1	59.8	
Level of Service	F	B		E	F		E	D		E	E	
Approach Delay (s)		15.8			112.8			60.9			62.5	
Approach LOS		B			F			E			E	

Intersection Summary			
HCM Average Control Delay	75.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	102.2%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	
Lane Util. Factor		0.91		1.00	0.95					1.00	1.00	
Frt		0.90		1.00	1.00					1.00	0.85	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		4601		1770	3539					1770	1583	
Flt Permitted		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (perm)		4601		1770	3539					1770	1583	
Volume (vph)	0	624	1087	560	2600	0	0	0	0	60	0	273
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	678	1182	609	2826	0	0	0	0	65	0	297
RTOR Reduction (vph)	0	242	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	1618	0	609	2826	0	0	0	0	65	292	0
Turn Type				Prot						Split		
Protected Phases		2		1	6					4	4	
Permitted Phases												
Actuated Green, G (s)		50.0		45.0	99.0					23.0	23.0	
Effective Green, g (s)		50.0		45.0	99.0					23.0	23.0	
Actuated g/C Ratio		0.38		0.35	0.76					0.18	0.18	
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1770		613	2695					313	280	
v/s Ratio Prot		0.40		0.34	c0.80					0.04	c0.19	
v/s Ratio Perm												
v/c Ratio		1.37dr		0.99	1.05					0.21	1.04	
Uniform Delay, d1		38.0		42.4	15.5					45.7	53.5	
Progression Factor		0.41		1.03	0.78					1.00	1.00	
Incremental Delay, d2		6.3		9.4	23.1					0.3	65.5	
Delay (s)		21.9		52.9	35.2					46.0	119.0	
Level of Service		C		D	D					D	F	
Approach Delay (s)		21.9			38.3			0.0			105.9	
Approach LOS		C			D			A			F	

Intersection Summary			
HCM Average Control Delay	37.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	146.6%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.91		0.95	0.95	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			4984		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			4984		1681	1681	1583			
Volume (vph)	152	531	0	0	1172	180	1988	0	1090	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	165	577	0	0	1274	196	2161	0	1185	0	0	0
RTOR Reduction (vph)	0	0	0	0	16	0	0	0	56	0	0	0
Lane Group Flow (vph)	165	577	0	0	1454	0	1081	1080	1129	0	0	0
Turn Type	Prot						Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases									8			
Actuated Green, G (s)	10.0	47.0			33.0		75.0	75.0	75.0			
Effective Green, g (s)	10.0	47.0			33.0		75.0	75.0	75.0			
Actuated g/C Ratio	0.08	0.36			0.25		0.58	0.58	0.58			
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Lane Grp Cap (vph)	136	1279			1265		970	970	913			
v/s Ratio Prot	c0.09	0.16			c0.29		0.64	0.64				
v/s Ratio Perm									c0.71			
v/c Ratio	1.21	0.45			1.15		1.11	1.11	1.24			
Uniform Delay, d1	60.0	31.7			48.5		27.5	27.5	27.5			
Progression Factor	0.79	1.67			1.00		1.00	1.00	1.00			
Incremental Delay, d2	138.7	0.9			76.9		65.7	65.3	115.8			
Delay (s)	186.3	53.7			125.4		93.2	92.8	143.3			
Level of Service	F	D			F		F	F	F			
Approach Delay (s)		83.2			125.4			110.8			0.0	
Approach LOS		F			F			F			A	

Intersection Summary			
HCM Average Control Delay	111.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	127.3%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	3433	1863	2787	1770	3539	1583	3433	3518	
Flt Permitted	0.66	1.00	1.00	0.95	1.00	1.00	0.47	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1234	1863	1583	3433	1863	2787	868	3539	1583	3433	3518	
Volume (vph)	11	81	7	872	137	1315	12	565	571	1001	447	18
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)	12	88	8	948	149	1429	13	614	621	1088	486	20
RTOR Reduction (vph)	0	0	7	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	12	88	1	948	149	1429	13	614	621	1088	504	0
Turn Type	Perm		Perm	Prot		Free	Perm		Free	Prot		
Protected Phases		2		1	6			4		3	8	
Permitted Phases	2		2			Free	4		Free			
Actuated Green, G (s)	18.0	18.0	18.0	34.0	55.0	130.0	22.0	22.0	130.0	39.0	65.0	
Effective Green, g (s)	18.0	18.0	18.0	34.0	56.0	130.0	23.0	23.0	130.0	39.0	66.0	
Actuated g/C Ratio	0.14	0.14	0.14	0.26	0.43	1.00	0.18	0.18	1.00	0.30	0.51	
Clearance Time (s)	4.0	4.0	4.0	4.0	5.0		5.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	171	258	219	898	803	2787	154	626	1583	1030	1786	
v/s Ratio Prot		0.05		c0.28	0.08			c0.17		c0.32	0.14	
v/s Ratio Perm	0.01		0.01			0.51	0.01		0.39			
v/c Ratio	0.07	0.34	0.01	1.06	0.19	0.51	0.08	0.98	0.39	1.06	0.28	
Uniform Delay, d1	48.7	50.6	48.3	48.0	22.9	0.0	44.7	53.3	0.0	45.5	18.4	
Progression Factor	1.00	1.00	1.00	0.83	1.08	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	3.6	0.0	35.2	0.2	0.3	0.2	31.0	0.7	44.2	0.1	
Delay (s)	49.5	54.2	48.3	74.9	24.9	0.3	44.9	84.3	0.7	89.7	18.5	
Level of Service	D	D	D	E	C	A	D	F	A	F	B	
Approach Delay (s)		53.2			29.7			42.3			67.1	
Approach LOS		D			C			D			E	

Intersection Summary			
HCM Average Control Delay	43.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.7%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.94	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5081		1770	5085	1583	1770	1657	1504	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5081		1770	5085	1583	1770	1657	1504	1770	1863	1583
Volume (vph)	10	1633	10	200	2294	640	20	60	150	428	30	10
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)	10	1701	10	208	2390	667	21	62	156	446	31	10
RTOR Reduction (vph)	0	1	0	0	0	173	0	23	98	0	0	7
Lane Group Flow (vph)	10	1710	0	208	2390	494	21	85	12	446	31	3
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	1.2	40.2		21.6	60.6	60.6	13.7	13.7	13.7	35.5	35.5	35.5
Effective Green, g (s)	1.2	41.2		21.6	61.6	61.6	14.7	14.7	14.7	36.5	36.5	36.5
Actuated g/C Ratio	0.01	0.32		0.17	0.47	0.47	0.11	0.11	0.11	0.28	0.28	0.28
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
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
Lane Grp Cap (vph)	16	1610		294	2410	750	200	187	170	497	523	444
v/s Ratio Prot	0.01	c0.34		c0.12	c0.47		0.01	0.07		c0.25	0.02	
v/s Ratio Perm						0.42			0.07			0.01
v/c Ratio	0.62	1.06		0.71	0.99	0.66	0.10	0.45	0.07	0.90	0.06	0.01
Uniform Delay, d1	64.2	44.4		51.2	33.9	26.2	51.7	53.9	51.6	44.9	34.2	33.7
Progression Factor	1.04	0.62		1.05	1.18	1.48	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	37.0	36.6		3.5	10.5	2.1	0.2	1.7	0.2	18.6	0.0	0.0
Delay (s)	103.5	63.9		57.5	50.4	40.8	52.0	55.6	51.7	63.6	34.2	33.7
Level of Service	F	E		E	D	D	D	E	D	E	C	C
Approach Delay (s)		64.1			48.9			53.5			61.1	
Approach LOS		E			D			D			E	

Intersection Summary			
HCM Average Control Delay	54.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.0%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.91					0.95	0.95	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3539	1583	3433	5085					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3539	1583	3433	5085					1681	1681	1583
Volume (vph)	0	1165	1046	1240	2929	0	0	0	0	818	0	205
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	1239	1113	1319	3116	0	0	0	0	870	0	218
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	1239	1113	1319	3116	0	0	0	0	435	435	217
Turn Type			Free	Prot						Perm		Perm
Protected Phases		2		1	6						4	
Permitted Phases			Free							4		4
Actuated Green, G (s)		40.0	130.0	43.0	87.0					33.0	33.0	33.0
Effective Green, g (s)		41.0	130.0	43.0	88.0					34.0	34.0	34.0
Actuated g/C Ratio		0.32	1.00	0.33	0.68					0.26	0.26	0.26
Clearance Time (s)		5.0		4.0	5.0					5.0	5.0	5.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		1116	1583	1136	3442					440	440	414
v/s Ratio Prot		c0.35		c0.38	0.61							
v/s Ratio Perm			0.70							c0.26	0.26	0.14
v/c Ratio		1.11	0.70	1.16	0.91					0.99	0.99	0.52
Uniform Delay, d1		44.5	0.0	43.5	17.5					47.8	47.8	41.1
Progression Factor		0.63	1.00	0.34	1.27					1.00	1.00	1.00
Incremental Delay, d2		54.7	0.9	77.5	0.4					39.5	39.5	1.2
Delay (s)		82.7	0.9	92.1	22.6					87.3	87.3	42.3
Level of Service		F	A	F	C					F	F	D
Approach Delay (s)		44.0			43.3			0.0			78.3	
Approach LOS		D			D			A			E	

Intersection Summary			
HCM Average Control Delay	48.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	160.2%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.81	1.00	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			7544	1583	1681	1681	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			7544	1583	1681	1681	2787			
Volume (vph)	178	1805	0	0	2504	834	1665	0	1550	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	193	1962	0	0	2722	907	1810	0	1685	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	142	0	0	1	0	0	0
Lane Group Flow (vph)	193	1962	0	0	2722	765	905	905	1684	0	0	0
Turn Type	Prot					Perm	Perm		custom			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		1 8			
Actuated Green, G (s)	10.0	54.0			53.0	53.0	53.0	53.0	66.0			
Effective Green, g (s)	10.0	55.0			54.0	54.0	54.0	54.0	67.0			
Actuated g/C Ratio	0.08	0.42			0.42	0.42	0.42	0.42	0.52			
Clearance Time (s)	4.0	5.0			5.0	5.0	5.0	5.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	136	1497			3134	658	698	698	1436			
v/s Ratio Prot	0.11	c0.55			0.36							
v/s Ratio Perm						c0.48	c0.54	0.54	0.60			
v/c Ratio	1.42	1.31			0.87	1.16	1.30	1.30	1.17			
Uniform Delay, d1	60.0	37.5			34.8	38.0	38.0	38.0	31.5			
Progression Factor	1.55	0.58			0.45	0.82	1.00	1.00	1.00			
Incremental Delay, d2	192.6	140.2			0.3	74.9	143.9	143.9	85.3			
Delay (s)	285.8	161.9			15.9	106.2	181.9	181.9	116.8			
Level of Service	F	F			B	F	F	F	F			
Approach Delay (s)		173.0			38.4			150.5			0.0	
Approach LOS		F			D			F			A	

Intersection Summary			
HCM Average Control Delay	111.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	160.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
PM Peak Hour

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

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Intersection #26 Hammer Lane/Thornton Road

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Cycle (sec): 130 Critical Vol./Cap.(X): 0.988
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 50.6
Optimal Cycle: 130 Level Of Service: D

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Street Name:	Thornton Road									Hammer Lane								
Approach:	North Bound				South Bound					East Bound					West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected					Protected					Protected					Protected				
Rights:	Include					Include					Include					Ovl				
Min. Green:	4	10		0		4	10		0		4	10		0		4	10		0	
Lanes:	2	0	2	1	0	2	0	2	1	0	1	0	3	0	1	1	0	3	0	1
Volume Module:																				
Base Vol:	420	1110		50		380	570		20		160	1550		250		50	1550		540	
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:	420	1110		50		380	570		20		160	1550		250		50	1550		540	
Added Vol:	183	72		0		33	66		27		15	331		122		0	413		49	
PasserByVol:	0	0		0		0	0		0		0	0		0		0	0		0	
Initial Fut:	603	1182		50		413	636		47		175	1881		372		50	1963		589	
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:	615	1206		51		421	649		48		179	1919		380		51	2003		601	
Reduct Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
Reduced Vol:	615	1206		51		421	649		48		179	1919		380		51	2003		601	
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:	615	1206		51		421	649		48		179	1919		380		51	2003		601	
Saturation Flow Module:																				
Sat/Lane:	1900	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900	
Adjustment:	0.90	0.89		0.89		0.90	0.88		0.88		0.93	0.89		0.83		0.93	0.89		0.83	
Lanes:	2.00	2.88		0.12		2.00	2.79		0.21		1.00	3.00		1.00		1.00	3.00		1.00	
Final Sat.:	3432	4848		205		3432	4686		346		1769	5083		1583		1769	5083		1583	
Capacity Analysis Module:																				
Vol/Sat:	0.18	0.25		0.25		0.12	0.14		0.14		0.10	0.38		0.24		0.03	0.39		0.38	
Crit Moves:		****				****					****						****			
Green/Cycle:	0.21	0.25		0.25		0.12	0.16		0.16		0.10	0.46		0.46		0.04	0.40		0.52	
Volume/Cap:	0.85	0.99		0.99		0.99	0.85		0.85		0.99	0.82		0.52		0.76	0.99		0.73	
Delay/Veh:	58.1	70.8		70.8		97.2	60.8		60.8		121.6	27.0		20.8		102.0	52.0		20.6	
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:	58.1	70.8		70.8		97.2	60.8		60.8		121.6	27.0		20.8		102.0	52.0		20.6	
LOS by Move:	E	E		E		F	E		E		F	C		C		F	D		C	
HCM2kAvgQ:	14	24		24		13	12		12		11	23		9		4	35		16	

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

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Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
PM Peak Hour

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

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Intersection #27 Thornton Road/Whistler Way

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Cycle (sec):	95	Critical Vol./Cap.(X):	0.789
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	28.7
Optimal Cycle:	83	Level Of Service:	C

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Street Name:	Thornton Road						Whistler Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 3 0 1			1 0 2 1 0			1 0 1 0 1			1 0 0 1 0		
Volume Module:												
Base Vol:	230	2190	110	100	1550	60	50	30	90	120	40	40
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:	230	2190	110	100	1550	60	50	30	90	120	40	40
Added Vol:	0	143	0	7	181	44	40	0	0	0	0	10
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	230	2333	110	107	1731	104	90	30	90	120	40	50
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:	250	2536	120	116	1882	113	98	33	98	130	43	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	250	2536	120	116	1882	113	98	33	98	130	43	54
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:	250	2536	120	116	1882	113	98	33	98	130	43	54
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.89	0.83	0.93	0.88	0.88	0.93	0.98	0.83	0.93	0.90	0.90
Lanes:	1.00	3.00	1.00	1.00	2.83	0.17	1.00	1.00	1.00	1.00	0.44	0.56
Final Sat.:	1769	5083	1583	1769	4752	286	1769	1862	1583	1769	759	949
Capacity Analysis Module:												
Vol/Sat:	0.14	0.50	0.08	0.07	0.40	0.40	0.06	0.02	0.06	0.07	0.06	0.06
Crit Moves:		****		****				****		****		
Green/Cycle:	0.17	0.57	0.57	0.07	0.47	0.47	0.07	0.11	0.11	0.08	0.12	0.12
Volume/Cap:	0.84	0.88	0.13	0.88	0.84	0.84	0.85	0.17	0.59	0.88	0.46	0.46
Delay/Veh:	56.4	21.2	9.7	87.5	24.5	24.5	85.3	39.1	45.9	83.7	40.3	40.3
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:	56.4	21.2	9.7	87.5	24.5	24.5	85.3	39.1	45.9	83.7	40.3	40.3
LOS by Move:	E	C	A	F	C	C	F	D	D	F	D	D
HCM2kAvgQ:	10	23	1	6	19	19	5	1	4	6	3	3

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

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Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
AM Peak Hour

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

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Intersection #1 Eight Mile Road/Westlake Drive

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Cycle (sec): 130 Critical Vol./Cap.(X): 0.735
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 34.7
Optimal Cycle: 80 Level Of Service: C

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Street Name:	Westlake Drive						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 0 1 1			2 0 0 1 0			1 0 2 1 0			1 0 2 1 0		
Volume Module:												
Base Vol:	10	10	300	80	10	10	10	1170	10	180	560	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:	10	10	300	80	10	10	10	1170	10	180	560	0
Added Vol:	0	5	101	23	2	14	46	391	0	38	122	28
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	15	401	103	12	24	56	1561	10	218	682	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:	11	16	436	112	13	26	61	1697	11	237	741	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	16	436	112	13	26	61	1697	11	237	741	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:	11	16	436	112	13	26	61	1697	11	237	741	30
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.84	0.84	0.90	0.88	0.88	0.93	0.89	0.89	0.93	0.89	0.89
Lanes:	1.00	0.07	1.93	2.00	0.33	0.67	1.00	2.98	0.02	1.00	2.88	0.12
Final Sat.:	1769	115	3069	3432	559	1117	1769	5046	32	1769	4853	199
Capacity Analysis Module:												
Vol/Sat:	0.01	0.14	0.14	0.03	0.02	0.02	0.03	0.34	0.34	0.13	0.15	0.15
Crit Moves:		****		****				****		****		
Green/Cycle:	0.07	0.19	0.19	0.04	0.17	0.17	0.12	0.46	0.46	0.18	0.52	0.52
Volume/Cap:	0.09	0.74	0.74	0.74	0.14	0.14	0.29	0.74	0.74	0.74	0.29	0.29
Delay/Veh:	57.2	53.9	53.9	78.3	46.1	46.1	53.2	30.1	30.1	58.7	17.6	17.6
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:	57.2	53.9	53.9	78.3	46.1	46.1	53.2	30.1	30.1	58.7	17.6	17.6
LOS by Move:	E	D	D	E	D	D	D	C	C	E	B	B
HCM2kAvgQ:	0	10	10	4	1	1	2	19	19	10	4	4

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

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Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
AM Peak Hour

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

****

Intersection #2 Eight Mile Road/Regatta Drive

****

Cycle (sec): 130 Critical Vol./Cap.(X): 0.914
Loss Time (sec): 12 (Y+R=5.0 sec) Average Delay (sec/veh): 113.7
Optimal Cycle: 130 Level Of Service: F

****

Street Name:	Eight Mile Road						Regatta Drive					
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:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 0 0 2			0 0 0 0 0			0 0 2 1 0			2 0 4 0 0		
Volume Module:												
Base Vol:	60	0	650	0	0	0	0	1540	20	190	730	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:	60	0	650	0	0	0	0	1540	20	190	730	0
Added Vol:	14	0	135	0	0	0	0	503	13	59	173	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	74	0	785	0	0	0	0	2043	33	249	903	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:	80	0	853	0	0	0	0	2221	36	271	982	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	80	0	853	0	0	0	0	2221	36	271	982	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:	80	0	853	0	0	0	0	2221	36	271	982	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.60	1.00	0.73	1.00	1.00	1.00	1.00	0.89	0.89	0.90	0.89	1.00
Lanes:	2.00	0.00	2.00	0.00	0.00	0.00	0.00	2.95	0.05	2.00	4.00	0.00
Final Sat.:	2272	0	2786	0	0	0	0	4992	81	3432	6778	0
Capacity Analysis Module:												
Vol/Sat:	0.04	0.00	0.31	0.00	0.00	0.00	0.00	0.44	0.44	0.08	0.14	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.31	0.00	0.31	0.00	0.00	0.00	0.00	0.34	0.34	0.27	0.61	0.00
Volume/Cap:	0.11	0.00	0.99	0.00	0.00	0.00	0.00	1.31	1.31	0.29	0.24	0.00
Delay/Veh:	32.2	0.0	72.2	0.0	0.0	0.0	0.0	186	185.9	37.8	11.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.2	0.0	72.2	0.0	0.0	0.0	0.0	186	185.9	37.8	11.6	0.0
LOS by Move:	C	A	E	A	A	A	A	F	F	D	B	A
HCM2kAvgQ:	1	0	25	0	0	0	0	58	58	4	3	0

****

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

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Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
AM Peak Hour

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

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Intersection #3 Eight Mile Road/Mokelumne Circle

****

Cycle (sec): 130 Critical Vol./Cap.(X): 1.050
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 64.1
Optimal Cycle: 130 Level Of Service: E

****

Street Name:	Mokelumne Circle						Eight Mile Road					
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			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1 0 1			2 0 1 0 1			1 0 2 1 0			1 0 3 0 1		
Volume Module:												
Base Vol:	10	130	150	720	60	50	150	1710	40	20	860	280
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:	10	130	150	720	60	50	150	1710	40	20	860	280
Added Vol:	11	10	105	19	13	0	0	622	15	72	221	28
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	21	140	255	739	73	50	150	2332	55	92	1081	308
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:	23	152	277	803	79	54	163	2535	60	100	1175	335
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	152	277	803	79	54	163	2535	60	100	1175	335
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:	23	152	277	803	79	54	163	2535	60	100	1175	335
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.90	0.98	0.83	0.93	0.89	0.89	0.93	0.89	0.83
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	1.00	2.93	0.07	1.00	3.00	1.00
Final Sat.:	1769	1862	1583	3432	1862	1583	1769	4951	117	1769	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.01	0.08	0.18	0.23	0.04	0.03	0.09	0.51	0.51	0.06	0.23	0.21
Crit Moves:			****	****				****		****		
Green/Cycle:	0.10	0.11	0.17	0.22	0.24	0.24	0.15	0.49	0.49	0.05	0.39	0.61
Volume/Cap:	0.13	0.72	1.05	1.05	0.18	0.14	0.60	1.05	1.05	1.05	0.60	0.35
Delay/Veh:	54.2	67.5	123.4	97.1	39.4	39.1	54.8	66.4	66.4	168.1	32.3	12.8
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:	54.2	67.5	123.4	97.1	39.4	39.1	54.8	66.4	66.4	168.1	32.3	12.8
LOS by Move:	D	E	F	F	D	D	D	E	E	F	C	B
HCM2kAvgQ:	1	7	17	23	2	2	7	48	48	7	12	4

****

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

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Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6329		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6329		3433	6408	1770	2787
Volume (vph)	3054	273	875	1340	141	674
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3320	297	951	1457	153	733
RTOR Reduction (vph)	9	0	0	0	0	0
Lane Group Flow (vph)	3608	0	951	1457	153	733
Turn Type			Prot			pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases						4
Actuated Green, G (s)	60.9		39.1	104.0	17.0	56.1
Effective Green, g (s)	61.9		39.1	105.0	17.0	56.1
Actuated g/C Ratio	0.48		0.30	0.81	0.13	0.43
Clearance Time (s)	5.0		4.0	5.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3014		1033	5176	231	1288
v/s Ratio Prot	c0.57		c0.28	0.23	c0.09	0.17
v/s Ratio Perm						0.09
v/c Ratio	1.20		0.92	0.28	0.66	0.57
Uniform Delay, d1	34.0		43.9	3.1	53.8	27.8
Progression Factor	1.00		1.23	1.34	1.00	1.00
Incremental Delay, d2	92.1		8.6	0.1	7.0	0.6
Delay (s)	126.2		62.6	4.3	60.7	28.4
Level of Service	F		E	A	E	C
Approach Delay (s)	126.2			27.3	34.0	
Approach LOS	F			C	C	

Intersection Summary			
HCM Average Control Delay	79.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.6%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.86	0.86	0.97	0.95					0.95	0.95	1.00
Frt		0.95	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		4568	1362	3433	3539					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		4568	1362	3433	3539					1681	1681	1583
Volume (vph)	0	1758	1970	1030	2008	0	0	0	0	530	0	206
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	1911	2141	1120	2183	0	0	0	0	576	0	224
RTOR Reduction (vph)	0	64	292	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2787	909	1120	2183	0	0	0	0	288	288	224
Turn Type			Perm	Prot						Perm		Free
Protected Phases		2		1	6						4	
Permitted Phases			2							4		Free
Actuated Green, G (s)		58.4	58.4	32.0	94.4					25.6	25.6	130.0
Effective Green, g (s)		59.4	59.4	32.0	95.4					26.6	26.6	130.0
Actuated g/C Ratio		0.46	0.46	0.25	0.73					0.20	0.20	1.00
Clearance Time (s)		5.0	5.0	4.0	5.0					5.0	5.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		2087	622	845	2597					344	344	1583
v/s Ratio Prot		0.62		c0.33	0.62							
v/s Ratio Perm			0.88							0.17	0.17	0.14
v/c Ratio		1.34	1.46	1.33	0.84					0.84	0.84	0.14
Uniform Delay, d1		35.3	35.3	49.0	12.0					49.6	49.6	0.0
Progression Factor		0.68	1.42	0.64	0.95					1.00	1.00	1.00
Incremental Delay, d2		151.2	208.7	149.2	1.4					16.1	16.1	0.2
Delay (s)		175.3	258.9	180.6	12.8					65.7	65.7	0.2
Level of Service		F	F	F	B					E	E	A
Approach Delay (s)		200.1			69.7			0.0			47.3	
Approach LOS		F			E			A			D	

Intersection Summary			
HCM Average Control Delay	132.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.52		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	158.8%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.86		0.95	0.95	1.00			
Frt	1.00	1.00			0.97		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			6240		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			6240		1681	1681	1583			
Volume (vph)	192	2096	0	0	2086	440	953	0	910	0	0	0
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)	206	2254	0	0	2243	473	1025	0	978	0	0	0
RTOR Reduction (vph)	0	0	0	0	27	0	0	0	0	0	0	0
Lane Group Flow (vph)	206	2254	0	0	2689	0	513	512	978	0	0	0
Turn Type	Prot						Perm		Free			
Protected Phases	5	2			6			8				
Permitted Phases							8		Free			
Actuated Green, G (s)	18.3	78.7			56.4		42.3	42.3	130.0			
Effective Green, g (s)	18.3	79.7			57.4		42.3	42.3	130.0			
Actuated g/C Ratio	0.14	0.61			0.44		0.33	0.33	1.00			
Clearance Time (s)	4.0	5.0			5.0		4.0	4.0				
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Lane Grp Cap (vph)	249	2170			2755		547	547	1583			
v/s Ratio Prot	0.12	c0.64			0.43							
v/s Ratio Perm							c0.31	0.30	0.62			
v/c Ratio	0.83	1.04			0.98		0.94	0.94	0.62			
Uniform Delay, d1	54.3	25.1			35.6		42.6	42.5	0.0			
Progression Factor	1.32	0.35			0.61		1.00	1.00	1.00			
Incremental Delay, d2	2.2	19.2			11.0		23.8	23.5	1.8			
Delay (s)	74.0	28.0			32.9		66.4	66.1	1.8			
Level of Service	E	C			C		E	E	A			
Approach Delay (s)		31.9			32.9			34.8			0.0	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM Average Control Delay	33.1	HCM Level of Service	C
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	126.1%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		1.00	0.86	1.00		1.00		0.97	1.00	0.88
Frt	1.00	1.00		1.00	1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	1.00
Satd. Flow (prot)	3433	6404		1770	6408	1583		1750		3433	1863	2787
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	1.00
Satd. Flow (perm)	3433	6404		1770	6408	1583		1750		3433	1863	2787
Volume (vph)	560	2436	10	10	1930	30	10	10	10	240	10	586
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	560	2436	10	10	1930	30	10	10	10	240	10	586
RTOR Reduction (vph)	0	0	0	0	0	14	0	10	0	0	0	506
Lane Group Flow (vph)	560	2446	0	10	1930	16	0	20	0	240	10	80
Turn Type	Prot			Prot		Perm	Split			Split		Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases						6						4
Actuated Green, G (s)	31.2	91.0		0.8	60.6	60.6		2.4		17.8	17.8	17.8
Effective Green, g (s)	31.2	92.0		0.8	61.6	61.6		3.4		17.8	17.8	17.8
Actuated g/C Ratio	0.24	0.71		0.01	0.47	0.47		0.03		0.14	0.14	0.14
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0		5.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	824	4532		11	3036	750		46		470	255	382
v/s Ratio Prot	c0.16	0.38		0.01	c0.30			c0.02		0.07	0.01	
v/s Ratio Perm						0.02						0.21
v/c Ratio	0.68	0.54		0.91	0.64	0.02		0.44		0.51	0.04	0.21
Uniform Delay, d1	44.9	9.0		64.6	25.8	18.2		62.4		52.1	48.7	49.9
Progression Factor	0.64	0.27		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.9	0.2		217.6	1.0	0.1		6.6		0.9	0.1	0.3
Delay (s)	29.7	2.6		282.1	26.8	18.2		69.0		53.0	48.7	50.1
Level of Service	C	A		F	C	B		E		D	D	D
Approach Delay (s)		7.7			27.9			69.0			50.9	
Approach LOS		A			C			E			D	

Intersection Summary			
HCM Average Control Delay	21.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
AM Peak Hour

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

Intersection #8 Eight Mile Road/Thornton Road

Cycle (sec): 130 Critical Vol./Cap.(X): 1.214
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 108.7
Optimal Cycle: 130 Level Of Service: F

Street Name:	Thornton Road									Eight Mile Road								
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					Include					Ovl					Ovl				
Min. Green:	4	10	0			4	10	0			4	10	0			4	10	0		
Lanes:	1	0	2	0	1	1	0	2	0	1	2	0	4	0	1	2	0	3	1	0
Volume Module:																				
Base Vol:	280	500	430			420	1170	120			140	1670	630			540	1320	600		
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:	280	500	430			420	1170	120			140	1670	630			540	1320	600		
Added Vol:	73	49	140			0	37	39			71	249	86			68	157	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	353	549	570			420	1207	159			211	1919	716			608	1477	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:	0.94	0.94	0.94			0.94	0.94	0.94			0.94	0.94	0.94			0.94	0.94	0.94		
PHF Volume:	376	584	606			447	1284	169			224	2041	762			647	1571	638		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
Reduced Vol:	376	584	606			447	1284	169			224	2041	762			647	1571	638		
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:	376	584	606			447	1284	169			224	2041	762			647	1571	638		
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900			1900	1900	1900			1900	1900	1900			1900	1900	1900		
Adjustment:	0.93	0.93	0.83			0.93	0.93	0.83			0.90	0.89	0.83			0.90	0.85	0.85		
Lanes:	1.00	2.00	1.00			1.00	2.00	1.00			2.00	4.00	1.00			2.00	3.00	1.00		
Final Sat.:	1769	3538	1583			1769	3538	1583			3432	6778	1583			3432	4865	1622		
Capacity Analysis Module:																				
Vol/Sat:	0.21	0.17	0.38			0.25	0.36	0.11			0.07	0.30	0.48			0.19	0.32	0.39		
Crit Moves:	****						****					****				****				
Green/Cycle:	0.17	0.21	0.36			0.27	0.30	0.30			0.07	0.25	0.42			0.16	0.34	0.60		
Volume/Cap:	1.21	0.80	1.06			0.94	1.21	0.36			0.96	1.21	1.14			1.21	0.96	0.65		
Delay/Veh:	176.1	55.4	96.1			74.5	151	36.2			108.9	151	117.0			167.8	53.9	17.4		
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:	176.1	55.4	96.1			74.5	151	36.2			108.9	151	117.0			167.8	53.9	17.4		
LOS by Move:	F	E	F			E	F	D			F	F	F			F	D	B		
HCM2kAvgQ:	26	13	33			22	44	5			8	37	45			23	27	12		

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

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Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
AM Peak Hour

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

****

Intersection #9 Eight Mile Road/Davis Street

****

Cycle (sec): 130 Critical Vol./Cap.(X): 0.952
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 47.0
Optimal Cycle: 130 Level Of Service: D

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Street Name:	Davis Street						Eight Mile Road					
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			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 0 1			1 0 2 0 1			2 0 4 0 1			2 0 4 0 1		
Volume Module:												
Base Vol:	240	200	660	30	470	170	160	1740	750	520	1590	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	240	200	660	30	470	170	160	1740	750	520	1590	40
Added Vol:	25	0	0	0	0	41	70	276	42	0	160	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	265	200	660	30	470	211	230	2016	792	520	1750	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	282	213	702	32	500	224	245	2145	843	553	1862	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	282	213	702	32	500	224	245	2145	843	553	1862	43
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	213	702	32	500	224	245	2145	843	553	1862	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.93	0.83	0.90	0.89	0.83	0.90	0.89	0.83
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	4.00	1.00	2.00	4.00	1.00
Final Sat.:	1769	3538	1583	1769	3538	1583	3432	6778	1583	3432	6778	1583
Capacity Analysis Module:												
Vol/Sat:	0.16	0.06	0.44	0.02	0.14	0.14	0.07	0.32	0.53	0.16	0.27	0.03
Crit Moves:			****	****					****	****		
Green/Cycle:	0.17	0.29	0.46	0.03	0.15	0.27	0.11	0.39	0.56	0.17	0.44	0.44
Volume/Cap:	0.93	0.21	0.97	0.59	0.93	0.53	0.63	0.82	0.95	0.97	0.63	0.06
Delay/Veh:	86.8	34.7	59.1	77.7	77.3	42.1	58.1	37.9	47.2	82.6	28.6	21.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	86.8	34.7	59.1	77.7	77.3	42.1	58.1	37.9	47.2	82.6	28.6	21.0
LOS by Move:	F	C	E	E	E	D	E	D	D	F	C	C
HCM2kAvgQ:	15	3	32	2	14	8	6	22	35	16	14	1

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

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Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
AM Peak Hour

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

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Intersection #10 Eight Mile Road/Lower Sacramento Road

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Cycle (sec): 130 Critical Vol./Cap.(X): 1.101
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 72.5
Optimal Cycle: 130 Level Of Service: E

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Street Name:	Lower Sacramento Road									Eight Mile Road								
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					Include				
Min. Green:	4	10		0		4	10		0		4	10		0		4	10		0	
Lanes:	2	0	2	0	1	2	0	2	0	1	2	0	4	0	1	2	0	3	1	0
Volume Module:																				
Base Vol:	140	430		590		180	670		90		200	2490		320		870	1830		110	
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:	140	430		590		180	670		90		200	2490		320		870	1830		110	
Added Vol:	16	33		1		0	23		40		65	177		34		0	104		0	
PasserByVol:	0	0		0		0	0		0		0	0		0		0	0		0	
Initial Fut:	156	463		591		180	693		130		265	2667		354		870	1934		110	
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:	170	503		642		196	753		141		288	2899		385		946	2102		120	
Reduct Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
Reduced Vol:	170	503		642		196	753		141		288	2899		385		946	2102		120	
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:	170	503		642		196	753		141		288	2899		385		946	2102		120	
Saturation Flow Module:																				
Sat/Lane:	1900	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900	
Adjustment:	0.90	0.93		0.83		0.90	0.93		0.83		0.90	0.89		0.83		0.90	0.88		0.88	
Lanes:	2.00	2.00		1.00		2.00	2.00		1.00		2.00	4.00		1.00		2.00	3.78		0.22	
Final Sat.:	3432	3538		1583		3432	3538		1583		3432	6778		1583		3432	6362		362	
Capacity Analysis Module:																				
Vol/Sat:	0.05	0.14		0.41		0.06	0.21		0.09		0.08	0.43		0.24		0.28	0.33		0.33	
Crit Moves:	****						****					****				****				
Green/Cycle:	0.04	0.17		0.42		0.07	0.19		0.32		0.13	0.39		0.39		0.25	0.51		0.51	
Volume/Cap:	1.10	0.84		0.97		0.84	1.10		0.28		0.65	1.10		0.63		1.10	0.65		0.65	
Delay/Veh:	164.3	62.1		63.2		82.1	118		33.0		57.1	91.8		34.2		110.9	23.8		23.8	
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:	164.3	62.1		63.2		82.1	118		33.0		57.1	91.8		34.2		110.9	23.8		23.8	
LOS by Move:	F	E		E		F	F		C		E	F		C		F	C		C	
HCM2kAvgQ:	7	12		30		6	24		4		7	44		11		29	14		14	

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

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Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
AM Peak Hour

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

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Intersection #11 Eight Mile Road/West Lane

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Cycle (sec):	130	Critical Vol./Cap.(X):	1.524
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	148.5
Optimal Cycle:	130	Level Of Service:	F

****

Street Name:	West Lane						Eight Mile Road					
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			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 2 0 1			2 0 2 0 1			2 0 3 1 0			2 0 3 0 1		
Volume Module:												
Base Vol:	480	370	160	110	900	550	320	2470	1150	580	1730	40
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:	480	370	160	110	900	550	320	2470	1150	580	1730	40
Added Vol:	3	0	0	0	0	28	48	124	6	0	73	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	483	370	160	110	900	578	368	2594	1156	580	1803	40
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:	503	385	167	115	938	602	383	2702	1204	604	1878	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	503	385	167	115	938	602	383	2702	1204	604	1878	42
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:	503	385	167	115	938	602	383	2702	1204	604	1878	42
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.93	0.83	0.90	0.93	0.83	0.90	0.85	0.85	0.90	0.89	0.83
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.:	3432	3538	1583	3432	3538	1583	3432	4849	1616	3432	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.15	0.11	0.11	0.03	0.26	0.38	0.11	0.56	0.74	0.18	0.37	0.03
Crit Moves:	****					****			****	****		
Green/Cycle:	0.10	0.21	0.32	0.06	0.18	0.32	0.14	0.49	0.49	0.12	0.46	0.46
Volume/Cap:	1.52	0.52	0.32	0.52	1.50	1.20	0.80	1.14	1.52	1.52	0.80	0.06
Delay/Veh:	309.4	46.4	33.6	61.2	288	152.9	63.1	100	271.0	305.8	31.6	19.2
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:	309.4	46.4	33.6	61.2	288	152.9	63.1	100	271.0	305.8	31.6	19.2
LOS by Move:	F	D	C	E	F	F	E	F	F	F	C	B
HCM2kAvgQ:	23	7	4	3	41	39	10	57	107	27	22	1

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

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Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
AM Peak Hour

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

Intersection #12 Eight Mile Road/SR 99 Frontage

Cycle (sec):	130	Critical Vol./Cap.(X):	1.181
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	113.7
Optimal Cycle:	130	Level Of Service:	F

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected						Protected						Protected					
Rights:	Ovl						Include						Include						Include					
Min. Green:	4	10		0			4	10		0			4	10		0			4	10		0		
Lanes:	1	0	1	0	1		1	0	1	0	1		1	0	3	1	0		1	0	3	1	0	
Volume Module:																								
Base Vol:	290	20		290			30	30		10			10	2710		830			450	2010		20		
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:	290	20		290			30	30		10			10	2710		830			450	2010		20		
Added Vol:	0	0		0			0	0		0			0	124		0			0	73		0		
PasserByVol:	0	0		0			0	0		0			0	0		0			0	0		0		
Initial Fut:	290	20		290			30	30		10			10	2834		830			450	2083		20		
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:	302	21		302			31	31		10			10	2952		865			469	2170		21		
Reduct Vol:	0	0		0			0	0		0			0	0		0			0	0		0		
Reduced Vol:	302	21		302			31	31		10			10	2952		865			469	2170		21		
PCE Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
MLF Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
Final Vol.:	302	21		302			31	31		10			10	2952		865			469	2170		21		
Saturation Flow Module:																								
Sat/Lane:	1900	1900		1900			1900	1900		1900			1900	1900		1900			1900	1900		1900		
Adjustment:	0.93	0.98		0.83			0.93	0.98		0.83			0.93	0.86		0.86			0.93	0.89		0.89		
Lanes:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	3.09		0.91			1.00	3.96		0.04		
Final Sat.:	1769	1862		1583			1769	1862		1583			1769	5064		1483			1769	6707		64		
Capacity Analysis Module:																								
Vol/Sat:	0.17	0.01		0.19			0.02	0.02		0.01			0.01	0.58		0.58			0.26	0.32		0.32		
Crit Moves:	****							****						****					****					
Green/Cycle:	0.13	0.15		0.36			0.06	0.08		0.08			0.06	0.46		0.46			0.21	0.61		0.61		
Volume/Cap:	1.27	0.07		0.53			0.29	0.22		0.09			0.10	1.27		1.27			1.27	0.53		0.53		
Delay/Veh:	208.0	47.5		34.0			60.0	57.1		56.1			58.5	161		161.0			194.1	14.9		14.9		
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:	208.0	47.5		34.0			60.0	57.1		56.1			58.5	161		161.0			194.1	14.9		14.9		
LOS by Move:	F	D		C			E	E		E			E	F		F			F	B		B		
HCM2kAvgQ:	22	1		10			1	1		0			0	70		70			33	14		14		

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

Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
AM Peak Hour

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

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Intersection #13 Mokelumne Circle/Scott Creek Drive

****

Cycle (sec):	65	Critical Vol./Cap.(X):	0.364
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	17.8
Optimal Cycle:	36	Level Of Service:	B

****

Street Name:	Mokelumne Circle						Scott Creek Drive					
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:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 0 1 0			1 0 0 1 0			1 0 0 1 0			1 0 0 1 0		
Volume Module:												
Base Vol:	10	90	10	70	30	20	180	60	10	10	10	20
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:	10	90	10	70	30	20	180	60	10	10	10	20
Added Vol:	2	53	0	19	20	62	65	100	1	0	55	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	143	10	89	50	82	245	160	11	10	65	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:	13	155	11	97	54	89	266	174	12	11	71	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	155	11	97	54	89	266	174	12	11	71	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
Final Vol.:	13	155	11	97	54	89	266	174	12	11	71	29
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.65	0.97	0.97	0.61	0.89	0.89	0.93	0.97	0.97	0.93	0.94	0.94
Lanes:	1.00	0.93	0.07	1.00	0.38	0.62	1.00	0.94	0.06	1.00	0.71	0.29
Final Sat.:	1229	1723	120	1158	640	1049	1769	1725	119	1769	1258	522
Capacity Analysis Module:												
Vol/Sat:	0.01	0.09	0.09	0.08	0.08	0.08	0.15	0.10	0.10	0.01	0.06	0.06
Crit Moves:		****					****				****	
Green/Cycle:	0.25	0.25	0.25	0.25	0.25	0.25	0.41	0.41	0.41	0.16	0.15	0.15
Volume/Cap:	0.04	0.36	0.36	0.34	0.34	0.34	0.36	0.25	0.25	0.04	0.36	0.36
Delay/Veh:	18.6	20.7	20.7	20.8	20.6	20.6	13.5	13.0	13.0	23.0	25.5	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:	18.6	20.7	20.7	20.8	20.6	20.6	13.5	13.0	13.0	23.0	25.5	25.5
LOS by Move:	B	C	C	C	C	C	B	B	B	C	C	C
HCM2kAvgQ:	0	3	3	2	2	2	3	2	2	0	2	2

****

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

Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
AM Peak Hour

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

Intersection #14 Trinity Parkway/Consumnes Drive

Cycle (sec):	130	Critical Vol./Cap.(X):	1.027
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	83.3
Optimal Cycle:	130	Level Of Service:	F

Street Name:	Trinity Parkway						Consumnes Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1	1 0		1 0 1	1 0		1 0 0	1 0		1 0 1	0 1	
Volume Module:												
Base Vol:	110	280	0	60	150	240	90	0	670	0	0	50
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:	110	280	0	60	150	240	90	0	670	0	0	50
Added Vol:	31	501	64	68	437	10	32	12	84	33	11	12
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	141	781	64	128	587	250	122	12	754	33	11	62
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:	153	849	70	139	638	272	133	13	820	36	12	67
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	153	849	70	139	638	272	133	13	820	36	12	67
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	153	849	70	139	638	272	133	13	820	36	12	67
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.92	0.92	0.93	0.89	0.89	0.93	0.83	0.83	0.93	0.98	0.83
Lanes:	1.00	1.85	0.15	1.00	1.40	0.60	1.00	0.02	0.98	1.00	1.00	1.00
Final Sat.:	1769	3234	265	1769	2369	1009	1769	25	1562	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.09	0.26	0.26	0.08	0.27	0.27	0.07	0.52	0.52	0.02	0.01	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.08	0.26	0.26	0.08	0.26	0.26	0.26	0.50	0.50	0.03	0.27	0.35
Volume/Cap:	1.04	1.00	1.00	1.00	1.04	1.04	0.28	1.04	1.04	0.66	0.02	0.12
Delay/Veh:	145.0	76.9	76.9	135.3	89.8	89.8	38.4	75.2	75.2	88.3	34.8	28.8
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:	145.0	76.9	76.9	135.3	89.8	89.8	38.4	75.2	75.2	88.3	34.8	28.8
LOS by Move:	F	E	E	F	F	F	D	E	E	F	C	C
HCM2kAvgQ:	10	25	25	9	26	26	4	43	43	3	0	2

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

Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
AM Peak Hour

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

Intersection #15 Trinity Parkway/McAuliffe Road

Cycle (sec):	65	Critical Vol./Cap.(X):	0.515
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	11.2
Optimal Cycle:	39	Level Of Service:	B

Street Name:	Trinity Parkway						McAuliffe Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Permitted			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	0 0 1	1 0		1 0 2	0 0		0 0 0	0 0		1 0 0	0 1	
Volume Module:												
Base Vol:	0	360	40	30	790	0	0	0	0	90	0	80
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	360	40	30	790	0	0	0	0	90	0	80
Added Vol:	0	638	65	94	421	0	0	0	0	22	0	88
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	998	105	124	1211	0	0	0	0	112	0	168
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:	0	1085	114	135	1316	0	0	0	0	122	0	183
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1085	114	135	1316	0	0	0	0	122	0	183
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1085	114	135	1316	0	0	0	0	122	0	183
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.92	0.92	0.93	0.93	1.00	1.00	1.00	1.00	0.75	1.00	0.83
Lanes:	0.00	1.81	0.19	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3156	332	1769	3538	0	0	0	0	1432	0	1583
Capacity Analysis Module:												
Vol/Sat:	0.00	0.34	0.34	0.08	0.37	0.00	0.00	0.00	0.00	0.09	0.00	0.12
Crit Moves:		****		****							****	
Green/Cycle:	0.00	0.54	0.54	0.12	0.66	0.00	0.00	0.00	0.00	0.15	0.00	0.27
Volume/Cap:	0.00	0.63	0.63	0.63	0.56	0.00	0.00	0.00	0.00	0.55	0.00	0.42
Delay/Veh:	0.0	11.1	11.1	33.4	6.2	0.0	0.0	0.0	0.0	28.5	0.0	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:	0.0	11.1	11.1	33.4	6.2	0.0	0.0	0.0	0.0	28.5	0.0	20.0
LOS by Move:	A	B	B	C	A	A	A	A	A	C	A	C
HCM2kAvgQ:	0	8	8	4	4	0	0	0	0	3	0	3

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

Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
AM Peak Hour

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

Intersection #16 Thornton Road/A.G. Spanos Boulevard (South)

Cycle (sec):	110	Critical Vol./Cap.(X):	0.956
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	34.0
Optimal Cycle:	130	Level Of Service:	C

Street Name:	Thornton Road						A.G. Spanos Boulevard (South)					
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			Permitted			Permitted		
Rights:	Include			Include			Ovl			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 1 0			1 0 2 1 0			0 1 0 0 1			0 1 0 0 1		
Volume Module:												
Base Vol:	200	1000	60	20	2410	50	60	10	380	150	10	30
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:	200	1000	60	20	2410	50	60	10	380	150	10	30
Added Vol:	56	155	9	0	113	4	4	0	55	3	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	256	1155	69	20	2523	54	64	10	435	153	10	30
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:	278	1255	75	22	2742	59	70	11	473	166	11	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	278	1255	75	22	2742	59	70	11	473	166	11	33
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	278	1255	75	22	2742	59	70	11	473	166	11	33
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.88	0.88	0.93	0.89	0.89	0.66	0.66	0.83	0.66	0.66	0.83
Lanes:	1.00	2.83	0.17	1.00	2.94	0.06	0.86	0.14	1.00	0.94	0.06	1.00
Final Sat.:	1769	4758	284	1769	4962	106	1077	168	1583	1174	77	1583
Capacity Analysis Module:												
Vol/Sat:	0.16	0.26	0.26	0.01	0.55	0.55	0.06	0.06	0.30	0.14	0.14	0.02
Crit Moves:	****				****				****			
Green/Cycle:	0.16	0.65	0.65	0.09	0.58	0.58	0.15	0.15	0.31	0.15	0.15	0.15
Volume/Cap:	0.96	0.40	0.40	0.14	0.96	0.96	0.44	0.44	0.96	0.96	0.96	0.14
Delay/Veh:	86.3	9.1	9.1	46.5	30.5	30.5	44.3	44.3	66.5	100.0	xxxx	41.0
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:	86.3	9.1	9.1	46.5	30.5	30.5	44.3	44.3	66.5	100.0	xxxx	41.0
LOS by Move:	F	A	A	D	C	C	D	D	E	F	F	D
HCM2kAvgQ:	14	4	4	1	36	36	3	3	20	10	10	1

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

Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
AM Peak Hour

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

Intersection #17 Thornton Road/Wagner Heights

Cycle (sec):	110	Critical Vol./Cap.(X):	0.877
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	35.1
Optimal Cycle:	113	Level Of Service:	D

Street Name:	Thornton Road						Wagner Heights					
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:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 1 0			1 0 2 1 0			1 0 1 0 1			1 0 1 0 1		
Volume Module:												
Base Vol:	90	570	70	380	2180	120	100	180	180	120	180	250
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:	90	570	70	380	2180	120	100	180	180	120	180	250
Added Vol:	23	113	0	0	178	0	0	0	62	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	113	683	70	380	2358	120	100	180	242	120	180	250
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:	118	711	73	396	2456	125	104	188	252	125	188	260
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	118	711	73	396	2456	125	104	188	252	125	188	260
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	118	711	73	396	2456	125	104	188	252	125	188	260
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.88	0.88	0.93	0.89	0.89	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	2.72	0.28	1.00	2.85	0.15	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1769	4546	466	1769	4803	244	1769	1862	1583	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.07	0.16	0.16	0.22	0.51	0.51	0.06	0.10	0.16	0.07	0.10	0.16
Crit Moves:	****				****			****		****		
Green/Cycle:	0.08	0.27	0.27	0.39	0.58	0.58	0.07	0.11	0.19	0.08	0.12	0.51
Volume/Cap:	0.88	0.58	0.58	0.58	0.88	0.88	0.82	0.88	0.84	0.88	0.82	0.32
Delay/Veh:	93.4	35.2	35.2	27.8	22.9	22.9	82.3	78.8	60.7	91.4	66.9	16.0
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:	93.4	35.2	35.2	27.8	22.9	22.9	82.3	78.8	60.7	91.4	66.9	16.0
LOS by Move:	F	D	D	C	C	C	F	E	E	F	E	B
HCM2kAvgQ:	6	8	8	10	26	26	6	9	11	7	8	4

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3539	1583	3433	3539	1583
Volume (vph)	327	1530	317	193	482	414	108	362	194	827	293	132
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)	355	1663	345	210	524	450	117	393	211	899	318	143
RTOR Reduction (vph)	0	0	113	0	0	316	0	0	132	0	0	101
Lane Group Flow (vph)	355	1663	232	210	524	134	117	393	79	899	318	42
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	29.0	55.6	55.6	12.0	38.6	38.6	7.8	19.4	19.4	27.0	38.6	38.6
Effective Green, g (s)	29.0	55.6	55.6	12.0	38.6	38.6	7.8	19.4	19.4	27.0	38.6	38.6
Actuated g/C Ratio	0.22	0.43	0.43	0.09	0.30	0.30	0.06	0.15	0.15	0.21	0.30	0.30
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	395	1514	677	163	1051	470	206	528	236	713	1051	470
v/s Ratio Prot	0.20	c0.47		c0.12	0.15		0.03	c0.11		c0.26	0.09	
v/s Ratio Perm			0.15			0.08			0.05			0.03
v/c Ratio	0.90	1.10	0.34	1.29	0.50	0.28	0.57	0.74	0.34	1.26	0.30	0.09
Uniform Delay, d1	49.1	37.2	24.9	59.0	37.7	35.1	59.5	52.9	49.5	51.5	35.3	33.0
Progression Factor	1.00	1.00	1.00	0.89	0.81	0.94	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.8	55.0	1.4	164.7	1.5	1.4	3.6	5.6	0.8	128.5	0.2	0.1
Delay (s)	74.9	92.2	26.3	217.5	32.0	34.4	63.0	58.6	50.4	180.0	35.5	33.1
Level of Service	E	F	C	F	C	C	E	E	D	F	D	C
Approach Delay (s)		80.0			65.8			56.9			130.8	
Approach LOS		E			E			E			F	

Intersection Summary			
HCM Average Control Delay	86.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.9%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.86		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5037		1770	3523		1770	1595		1770	1815	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5037		1770	3523		1770	1595		1770	1815	
Volume (vph)	10	2399	163	120	994	30	84	10	230	60	50	10
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)	11	2608	177	130	1080	33	91	11	250	65	54	11
RTOR Reduction (vph)	0	4	0	0	1	0	0	227	0	0	6	0
Lane Group Flow (vph)	11	2781	0	130	1112	0	91	34	0	65	59	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	5.8	79.5		14.0	87.7		10.7	12.1		8.4	9.8	
Effective Green, g (s)	5.8	79.5		14.0	87.7		10.7	12.1		8.4	9.8	
Actuated g/C Ratio	0.04	0.61		0.11	0.67		0.08	0.09		0.06	0.08	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	79	3080		191	2377		146	148		114	137	
v/s Ratio Prot	0.01	c0.55		c0.07	0.32		c0.05	0.02		0.04	c0.03	
v/s Ratio Perm												
v/c Ratio	0.14	0.90		0.68	0.47		0.62	0.23		0.57	0.43	
Uniform Delay, d1	59.7	21.9		55.8	10.1		57.7	54.6		59.0	57.4	
Progression Factor	1.28	0.27		1.32	0.39		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.5		9.0	0.6		8.0	0.8		6.7	2.1	
Delay (s)	76.5	6.4		82.7	4.6		65.7	55.4		65.8	59.6	
Level of Service	E	A		F	A		E	E		E	E	
Approach Delay (s)		6.7			12.7			58.1			62.7	
Approach LOS		A			B			E			E	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	88.0%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	
Lane Util. Factor		0.91		1.00	0.95					1.00	1.00	
Frt		0.90		1.00	1.00					1.00	0.85	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		4563		1770	3539					1770	1583	
Flt Permitted		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (perm)		4563		1770	3539					1770	1583	
Volume (vph)	0	848	1841	990	981	0	0	0	0	160	0	163
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	922	2001	1076	1066	0	0	0	0	174	0	177
RTOR Reduction (vph)	0	204	0	0	0	0	0	0	0	0	154	0
Lane Group Flow (vph)	0	2719	0	1076	1066	0	0	0	0	174	23	0
Turn Type				Prot						Split		
Protected Phases		2		1	6					4	4	
Permitted Phases												
Actuated Green, G (s)		55.9		45.0	104.9					17.1	17.1	
Effective Green, g (s)		55.9		45.0	104.9					17.1	17.1	
Actuated g/C Ratio		0.43		0.35	0.81					0.13	0.13	
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1962		613	2856					233	208	
v/s Ratio Prot		c0.64		c0.61	0.30					0.10	c0.11	
v/s Ratio Perm												
v/c Ratio		2.23dr		1.76	0.37					0.75	0.11	
Uniform Delay, d1		37.0		42.5	3.5					54.4	49.8	
Progression Factor		0.68		0.82	0.23					1.00	1.00	
Incremental Delay, d2		175.2		345.1	0.3					12.3	0.2	
Delay (s)		200.4		379.8	1.1					66.6	50.0	
Level of Service		F		F	A					E	D	
Approach Delay (s)		200.4			191.3			0.0			58.2	
Approach LOS		F			F			A			E	

Intersection Summary			
HCM Average Control Delay	187.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.50		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	118.1%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.91		0.95	0.95	1.00			
Frt	1.00	1.00			1.00		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			5068		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			5068		1681	1681	1583			
Volume (vph)	230	778	0	0	1282	30	689	0	400	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	250	846	0	0	1393	33	749	0	435	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	139	0	0	0
Lane Group Flow (vph)	250	846	0	0	1424	0	375	374	296	0	0	0
Turn Type	Prot						Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases									8			
Actuated Green, G (s)	21.2	87.9			62.7		34.1	34.1	34.1			
Effective Green, g (s)	21.2	87.9			62.7		34.1	34.1	34.1			
Actuated g/C Ratio	0.16	0.68			0.48		0.26	0.26	0.26			
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Lane Grp Cap (vph)	289	2393			2444		441	441	415			
v/s Ratio Prot	c0.14	0.24			c0.28		c0.22	0.22				
v/s Ratio Perm									0.19			
v/c Ratio	0.87	0.35			0.58		0.85	0.85	0.71			
Uniform Delay, d1	53.0	9.0			24.2		45.5	45.5	43.5			
Progression Factor	0.62	0.24			1.00		1.00	1.00	1.00			
Incremental Delay, d2	8.2	0.1			1.0		14.5	14.1	5.7			
Delay (s)	41.0	2.2			25.3		60.0	59.6	49.3			
Level of Service	D	A			C		E	E	D			
Approach Delay (s)		11.1			25.3			55.9			0.0	
Approach LOS		B			C			E			A	

Intersection Summary			
HCM Average Control Delay	30.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.6%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	3433	1863	1583	1770	3539	1583	3433	1859	
Flt Permitted	0.72	1.00	1.00	0.95	1.00	1.00	0.46	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1343	1863	1583	3433	1863	1583	861	3539	1583	3433	1859	
Volume (vph)	16	134	11	438	51	749	4	351	909	1486	491	6
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)	17	146	12	476	55	814	4	382	988	1615	534	7
RTOR Reduction (vph)	0	0	10	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	17	146	2	476	55	814	4	382	988	1615	541	0
Turn Type	Perm		Perm	Prot		Free	Perm		Free	Prot		
Protected Phases		2		1	6			4		3	8	
Permitted Phases	2		2			Free	4		Free			
Actuated Green, G (s)	20.8	20.8	20.8	19.8	43.6	130.0	18.4	18.4	130.0	54.0	76.4	
Effective Green, g (s)	20.8	20.8	20.8	19.8	44.6	130.0	19.4	19.4	130.0	54.0	77.4	
Actuated g/C Ratio	0.16	0.16	0.16	0.15	0.34	1.00	0.15	0.15	1.00	0.42	0.60	
Clearance Time (s)	4.0	4.0	4.0	4.0	5.0		5.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	215	298	253	523	639	1583	128	528	1583	1426	1107	
v/s Ratio Prot		0.08		c0.14	0.03			0.11		c0.47	0.29	
v/s Ratio Perm	0.01		0.00			0.51	0.00		c0.62			
v/c Ratio	0.08	0.49	0.01	0.91	0.09	0.51	0.03	0.72	0.62	1.13	0.49	
Uniform Delay, d1	46.5	49.8	45.9	54.2	28.9	0.0	47.3	52.7	0.0	38.0	15.0	
Progression Factor	1.00	1.00	1.00	1.22	1.81	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	5.7	0.1	18.2	0.2	1.1	0.1	4.9	1.9	69.0	0.3	
Delay (s)	47.2	55.4	46.0	84.4	52.7	1.1	47.4	57.6	1.9	107.0	15.3	
Level of Service	D	E	D	F	D	A	D	E	A	F	B	
Approach Delay (s)		54.0			32.7			17.5			84.0	
Approach LOS		D			C			B			F	

Intersection Summary			
HCM Average Control Delay	51.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.0%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.90	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5082		1770	5085	1583	1770	1589	1504	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5082		1770	5085	1583	1770	1589	1504	1770	1863	1583
Volume (vph)	10	2509	10	160	1218	314	10	30	150	583	50	10
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)	11	2727	11	174	1324	341	11	33	163	634	54	11
RTOR Reduction (vph)	0	0	0	0	0	156	0	63	84	0	0	8
Lane Group Flow (vph)	11	2738	0	174	1324	185	11	40	9	634	54	3
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	1.8	54.5		13.0	65.7	65.7	11.5	11.5	11.5	32.0	32.0	32.0
Effective Green, g (s)	1.8	55.5		13.0	66.7	66.7	12.5	12.5	12.5	33.0	33.0	33.0
Actuated g/C Ratio	0.01	0.43		0.10	0.51	0.51	0.10	0.10	0.10	0.25	0.25	0.25
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
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
Lane Grp Cap (vph)	25	2170		177	2609	812	170	153	145	449	473	402
v/s Ratio Prot	0.01	c0.54		c0.10	0.26		0.01	c0.06		c0.36	0.03	
v/s Ratio Perm						0.22			0.06			0.01
v/c Ratio	0.44	1.26		0.98	0.51	0.23	0.06	0.26	0.06	1.41	0.11	0.01
Uniform Delay, d1	63.6	37.2		58.4	20.8	17.5	53.4	54.5	53.4	48.5	37.3	36.3
Progression Factor	0.71	0.51		1.06	0.65	0.60	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.2	119.5		59.4	0.6	0.6	0.2	0.9	0.2	198.3	0.1	0.0
Delay (s)	50.5	138.4		121.4	14.3	11.0	53.6	55.4	53.6	246.8	37.4	36.3
Level of Service	D	F		F	B	B	D	E	D	F	D	D
Approach Delay (s)		138.0			23.8			54.5			227.3	
Approach LOS		F			C			D			F	

Intersection Summary			
HCM Average Control Delay	108.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	106.5%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.91					0.95	0.95	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3539	1583	3433	5085					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3539	1583	3433	5085					1681	1681	1583
Volume (vph)	0	1619	1622	1580	1538	0	0	0	0	742	0	154
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)	0	1741	1744	1699	1654	0	0	0	0	798	0	166
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	43
Lane Group Flow (vph)	0	1741	1744	1699	1654	0	0	0	0	399	399	123
Turn Type			Free	Prot						Perm		Perm
Protected Phases		2		1	6						4	
Permitted Phases			Free							4		4
Actuated Green, G (s)		46.0	130.0	45.0	95.0					25.0	25.0	25.0
Effective Green, g (s)		47.0	130.0	45.0	96.0					26.0	26.0	26.0
Actuated g/C Ratio		0.36	1.00	0.35	0.74					0.20	0.20	0.20
Clearance Time (s)		5.0		4.0	5.0					5.0	5.0	5.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		1279	1583	1188	3755					336	336	317
v/s Ratio Prot		c0.49		c0.49	0.33							
v/s Ratio Perm			c1.10							0.24	0.24	0.08
v/c Ratio		1.36	1.10	1.43	0.44					1.19	1.19	0.39
Uniform Delay, d1		41.5	65.0	42.5	6.6					52.0	52.0	45.1
Progression Factor		0.53	1.00	1.32	1.44					1.00	1.00	1.00
Incremental Delay, d2		163.0	46.9	196.0	0.2					110.3	110.3	0.8
Delay (s)		184.9	111.9	252.2	9.7					162.3	162.3	45.9
Level of Service		F	F	F	A					F	F	D
Approach Delay (s)		148.3			132.5			0.0			142.3	
Approach LOS		F			F			A			F	

Intersection Summary			
HCM Average Control Delay	140.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	116.0%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.81	1.00	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			7544	1583	1681	1681	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			7544	1583	1681	1681	2787			
Volume (vph)	262	2100	0	0	2234	431	884	0	680	0	0	0
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)	282	2258	0	0	2402	463	951	0	731	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	75	0	0	3	0	0	0
Lane Group Flow (vph)	282	2258	0	0	2402	388	476	475	728	0	0	0
Turn Type	Prot					Perm	Perm		custom			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		1 8			
Actuated Green, G (s)	26.7	70.1			47.4	47.4	41.9	41.9	49.9			
Effective Green, g (s)	26.7	71.1			48.4	48.4	42.9	42.9	50.9			
Actuated g/C Ratio	0.21	0.55			0.37	0.37	0.33	0.33	0.39			
Clearance Time (s)	4.0	5.0			5.0	5.0	5.0	5.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	364	1936			2809	589	555	555	1091			
v/s Ratio Prot	0.16	c0.64			c0.32							
v/s Ratio Perm						0.25	c0.28	0.28	0.26			
v/c Ratio	0.77	1.17			0.86	0.66	0.86	0.86	0.67			
Uniform Delay, d1	48.8	29.5			37.6	33.9	40.7	40.7	32.6			
Progression Factor	1.47	0.81			0.54	0.37	1.00	1.00	1.00			
Incremental Delay, d2	1.0	75.4			1.7	2.6	12.4	12.3	1.6			
Delay (s)	72.7	99.3			22.0	15.0	53.1	53.0	34.1			
Level of Service	E	F			C	B	D	D	C			
Approach Delay (s)		96.3			20.9			44.8			0.0	
Approach LOS		F			C			D			A	

Intersection Summary			
HCM Average Control Delay	53.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	116.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
AM Peak Hour

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

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Intersection #26 Hammer Lane/Thornton Road

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Cycle (sec): 130 Critical Vol./Cap.(X): 0.796
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 36.1
Optimal Cycle: 94 Level Of Service: D

****

Street Name:	Thornton Road									Hammer Lane								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected					Protected					Protected					Protected				
Rights:	Include					Include					Include					Ovl				
Min. Green:	4	10		0		4	10		0		4	10		0		4	10		0	
Lanes:	2	0	2	1	0	2	0	2	1	0	1	0	3	0	1	1	0	3	0	1
Volume Module:																				
Base Vol:	70	230		30		710	1210		80		50	1200		220		60	930		330	
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:	70	230		30		710	1210		80		50	1200		220		60	930		330	
Added Vol:	81	32		0		42	42		10		28	382		173		0	246		19	
PasserByVol:	0	0		0		0	0		0		0	0		0		0	0		0	
Initial Fut:	151	262		30		752	1252		90		78	1582		393		60	1176		349	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00		1.00	
PHF Adj:	0.94	0.94		0.94		0.94	0.94		0.94		0.94	0.94		0.94		0.94	0.94		0.94	
PHF Volume:	161	279		32		800	1332		96		83	1683		418		64	1251		371	
Reduct Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
Reduced Vol:	161	279		32		800	1332		96		83	1683		418		64	1251		371	
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:	161	279		32		800	1332		96		83	1683		418		64	1251		371	
Saturation Flow Module:																				
Sat/Lane:	1900	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900	
Adjustment:	0.90	0.88		0.88		0.90	0.88		0.88		0.93	0.89		0.83		0.93	0.89		0.83	
Lanes:	2.00	2.69		0.31		2.00	2.80		0.20		1.00	3.00		1.00		1.00	3.00		1.00	
Final Sat.:	3432	4493		514		3432	4695		337		1769	5083		1583		1769	5083		1583	
Capacity Analysis Module:																				
Vol/Sat:	0.05	0.06		0.06		0.23	0.28		0.28		0.05	0.33		0.26		0.04	0.25		0.23	
Crit Moves:	****						****					****				****				
Green/Cycle:	0.06	0.10		0.10		0.31	0.36		0.36		0.07	0.42		0.42		0.05	0.39		0.70	
Volume/Cap:	0.80	0.60		0.60		0.75	0.80		0.80		0.63	0.80		0.63		0.80	0.63		0.34	
Delay/Veh:	79.7	57.7		57.7		43.0	40.1		40.1		68.3	31.2		28.4		102.2	30.0		2.1	
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:	79.7	57.7		57.7		43.0	40.1		40.1		68.3	31.2		28.4		102.2	30.0		2.1	
LOS by Move:	E	E		E		D	D		D		E	C		C		F	C		A	
HCM2kAvgQ:	5	5		5		15	19		19		4	21		12		4	14		2	

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

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Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
AM Peak Hour

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

Intersection #27 Thornton Road/Whistler Way

Cycle (sec):	95	Critical Vol./Cap.(X):	0.838
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	29.3
Optimal Cycle:	94	Level Of Service:	C

Street Name:	Thornton Road						Whistler Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 3 1 0			1 0 2 1 0			1 0 1 0 1			1 0 0 1 0		
Volume Module:												
Base Vol:	40	970	80	100	2230	30	40	50	40	210	70	100
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:	40	970	80	100	2230	30	40	50	40	210	70	100
Added Vol:	0	159	0	15	117	19	20	0	0	0	0	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	40	1129	80	115	2347	49	60	50	40	210	70	106
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:	43	1227	87	125	2551	53	65	54	43	228	76	115
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	1227	87	125	2551	53	65	54	43	228	76	115
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:	43	1227	87	125	2551	53	65	54	43	228	76	115
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.88	0.88	0.93	0.89	0.89	0.93	0.98	0.83	0.93	0.89	0.89
Lanes:	1.00	3.74	0.26	1.00	2.94	0.06	1.00	1.00	1.00	1.00	0.40	0.60
Final Sat.:	1769	6266	444	1769	4964	104	1769	1862	1583	1769	674	1021
Capacity Analysis Module:												
Vol/Sat:	0.02	0.20	0.20	0.07	0.51	0.51	0.04	0.03	0.03	0.13	0.11	0.11
Crit Moves:	****				****			****		****		
Green/Cycle:	0.04	0.43	0.43	0.16	0.55	0.55	0.07	0.11	0.11	0.14	0.18	0.18
Volume/Cap:	0.58	0.45	0.45	0.45	0.94	0.94	0.56	0.28	0.26	0.94	0.64	0.64
Delay/Veh:	56.0	19.1	19.1	37.6	27.3	27.3	49.0	39.9	39.9	81.9	40.9	40.9
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:	56.0	19.1	19.1	37.6	27.3	27.3	49.0	39.9	39.9	81.9	40.9	40.9
LOS by Move:	E	B	B	D	C	C	D	D	D	F	D	D
HCM2kAvgQ:	2	6	6	4	29	29	3	2	1	10	6	6

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

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Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
PM Peak Hour

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

Intersection #1 Eight Mile Road/Westlake Drive

Cycle (sec):	130	Critical Vol./Cap.(X):	0.738
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	30.7
Optimal Cycle:	80	Level Of Service:	C

Street Name:	Westlake Drive						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 0 1 1			2 0 0 1 0			1 0 2 1 0			1 0 2 1 0		
Volume Module:												
Base Vol:	10	10	150	10	10	10	60	950	80	330	1120	70
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:	10	10	150	10	10	10	60	950	80	330	1120	70
Added Vol:	0	3	82	48	5	46	26	225	0	116	389	44
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	13	232	58	15	56	86	1175	80	446	1509	114
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:	11	14	252	63	16	61	93	1277	87	485	1640	124
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	14	252	63	16	61	93	1277	87	485	1640	124
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:	11	14	252	63	16	61	93	1277	87	485	1640	124
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.84	0.84	0.90	0.86	0.86	0.93	0.88	0.88	0.93	0.88	0.88
Lanes:	1.00	0.11	1.89	2.00	0.21	0.79	1.00	2.81	0.19	1.00	2.79	0.21
Final Sat.:	1769	170	3026	3432	347	1295	1769	4712	321	1769	4679	353
Capacity Analysis Module:												
Vol/Sat:	0.01	0.08	0.08	0.02	0.05	0.05	0.05	0.27	0.27	0.27	0.35	0.35
Crit Moves:		****		****				****		****		
Green/Cycle:	0.04	0.11	0.11	0.03	0.10	0.10	0.10	0.36	0.36	0.37	0.64	0.64
Volume/Cap:	0.15	0.74	0.74	0.60	0.46	0.46	0.55	0.74	0.74	0.74	0.55	0.55
Delay/Veh:	61.1	64.0	64.0	71.2	57.0	57.0	59.9	37.6	37.6	40.2	13.3	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:	61.1	64.0	64.0	71.2	57.0	57.0	59.9	37.6	37.6	40.2	13.3	13.3
LOS by Move:	E	E	E	E	E	E	E	D	D	D	B	B
HCM2kAvgQ:	1	7	7	2	3	3	4	17	17	17	8	8

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

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Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
PM Peak Hour

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

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Intersection #2 Eight Mile Road/Regatta Drive

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Cycle (sec): 130 Critical Vol./Cap.(X): 0.727
Loss Time (sec): 12 (Y+R=5.0 sec) Average Delay (sec/veh): 36.2
Optimal Cycle: 67 Level Of Service: D

****

Street Name:	Eight Mile Road						Regatta Drive					
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:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 0 0 2			0 0 0 0 0			0 0 2 1 0			2 0 4 0 0		
Volume Module:												
Base Vol:	70	0	300	0	0	0	0	1090	110	360	1510	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:	70	0	300	0	0	0	0	1090	110	360	1510	0
Added Vol:	12	0	106	0	0	0	0	343	13	159	537	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	82	0	406	0	0	0	0	1433	123	519	2047	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:	89	0	441	0	0	0	0	1558	134	564	2225	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	0	441	0	0	0	0	1558	134	564	2225	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:	89	0	441	0	0	0	0	1558	134	564	2225	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.59	1.00	0.73	1.00	1.00	1.00	1.00	0.88	0.88	0.90	0.89	1.00
Lanes:	2.00	0.00	2.00	0.00	0.00	0.00	0.00	2.76	0.24	2.00	4.00	0.00
Final Sat.:	2240	0	2786	0	0	0	0	4625	397	3432	6778	0
Capacity Analysis Module:												
Vol/Sat:	0.04	0.00	0.16	0.00	0.00	0.00	0.00	0.34	0.34	0.16	0.33	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.31	0.00	0.31	0.00	0.00	0.00	0.00	0.34	0.34	0.27	0.61	0.00
Volume/Cap:	0.13	0.00	0.51	0.00	0.00	0.00	0.00	0.99	0.99	0.61	0.54	0.00
Delay/Veh:	32.3	0.0	37.3	0.0	0.0	0.0	0.0	62.2	62.2	42.6	14.9	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:	32.3	0.0	37.3	0.0	0.0	0.0	0.0	62.2	62.2	42.6	14.9	0.0
LOS by Move:	C	A	D	A	A	A	A	E	E	D	B	A
HCM2kAvgQ:	1	0	8	0	0	0	0	31	31	10	8	0

****

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

Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
PM Peak Hour

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

****

Intersection #3 Eight Mile Road/Mokelumne Circle

****

Cycle (sec): 130 Critical Vol./Cap.(X): 0.917
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 41.9
Optimal Cycle: 130 Level Of Service: D

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Street Name:	Mokelumne Circle						Eight Mile Road					
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			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1 0 1			2 0 1 0 1			1 0 2 1 0			1 0 3 0 1		
Volume Module:												
Base Vol:	60	130	20	470	210	160	110	1220	20	210	1650	680
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	60	130	20	470	210	160	110	1220	20	210	1650	680
Added Vol:	23	5	51	37	32	0	0	429	20	77	673	58
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	83	135	71	507	242	160	110	1649	40	287	2323	738
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:	90	147	77	551	263	174	120	1792	43	312	2525	802
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	90	147	77	551	263	174	120	1792	43	312	2525	802
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:	90	147	77	551	263	174	120	1792	43	312	2525	802
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.90	0.98	0.83	0.93	0.89	0.89	0.93	0.89	0.83
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	1.00	2.93	0.07	1.00	3.00	1.00
Final Sat.:	1769	1862	1583	3432	1862	1583	1769	4943	120	1769	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.05	0.08	0.05	0.16	0.14	0.11	0.07	0.36	0.36	0.18	0.50	0.51
Crit Moves:		****		****			****				****	
Green/Cycle:	0.07	0.09	0.29	0.18	0.19	0.19	0.07	0.41	0.41	0.20	0.54	0.72
Volume/Cap:	0.74	0.92	0.17	0.92	0.74	0.57	0.92	0.88	0.88	0.88	0.92	0.71
Delay/Veh:	79.9	106	34.9	71.6	57.2	50.3	113.7	39.5	39.5	71.1	32.5	12.6
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:	79.9	106	34.9	71.6	57.2	50.3	113.7	39.5	39.5	71.1	32.5	12.6
LOS by Move:	E	F	C	E	E	D	F	D	D	E	C	B
HCM2kAvgQ:	5	9	2	15	11	7	8	26	26	15	34	6

****

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

Traffix 7.8.0115 (c) 2007 Dowling Assoc. Licensed to FEHR & PEERS, W.C.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.86		0.97	0.86	1.00	0.88
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6278		3433	6408	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6278		3433	6408	1770	2787
Volume (vph)	1927	301	1382	2969	380	1436
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	2072	324	1486	3192	409	1544
RTOR Reduction (vph)	21	0	0	0	0	0
Lane Group Flow (vph)	2375	0	1486	3192	409	1544
Turn Type			Prot			pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases						4
Actuated Green, G (s)	42.0		48.0	94.0	27.0	75.0
Effective Green, g (s)	43.0		48.0	95.0	27.0	75.0
Actuated g/C Ratio	0.33		0.37	0.73	0.21	0.58
Clearance Time (s)	5.0		4.0	5.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2077		1268	4683	368	1694
v/s Ratio Prot	c0.38		c0.43	0.50	c0.23	0.34
v/s Ratio Perm						0.22
v/c Ratio	1.14		1.17	0.68	1.11	0.91
Uniform Delay, d1	43.5		41.0	9.4	51.5	24.5
Progression Factor	1.00		0.87	0.22	1.00	1.00
Incremental Delay, d2	70.8		78.2	0.1	80.5	7.8
Delay (s)	114.3		114.0	2.2	132.0	32.4
Level of Service	F		F	A	F	C
Approach Delay (s)	114.3			37.7	53.2	
Approach LOS	F			D	D	

Intersection Summary			
HCM Average Control Delay	61.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	103.4%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.86	0.86	0.97	0.95					0.95	0.95	1.00
Frt		0.96	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		4622	1362	3433	3539					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		4622	1362	3433	3539					1681	1681	1583
Volume (vph)	0	1737	1625	990	4026	0	0	0	0	840	0	326
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	1848	1729	1053	4283	0	0	0	0	894	0	347
RTOR Reduction (vph)	0	47	340	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2432	758	1053	4283	0	0	0	0	447	447	347
Turn Type			Perm	Prot						Perm		Free
Protected Phases		2		1	6						4	
Permitted Phases			2							4		Free
Actuated Green, G (s)		53.0	53.0	30.0	87.0					33.0	33.0	130.0
Effective Green, g (s)		54.0	54.0	30.0	88.0					34.0	34.0	130.0
Actuated g/C Ratio		0.42	0.42	0.23	0.68					0.26	0.26	1.00
Clearance Time (s)		5.0	5.0	4.0	5.0					5.0	5.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1920	566	792	2396					440	440	1583
v/s Ratio Prot		0.54		0.31	c1.21							
v/s Ratio Perm			0.81							0.27	0.27	0.22
v/c Ratio		1.27	1.34	1.33	1.79					1.02	1.02	0.22
Uniform Delay, d1		38.0	38.0	50.0	21.0					48.0	48.0	0.0
Progression Factor		0.91	0.91	0.48	0.97					1.00	1.00	1.00
Incremental Delay, d2		120.3	154.0	149.1	354.6					47.0	47.0	0.3
Delay (s)		154.8	188.8	173.3	374.9					95.0	95.0	0.3
Level of Service		F	F	F	F					F	F	A
Approach Delay (s)		165.2			335.1			0.0			68.5	
Approach LOS		F			F			A			E	

Intersection Summary			
HCM Average Control Delay	242.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.62		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	198.1%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.86		0.95	0.95	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			6276		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			6276		1681	1681	1583			
Volume (vph)	272	2306	0	0	2838	450	2177	0	1100	0	0	0
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)	292	2480	0	0	3052	484	2341	0	1183	0	0	0
RTOR Reduction (vph)	0	0	0	0	22	0	0	0	0	0	0	0
Lane Group Flow (vph)	292	2480	0	0	3514	0	1171	1170	1183	0	0	0
Turn Type	Prot						Perm		Free			
Protected Phases	5	2			6			8				
Permitted Phases							8		Free			
Actuated Green, G (s)	17.0	65.0			44.0		56.0	56.0	130.0			
Effective Green, g (s)	17.0	66.0			45.0		56.0	56.0	130.0			
Actuated g/C Ratio	0.13	0.51			0.35		0.43	0.43	1.00			
Clearance Time (s)	4.0	5.0			5.0		4.0	4.0				
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Lane Grp Cap (vph)	231	1797			2172		724	724	1583			
v/s Ratio Prot	0.17	c0.70			c0.56							
v/s Ratio Perm							c0.70	0.70	0.75			
v/c Ratio	1.26	1.38			1.62		1.62	1.62	0.75			
Uniform Delay, d1	56.5	32.0			42.5		37.0	37.0	0.0			
Progression Factor	1.14	1.32			0.50		1.00	1.00	1.00			
Incremental Delay, d2	122.1	171.4			279.1		284.2	283.6	3.3			
Delay (s)	186.6	213.5			300.4		321.2	320.6	3.3			
Level of Service	F	F			F		F	F	A			
Approach Delay (s)		210.7			300.4			214.3			0.0	
Approach LOS		F			F			F			A	

Intersection Summary			
HCM Average Control Delay	244.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.60		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	176.7%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		1.00	0.86	1.00		1.00		0.97	1.00	0.88
Frt	1.00	1.00		1.00	1.00	0.85		0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	1.00
Satd. Flow (prot)	3433	6404		1770	6408	1583		1750		3433	1863	2787
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	1.00
Satd. Flow (perm)	3433	6404		1770	6408	1583		1750		3433	1863	2787
Volume (vph)	649	2746	10	10	2611	210	10	10	10	90	10	667
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)	705	2985	11	11	2838	228	11	11	11	98	11	725
RTOR Reduction (vph)	0	0	0	0	0	78	0	11	0	0	0	603
Lane Group Flow (vph)	705	2996	0	11	2838	150	0	22	0	98	11	122
Turn Type	Prot			Prot		Perm	Split			Split		Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases						6						4
Actuated Green, G (s)	31.4	96.1		1.6	66.3	66.3		2.4		11.9	11.9	11.9
Effective Green, g (s)	31.4	97.1		1.6	67.3	67.3		3.4		11.9	11.9	11.9
Actuated g/C Ratio	0.24	0.75		0.01	0.52	0.52		0.03		0.09	0.09	0.09
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0		5.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	829	4783		22	3317	820		46		314	171	255
v/s Ratio Prot	c0.21	0.47		0.01	c0.44			c0.02		0.03	0.01	
v/s Ratio Perm						0.14						0.26
v/c Ratio	0.85	0.63		0.50	0.86	0.18		0.48		0.31	0.06	0.48
Uniform Delay, d1	47.1	7.8		63.8	27.1	16.7		62.4		55.2	54.0	56.1
Progression Factor	0.57	0.20		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.8	0.1		16.8	3.1	0.5		7.8		0.6	0.2	1.4
Delay (s)	27.6	1.6		80.6	30.2	17.2		70.3		55.8	54.1	57.5
Level of Service	C	A		F	C	B		E		E	D	E
Approach Delay (s)		6.6			29.4			70.3			57.3	
Approach LOS		A			C			E			E	

Intersection Summary			
HCM Average Control Delay	21.6	HCM Level of Service	C
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
PM Peak Hour

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

****

Intersection #8 Eight Mile Road/Thornton Road

****

Cycle (sec): 130 Critical Vol./Cap.(X): 1.423
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 197.2
Optimal Cycle: 130 Level Of Service: F

****

Street Name:	Thornton Road						Eight Mile Road					
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			Include			Ovl			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 0 1			1 0 2 0 1			2 0 4 0 1			2 0 3 1 0		
Volume Module:												
Base Vol:	520	1090	640	680	810	100	140	1830	440	480	1760	570
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:	520	1090	640	680	810	100	140	1830	440	480	1760	570
Added Vol:	167	55	120	0	63	88	66	303	157	165	366	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	687	1145	760	680	873	188	206	2133	597	645	2126	570
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:	708	1180	784	701	900	194	212	2199	615	665	2192	588
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	708	1180	784	701	900	194	212	2199	615	665	2192	588
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:	708	1180	784	701	900	194	212	2199	615	665	2192	588
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.93	0.83	0.90	0.89	0.83	0.90	0.86	0.86
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	4.00	1.00	2.00	3.15	0.85
Final Sat.:	1769	3538	1583	1769	3538	1583	3432	6778	1583	3432	5174	1387
Capacity Analysis Module:												
Vol/Sat:	0.40	0.33	0.50	0.40	0.25	0.12	0.06	0.32	0.39	0.19	0.42	0.42
Crit Moves:		****		****				****		****		
Green/Cycle:	0.31	0.23	0.37	0.28	0.20	0.20	0.05	0.23	0.54	0.14	0.32	0.60
Volume/Cap:	1.28	1.42	1.34	1.42	1.28	0.61	1.33	1.42	0.72	1.42	1.33	0.71
Delay/Veh:	182.7	247	203.5	249.0	187	51.1	248.5	245	25.3	258.8	198	19.0
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:	182.7	247	203.5	249.0	187	51.1	248.5	245	25.3	258.8	198	19.0
LOS by Move:	F	F	F	F	F	D	F	F	C	F	F	B
HCM2kAvgQ:	49	49	56	54	34	8	10	47	15	28	55	15

****

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

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Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
PM Peak Hour

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

****

Intersection #9 Eight Mile Road/Davis Street

****

Cycle (sec): 130 Critical Vol./Cap.(X): 1.337
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 130.7
Optimal Cycle: 130 Level Of Service: F

****

Street Name:	Davis Street						Eight Mile Road					
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			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 0 1			1 0 2 0 1			2 0 4 0 1			2 0 4 0 1		
Volume Module:												
Base Vol:	570	460	650	40	280	270	230	1930	300	850	2150	40
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:	570	460	650	40	280	270	230	1930	300	850	2150	40
Added Vol:	67	0	0	0	0	102	82	286	55	0	363	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	637	460	650	40	280	372	312	2216	355	850	2513	40
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:	692	500	707	43	304	404	339	2409	386	924	2732	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	692	500	707	43	304	404	339	2409	386	924	2732	43
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:	692	500	707	43	304	404	339	2409	386	924	2732	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.93	0.83	0.90	0.89	0.83	0.90	0.89	0.83
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	4.00	1.00	2.00	4.00	1.00
Final Sat.:	1769	3538	1583	1769	3538	1583	3432	6778	1583	3432	6778	1583
Capacity Analysis Module:												
Vol/Sat:	0.39	0.14	0.45	0.02	0.09	0.26	0.10	0.36	0.24	0.27	0.40	0.03
Crit Moves:	****					****		****		****		
Green/Cycle:	0.29	0.35	0.55	0.06	0.12	0.21	0.09	0.27	0.56	0.20	0.38	0.38
Volume/Cap:	1.34	0.40	0.81	0.41	0.73	1.22	1.07	1.34	0.44	1.34	1.07	0.07
Delay/Veh:	210.5	32.3	29.5	61.3	62.1	175.3	130.9	203	17.1	213.4	82.3	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:	210.5	32.3	29.5	61.3	62.1	175.3	130.9	203	17.1	213.4	82.3	26.2
LOS by Move:	F	C	C	E	E	F	F	F	B	F	F	C
HCM2kAvgQ:	50	7	20	2	8	28	12	48	6	35	41	1

****

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

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Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
PM Peak Hour

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

****

Intersection #10 Eight Mile Road/Lower Sacramento Road

****

Cycle (sec):	130	Critical Vol./Cap.(X):	1.131
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	87.0
Optimal Cycle:	130	Level Of Service:	F

****

Street Name:	Lower Sacramento Road						Eight Mile Road					
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			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 2 0 1			2 0 2 0 1			2 0 4 0 1			2 0 3 1 0		
Volume Module:												
Base Vol:	370	720	800	80	820	210	150	2300	240	660	2500	240
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:	370	720	800	80	820	210	150	2300	240	660	2500	240
Added Vol:	41	31	1	0	37	81	64	191	31	1	240	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	411	751	801	80	857	291	214	2491	271	661	2740	240
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:	442	808	861	86	922	313	230	2678	291	711	2946	258
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	442	808	861	86	922	313	230	2678	291	711	2946	258
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	808	861	86	922	313	230	2678	291	711	2946	258
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.93	0.83	0.90	0.93	0.83	0.90	0.89	0.83	0.90	0.88	0.88
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	4.00	1.00	2.00	3.68	0.32
Final Sat.:	3432	3538	1583	3432	3538	1583	3432	6778	1583	3432	6157	539
Capacity Analysis Module:												
Vol/Sat:	0.13	0.23	0.54	0.03	0.26	0.20	0.07	0.40	0.18	0.21	0.48	0.48
Crit Moves:	****				****			****		****		
Green/Cycle:	0.11	0.31	0.50	0.03	0.23	0.30	0.07	0.35	0.35	0.18	0.47	0.47
Volume/Cap:	1.13	0.73	1.10	0.81	1.13	0.67	1.02	1.13	0.53	1.13	1.02	1.02
Delay/Veh:	143.7	42.2	94.2	99.3	124	43.9	127.2	107	34.7	130.7	57.3	57.3
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:	143.7	42.2	94.2	99.3	124	43.9	127.2	107	34.7	130.7	57.3	57.3
LOS by Move:	F	D	F	F	F	D	F	F	C	F	E	E
HCM2kAvgQ:	15	15	47	3	30	11	8	43	9	23	44	44

****

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

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Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
PM Peak Hour

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

****

Intersection #11 Eight Mile Road/West Lane

****

Cycle (sec): 130 Critical Vol./Cap.(X): 1.343
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 137.1
Optimal Cycle: 130 Level Of Service: F

****

Street Name:	West Lane						Eight Mile Road					
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			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 2 0 1			2 0 2 0 1			2 0 3 1 0			2 0 3 0 1		
Volume Module:												
Base Vol:	1040	900	550	80	550	390	520	2150	710	270	2450	150
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:	1040	900	550	80	550	390	520	2150	710	270	2450	150
Added Vol:	8	0	0	0	0	69	55	131	6	0	164	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1048	900	550	80	550	459	575	2281	716	270	2614	150
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:	1080	928	567	82	567	473	593	2352	738	278	2695	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1080	928	567	82	567	473	593	2352	738	278	2695	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:	1080	928	567	82	567	473	593	2352	738	278	2695	155
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.93	0.83	0.90	0.93	0.83	0.90	0.86	0.86	0.90	0.89	0.83
Lanes:	2.00	2.00	1.00	2.00	2.00	1.00	2.00	3.04	0.96	2.00	3.00	1.00
Final Sat.:	3432	3538	1583	3432	3538	1583	3432	4973	1561	3432	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.31	0.26	0.36	0.02	0.16	0.30	0.17	0.47	0.47	0.08	0.53	0.10
Crit Moves:	****				****		****				****	
Green/Cycle:	0.23	0.32	0.39	0.04	0.12	0.25	0.13	0.45	0.45	0.08	0.39	0.39
Volume/Cap:	1.34	0.82	0.91	0.68	1.34	1.21	1.34	1.06	1.06	1.06	1.34	0.25
Delay/Veh:	212.6	46.0	54.1	76.5	227	163.4	225.7	70.8	70.8	131.9	197	26.6
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:	212.6	46.0	54.1	76.5	227	163.4	225.7	70.8	70.8	131.9	197	26.6
LOS by Move:	F	D	D	E	F	F	F	E	E	F	F	C
HCM2kAvgQ:	41	19	24	3	23	31	24	44	44	10	71	3

****

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

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Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
PM Peak Hour

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

****

Intersection #12 Eight Mile Road/SR 99 Frontage

****

Cycle (sec):	130	Critical Vol./Cap.(X):	1.464
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	212.0
Optimal Cycle:	130	Level Of Service:	F

****

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Protected						Protected						Protected						Protected					
Rights:	Ovl						Include						Include						Include					
Min. Green:	4	10		0			4	10		0			4	10		0			4	10		0		
Lanes:	1	0	1	0	1		1	0	1	0	1		1	0	3	1	0		1	0	3	1	0	
Volume Module:																								
Base Vol:	1100	30	450		20	40		20		10	2010	450		280	2190		20							
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:	1100	30	450		20	40		20		10	2010	450		280	2190		20							
Added Vol:	0	0	0		0	0		0		0	131	0		0	164		0							
PasserByVol:	0	0	0		0	0		0		0	0	0		0	0		0							
Initial Fut:	1100	30	450		20	40		20		10	2141	450		280	2354		20							
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:	1183	32	484		22	43		22		11	2302	484		301	2531		22							
Reduct Vol:	0	0	0		0	0		0		0	0	0		0	0		0							
Reduced Vol:	1183	32	484		22	43		22		11	2302	484		301	2531		22							
PCE Adj:	1.00	1.00	1.00		1.00	1.00		1.00		1.00	1.00	1.00		1.00	1.00		1.00							
MLF Adj:	1.00	1.00	1.00		1.00	1.00		1.00		1.00	1.00	1.00		1.00	1.00		1.00							
Final Vol.:	1183	32	484		22	43		22		11	2302	484		301	2531		22							
Saturation Flow Module:																								
Sat/Lane:	1900	1900	1900		1900	1900		1900		1900	1900	1900		1900	1900		1900							
Adjustment:	0.93	0.98	0.83		0.93	0.98		0.83		0.93	0.87	0.87		0.93	0.89		0.89							
Lanes:	1.00	1.00	1.00		1.00	1.00		1.00		1.00	3.31	0.69		1.00	3.97		0.03							
Final Sat.:	1769	1862	1583		1769	1862		1583		1769	5455	1147		1769	6714		57							
Capacity Analysis Module:																								
Vol/Sat:	0.67	0.02	0.31		0.01	0.02		0.01		0.01	0.42	0.42		0.17	0.38		0.38							
Crit Moves:	****					****					****			****										
Green/Cycle:	0.42	0.41	0.52		0.09	0.08		0.08		0.03	0.27	0.27		0.11	0.34		0.34							
Volume/Cap:	1.58	0.04	0.59		0.13	0.30		0.18		0.20	1.58	1.58		1.58	1.09		1.09							
Delay/Veh:	303.1	23.2	23.1		54.5	57.9		56.8		63.2	310	309.6		340.9	92.0		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:	303.1	23.2	23.1		54.5	57.9		56.8		63.2	310	309.6		340.9	92.0		92.0							
LOS by Move:	F	C	C		D	E		E		E	F	F		F	F		F							
HCM2kAvgQ:	99	1	14		1	2		1		1	65	65		27	39		39							

****

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

Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
PM Peak Hour

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

****

Intersection #13 Mokelumne Circle/Scott Creek Drive

****

Cycle (sec):	65	Critical Vol./Cap.(X):	0.629
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	17.0
Optimal Cycle:	47	Level Of Service:	B

****

Street Name:	Mokelumne Circle						Scott Creek Drive					
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:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 0 1 0			1 0 0 1 0			1 0 0 1 0			1 0 0 1 0		
Volume Module:												
Base Vol:	20	90	20	50	140	250	20	40	10	10	80	100
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:	20	90	20	50	140	250	20	40	10	10	80	100
Added Vol:	2	37	0	40	61	29	23	58	2	0	89	19
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	127	20	90	201	279	43	98	12	10	169	119
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:	24	138	22	98	218	303	47	107	13	11	184	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	138	22	98	218	303	47	107	13	11	184	129
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	24	138	22	98	218	303	47	107	13	11	184	129
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.35	0.96	0.96	0.64	0.89	0.89	0.93	0.96	0.96	0.93	0.92	0.92
Lanes:	1.00	0.86	0.14	1.00	0.42	0.58	1.00	0.89	0.11	1.00	0.59	0.41
Final Sat.:	665	1576	248	1208	712	988	1769	1632	200	1769	1025	722
Capacity Analysis Module:												
Vol/Sat:	0.04	0.09	0.09	0.08	0.31	0.31	0.03	0.07	0.07	0.01	0.18	0.18
Crit Moves:					****		****				****	
Green/Cycle:	0.48	0.48	0.48	0.48	0.48	0.48	0.06	0.24	0.24	0.10	0.28	0.28
Volume/Cap:	0.08	0.18	0.18	0.17	0.64	0.64	0.43	0.27	0.27	0.06	0.64	0.64
Delay/Veh:	9.4	9.9	9.9	9.9	14.7	14.7	32.1	20.3	20.3	26.8	23.6	23.6
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:	9.4	9.9	9.9	9.9	14.7	14.7	32.1	20.3	20.3	26.8	23.6	23.6
LOS by Move:	A	A	A	A	B	B	C	C	C	C	C	C
HCM2kAvgQ:	0	1	1	1	8	8	1	2	2	0	6	6

****

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

Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
PM Peak Hour

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

Intersection #14 Trinity Parkway/Consumnes Drive

Cycle (sec):	130	Critical Vol./Cap.(X):	1.307
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	131.0
Optimal Cycle:	130	Level Of Service:	F

Street Name:	Trinity Parkway						Consumnes Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1	1 0		1 0 1	1 0		1 0 0	1 0		1 0 1	0 1	
Volume Module:												
Base Vol:	630	250	0	270	510	100	80	0	230	0	0	250
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:	630	250	0	270	510	100	80	0	230	0	0	250
Added Vol:	122	786	51	29	784	31	28	30	80	77	33	51
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	752	1036	51	299	1294	131	108	30	310	77	33	301
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:	792	1091	54	315	1362	138	114	32	326	81	35	317
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	792	1091	54	315	1362	138	114	32	326	81	35	317
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	792	1091	54	315	1362	138	114	32	326	81	35	317
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.92	0.92	0.93	0.92	0.92	0.93	0.85	0.85	0.93	0.98	0.83
Lanes:	1.00	1.91	0.09	1.00	1.82	0.18	1.00	0.09	0.91	1.00	1.00	1.00
Final Sat.:	1769	3348	165	1769	3168	321	1769	142	1465	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.45	0.33	0.33	0.18	0.43	0.43	0.06	0.22	0.22	0.05	0.02	0.20
Crit Moves:	****				****			****		****		
Green/Cycle:	0.34	0.43	0.43	0.24	0.33	0.33	0.09	0.17	0.17	0.04	0.11	0.35
Volume/Cap:	1.31	0.75	0.75	0.75	1.31	1.31	0.69	1.31	1.31	1.31	0.17	0.57
Delay/Veh:	192.5	33.0	33.0	53.4	188	188.1	68.6	216	215.9	279.5	52.6	35.9
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:	192.5	33.0	33.0	53.4	188	188.1	68.6	216	215.9	279.5	52.6	35.9
LOS by Move:	F	C	C	D	F	F	E	F	F	F	D	D
HCM2kAvgQ:	55	19	19	13	55	55	6	27	27	8	1	10

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

Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
PM Peak Hour

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

Intersection #15 Trinity Parkway/McAuliffe Road

Cycle (sec):	65	Critical Vol./Cap.(X):	1.127
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	50.5
Optimal Cycle:	130	Level Of Service:	D

Street Name:	Trinity Parkway						McAuliffe Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Permitted			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	0 0 1	1 0		1 0 2	0 0		0 0 0	0 0		1 0 0	0 1	
Volume Module:												
Base Vol:	0	720	100	90	650	0	0	0	0	80	0	160
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	720	100	90	650	0	0	0	0	80	0	160
Added Vol:	0	728	36	193	879	0	0	0	0	62	0	207
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1448	136	283	1529	0	0	0	0	142	0	367
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:	0	1574	148	308	1662	0	0	0	0	154	0	399
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1574	148	308	1662	0	0	0	0	154	0	399
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	1574	148	308	1662	0	0	0	0	154	0	399
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.92	0.92	0.93	0.93	1.00	1.00	1.00	1.00	0.75	1.00	0.83
Lanes:	0.00	1.83	0.17	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	3192	300	1769	3538	0	0	0	0	1432	0	1583
Capacity Analysis Module:												
Vol/Sat:	0.00	0.49	0.49	0.17	0.47	0.00	0.00	0.00	0.00	0.11	0.00	0.25
Crit Moves:		****		****								****
Green/Cycle:	0.00	0.44	0.44	0.15	0.59	0.00	0.00	0.00	0.00	0.22	0.00	0.38
Volume/Cap:	0.00	1.13	1.13	1.13	0.79	0.00	0.00	0.00	0.00	0.48	0.00	0.67
Delay/Veh:	0.0	84.5	84.5	120.6	12.4	0.0	0.0	0.0	0.0	23.1	0.0	19.7
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:	0.0	84.5	84.5	120.6	12.4	0.0	0.0	0.0	0.0	23.1	0.0	19.7
LOS by Move:	A	F	F	F	B	A	A	A	A	C	A	B
HCM2kAvgQ:	0	35	35	14	12	0	0	0	0	3	0	7

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

Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
PM Peak Hour

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

Intersection #16 Thornton Road/A.G. Spanos Boulevard (South)

Cycle (sec):	110	Critical Vol./Cap.(X):	0.861
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	26.4
Optimal Cycle:	98	Level Of Service:	C

Street Name:	Thornton Road						A.G. Spanos Boulevard (South)					
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			Permitted			Permitted		
Rights:	Include			Include			Ovl			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 1 0			1 0 2 1 0			0 1 0 0 1			0 1 0 0 1		
Volume Module:												
Base Vol:	300	2400	160	140	1530	90	40	30	210	80	10	90
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:	300	2400	160	140	1530	90	40	30	210	80	10	90
Added Vol:	118	165	5	0	189	10	9	0	114	9	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	418	2565	165	140	1719	100	49	30	324	89	10	90
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:	454	2788	179	152	1868	109	53	33	352	97	11	98
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	454	2788	179	152	1868	109	53	33	352	97	11	98
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	454	2788	179	152	1868	109	53	33	352	97	11	98
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.88	0.88	0.93	0.88	0.88	0.59	0.59	0.83	0.62	0.62	0.83
Lanes:	1.00	2.82	0.18	1.00	2.84	0.16	0.62	0.38	1.00	0.90	0.10	1.00
Final Sat.:	1769	4733	304	1769	4765	277	700	428	1583	1055	118	1583
Capacity Analysis Module:												
Vol/Sat:	0.26	0.59	0.59	0.09	0.39	0.39	0.08	0.08	0.22	0.09	0.09	0.06
Crit Moves:		****		****							****	
Green/Cycle:	0.31	0.68	0.68	0.10	0.47	0.47	0.11	0.11	0.42	0.11	0.11	0.11
Volume/Cap:	0.83	0.86	0.86	0.86	0.83	0.83	0.71	0.71	0.53	0.86	0.86	0.58
Delay/Veh:	45.3	15.7	15.7	81.0	27.6	27.6	65.8	65.8	24.9	89.9	89.9	51.8
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:	45.3	15.7	15.7	81.0	27.6	27.6	65.8	65.8	24.9	89.9	89.9	51.8
LOS by Move:	D	B	B	F	C	C	E	E	C	F	F	D
HCM2kAvgQ:	16	19	19	8	21	21	4	4	8	6	6	4

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

Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
PM Peak Hour

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

Intersection #17 Thornton Road/Wagner Heights

Cycle (sec):	110	Critical Vol./Cap.(X):	1.033
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	54.5
Optimal Cycle:	130	Level Of Service:	D

Street Name:	Thornton Road						Wagner Heights					
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:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 1 0			1 0 2 1 0			1 0 1 0 1			1 0 1 0 1		
Volume Module:												
Base Vol:	100	2130	70	360	960	110	140	160	130	90	170	410
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:	100	2130	70	360	960	110	140	160	130	90	170	410
Added Vol:	65	241	0	0	193	0	0	0	41	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	165	2371	70	360	1153	110	140	160	171	90	170	410
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:	170	2444	72	371	1189	113	144	165	176	93	175	423
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	170	2444	72	371	1189	113	144	165	176	93	175	423
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	170	2444	72	371	1189	113	144	165	176	93	175	423
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.89	0.89	0.93	0.88	0.88	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	2.91	0.09	1.00	2.74	0.26	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1769	4918	145	1769	4580	437	1769	1862	1583	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.10	0.50	0.50	0.21	0.26	0.26	0.08	0.09	0.11	0.05	0.09	0.27
Crit Moves:		****		****			****				****	
Green/Cycle:	0.19	0.48	0.48	0.20	0.50	0.50	0.08	0.11	0.29	0.06	0.09	0.29
Volume/Cap:	0.52	1.03	1.03	1.03	0.52	0.52	1.03	0.82	0.38	0.84	1.03	0.91
Delay/Veh:	41.9	55.9	55.9	100.0	18.8	18.8	135.8	70.9	31.5	92.4	128	58.7
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:	41.9	55.9	55.9	100.0	18.8	18.8	135.8	70.9	31.5	92.4	128	58.7
LOS by Move:	D	E	E	F	B	B	F	E	C	F	F	E
HCM2kAvgQ:	6	41	41	19	9	9	9	8	4	5	10	17

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3539	1583	3433	3539	1583	3433	3539	1583
Volume (vph)	261	806	186	220	1667	833	315	480	202	673	512	376
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)	284	876	202	239	1812	905	342	522	220	732	557	409
RTOR Reduction (vph)	0	0	128	0	0	265	0	0	182	0	0	203
Lane Group Flow (vph)	284	876	74	239	1812	640	342	522	38	732	557	206
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	18.0	47.9	47.9	20.4	50.3	50.3	17.7	22.7	22.7	23.0	28.0	28.0
Effective Green, g (s)	18.0	47.9	47.9	20.4	50.3	50.3	17.7	22.7	22.7	23.0	28.0	28.0
Actuated g/C Ratio	0.14	0.37	0.37	0.16	0.39	0.39	0.14	0.17	0.17	0.18	0.22	0.22
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	245	1304	583	278	1369	612	467	618	276	607	762	341
v/s Ratio Prot	c0.16	0.25		0.14	c0.51		0.10	c0.15		c0.21	0.16	
v/s Ratio Perm			0.05			0.40			0.02			0.13
v/c Ratio	1.16	0.67	0.13	0.86	1.32	1.04	0.73	0.84	0.14	1.21	0.73	0.60
Uniform Delay, d1	56.0	34.5	27.2	53.4	39.9	39.9	53.9	51.9	45.4	53.5	47.5	46.0
Progression Factor	1.00	1.00	1.00	0.81	1.30	1.71	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	107.3	2.8	0.5	2.6	146.1	25.2	5.9	10.3	0.2	107.6	3.6	3.0
Delay (s)	163.3	37.2	27.7	46.1	197.8	93.5	59.7	62.2	45.6	161.1	51.1	49.0
Level of Service	F	D	C	D	F	F	E	E	D	F	D	D
Approach Delay (s)		62.1			153.6			58.1			98.0	
Approach LOS		E			F			E			F	

Intersection Summary			
HCM Average Control Delay	108.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	106.3%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.86		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5021		1770	3525		1770	1598		1770	1770	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5021		1770	3525		1770	1598		1770	1770	
Volume (vph)	20	1521	139	330	2508	70	202	10	180	30	20	10
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)	22	1653	151	359	2726	76	220	11	196	33	22	11
RTOR Reduction (vph)	0	7	0	0	1	0	0	164	0	0	10	0
Lane Group Flow (vph)	22	1797	0	359	2801	0	220	43	0	33	23	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	4.2	58.5		29.0	83.3		19.2	21.1		5.4	7.3	
Effective Green, g (s)	4.2	58.5		29.0	83.3		19.2	21.1		5.4	7.3	
Actuated g/C Ratio	0.03	0.45		0.22	0.64		0.15	0.16		0.04	0.06	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	57	2259		395	2259		261	259		74	99	
v/s Ratio Prot	0.01	0.36		c0.20	c0.79		c0.12	0.03		0.02	c0.01	
v/s Ratio Perm												
v/c Ratio	0.39	0.80		0.91	1.24		0.84	0.17		0.45	0.23	
Uniform Delay, d1	61.6	30.6		49.2	23.4		53.9	46.9		60.8	58.7	
Progression Factor	1.31	0.44		1.17	0.82		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	1.5		3.2	108.3		21.2	0.3		4.2	1.2	
Delay (s)	83.0	14.8		61.0	127.4		75.1	47.2		65.1	59.8	
Level of Service	F	B		E	F		E	D		E	E	
Approach Delay (s)		15.7			119.9			61.6			62.5	
Approach LOS		B			F			E			E	

Intersection Summary			
HCM Average Control Delay	79.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	103.2%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	
Lane Util. Factor		0.91		1.00	0.95					1.00	1.00	
Frt		0.90		1.00	1.00					1.00	0.85	
Flt Protected		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (prot)		4600		1770	3539					1770	1583	
Flt Permitted		1.00		0.95	1.00					0.95	1.00	
Satd. Flow (perm)		4600		1770	3539					1770	1583	
Volume (vph)	0	630	1101	560	2635	0	0	0	0	60	0	273
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	685	1197	609	2864	0	0	0	0	65	0	297
RTOR Reduction (vph)	0	242	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	1640	0	609	2864	0	0	0	0	65	292	0
Turn Type				Prot						Split		
Protected Phases		2		1	6					4	4	
Permitted Phases												
Actuated Green, G (s)		51.0		45.0	100.0					22.0	22.0	
Effective Green, g (s)		51.0		45.0	100.0					22.0	22.0	
Actuated g/C Ratio		0.39		0.35	0.77					0.17	0.17	
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1805		613	2722					300	268	
v/s Ratio Prot		0.41		0.34	c0.81					0.04	c0.19	
v/s Ratio Perm												
v/c Ratio		1.37dr		0.99	1.05					0.22	1.09	
Uniform Delay, d1		37.3		42.4	15.0					46.6	54.0	
Progression Factor		0.40		1.05	0.78					1.00	1.00	
Incremental Delay, d2		5.8		9.4	24.6					0.4	81.0	
Delay (s)		20.6		53.9	36.4					46.9	135.0	
Level of Service		C		D	D					D	F	
Approach Delay (s)		20.6			39.5			0.0			119.2	
Approach LOS		C			D			A			F	

Intersection Summary			
HCM Average Control Delay	38.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	147.2%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.91		0.95	0.95	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			4984		1681	1681	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			4984		1681	1681	1583			
Volume (vph)	152	538	0	0	1183	180	2012	0	1090	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	165	585	0	0	1286	196	2187	0	1185	0	0	0
RTOR Reduction (vph)	0	0	0	0	16	0	0	0	55	0	0	0
Lane Group Flow (vph)	165	585	0	0	1466	0	1094	1093	1130	0	0	0
Turn Type	Prot						Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases									8			
Actuated Green, G (s)	10.0	47.0			33.0		75.0	75.0	75.0			
Effective Green, g (s)	10.0	47.0			33.0		75.0	75.0	75.0			
Actuated g/C Ratio	0.08	0.36			0.25		0.58	0.58	0.58			
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0	4.0			
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			
Lane Grp Cap (vph)	136	1279			1265		970	970	913			
v/s Ratio Prot	c0.09	0.17			c0.29		0.65	0.65				
v/s Ratio Perm									c0.71			
v/c Ratio	1.21	0.46			1.16		1.13	1.13	1.24			
Uniform Delay, d1	60.0	31.7			48.5		27.5	27.5	27.5			
Progression Factor	0.79	1.66			1.00		1.00	1.00	1.00			
Incremental Delay, d2	138.5	1.0			80.8		70.8	70.4	116.6			
Delay (s)	185.9	53.7			129.3		98.3	97.9	144.1			
Level of Service	F	D			F		F	F	F			
Approach Delay (s)		82.8			129.3			114.3			0.0	
Approach LOS		F			F			F			A	

Intersection Summary			
HCM Average Control Delay	114.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	127.7%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	3433	1863	2787	1770	3539	1583	3433	3519	
Flt Permitted	0.66	1.00	1.00	0.95	1.00	1.00	0.29	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1234	1863	1583	3433	1863	2787	546	3539	1583	3433	3519	
Volume (vph)	11	81	7	872	137	1356	12	599	571	1025	467	18
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)	12	88	8	948	149	1474	13	651	621	1114	508	20
RTOR Reduction (vph)	0	0	7	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	12	88	1	948	149	1474	13	651	621	1114	526	0
Turn Type	Perm		Perm	Prot		Free	Perm		Free	Prot		
Protected Phases		2		1	6			4		3	8	
Permitted Phases	2		2			Free	4		Free			
Actuated Green, G (s)	20.0	20.0	20.0	33.0	56.0	130.0	21.0	21.0	130.0	39.0	64.0	
Effective Green, g (s)	20.0	20.0	20.0	33.0	57.0	130.0	22.0	22.0	130.0	39.0	65.0	
Actuated g/C Ratio	0.15	0.15	0.15	0.25	0.44	1.00	0.17	0.17	1.00	0.30	0.50	
Clearance Time (s)	4.0	4.0	4.0	4.0	5.0		5.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	190	287	244	871	817	2787	92	599	1583	1030	1760	
v/s Ratio Prot		0.05		c0.28	0.08			c0.18		c0.32	0.15	
v/s Ratio Perm	0.01		0.01			0.53	0.02		0.39			
v/c Ratio	0.06	0.31	0.01	1.09	0.18	0.53	0.14	1.09	0.39	1.08	0.30	
Uniform Delay, d1	47.0	48.8	46.6	48.5	22.3	0.0	46.0	54.0	0.0	45.5	19.1	
Progression Factor	1.00	1.00	1.00	0.42	0.43	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	2.7	0.0	47.1	0.2	0.2	0.7	62.6	0.7	52.8	0.1	
Delay (s)	47.6	51.6	46.6	67.3	9.8	0.2	46.7	116.6	0.7	98.3	19.2	
Level of Service	D	D	D	E	A	A	D	F	A	F	B	
Approach Delay (s)		50.8			25.5			59.9			72.9	
Approach LOS		D			C			E			E	

Intersection Summary			
HCM Average Control Delay	47.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.3%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.94	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5081		1770	5085	1583	1770	1657	1504	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	5081		1770	5085	1583	1770	1657	1504	1770	1863	1583
Volume (vph)	10	1657	10	200	2335	642	20	60	150	429	30	10
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)	10	1726	10	208	2432	669	21	62	156	447	31	10
RTOR Reduction (vph)	0	1	0	0	0	177	0	23	98	0	0	8
Lane Group Flow (vph)	10	1735	0	208	2432	492	21	85	12	447	31	2
Turn Type	Prot			Prot		Perm	Split		Perm	Split		Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	0.8	54.1		15.2	68.5	68.5	13.7	13.7	13.7	28.0	28.0	28.0
Effective Green, g (s)	0.8	55.1		15.2	69.5	69.5	14.7	14.7	14.7	29.0	29.0	29.0
Actuated g/C Ratio	0.01	0.42		0.12	0.53	0.53	0.11	0.11	0.11	0.22	0.22	0.22
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
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
Lane Grp Cap (vph)	11	2154		207	2719	846	200	187	170	395	416	353
v/s Ratio Prot	0.01	0.34		c0.12	c0.48		0.01	0.07		c0.25	0.02	
v/s Ratio Perm						0.42			0.07			0.01
v/c Ratio	0.91	0.81		1.00	0.89	0.58	0.10	0.45	0.07	1.13	0.07	0.01
Uniform Delay, d1	64.6	32.8		57.4	27.0	20.4	51.7	53.9	51.6	50.5	39.9	39.3
Progression Factor	1.00	0.75		0.95	1.03	1.32	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	158.1	1.9		42.0	2.3	1.2	0.2	1.7	0.2	86.2	0.1	0.0
Delay (s)	222.3	26.6		96.7	29.9	28.1	52.0	55.6	51.7	136.7	40.0	39.3
Level of Service	F	C		F	C	C	D	E	D	F	D	D
Approach Delay (s)		27.7			33.8			53.5			128.5	
Approach LOS		C			C			D			F	

Intersection Summary			
HCM Average Control Delay	40.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	88.9%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.91					0.95	0.95	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3539	1583	3433	5085					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3539	1583	3433	5085					1681	1681	1583
Volume (vph)	0	1183	1052	1240	2972	0	0	0	0	818	0	205
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	1259	1119	1319	3162	0	0	0	0	870	0	218
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	1259	1119	1319	3162	0	0	0	0	435	435	217
Turn Type			Free	Prot						Perm		Perm
Protected Phases		2		1	6						4	
Permitted Phases			Free							4		4
Actuated Green, G (s)		40.0	130.0	43.0	87.0					33.0	33.0	33.0
Effective Green, g (s)		41.0	130.0	43.0	88.0					34.0	34.0	34.0
Actuated g/C Ratio		0.32	1.00	0.33	0.68					0.26	0.26	0.26
Clearance Time (s)		5.0		4.0	5.0					5.0	5.0	5.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		1116	1583	1136	3442					440	440	414
v/s Ratio Prot		c0.36		c0.38	0.62							
v/s Ratio Perm			0.71							c0.26	0.26	0.14
v/c Ratio		1.13	0.71	1.16	0.92					0.99	0.99	0.52
Uniform Delay, d1		44.5	0.0	43.5	17.9					47.8	47.8	41.1
Progression Factor		0.62	1.00	0.34	1.25					1.00	1.00	1.00
Incremental Delay, d2		61.9	0.9	77.3	0.5					39.5	39.5	1.2
Delay (s)		89.7	0.9	92.0	23.0					87.3	87.3	42.3
Level of Service		F	A	F	C					F	F	D
Approach Delay (s)		47.9			43.3			0.0			78.3	
Approach LOS		D			D			A			E	

Intersection Summary			
HCM Average Control Delay	49.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	160.7%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.81	1.00	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			7544	1583	1681	1681	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			7544	1583	1681	1681	2787			
Volume (vph)	178	1823	0	0	2536	834	1676	0	1550	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	193	1982	0	0	2757	907	1822	0	1685	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	140	0	0	1	0	0	0
Lane Group Flow (vph)	193	1982	0	0	2757	767	911	911	1684	0	0	0
Turn Type	Prot					Perm	Perm		custom			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		1 8			
Actuated Green, G (s)	10.0	54.0			53.0	53.0	53.0	53.0	66.0			
Effective Green, g (s)	10.0	55.0			54.0	54.0	54.0	54.0	67.0			
Actuated g/C Ratio	0.08	0.42			0.42	0.42	0.42	0.42	0.52			
Clearance Time (s)	4.0	5.0			5.0	5.0	5.0	5.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	136	1497			3134	658	698	698	1436			
v/s Ratio Prot	0.11	c0.56			0.37							
v/s Ratio Perm						c0.48	c0.54	0.54	0.60			
v/c Ratio	1.42	1.32			0.88	1.17	1.31	1.31	1.17			
Uniform Delay, d1	60.0	37.5			35.0	38.0	38.0	38.0	31.5			
Progression Factor	1.56	0.57			0.46	0.82	1.00	1.00	1.00			
Incremental Delay, d2	192.6	146.2			0.4	76.0	147.6	147.6	85.3			
Delay (s)	285.9	167.7			16.4	107.2	185.6	185.6	116.8			
Level of Service	F	F			B	F	F	F	F			
Approach Delay (s)		178.2			38.9			152.5			0.0	
Approach LOS		F			D			F			A	

Intersection Summary			
HCM Average Control Delay	113.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	160.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
PM Peak Hour

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

****

Intersection #26 Hammer Lane/Thornton Road

****

Cycle (sec): 130 Critical Vol./Cap.(X): 0.994
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 51.4
Optimal Cycle: 130 Level Of Service: D

****

Street Name:	Thornton Road									Hammer Lane								
Approach:	North Bound					South Bound				East Bound					West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected					Protected					Protected					Protected				
Rights:	Include					Include					Include					Ovl				
Min. Green:	4	10		0		4	10		0		4	10		0		4	10		0	
Lanes:	2	0	2	1	0	2	0	2	1	0	1	0	3	0	1	1	0	3	0	1
Volume Module:																				
Base Vol:	420	1110		50		380	570		20		160	1550		250		50	1550		540	
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:	420	1110		50		380	570		20		160	1550		250		50	1550		540	
Added Vol:	189	79		0		33	70		27		15	341		126		0	429		49	
PasserByVol:	0	0		0		0	0		0		0	0		0		0	0		0	
Initial Fut:	609	1189		50		413	640		47		175	1891		376		50	1979		589	
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:	621	1213		51		421	653		48		179	1930		384		51	2019		601	
Reduct Vol:	0	0		0		0	0		0		0	0		0		0	0		0	
Reduced Vol:	621	1213		51		421	653		48		179	1930		384		51	2019		601	
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:	621	1213		51		421	653		48		179	1930		384		51	2019		601	
Saturation Flow Module:																				
Sat/Lane:	1900	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900	
Adjustment:	0.90	0.89		0.89		0.90	0.88		0.88		0.93	0.89		0.83		0.93	0.89		0.83	
Lanes:	2.00	2.88		0.12		2.00	2.79		0.21		1.00	3.00		1.00		1.00	3.00		1.00	
Final Sat.:	3432	4849		204		3432	4688		344		1769	5083		1583		1769	5083		1583	
Capacity Analysis Module:																				
Vol/Sat:	0.18	0.25		0.25		0.12	0.14		0.14		0.10	0.38		0.24		0.03	0.40		0.38	
Crit Moves:		****				****					****						****			
Green/Cycle:	0.21	0.25		0.25		0.12	0.16		0.16		0.10	0.46		0.46		0.04	0.40		0.52	
Volume/Cap:	0.85	0.99		0.99		0.99	0.85		0.85		0.99	0.82		0.52		0.77	0.99		0.73	
Delay/Veh:	58.9	72.1		72.1		98.8	61.5		61.5		123.5	27.0		20.9		102.7	53.1		20.6	
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:	58.9	72.1		72.1		98.8	61.5		61.5		123.5	27.0		20.9		102.7	53.1		20.6	
LOS by Move:	E	E		E		F	E		E		F	C		C		F	D		C	
HCM2kAvgQ:	15	24		24		13	12		12		11	23		9		4	36		16	

****

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

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Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
PM Peak Hour

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

Intersection #27 Thornton Road/Whistler Way

Cycle (sec):	95	Critical Vol./Cap.(X):	0.799
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	29.3
Optimal Cycle:	85	Level Of Service:	C

Street Name:	Thornton Road						Whistler Way					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 3 0 1			1 0 2 1 0			1 0 1 0 1			1 0 0 1 0		
Volume Module:												
Base Vol:	230	2190	110	100	1550	60	50	30	90	120	40	40
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:	230	2190	110	100	1550	60	50	30	90	120	40	40
Added Vol:	0	174	0	10	199	46	44	0	0	0	0	15
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	230	2364	110	110	1749	106	94	30	90	120	40	55
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:	250	2570	120	120	1901	115	102	33	98	130	43	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	250	2570	120	120	1901	115	102	33	98	130	43	60
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:	250	2570	120	120	1901	115	102	33	98	130	43	60
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.89	0.83	0.93	0.88	0.88	0.93	0.98	0.83	0.93	0.89	0.89
Lanes:	1.00	3.00	1.00	1.00	2.83	0.17	1.00	1.00	1.00	1.00	0.42	0.58
Final Sat.:	1769	5083	1583	1769	4750	288	1769	1862	1583	1769	716	984
Capacity Analysis Module:												
Vol/Sat:	0.14	0.51	0.08	0.07	0.40	0.40	0.06	0.02	0.06	0.07	0.06	0.06
Crit Moves:		****		****				****		****		
Green/Cycle:	0.17	0.57	0.57	0.08	0.48	0.48	0.07	0.11	0.11	0.08	0.12	0.12
Volume/Cap:	0.84	0.89	0.13	0.89	0.84	0.84	0.87	0.17	0.59	0.89	0.50	0.50
Delay/Veh:	57.3	21.8	9.7	89.9	24.6	24.6	88.7	39.1	45.9	86.8	40.9	40.9
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:	57.3	21.8	9.7	89.9	24.6	24.6	88.7	39.1	45.9	86.8	40.9	40.9
LOS by Move:	E	C	A	F	C	C	F	D	D	F	D	D
HCM2kAvgQ:	10	24	1	6	20	20	5	1	4	7	3	3

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

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Existing Plus Approved Projects and Future 2025 and Future 2035
With Project Mitigations

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project Mitigated
AM Peak Hour

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

Intersection #3 Eight Mile Road/Mokelumne Circle

Cycle (sec):	100	Critical Vol./Cap.(X):	0.945
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	47.7
Optimal Cycle:	130	Level Of Service:	D

Street Name:	Mokelumne Circle						Eight Mile Road					
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:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 2 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	10	0	550	0	0	0	0	650	20	150	260	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:	10	0	550	0	0	0	0	650	20	150	260	0
Added Vol:	5	0	80	0	0	0	0	560	9	67	189	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	0	630	0	0	0	0	1210	29	217	449	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:	16	0	685	0	0	0	0	1315	32	236	488	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	0	685	0	0	0	0	1315	32	236	488	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
Final Vol.:	16	0	685	0	0	0	0	1315	32	236	488	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.87	1.00	0.83	1.00	1.00	1.00	1.00	0.89	0.89	0.93	0.93	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	2.93	0.07	1.00	2.00	0.00
Final Sat.:	1650	0	1583	0	0	0	0	4949	119	1769	3538	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.43	0.00	0.00	0.00	0.00	0.27	0.27	0.13	0.14	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.46	0.00	0.46	0.00	0.00	0.00	0.00	0.28	0.28	0.14	0.28	0.00
Volume/Cap:	0.02	0.00	0.95	0.00	0.00	0.00	0.00	0.95	0.95	0.95	0.49	0.00
Delay/Veh:	14.9	0.0	47.0	0.0	0.0	0.0	0.0	48.2	48.2	84.5	30.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	14.9	0.0	47.0	0.0	0.0	0.0	0.0	48.2	48.2	84.5	30.4	0.0
LOS by Move:	B	A	D	A	A	A	A	D	D	F	C	A
HCM2kAvgQ:	0	0	25	0	0	0	0	20	20	11	6	0

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0				4.0			4.0
Lane Util. Factor	1.00	0.95			0.86				1.00			0.88
Frpb, ped/bikes	1.00	1.00			1.00				1.00			1.00
Flpb, ped/bikes	1.00	1.00			1.00				1.00			1.00
Frt	1.00	1.00			0.98				0.86			0.85
Flt Protected	0.95	1.00			1.00				1.00			1.00
Satd. Flow (prot)	1770	3539			6308				1611			2787
Flt Permitted	0.95	1.00			1.00				1.00			1.00
Satd. Flow (perm)	1770	3539			6308				1611			2787
Volume (vph)	248	722	0	0	1217	140	0	0	270	0	0	1103
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)	267	776	0	0	1309	151	0	0	290	0	0	1186
RTOR Reduction (vph)	0	0	0	0	12	0	0	0	0	0	0	0
Lane Group Flow (vph)	267	776	0	0	1448	0	0	0	290	0	0	1186
Confl. Peds. (#/hr)			10									
Turn Type	Prot								Free			Free
Protected Phases	5	2			6							
Permitted Phases									Free			Free
Actuated Green, G (s)	21.6	100.0			67.0				100.0			100.0
Effective Green, g (s)	23.3	100.0			68.7				100.0			100.0
Actuated g/C Ratio	0.23	1.00			0.69				1.00			1.00
Clearance Time (s)	5.7	5.7			5.7							
Vehicle Extension (s)	5.0	5.0			5.0							
Lane Grp Cap (vph)	412	3539			4334				1611			2787
v/s Ratio Prot	c0.15	0.22			0.23							
v/s Ratio Perm									0.18			c0.43
v/c Ratio	0.65	0.22			0.33				0.18			0.43
Uniform Delay, d1	34.6	0.0			6.4				0.0			0.0
Progression Factor	0.62	1.00			1.00				1.00			1.00
Incremental Delay, d2	2.4	0.1			0.2				0.2			0.5
Delay (s)	23.9	0.1			6.6				0.2			0.5
Level of Service	C	A			A				A			A
Approach Delay (s)		6.2			6.6			0.2			0.5	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	4.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	40.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project Mitigated
AM Peak Hour

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

Intersection #7 Eight Mile Road/Oak Grove Regional Park Entrance

Cycle (sec):	100	Critical Vol./Cap.(X):	0.451
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	5.4
Optimal Cycle:	39	Level Of Service:	A

Street Name:	Oak Grove Regional Park Entrance						Eight Mile Road					
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:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	0 0	1! 0	0	0 0	0 0	0	0 0	2 1	0	1 0	2 0	0
Volume Module:												
Base Vol:	10	0	10	0	0	0	0	700	10	10	1070	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	0	10	0	0	0	0	700	10	10	1070	0
Added Vol:	0	0	0	0	0	0	0	282	0	0	277	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	0	10	0	0	0	0	982	10	10	1347	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:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	10	0	10	0	0	0	0	1023	10	10	1403	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	0	10	0	0	0	0	1023	10	10	1403	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:	10	0	10	0	0	0	0	1023	10	10	1403	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.91	1.00	0.91	1.00	1.00	1.00	1.00	0.89	0.89	0.93	0.93	1.00
Lanes:	0.50	0.00	0.50	0.00	0.00	0.00	0.00	2.97	0.03	1.00	2.00	0.00
Final Sat.:	869	0	869	0	0	0	0	5027	51	1769	3538	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.20	0.20	0.01	0.40	0.00
Crit Moves:							****				****	
Green/Cycle:	0.10	0.00	0.10	0.00	0.00	0.00	0.00	0.65	0.65	0.23	0.81	0.00
Volume/Cap:	0.12	0.00	0.12	0.00	0.00	0.00	0.00	0.31	0.31	0.03	0.49	0.00
Delay/Veh:	41.3	0.0	41.3	0.0	0.0	0.0	0.0	7.5	7.5	30.2	3.1	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:	41.3	0.0	41.3	0.0	0.0	0.0	0.0	7.5	7.5	30.2	3.1	0.0
LOS by Move:	D	A	D	A	A	A	A	A	A	C	A	A
HCM2kAvgQ:	1	0	1	0	0	0	0	2	2	0	1	0

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

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project Mitigated
AM Peak Hour

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

Intersection #9 Eight Mile Road/Davis Street

Cycle (sec):	100	Critical Vol./Cap.(X):	0.732
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	35.3
Optimal Cycle:	74	Level Of Service:	D

Street Name:	Davis Street						Eight Mile Road					
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			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	0 1		1 0	0 1	0	1 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	120	160	450	80	240	50	60	480	160	240	360	20
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:	120	160	450	80	240	50	60	480	160	240	360	20
Added Vol:	50	0	0	0	0	30	27	150	56	0	145	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	170	160	450	80	240	80	87	630	216	240	505	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	181	170	479	85	255	85	93	670	230	255	537	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	181	170	479	85	255	85	93	670	230	255	537	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	181	170	479	85	255	85	93	670	230	255	537	21
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.94	0.94	0.93	0.90	0.90	0.90	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	0.75	0.25	1.00	1.49	0.51	2.00	1.92	0.08
Final Sat.:	1769	1862	1583	1769	1345	448	1769	2534	869	3432	3383	134
Capacity Analysis Module:												
Vol/Sat:	0.10	0.09	0.30	0.05	0.19	0.19	0.05	0.26	0.26	0.07	0.16	0.16
Crit Moves:			****	****				****		****		
Green/Cycle:	0.13	0.31	0.41	0.07	0.25	0.25	0.14	0.36	0.36	0.10	0.32	0.32
Volume/Cap:	0.77	0.30	0.74	0.69	0.77	0.77	0.37	0.74	0.74	0.74	0.50	0.50
Delay/Veh:	56.1	26.5	29.3	60.4	43.0	43.0	39.9	30.3	30.3	51.7	27.9	27.9
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:	56.1	26.5	29.3	60.4	43.0	43.0	39.9	30.3	30.3	51.7	27.9	27.9
LOS by Move:	E	C	C	E	D	D	D	C	C	D	C	C
HCM2kAvgQ:	7	4	13	4	11	11	3	13	13	6	7	7

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

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project Mitigated
AM Peak Hour

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

Intersection #11 Eight Mile Road/West Lane

Cycle (sec):	100	Critical Vol./Cap.(X):	0.823
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	39.3
Optimal Cycle:	92	Level Of Service:	D

Street Name:	West Lane								Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound				
Movement:	L	T	R	L	T	R	L	T	R	L	T	R		
Control:	Protected			Protected			Protected			Protected				
Rights:	Include			Include			Include			Include				
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0		
Lanes:	1 0 1 1 0			1 0 1 1 0			2 0 2 0 1			1 0 1 1 0				
Volume Module:														
Base Vol:	190	410	110	30	670	260	250	660	320	100	450	10		
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:	190	410	110	30	670	260	250	660	320	100	450	10		
Added Vol:	0	0	0	0	0	32	34	99	0	0	97	0		
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0		
Initial Fut:	190	410	110	30	670	292	284	759	320	100	547	10		
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:	198	427	115	31	698	304	296	791	333	104	570	10		
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0		
Reduced Vol:	198	427	115	31	698	304	296	791	333	104	570	10		
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Final Vol.:	198	427	115	31	698	304	296	791	333	104	570	10		
Saturation Flow Module:														
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Adjustment:	0.93	0.90	0.90	0.93	0.89	0.89	0.90	0.93	0.83	0.93	0.93	0.93		
Lanes:	1.00	1.58	0.42	1.00	1.39	0.61	2.00	2.00	1.00	1.00	1.96	0.04		
Final Sat.:	1769	2700	724	1769	2351	1024	3432	3538	1583	1769	3464	63		
Capacity Analysis Module:														
Vol/Sat:	0.11	0.16	0.16	0.02	0.30	0.30	0.09	0.22	0.21	0.06	0.16	0.16		
Crit Moves:	****				****			****		****				
Green/Cycle:	0.14	0.34	0.34	0.15	0.36	0.36	0.12	0.27	0.27	0.07	0.23	0.23		
Volume/Cap:	0.82	0.46	0.46	0.12	0.82	0.82	0.73	0.82	0.78	0.82	0.73	0.73		
Delay/Veh:	62.0	25.8	25.8	36.8	33.7	33.7	49.2	40.0	42.2	79.2	39.4	39.4		
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:	62.0	25.8	25.8	36.8	33.7	33.7	49.2	40.0	42.2	79.2	39.4	39.4		
LOS by Move:	E	C	C	D	C	C	D	D	D	E	D	D		
HCM2kAvgQ:	8	6	6	1	16	16	6	14	11	5	10	10		

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

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project Mitigated
AM Peak Hour

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

Intersection #12 Eight Mile Road/SR 99 Frontage

Cycle (sec):	100	Critical Vol./Cap.(X):	0.635
Loss Time (sec):	16 (Y+R=4.0 sec)	Average Delay (sec/veh):	30.5
Optimal Cycle:	61	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:	Include			Ovl			Ovl			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 1 0			1 0 0 1 0			1 0 1 0 1			1 0 0 1 0		
Volume Module:												
Base Vol:	150	30	160	40	90	20	80	280	300	220	360	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:	150	30	160	40	90	20	80	280	300	220	360	120
Added Vol:	60	0	0	0	0	0	0	54	46	0	36	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	210	30	160	40	90	20	80	334	346	220	396	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:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	219	31	167	42	94	21	83	348	360	229	413	125
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	219	31	167	42	94	21	83	348	360	229	413	125
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	219	31	167	42	94	21	83	348	360	229	413	125
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.86	0.86	0.93	0.95	0.95	0.93	0.98	0.83	0.93	0.95	0.95
Lanes:	1.00	0.16	0.84	1.00	0.82	0.18	1.00	1.00	1.00	1.00	0.77	0.23
Final Sat.:	1769	257	1370	1769	1482	329	1769	1862	1583	1769	1379	418
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.12	0.02	0.06	0.06	0.05	0.19	0.23	0.13	0.30	0.30
Crit Moves:	****				****		****				****	
Green/Cycle:	0.19	0.19	0.19	0.11	0.10	0.17	0.07	0.32	0.52	0.22	0.47	0.47
Volume/Cap:	0.64	0.65	0.65	0.22	0.63	0.36	0.64	0.58	0.44	0.58	0.64	0.64
Delay/Veh:	40.9	42.5	42.5	41.4	50.3	37.1	54.8	29.7	15.5	36.8	21.6	21.6
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:	40.9	42.5	42.5	41.4	50.3	37.1	54.8	29.7	15.5	36.8	21.6	21.6
LOS by Move:	D	D	D	D	D	D	D	C	B	D	C	C
HCM2kAvgQ:	7	7	7	1	5	3	4	9	7	7	13	13

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		0.97	0.91		1.00	1.00	1.00	0.97	1.00	
Frt	1.00	0.96		1.00	0.86		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3406		3433	4350		1770	1863	1583	3433	1723	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3406		3433	4350		1770	1863	1583	3433	1723	
Volume (vph)	10	30	10	350	20	541	10	10	290	978	10	10
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	12	36	12	422	24	652	12	12	349	1178	12	12
RTOR Reduction (vph)	0	10	0	0	364	0	0	0	207	0	7	0
Lane Group Flow (vph)	12	38	0	422	312	0	12	12	142	1178	17	0
Turn Type	Prot			Prot			Prot		pm+ov	Prot		
Protected Phases	5	2		1	6		3	8	1	7	4	
Permitted Phases									8			
Actuated Green, G (s)	2.6	20.2		34.4	52.0		1.3	1.3	35.7	44.1	44.1	
Effective Green, g (s)	3.6	21.2		35.4	53.0		2.3	2.3	37.7	45.1	45.1	
Actuated g/C Ratio	0.03	0.18		0.29	0.44		0.02	0.02	0.31	0.38	0.38	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	2.0	6.0		2.0	6.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	53	602		1013	1921		34	36	550	1290	648	
v/s Ratio Prot	0.01	0.01		c0.12	c0.07		0.01	0.01	c0.08	c0.34	0.01	
v/s Ratio Perm									0.01			
v/c Ratio	0.23	0.06		0.42	0.16		0.35	0.33	0.26	0.91	0.03	
Uniform Delay, d1	56.8	41.1		34.0	20.1		58.1	58.1	30.7	35.6	23.6	
Progression Factor	1.00	1.00		0.87	1.35		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	0.2		0.1	0.2		2.3	2.0	0.1	9.8	0.0	
Delay (s)	57.6	41.3		29.7	27.3		60.4	60.1	30.8	45.4	23.6	
Level of Service	E	D		C	C		E	E	C	D	C	
Approach Delay (s)		44.6			28.2			32.7			45.0	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM Average Control Delay	36.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project Mitigated
PM Peak Hour

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

Intersection #3 Eight Mile Road/Mokelumne Circle

Cycle (sec):	65	Critical Vol./Cap.(X):	0.782
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	24.6
Optimal Cycle:	63	Level Of Service:	C

Street Name:	Mokelumne Circle						Eight Mile Road					
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:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 2 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	50	0	230	0	0	0	0	380	20	370	890	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:	50	0	230	0	0	0	0	380	20	370	890	0
Added Vol:	15	0	35	0	0	0	0	365	13	48	592	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	65	0	265	0	0	0	0	745	33	418	1482	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:	71	0	288	0	0	0	0	810	36	454	1611	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	71	0	288	0	0	0	0	810	36	454	1611	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
Final Vol.:	71	0	288	0	0	0	0	810	36	454	1611	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.76	1.00	0.83	1.00	1.00	1.00	1.00	0.89	0.89	0.93	0.93	1.00
Lanes:	1.00	0.00	1.00	0.00	0.00	0.00	0.00	2.87	0.13	1.00	2.00	0.00
Final Sat.:	1441	0	1583	0	0	0	0	4838	214	1769	3538	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.18	0.00	0.00	0.00	0.00	0.17	0.17	0.26	0.46	0.00
Crit Moves:			****				****				****	
Green/Cycle:	0.20	0.00	0.20	0.00	0.00	0.00	0.00	0.24	0.24	0.37	0.51	0.00
Volume/Cap:	0.24	0.00	0.90	0.00	0.00	0.00	0.00	0.69	0.69	0.69	0.90	0.00
Delay/Veh:	22.2	0.0	52.1	0.0	0.0	0.0	0.0	24.1	24.1	20.5	21.3	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:	22.2	0.0	52.1	0.0	0.0	0.0	0.0	24.1	24.1	20.5	21.3	0.0
LOS by Move:	C	A	D	A	A	A	A	C	C	C	C	A
HCM2kAvgQ:	1	0	9	0	0	0	0	7	7	8	19	0

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0				4.0			4.0
Lane Util. Factor	1.00	0.95			0.86				1.00			0.88
Frpb, ped/bikes	1.00	1.00			1.00				1.00			1.00
Flpb, ped/bikes	1.00	1.00			1.00				1.00			1.00
Frt	1.00	1.00			0.98				0.86			0.85
Flt Protected	0.95	1.00			1.00				1.00			1.00
Satd. Flow (prot)	1770	3539			6300				1611			2787
Flt Permitted	0.95	1.00			1.00				1.00			1.00
Satd. Flow (perm)	1770	3539			6300				1611			2787
Volume (vph)	365	1165	0	0	1186	150	0	0	670	0	0	2466
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)	392	1253	0	0	1275	161	0	0	720	0	0	2652
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	0	0	0	0
Lane Group Flow (vph)	392	1253	0	0	1425	0	0	0	720	0	0	2652
Confl. Peds. (#/hr)			10									
Turn Type	Prot								Free			Free
Protected Phases	5	2			6							
Permitted Phases									Free			Free
Actuated Green, G (s)	37.0	130.0			81.6				130.0			130.0
Effective Green, g (s)	38.7	130.0			83.3				130.0			130.0
Actuated g/C Ratio	0.30	1.00			0.64				1.00			1.00
Clearance Time (s)	5.7	5.7			5.7							
Vehicle Extension (s)	5.0	5.0			5.0							
Lane Grp Cap (vph)	527	3539			4037				1611			2787
v/s Ratio Prot	0.22	0.35			0.23							
v/s Ratio Perm									0.45			c0.95
v/c Ratio	0.74	0.35			0.35				0.45			0.95
Uniform Delay, d1	41.2	0.0			10.8				0.0			0.0
Progression Factor	0.82	1.00			1.00				1.00			1.00
Incremental Delay, d2	4.6	0.2			0.2				0.9			9.0
Delay (s)	38.5	0.2			11.1				0.9			9.0
Level of Service	D	A			B				A			A
Approach Delay (s)		9.3			11.1			0.9			9.0	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	8.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project Mitigated
PM Peak Hour

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

Intersection #7 Eight Mile Road/Oak Grove Regional Park Entrance

Cycle (sec):	100	Critical Vol./Cap.(X):	0.395
Loss Time (sec):	0 (Y+R=5.0 sec)	Average Delay (sec/veh):	1.7
Optimal Cycle:	31	Level Of Service:	A

Street Name:	Oak Grove Regional Park Entrance						Eight Mile Road					
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:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	0 0	1! 0	0	0 0	0 0	0	0 0	2 1	0	1 0	2 0	0
Volume Module:												
Base Vol:	10	0	10	0	0	0	0	1350	10	10	840	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:	10	0	10	0	0	0	0	1350	10	10	840	0
Added Vol:	0	0	0	0	0	0	0	475	0	0	486	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	0	10	0	0	0	0	1825	10	10	1326	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:	11	0	11	0	0	0	0	1921	11	11	1396	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	0	11	0	0	0	0	1921	11	11	1396	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:	11	0	11	0	0	0	0	1921	11	11	1396	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.91	1.00	0.91	1.00	1.00	1.00	1.00	0.89	0.89	0.93	0.93	1.00
Lanes:	0.50	0.00	0.50	0.00	0.00	0.00	0.00	2.98	0.02	1.00	2.00	0.00
Final Sat.:	869	0	869	0	0	0	0	5051	28	1769	3538	0
Capacity Analysis Module:												
Vol/Sat:	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.38	0.38	0.01	0.39	0.00
Crit Moves:							****				****	
Green/Cycle:	0.10	0.00	0.10	0.00	0.00	0.00	0.00	0.84	0.84	0.16	0.93	0.00
Volume/Cap:	0.12	0.00	0.12	0.00	0.00	0.00	0.00	0.45	0.45	0.04	0.42	0.00
Delay/Veh:	41.3	0.0	41.3	0.0	0.0	0.0	0.0	2.0	2.0	35.9	0.5	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:	41.3	0.0	41.3	0.0	0.0	0.0	0.0	2.0	2.0	35.9	0.5	0.0
LOS by Move:	D	A	D	A	A	A	A	A	A	D	A	A
HCM2kAvgQ:	1	0	1	0	0	0	0	1	1	0	1	0

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

Traffix 7.8.0115 (c) 2007 Dowling Assoc. Licensed to FEHR & PEERS, W.C.

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project Mitigated
PM Peak Hour

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

Intersection #9 Eight Mile Road/Davis Street

Cycle (sec):	130	Critical Vol./Cap.(X):	0.849
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	48.5
Optimal Cycle:	111	Level Of Service:	D

Street Name:	Davis Street						Eight Mile Road					
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			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	0 1		1 0	0 1	0	1 0	1 1	0	2 0	1 1	0
Volume Module:												
Base Vol:	60	180	290	50	200	120	100	470	110	390	350	50
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	180	290	50	200	120	100	470	110	390	350	50
Added Vol:	96	0	0	0	0	50	51	251	91	0	259	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	156	180	290	50	200	170	151	721	201	390	609	50
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:	170	196	315	54	217	185	164	784	218	424	662	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	170	196	315	54	217	185	164	784	218	424	662	54
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	170	196	315	54	217	185	164	784	218	424	662	54
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.91	0.91	0.93	0.90	0.90	0.90	0.92	0.92
Lanes:	1.00	1.00	1.00	1.00	0.54	0.46	1.00	1.56	0.44	2.00	1.85	0.15
Final Sat.:	1769	1862	1583	1769	937	796	1769	2675	746	3432	3233	265
Capacity Analysis Module:												
Vol/Sat:	0.10	0.11	0.20	0.03	0.23	0.23	0.09	0.29	0.29	0.12	0.20	0.20
Crit Moves:	****				****			****		****		
Green/Cycle:	0.11	0.26	0.40	0.13	0.27	0.27	0.15	0.35	0.35	0.15	0.34	0.34
Volume/Cap:	0.85	0.41	0.50	0.23	0.85	0.85	0.61	0.85	0.85	0.85	0.61	0.61
Delay/Veh:	83.9	40.9	29.7	51.2	58.2	58.2	55.3	45.4	45.4	67.0	36.8	36.8
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:	83.9	40.9	29.7	51.2	58.2	58.2	55.3	45.4	45.4	67.0	36.8	36.8
LOS by Move:	F	D	C	D	E	E	E	D	D	E	D	D
HCM2kAvgQ:	9	6	8	2	17	17	7	21	21	11	12	12

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

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project Mitigated
PM Peak Hour

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

Intersection #11 Eight Mile Road/West Lane

Cycle (sec): 130 Critical Vol./Cap.(X): 0.906
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 53.2
Optimal Cycle: 130 Level Of Service: D

Street Name:	West Lane						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	0	7	10	0	7	10	0	7	10	0
Lanes:	1 0 1	1 0		1 0 1	1 0		2 0 2	0 1		1 0 1	1 0	
Volume Module:												
Base Vol:	240	620	110	10	510	400	400	500	260	140	540	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	240	620	110	10	510	400	400	500	260	140	540	20
Added Vol:	0	0	0	0	0	57	55	168	0	0	174	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	240	620	110	10	510	457	455	668	260	140	714	20
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:	247	639	113	10	526	471	469	689	268	144	736	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	247	639	113	10	526	471	469	689	268	144	736	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	247	639	113	10	526	471	469	689	268	144	736	21
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.91	0.91	0.93	0.86	0.86	0.90	0.93	0.83	0.93	0.93	0.93
Lanes:	1.00	1.70	0.30	1.00	1.05	0.95	2.00	2.00	1.00	1.00	1.95	0.05
Final Sat.:	1769	2936	521	1769	1733	1553	3432	3538	1583	1769	3428	96
Capacity Analysis Module:												
Vol/Sat:	0.14	0.22	0.22	0.01	0.30	0.30	0.14	0.19	0.17	0.08	0.21	0.21
Crit Moves:	****				****		****				****	
Green/Cycle:	0.15	0.39	0.39	0.10	0.33	0.33	0.15	0.27	0.27	0.11	0.24	0.24
Volume/Cap:	0.91	0.56	0.56	0.06	0.91	0.91	0.91	0.71	0.62	0.71	0.91	0.91
Delay/Veh:	85.2	31.2	31.2	53.5	52.0	52.0	73.8	45.1	44.1	66.8	61.6	61.6
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:	85.2	31.2	31.2	53.5	52.0	52.0	73.8	45.1	44.1	66.8	61.6	61.6
LOS by Move:	F	C	C	D	D	D	E	D	D	E	E	E
HCM2kAvgQ:	13	11	11	0	23	23	13	13	9	7	19	19

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

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project Mitigated
PM Peak Hour

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

Intersection #12 Eight Mile Road/SR 99 Frontage

Cycle (sec): 130 Critical Vol./Cap.(X): 0.825
Loss Time (sec): 16 (Y+R=4.0 sec) Average Delay (sec/veh): 48.7
Optimal Cycle: 103 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						Include					
Min. Green:	7	10		0			7	10		0			7	10		0			7	10		0		
Lanes:	1	0	0	1	0		1	0	0	1	0		1	0	1	0	1		1	0	0	1	0	
Volume Module:																								
Base Vol:	210	40	160				60	180		90			60	330		180			200	310		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:	210	40	160				60	180		90			60	330		180			200	310		120		
Added Vol:	100	0	0				0	0		0			0	102		66			0	74		0		
PasserByVol:	0	0	0				0	0		0			0	0		0			0	0		0		
Initial Fut:	310	40	160				60	180		90			60	432		246			200	384		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:	0.93	0.93	0.93				0.93	0.93		0.93			0.93	0.93		0.93			0.93	0.93		0.93		
PHF Volume:	333	43	172				65	194		97			65	465		265			215	413		129		
Reduct Vol:	0	0	0				0	0		0			0	0		0			0	0		0		
Reduced Vol:	333	43	172				65	194		97			65	465		265			215	413		129		
PCE Adj:	1.00	1.00	1.00				1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
MLF Adj:	1.00	1.00	1.00				1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
Final Vol.:	333	43	172				65	194		97			65	465		265			215	413		129		
Saturation Flow Module:																								
Sat/Lane:	1900	1900	1900				1900	1900		1900			1900	1900		1900			1900	1900		1900		
Adjustment:	0.93	0.86	0.86				0.93	0.93		0.93			0.93	0.98		0.83			0.93	0.94		0.94		
Lanes:	1.00	0.20	0.80				1.00	0.67		0.33			1.00	1.00		1.00			1.00	0.76		0.24		
Final Sat.:	1769	328	1311				1769	1179		590			1769	1862		1583			1769	1368		427		
Capacity Analysis Module:																								
Vol/Sat:	0.19	0.13	0.13				0.04	0.16		0.16			0.04	0.25		0.17			0.12	0.30		0.30		
Crit Moves:	****							****						****					****					
Green/Cycle:	0.23	0.30	0.30				0.12	0.20		0.27			0.07	0.30		0.53			0.15	0.38		0.38		
Volume/Cap:	0.83	0.43	0.43				0.29	0.83		0.61			0.54	0.83		0.31			0.83	0.79		0.79		
Delay/Veh:	60.7	37.0	37.0				52.5	64.6		44.2			63.3	51.8		17.4			72.7	41.8		41.8		
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:	60.7	37.0	37.0				52.5	64.6		44.2			63.3	51.8		17.4			72.7	41.8		41.8		
LOS by Move:	E	D	D				D	E		D			E	D		B			E	D		D		
HCM2kAvgQ:	15	7	7				3	13		11			3	19		6			11	21		21		

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95		0.97	0.91		1.00	1.00	1.00	0.97	1.00	
Frt	1.00	0.97		1.00	0.85		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3437		3433	4347		1770	1863	1583	3433	1809	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3437		3433	4347		1770	1863	1583	3433	1809	
Volume (vph)	10	40	10	560	40	1190	10	40	280	1123	40	10
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)	10	42	10	583	42	1240	10	42	292	1170	42	10
RTOR Reduction (vph)	0	8	0	0	586	0	0	0	187	0	8	0
Lane Group Flow (vph)	10	44	0	583	696	0	10	42	105	1170	44	0
Turn Type	Prot			Prot			Prot		pm+ov	Prot		
Protected Phases	5	2		1	6		3	8	1	7	4	
Permitted Phases									8			
Actuated Green, G (s)	5.3	22.2		34.7	51.6		24.4	7.3	42.0	45.8	29.7	
Effective Green, g (s)	6.3	23.2		35.7	52.6		24.4	8.3	44.0	46.8	30.7	
Actuated g/C Ratio	0.05	0.18		0.27	0.40		0.19	0.06	0.34	0.36	0.24	
Clearance Time (s)	5.0	5.0		5.0	5.0		4.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	2.0	6.0		2.0	6.0		3.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	86	613		943	1759		332	119	584	1236	427	
v/s Ratio Prot	0.01	0.01		c0.17	c0.16		0.01	c0.02	0.05	c0.34	0.02	
v/s Ratio Perm									0.02			
v/c Ratio	0.12	0.07		0.62	1.00dr		0.03	0.35	0.18	0.95	0.10	
Uniform Delay, d1	59.2	44.4		41.2	27.4		43.1	58.3	30.3	40.4	38.9	
Progression Factor	1.00	1.00		1.26	2.02		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.2		0.8	0.6		0.0	0.7	0.1	14.4	0.0	
Delay (s)	59.4	44.7		52.6	56.1		43.2	58.9	30.3	54.8	38.9	
Level of Service	E	D		D	E		D	E	C	D	D	
Approach Delay (s)		47.0			55.0			34.2			54.1	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM Average Control Delay	52.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project Mitigated
AM Peak Hour

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

Intersection #3 Eight Mile Road/Mokelumne Circle

Cycle (sec):	130	Critical Vol./Cap.(X):	0.747
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	39.6
Optimal Cycle:	71	Level Of Service:	D

Street Name:	Mokelumne Circle						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Permitted			Permitted			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	0 0	1! 0	1	0 0	0 0	0	0 0	2 1	0	1 0	3 0	0
Volume Module:												
Base Vol:	10	0	650	0	0	0	0	370	10	330	210	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:	10	0	650	0	0	0	0	370	10	330	210	0
Added Vol:	5	0	65	0	0	0	0	439	9	49	152	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	0	715	0	0	0	0	809	19	379	362	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:	16	0	777	0	0	0	0	879	21	412	393	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	0	777	0	0	0	0	879	21	412	393	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
Final Vol.:	16	0	777	0	0	0	0	879	21	412	393	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.79	1.00	1.00	1.00	1.00	0.89	0.89	0.93	0.89	1.00
Lanes:	0.04	0.00	1.96	0.00	0.00	0.00	0.00	2.93	0.07	1.00	3.00	0.00
Final Sat.:	61	0	2963	0	0	0	0	4952	116	1769	5083	0
Capacity Analysis Module:												
Vol/Sat:	0.27	0.00	0.26	0.00	0.00	0.00	0.00	0.18	0.18	0.23	0.08	0.00
Crit Moves:	****							****		****		
Green/Cycle:	0.36	0.00	0.36	0.00	0.00	0.00	0.00	0.24	0.24	0.31	0.55	0.00
Volume/Cap:	0.75	0.00	0.73	0.00	0.00	0.00	0.00	0.75	0.75	0.75	0.14	0.00
Delay/Veh:	39.5	0.0	38.9	0.0	0.0	0.0	0.0	48.5	48.5	45.7	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:	39.5	0.0	38.9	0.0	0.0	0.0	0.0	48.5	48.5	45.7	14.3	0.0
LOS by Move:	D	A	D	A	A	A	A	D	D	D	B	A
HCM2kAvgQ:	15	0	14	0	0	0	0	13	13	15	2	0

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0				4.0			4.0
Lane Util. Factor	1.00	0.95			0.86				1.00			0.88
Frt	1.00	1.00			0.97				0.86			0.85
Flt Protected	0.95	1.00			1.00				1.00			1.00
Satd. Flow (prot)	1770	3539			6219				1611			2787
Flt Permitted	0.95	1.00			1.00				1.00			1.00
Satd. Flow (perm)	1770	3539			6219				1611			2787
Volume (vph)	278	1028	0	0	1064	260	0	0	510	0	0	697
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)	299	1105	0	0	1144	280	0	0	548	0	0	749
RTOR Reduction (vph)	0	0	0	0	18	0	0	0	0	0	0	0
Lane Group Flow (vph)	299	1105	0	0	1406	0	0	0	548	0	0	749
Turn Type	Prot								Free			Free
Protected Phases	5	2			6							
Permitted Phases									Free			Free
Actuated Green, G (s)	27.7	130.0			93.3				130.0			130.0
Effective Green, g (s)	27.7	130.0			94.3				130.0			130.0
Actuated g/C Ratio	0.21	1.00			0.73				1.00			1.00
Clearance Time (s)	4.0	5.0			5.0							
Vehicle Extension (s)	3.0	3.0			3.0							
Lane Grp Cap (vph)	377	3539			4511				1611			2787
v/s Ratio Prot	c0.17	0.31			0.23							
v/s Ratio Perm									c0.34			0.27
v/c Ratio	0.79	0.31			0.31				0.34			0.27
Uniform Delay, d1	48.4	0.0			6.3				0.0			0.0
Progression Factor	0.47	1.00			0.76				1.00			1.00
Incremental Delay, d2	9.6	0.2			0.2				0.6			0.2
Delay (s)	32.5	0.2			5.0				0.6			0.2
Level of Service	C	A			A				A			A
Approach Delay (s)		7.1			5.0			0.6			0.2	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	4.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	41.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project Mitigated
AM Peak Hour

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

Intersection #13 Mokelumne Circle/Scott Creek Drive

Cycle (sec):	130	Critical Vol./Cap.(X):	0.639
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	32.8
Optimal Cycle:	54	Level Of Service:	C

Street Name:	Mokelumne Circle						Scott Creek Drive					
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:	4	10	0	4	10	0	4	10	0	4	10	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:	10	220	10	20	80	240	430	240	10	10	20	10
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:	10	220	10	20	80	240	430	240	10	10	20	10
Added Vol:	2	34	0	6	14	38	31	330	2	0	144	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	254	10	26	94	278	461	570	12	10	164	15
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:	13	276	11	28	102	302	501	620	13	11	178	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	276	11	28	102	302	501	620	13	11	178	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	13	276	11	28	102	302	501	620	13	11	178	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.66	0.97	0.97	0.39	0.98	0.83	0.93	0.98	0.98	0.93	0.97	0.97
Lanes:	1.00	0.96	0.04	1.00	1.00	1.00	1.00	0.98	0.02	1.00	0.92	0.08
Final Sat.:	1255	1781	70	749	1862	1583	1769	1818	38	1769	1684	154
Capacity Analysis Module:												
Vol/Sat:	0.01	0.16	0.16	0.04	0.05	0.19	0.28	0.34	0.34	0.01	0.11	0.11
Crit Moves:						****	****				****	
Green/Cycle:	0.30	0.30	0.30	0.30	0.30	0.30	0.44	0.56	0.56	0.05	0.17	0.17
Volume/Cap:	0.03	0.52	0.52	0.13	0.18	0.64	0.64	0.61	0.61	0.12	0.64	0.64
Delay/Veh:	32.3	38.7	38.7	33.5	34.0	42.4	29.9	20.3	20.3	59.6	55.1	55.1
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:	32.3	38.7	38.7	33.5	34.0	42.4	29.9	20.3	20.3	59.6	55.1	55.1
LOS by Move:	C	D	D	C	C	D	C	C	C	E	E	E
HCM2kAvgQ:	0	9	9	1	3	10	14	12	12	1	8	8

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project Mitigated
AM Peak Hour

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

Intersection #14 Trinity Parkway/Consumnes Drive

Cycle (sec):	130	Critical Vol./Cap.(X):	0.798
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	38.5
Optimal Cycle:	95	Level Of Service:	D

Street Name:	Trinity Parkway						Consumnes Drive					
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			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1	1 0		1 0 1	1 0		1 0 1	0 1		1 0 1	0 1	
Volume Module:												
Base Vol:	150	180	0	0	150	60	130	0	480	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	150	180	0	0	150	60	130	0	480	0	0	0
Added Vol:	55	590	44	37	718	2	3	8	87	36	3	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	205	770	44	37	868	62	133	8	567	36	3	11
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:	223	837	48	40	943	67	145	9	616	39	3	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	223	837	48	40	943	67	145	9	616	39	3	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	223	837	48	40	943	67	145	9	616	39	3	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.92	0.92	0.93	0.92	0.92	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	1.89	0.11	1.00	1.87	0.13	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1769	3320	190	1769	3269	233	1769	1862	1583	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.13	0.25	0.25	0.02	0.29	0.29	0.08	0.00	0.39	0.02	0.00	0.01
Crit Moves:	****				****				****	****		
Green/Cycle:	0.16	0.46	0.46	0.06	0.36	0.36	0.19	0.33	0.49	0.03	0.17	0.17
Volume/Cap:	0.80	0.55	0.55	0.40	0.80	0.80	0.44	0.01	0.80	0.72	0.01	0.04
Delay/Veh:	68.0	25.6	25.6	61.9	41.2	41.2	47.9	29.4	34.2	99.5	44.4	44.7
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:	68.0	25.6	25.6	61.9	41.2	41.2	47.9	29.4	34.2	99.5	44.4	44.7
LOS by Move:	E	C	C	E	D	D	D	C	C	F	D	D
HCM2kAvgQ:	10	11	11	2	20	20	5	0	20	3	0	0

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.81	1.00	0.91	0.91	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			7544	1583	3221	1610	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			7544	1583	3221	1610	2787			
Volume (vph)	120	1040	0	0	1837	350	434	0	670	0	0	0
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)	129	1118	0	0	1975	376	467	0	720	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	34	0	0	0
Lane Group Flow (vph)	129	1118	0	0	1975	376	311	156	686	0	0	0
Turn Type	Prot					Free	Perm		custom			
Protected Phases	5	2			6			8				
Permitted Phases						Free	8		1 8			
Actuated Green, G (s)	17.6	67.7			77.1	130.0	21.3	21.3	52.3			
Effective Green, g (s)	17.6	68.7			78.1	130.0	22.3	22.3	53.3			
Actuated g/C Ratio	0.14	0.53			0.60	1.00	0.17	0.17	0.41			
Clearance Time (s)	4.0	5.0			5.0		5.0	5.0				
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0				
Lane Grp Cap (vph)	240	1870			4532	1583	553	276	1143			
v/s Ratio Prot	0.07	c0.32			0.26							
v/s Ratio Perm						0.24	0.10	0.10	c0.25			
v/c Ratio	0.54	0.60			0.44	0.24	0.56	0.57	0.60			
Uniform Delay, d1	52.4	21.1			14.0	0.0	49.4	49.4	30.0			
Progression Factor	0.12	0.32			0.51	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.2	0.6			0.1	0.1	1.3	2.6	0.9			
Delay (s)	6.5	7.4			7.2	0.1	50.7	52.0	30.9			
Level of Service	A	A			A	A	D	D	C			
Approach Delay (s)		7.3			6.1			38.8			0.0	
Approach LOS		A			A			D			A	

Intersection Summary			
HCM Average Control Delay	14.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project Mitigated
PM Peak Hour

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

Intersection #3 Eight Mile Road/Mokelumne Circle

Cycle (sec):	130	Critical Vol./Cap.(X):	0.975
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	47.1
Optimal Cycle:	130	Level Of Service:	D

Street Name:	Mokelumne Circle						Eight Mile Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Permitted			Permitted			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	0 0	1! 0	1	0 0	0 0	0	0 0	2 1	0	1 0	3 0	0
Volume Module:												
Base Vol:	10	0	450	0	0	0	0	350	10	850	500	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:	10	0	450	0	0	0	0	350	10	850	500	0
Added Vol:	15	0	31	0	0	0	0	296	13	45	472	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	0	481	0	0	0	0	646	23	895	972	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:	27	0	523	0	0	0	0	702	25	973	1057	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	27	0	523	0	0	0	0	702	25	973	1057	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
Final Vol.:	27	0	523	0	0	0	0	702	25	973	1057	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.79	1.00	1.00	1.00	1.00	0.89	0.89	0.93	0.89	1.00
Lanes:	0.09	0.00	1.91	0.00	0.00	0.00	0.00	2.90	0.10	1.00	3.00	0.00
Final Sat.:	142	0	2868	0	0	0	0	4884	174	1769	5083	0
Capacity Analysis Module:												
Vol/Sat:	0.19	0.00	0.18	0.00	0.00	0.00	0.00	0.14	0.14	0.55	0.21	0.00
Crit Moves:	****							****		****		
Green/Cycle:	0.20	0.00	0.20	0.00	0.00	0.00	0.00	0.15	0.15	0.56	0.71	0.00
Volume/Cap:	0.97	0.00	0.93	0.00	0.00	0.00	0.00	0.98	0.98	0.98	0.29	0.00
Delay/Veh:	82.7	0.0	72.0	0.0	0.0	0.0	0.0	82.2	82.2	50.2	6.9	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:	82.7	0.0	72.0	0.0	0.0	0.0	0.0	82.2	82.2	50.2	6.9	0.0
LOS by Move:	F	A	E	A	A	A	A	F	F	D	A	A
HCM2kAvgQ:	16	0	14	0	0	0	0	15	15	42	1	0

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0				4.0			4.0
Lane Util. Factor	1.00	0.95			0.86				1.00			0.88
Frt	1.00	1.00			0.97				0.86			0.85
Flt Protected	0.95	1.00			1.00				1.00			1.00
Satd. Flow (prot)	1770	3539			6226				1611			2787
Flt Permitted	0.95	1.00			1.00				1.00			1.00
Satd. Flow (perm)	1770	3539			6226				1611			2787
Volume (vph)	405	1468	0	0	1371	320	0	0	520	0	0	1811
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)	435	1578	0	0	1474	344	0	0	559	0	0	1947
RTOR Reduction (vph)	0	0	0	0	21	0	0	0	0	0	0	0
Lane Group Flow (vph)	435	1578	0	0	1797	0	0	0	559	0	0	1947
Turn Type	Prot								Free			Free
Protected Phases	5	2			6							
Permitted Phases									Free			Free
Actuated Green, G (s)	36.7	130.0			84.3				130.0			130.0
Effective Green, g (s)	36.7	130.0			85.3				130.0			130.0
Actuated g/C Ratio	0.28	1.00			0.66				1.00			1.00
Clearance Time (s)	4.0	5.0			5.0							
Vehicle Extension (s)	3.0	3.0			3.0							
Lane Grp Cap (vph)	500	3539			4085				1611			2787
v/s Ratio Prot	c0.25	0.45			0.29							
v/s Ratio Perm									0.35			c0.70
v/c Ratio	0.87	0.45			0.44				0.35			0.70
Uniform Delay, d1	44.4	0.0			10.8				0.0			0.0
Progression Factor	0.99	1.00			0.98				1.00			1.00
Incremental Delay, d2	12.0	0.3			0.3				0.6			1.5
Delay (s)	55.9	0.3			10.9				0.6			1.5
Level of Service	E	A			B				A			A
Approach Delay (s)		12.3			10.9			0.6			1.5	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	7.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project Mitigated
PM Peak Hour

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

Intersection #13 Mokelumne Circle/Scott Creek Drive

Cycle (sec):	130	Critical Vol./Cap.(X):	0.815
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	43.7
Optimal Cycle:	88	Level Of Service:	D

Street Name:	Mokelumne Circle						Scott Creek Drive					
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:	4	10	0	4	10	0	4	10	0	4	10	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:	10	90	10	10	420	430	340	30	10	10	40	30
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:	10	90	10	10	420	430	340	30	10	10	40	30
Added Vol:	3	25	0	12	39	7	8	181	2	0	299	12
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	115	10	22	459	437	348	211	12	10	339	42
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:	14	125	11	24	499	475	378	229	13	11	368	46
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	14	125	11	24	499	475	378	229	13	11	368	46
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	14	125	11	24	499	475	378	229	13	11	368	46
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.22	0.97	0.97	0.63	0.98	0.83	0.93	0.97	0.97	0.93	0.96	0.96
Lanes:	1.00	0.92	0.08	1.00	1.00	1.00	1.00	0.95	0.05	1.00	0.89	0.11
Final Sat.:	423	1692	147	1197	1862	1583	1769	1748	99	1769	1630	202
Capacity Analysis Module:												
Vol/Sat:	0.03	0.07	0.07	0.02	0.27	0.30	0.21	0.13	0.13	0.01	0.23	0.23
Crit Moves:						****	****				****	
Green/Cycle:	0.37	0.37	0.37	0.37	0.37	0.37	0.26	0.44	0.44	0.10	0.28	0.28
Volume/Cap:	0.09	0.20	0.20	0.05	0.73	0.82	0.82	0.30	0.30	0.06	0.82	0.82
Delay/Veh:	27.1	28.2	28.2	26.5	39.4	45.8	55.7	23.9	23.9	52.8	53.7	53.7
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:	27.1	28.2	28.2	26.5	39.4	45.8	55.7	23.9	23.9	52.8	53.7	53.7
LOS by Move:	C	C	C	C	D	D	E	C	C	D	D	D
HCM2kAvgQ:	0	3	3	1	17	18	16	5	5	0	17	17

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

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project Mitigated
PM Peak Hour

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

Intersection #14 Trinity Parkway/Consumnes Drive

Cycle (sec):	130	Critical Vol./Cap.(X):	0.868
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	41.5
Optimal Cycle:	119	Level Of Service:	D

Street Name:	Trinity Parkway						Consumnes Drive					
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			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1	1 0		1 0 1	1 0		1 0 1	0 1		1 0 1	0 1	
Volume Module:												
Base Vol:	370	210	0	0	150	150	90	0	130	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	370	210	0	0	150	150	90	0	130	0	0	0
Added Vol:	142	1192	51	14	1001	5	4	5	123	107	9	30
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	512	1402	51	14	1151	155	94	5	253	107	9	30
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:	539	1476	54	15	1212	163	99	5	266	113	9	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	539	1476	54	15	1212	163	99	5	266	113	9	32
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	539	1476	54	15	1212	163	99	5	266	113	9	32
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.93	0.93	0.91	0.91	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	1.93	0.07	1.00	1.76	0.24	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1769	3397	124	1769	3062	412	1769	1862	1583	1769	1862	1583
Capacity Analysis Module:												
Vol/Sat:	0.30	0.43	0.43	0.01	0.40	0.40	0.06	0.00	0.17	0.06	0.01	0.02
Crit Moves:	****				****		****				****	
Green/Cycle:	0.32	0.69	0.69	0.05	0.42	0.42	0.06	0.08	0.40	0.06	0.08	0.08
Volume/Cap:	0.95	0.63	0.63	0.17	0.95	0.95	0.95	0.04	0.42	1.08	0.07	0.26
Delay/Veh:	67.8	11.4	11.4	60.2	49.2	49.2	131.3	55.6	28.7	171.1	55.9	57.6
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:	67.8	11.4	11.4	60.2	49.2	49.2	131.3	55.6	28.7	171.1	55.9	57.6
LOS by Move:	E	B	B	E	D	D	F	E	C	F	E	E
HCM2kAvgQ:	25	7	7	1	32	32	7	0	7	8	0	1

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	1.00	0.95			0.81	1.00	0.91	0.91	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	1770	3539			7544	1583	3221	1610	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	1770	3539			7544	1583	3221	1610	2787			
Volume (vph)	200	1015	0	0	1896	890	1106	0	1540	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	1103	0	0	2061	967	1202	0	1674	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	191	0	0	11	0	0	0
Lane Group Flow (vph)	217	1103	0	0	2061	776	801	401	1663	0	0	0
Turn Type	Prot					Perm	Perm		custom			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		1 8			
Actuated Green, G (s)	21.5	45.0			57.5	57.5	37.0	37.0	75.0			
Effective Green, g (s)	21.5	46.0			58.5	58.5	38.0	38.0	76.0			
Actuated g/C Ratio	0.17	0.35			0.45	0.45	0.29	0.29	0.58			
Clearance Time (s)	4.0	5.0			5.0	5.0	5.0	5.0				
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	293	1252			3395	712	942	471	1629			
v/s Ratio Prot	0.12	c0.31			0.27							
v/s Ratio Perm						c0.49	0.25	0.25	c0.60			
v/c Ratio	0.74	0.88			0.61	1.09	0.85	0.85	1.02			
Uniform Delay, d1	51.6	39.4			27.1	35.8	43.3	43.3	27.0			
Progression Factor	0.87	0.49			0.27	0.79	1.00	1.00	1.00			
Incremental Delay, d2	8.4	7.6			0.1	43.1	7.4	13.8	27.7			
Delay (s)	53.4	26.9			7.5	71.4	50.8	57.1	54.7			
Level of Service	D	C			A	E	D	E	D			
Approach Delay (s)		31.3			27.9			53.9			0.0	
Approach LOS		C			C			D			A	

Intersection Summary			
HCM Average Control Delay	38.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	142.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Spanos Park West EIR
Future (Year 2035) plus Project Mitigated Alternative 1
AM Peak Hour

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

Intersection #2 Eight Mile Road/Regatta Drive

Cycle (sec): 130 Critical Vol./Cap.(X): 0.792
Loss Time (sec): 12 (Y+R=5.0 sec) Average Delay (sec/veh): 48.3
Optimal Cycle: 81 Level Of Service: D

Street Name:	Eight Mile Road						Regatta Drive					
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:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 0 0 2			0 0 0 0 0			0 0 3 1 0			2 0 4 0 0		
Volume Module:												
Base Vol:	60	0	650	0	0	0	0	1540	20	190	730	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:	60	0	650	0	0	0	0	1540	20	190	730	0
Added Vol:	14	0	135	0	0	0	0	503	13	59	173	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	74	0	785	0	0	0	0	2043	33	249	903	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:	80	0	853	0	0	0	0	2221	36	271	982	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	80	0	853	0	0	0	0	2221	36	271	982	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:	80	0	853	0	0	0	0	2221	36	271	982	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.60	1.00	0.73	1.00	1.00	1.00	1.00	0.89	0.89	0.90	0.89	1.00
Lanes:	2.00	0.00	2.00	0.00	0.00	0.00	0.00	3.94	0.06	2.00	4.00	0.00
Final Sat.:	2272	0	2786	0	0	0	0	6657	108	3432	6778	0
Capacity Analysis Module:												
Vol/Sat:	0.04	0.00	0.31	0.00	0.00	0.00	0.00	0.33	0.33	0.08	0.14	0.00
Crit Moves:			****					****		****		
Green/Cycle:	0.31	0.00	0.31	0.00	0.00	0.00	0.00	0.34	0.34	0.27	0.61	0.00
Volume/Cap:	0.11	0.00	0.99	0.00	0.00	0.00	0.00	0.98	0.98	0.29	0.24	0.00
Delay/Veh:	32.2	0.0	72.2	0.0	0.0	0.0	0.0	57.0	57.0	37.8	11.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.2	0.0	72.2	0.0	0.0	0.0	0.0	57.0	57.0	37.8	11.6	0.0
LOS by Move:	C	A	E	A	A	A	A	E	E	D	B	A
HCM2kAvgQ:	1	0	25	0	0	0	0	30	30	4	3	0

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

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Spanos Park West EIR
Future (Year 2035) plus Project Mitigated Alternative 1
AM Peak Hour

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

Intersection #3 Eight Mile Road/Mokelumne Circle

Cycle (sec): 130 Critical Vol./Cap.(X): 0.904
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 44.5
Optimal Cycle: 130 Level Of Service: D

Street Name:	Mokelumne Circle						Eight Mile Road					
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			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1 0 1			2 0 1 0 1			1 0 3 1 0			1 0 3 0 1		
Volume Module:												
Base Vol:	10	130	150	720	60	50	150	1710	40	20	860	280
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:	10	130	150	720	60	50	150	1710	40	20	860	280
Added Vol:	11	10	105	19	13	0	0	622	15	72	221	28
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	21	140	255	739	73	50	150	2332	55	92	1081	308
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:	23	152	277	803	79	54	163	2535	60	100	1175	335
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	23	152	277	803	79	54	163	2535	60	100	1175	335
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:	23	152	277	803	79	54	163	2535	60	100	1175	335
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.90	0.98	0.83	0.93	0.89	0.89	0.93	0.89	0.83
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	1.00	3.91	0.09	1.00	3.00	1.00
Final Sat.:	1769	1862	1583	3432	1862	1583	1769	6602	156	1769	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.01	0.08	0.18	0.23	0.04	0.03	0.09	0.38	0.38	0.06	0.23	0.21
Crit Moves:			****	****				****		****		
Green/Cycle:	0.11	0.13	0.19	0.26	0.28	0.28	0.14	0.42	0.42	0.06	0.35	0.61
Volume/Cap:	0.12	0.62	0.90	0.90	0.15	0.12	0.66	0.90	0.90	0.90	0.66	0.35
Delay/Veh:	52.3	58.4	79.6	59.2	35.5	35.2	59.8	39.5	39.5	117.0	36.9	13.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.3	58.4	79.6	59.2	35.5	35.2	59.8	39.5	39.5	117.0	36.9	13.0
LOS by Move:	D	E	E	E	D	D	E	D	D	F	D	B
HCM2kAvgQ:	1	7	14	19	2	1	7	29	29	7	14	4

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

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Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.86		0.94	0.91	1.00	0.88
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6329		4990	5085	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6329		4990	5085	1770	2787
Volume (vph)	3054	273	875	1340	141	674
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3320	297	951	1457	153	733
RTOR Reduction (vph)	9	0	0	0	0	0
Lane Group Flow (vph)	3608	0	951	1457	153	733
Turn Type			Prot			pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases						4
Actuated Green, G (s)	77.0		23.0	104.0	17.0	40.0
Effective Green, g (s)	78.0		23.0	105.0	17.0	40.0
Actuated g/C Ratio	0.60		0.18	0.81	0.13	0.31
Clearance Time (s)	5.0		4.0	5.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3797		883	4107	231	943
v/s Ratio Prot	c0.57		c0.19	0.29	0.09	c0.14
v/s Ratio Perm						0.13
v/c Ratio	0.95		1.08	0.35	0.66	0.78
Uniform Delay, d1	24.2		53.5	3.4	53.8	40.9
Progression Factor	1.00		0.82	0.24	1.00	1.00
Incremental Delay, d2	6.9		51.0	0.2	7.0	4.1
Delay (s)	31.1		94.8	1.0	60.7	45.0
Level of Service	C		F	A	E	D
Approach Delay (s)	31.1			38.0	47.7	
Approach LOS	C			D	D	

Intersection Summary			
HCM Average Control Delay	35.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.3%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.81	0.81	0.97	0.86					0.95	0.95	1.00
Frt		0.97	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		4396	2565	3433	6408					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		4396	2565	3433	6408					1681	1681	1583
Volume (vph)	0	1758	1970	1030	2008	0	0	0	0	530	0	206
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	1911	2141	1120	2183	0	0	0	0	576	0	224
RTOR Reduction (vph)	0	24	326	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2342	1360	1120	2183	0	0	0	0	288	288	224
Turn Type			Perm	Prot						Perm		Free
Protected Phases		2		1	6						4	
Permitted Phases			2							4		Free
Actuated Green, G (s)		60.0	60.0	37.0	101.0					19.0	19.0	130.0
Effective Green, g (s)		61.0	61.0	37.0	102.0					20.0	20.0	130.0
Actuated g/C Ratio		0.47	0.47	0.28	0.78					0.15	0.15	1.00
Clearance Time (s)		5.0	5.0	4.0	5.0					5.0	5.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		2063	1204	977	5028					259	259	1583
v/s Ratio Prot		0.54		c0.33	0.34							
v/s Ratio Perm			0.66							0.17	0.17	0.14
v/c Ratio		1.14	1.13	1.15	0.43					1.11	1.11	0.14
Uniform Delay, d1		34.5	34.5	46.5	4.6					55.0	55.0	0.0
Progression Factor		0.49	0.28	0.80	0.39					1.00	1.00	1.00
Incremental Delay, d2		61.4	59.3	76.8	0.2					89.3	89.3	0.2
Delay (s)		78.2	69.0	113.9	2.0					144.3	144.3	0.2
Level of Service		E	E	F	A					F	F	A
Approach Delay (s)		74.4			40.0			0.0			104.0	
Approach LOS		E			D			A			F	

Intersection Summary			
HCM Average Control Delay	63.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	109.2%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0				4.0			4.0
Lane Util. Factor	1.00	0.95			0.86				1.00			0.88
Frt	1.00	1.00			0.97				0.86			0.85
Flt Protected	0.95	1.00			1.00				1.00			1.00
Satd. Flow (prot)	1770	3539			6240				1611			2787
Flt Permitted	0.95	1.00			1.00				1.00			1.00
Satd. Flow (perm)	1770	3539			6240				1611			2787
Volume (vph)	192	2096	0	0	2086	440	0	0	910	0	0	953
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)	206	2254	0	0	2243	473	0	0	978	0	0	1025
RTOR Reduction (vph)	0	0	0	0	18	0	0	0	0	0	0	0
Lane Group Flow (vph)	206	2254	0	0	2698	0	0	0	978	0	0	1025
Turn Type	Prot								Free			Free
Protected Phases	5	2			6							
Permitted Phases									Free			Free
Actuated Green, G (s)	20.9	130.0			100.1				130.0			130.0
Effective Green, g (s)	20.9	130.0			101.1				130.0			130.0
Actuated g/C Ratio	0.16	1.00			0.78				1.00			1.00
Clearance Time (s)	4.0	5.0			5.0							
Vehicle Extension (s)	3.0	3.0			3.0							
Lane Grp Cap (vph)	285	3539			4853				1611			2787
v/s Ratio Prot	0.12	c0.64			0.43							
v/s Ratio Perm									0.61			0.37
v/c Ratio	0.72	0.64			0.56				0.61			0.37
Uniform Delay, d1	51.8	0.0			5.7				0.0			0.0
Progression Factor	1.52	1.00			0.68				1.00			1.00
Incremental Delay, d2	0.8	0.1			0.4				1.7			0.4
Delay (s)	79.8	0.1			4.2				1.7			0.4
Level of Service	E	A			A				A			A
Approach Delay (s)		6.8			4.2			1.7			0.4	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	4.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Spanos Park West EIR
Future (Year 2035) plus Project Mitigated Alternative 1
AM Peak Hour

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

Intersection #9 Eight Mile Road/Davis Street

Cycle (sec):	130	Critical Vol./Cap.(X):	1.040
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	47.9
Optimal Cycle:	130	Level Of Service:	D

Street Name:	Davis Street						Eight Mile Road					
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			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 2	0 1		1 0 2	0 1		2 0 4	0 1		3 0 3	1 0	
Volume Module:												
Base Vol:	240	200	660	30	470	170	160	1740	750	520	1590	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	240	200	660	30	470	170	160	1740	750	520	1590	40
Added Vol:	25	0	0	0	0	41	70	276	42	0	160	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	265	200	660	30	470	211	230	2016	792	520	1750	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	282	213	702	32	500	224	245	2145	843	553	1862	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	282	213	702	32	500	224	245	2145	843	553	1862	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	282	213	702	32	500	224	245	2145	843	553	1862	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.93	0.83	0.93	0.93	0.83	0.90	0.89	0.83	0.90	0.89	0.89
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	2.00	4.00	1.00	3.00	3.91	0.09
Final Sat.:	3432	3538	1583	1769	3538	1583	3432	6778	1583	5147	6606	151
Capacity Analysis Module:												
Vol/Sat:	0.08	0.06	0.44	0.02	0.14	0.14	0.07	0.32	0.53	0.11	0.28	0.28
Crit Moves:			****	****					****	****		
Green/Cycle:	0.13	0.32	0.42	0.03	0.22	0.33	0.11	0.43	0.55	0.10	0.42	0.42
Volume/Cap:	0.64	0.19	1.06	0.59	0.64	0.43	0.67	0.74	0.96	1.06	0.67	0.67
Delay/Veh:	57.0	32.2	88.4	77.7	47.8	34.9	60.6	32.4	48.8	113.4	30.9	30.9
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:	57.0	32.2	88.4	77.7	47.8	34.9	60.6	32.4	48.8	113.4	30.9	30.9
LOS by Move:	E	C	F	E	D	C	E	C	D	F	C	C
HCM2kAvgQ:	6	3	37	2	10	6	6	19	36	12	15	15

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

Spanos Park West EIR
Future (Year 2035) plus Project Mitigated Alternative 2
AM Peak Hour

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

Intersection #9 Eight Mile Road/Davis Street

Cycle (sec):	130	Critical Vol./Cap.(X):	0.952
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	47.2
Optimal Cycle:	130	Level Of Service:	D

Street Name:	Davis Street						Eight Mile Road					
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			Ignore			Ovl			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 0 1			1 0 2 0 1			2 0 4 0 1			2 0 3 1 0		
Volume Module:												
Base Vol:	240	200	660	30	470	170	160	1740	750	520	1590	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	240	200	660	30	470	170	160	1740	750	520	1590	40
Added Vol:	25	0	0	0	0	41	70	276	42	0	160	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	265	200	660	30	470	211	230	2016	792	520	1750	40
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.00	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	282	213	702	32	500	0	245	2145	843	553	1862	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	282	213	702	32	500	0	245	2145	843	553	1862	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	282	213	702	32	500	0	245	2145	843	553	1862	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.93	1.00	0.90	0.89	0.83	0.90	0.89	0.89
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	4.00	1.00	2.00	3.91	0.09
Final Sat.:	1769	3538	1583	1769	3538	1900	3432	6778	1583	3432	6606	151
Capacity Analysis Module:												
Vol/Sat:	0.16	0.06	0.44	0.02	0.14	0.00	0.07	0.32	0.53	0.16	0.28	0.28
Crit Moves:			****	****					****	****		
Green/Cycle:	0.17	0.29	0.46	0.03	0.15	0.00	0.11	0.39	0.56	0.17	0.44	0.44
Volume/Cap:	0.93	0.21	0.97	0.59	0.93	0.00	0.64	0.82	0.95	0.97	0.64	0.64
Delay/Veh:	86.8	34.7	59.1	77.7	77.3	0.0	58.8	37.9	47.2	82.6	28.7	28.7
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:	86.8	34.7	59.1	77.7	77.3	0.0	58.8	37.9	47.2	82.6	28.7	28.7
LOS by Move:	F	C	E	E	E	A	E	D	D	F	C	C
HCM2kAvgQ:	15	3	32	2	14	0	6	22	35	16	14	14

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	3433	5085	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	1770	5085	1583	3433	5085	1583	3433	3539	1583
Volume (vph)	327	1530	317	193	482	414	108	362	194	827	293	132
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)	355	1663	345	210	524	450	117	393	211	899	318	143
RTOR Reduction (vph)	0	0	125	0	0	25	0	0	170	0	0	100
Lane Group Flow (vph)	355	1663	220	210	524	425	117	393	41	899	318	43
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot		Perm	Prot		Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	21.0	49.7	59.6	15.0	43.7	76.7	9.9	16.3	16.3	33.0	39.4	39.4
Effective Green, g (s)	21.0	49.7	59.6	15.0	43.7	76.7	9.9	16.3	16.3	33.0	39.4	39.4
Actuated g/C Ratio	0.16	0.38	0.46	0.12	0.34	0.59	0.08	0.13	0.13	0.25	0.30	0.30
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	555	1944	726	204	1709	983	261	638	198	871	1073	480
v/s Ratio Prot	0.10	c0.33	0.02	c0.12	0.10	0.11	0.03	c0.08		c0.26	0.09	
v/s Ratio Perm			0.12			0.16			0.03			0.03
v/c Ratio	0.64	0.86	0.30	1.03	0.31	0.43	0.45	0.62	0.21	1.03	0.30	0.09
Uniform Delay, d1	51.0	36.9	22.1	57.5	31.9	14.7	57.4	53.9	51.1	48.5	34.7	32.5
Progression Factor	1.00	1.00	1.00	0.82	0.79	0.87	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.6	5.1	0.2	67.6	0.4	0.3	1.2	1.8	0.5	39.0	0.2	0.1
Delay (s)	56.5	41.9	22.4	114.5	25.5	13.0	58.7	55.7	51.6	87.5	34.8	32.5
Level of Service	E	D	C	F	C	B	E	E	D	F	C	C
Approach Delay (s)		41.3			36.6			55.0			69.4	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM Average Control Delay	48.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.2%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95	0.95	0.97	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.90	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5082		1770	5085	1583	1770	1589	1504	3433	1815	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	5082		1770	5085	1583	1770	1589	1504	3433	1815	
Volume (vph)	10	2509	10	160	1218	314	10	30	150	583	50	10
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)	11	2727	11	174	1324	341	11	33	163	634	54	11
RTOR Reduction (vph)	0	0	0	0	0	136	0	62	78	0	6	0
Lane Group Flow (vph)	11	2738	0	174	1324	205	11	41	15	634	59	0
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	2.4	69.5		10.0	77.1	77.1	2.0	14.5	14.5	17.0	29.5	
Effective Green, g (s)	2.4	70.5		10.0	78.1	78.1	3.0	15.5	15.5	18.0	30.5	
Actuated g/C Ratio	0.02	0.54		0.08	0.60	0.60	0.02	0.12	0.12	0.14	0.23	
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	33	2756		136	3055	951	41	189	179	475	426	
v/s Ratio Prot	0.01	c0.54		c0.10	0.26		0.01	c0.03		c0.18	0.03	
v/s Ratio Perm						0.13			0.01			
v/c Ratio	0.33	0.99		1.28	0.43	0.22	0.27	0.22	0.08	1.33	0.14	
Uniform Delay, d1	63.0	29.5		60.0	14.0	11.9	62.4	51.8	50.9	56.0	39.4	
Progression Factor	1.19	0.28		1.26	0.94	1.50	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.3	9.2		167.4	0.4	0.5	3.5	0.6	0.2	164.5	0.1	
Delay (s)	77.6	17.5		243.2	13.6	18.3	65.9	52.4	51.1	220.5	39.5	
Level of Service	E	B		F	B	B	E	D	D	F	D	
Approach Delay (s)		17.7			36.2			52.5			203.6	
Approach LOS		B			D			D			F	

Intersection Summary			
HCM Average Control Delay	48.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project Mitigated Alternative 1
PM Peak Hour

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

Intersection #2 Eight Mile Road/Regatta Drive

Cycle (sec):	130	Critical Vol./Cap.(X):	0.634
Loss Time (sec):	12 (Y+R=5.0 sec)	Average Delay (sec/veh):	28.5
Optimal Cycle:	54	Level Of Service:	C

Street Name:	Eight Mile Road									Regatta Drive							
Approach:	North Bound				South Bound				East Bound				West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected					Protected					Protected					Protected				
Rights:	Include					Include					Include					Include				
Min. Green:	4	10		0		4	10		0		4	10		0		4	10		0	
Lanes:	2	0	0	0	2	0	0	0	0	0	0	0	3	1	0	2	0	4	0	0
Volume Module:																				
Base Vol:	70		0		300	0		0		0	0		1090		110	360		1510		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:	70		0		300	0		0		0	0		1090		110	360		1510		0
Added Vol:	12		0		106	0		0		0	0		343		13	159		537		0
PasserByVol:	0		0		0	0		0		0	0		0		0	0		0		0
Initial Fut:	82		0		406	0		0		0	0		1433		123	519		2047		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:	89		0		441	0		0		0	0		1558		134	564		2225		0
Reduct Vol:	0		0		0	0		0		0	0		0		0	0		0		0
Reduced Vol:	89		0		441	0		0		0	0		1558		134	564		2225		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:	89		0		441	0		0		0	0		1558		134	564		2225		0
Saturation Flow Module:																				
Sat/Lane:	1900	1900		1900		1900	1900		1900		1900	1900		1900		1900	1900		1900	
Adjustment:	0.90	1.00		0.73		1.00	1.00		1.00		1.00	1.00		0.88		0.90	0.89		1.00	
Lanes:	2.00	0.00		2.00		0.00	0.00		0.00		0.00	0.00		3.68		0.32	2.00		4.00		0.00
Final Sat.:	3432		0		2786	0		0		0	0		6167		529	3432		6778		0
Capacity Analysis Module:																				
Vol/Sat:	0.03	0.00		0.16		0.00	0.00		0.00		0.00	0.00		0.25		0.25	0.16		0.33		0.00
Crit Moves:				****										****			****			
Green/Cycle:	0.31	0.00		0.31		0.00	0.00		0.00		0.00	0.00		0.34		0.34	0.27		0.61		0.00
Volume/Cap:	0.08	0.00		0.51		0.00	0.00		0.00		0.00	0.00		0.74		0.74	0.61		0.54		0.00
Delay/Veh:	31.8	0.0		37.3		0.0	0.0		0.0		0.0	0.0		39.2		39.2	42.6		14.9		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		1.00
AdjDel/Veh:	31.8	0.0		37.3		0.0	0.0		0.0		0.0	0.0		39.2		39.2	42.6		14.9		0.0
LOS by Move:	C	A		D		A	A		A		A	D		D		D	B		A	
HCM2kAvgQ:	1	0		8		0	0		0		0	16		16		10	8		0	

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

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Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project Mitigated Alternative 1
PM Peak Hour

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

Intersection #3 Eight Mile Road/Mokelumne Circle

Cycle (sec): 130 Critical Vol./Cap.(X): 0.917
Loss Time (sec): 16 (Y+R=5.0 sec) Average Delay (sec/veh): 40.1
Optimal Cycle: 130 Level Of Service: D

Street Name:	Mokelumne Circle									Eight Mile Road							
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			Include			Include			Ovl		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 1	0 1		2 0 1	0 1		1 0 3	1 0		1 0 3	0 1	
Volume Module:												
Base Vol:	60	130	20	470	210	160	110	1220	20	210	1650	680
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	60	130	20	470	210	160	110	1220	20	210	1650	680
Added Vol:	23	5	51	37	32	0	0	429	20	77	673	58
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	83	135	71	507	242	160	110	1649	40	287	2323	738
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:	90	147	77	551	263	174	120	1792	43	312	2525	802
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	90	147	77	551	263	174	120	1792	43	312	2525	802
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:	90	147	77	551	263	174	120	1792	43	312	2525	802
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.90	0.98	0.83	0.93	0.89	0.89	0.93	0.89	0.83
Lanes:	1.00	1.00	1.00	2.00	1.00	1.00	1.00	3.91	0.09	1.00	3.00	1.00
Final Sat.:	1769	1862	1583	3432	1862	1583	1769	6591	160	1769	5083	1583
Capacity Analysis Module:												
Vol/Sat:	0.05	0.08	0.05	0.16	0.14	0.11	0.07	0.27	0.27	0.18	0.50	0.51
Crit Moves:		****		****			****				****	
Green/Cycle:	0.07	0.09	0.33	0.18	0.19	0.19	0.07	0.37	0.37	0.24	0.54	0.72
Volume/Cap:	0.74	0.92	0.15	0.92	0.74	0.57	0.92	0.73	0.73	0.73	0.92	0.71
Delay/Veh:	79.9	106	31.0	71.6	57.2	50.3	113.7	36.1	36.1	51.5	32.5	12.6
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:	79.9	106	31.0	71.6	57.2	50.3	113.7	36.1	36.1	51.5	32.5	12.6
LOS by Move:	E	F	C	E	E	D	F	D	D	D	C	B
HCM2kAvgQ:	5	9	2	15	11	7	8	17	17	12	34	6

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

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Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.86		0.94	0.91	1.00	0.88
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	6278		4990	5085	1770	2787
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	6278		4990	5085	1770	2787
Volume (vph)	1927	301	1382	2969	380	1436
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2095	327	1502	3227	413	1561
RTOR Reduction (vph)	22	0	0	0	0	0
Lane Group Flow (vph)	2400	0	1502	3227	413	1561
Turn Type			Prot			pm+ov
Protected Phases	2		1	6	4	1
Permitted Phases						4
Actuated Green, G (s)	48.0		39.0	91.0	30.0	69.0
Effective Green, g (s)	49.0		39.0	92.0	30.0	69.0
Actuated g/C Ratio	0.38		0.30	0.71	0.23	0.53
Clearance Time (s)	5.0		4.0	5.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2366		1497	3599	408	1565
v/s Ratio Prot	c0.39		0.30	0.63	0.23	c0.30
v/s Ratio Perm						0.26
v/c Ratio	1.01		1.00	0.90	1.01	1.00
Uniform Delay, d1	40.5		45.5	15.2	50.0	30.4
Progression Factor	1.00		0.70	0.29	1.00	1.00
Incremental Delay, d2	22.2		12.9	1.1	47.7	21.9
Delay (s)	62.7		44.7	5.6	97.7	52.3
Level of Service	E		D	A	F	D
Approach Delay (s)	62.7			18.0	61.8	
Approach LOS	E			B	E	

Intersection Summary			
HCM Average Control Delay	39.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.81	0.81	0.97	0.86					0.95	0.95	1.00
Frt		0.99	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		4492	2565	3433	6408					1681	1681	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		4492	2565	3433	6408					1681	1681	1583
Volume (vph)	0	1737	1625	990	4026	0	0	0	0	840	0	326
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	1848	1729	1053	4283	0	0	0	0	894	0	347
RTOR Reduction (vph)	0	4	492	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1944	1137	1053	4283	0	0	0	0	447	447	347
Turn Type			Perm	Prot						Perm		Free
Protected Phases		2		1	6						4	
Permitted Phases			2							4		Free
Actuated Green, G (s)		51.0	51.0	35.0	90.0					30.0	30.0	130.0
Effective Green, g (s)		52.0	52.0	35.0	91.0					31.0	31.0	130.0
Actuated g/C Ratio		0.40	0.40	0.27	0.70					0.24	0.24	1.00
Clearance Time (s)		5.0	5.0	4.0	5.0					5.0	5.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1797	1026	924	4486					401	401	1583
v/s Ratio Prot		0.43		c0.31	0.67							
v/s Ratio Perm			0.64							0.27	0.27	0.22
v/c Ratio		1.08	1.11	1.14	0.95					1.11	1.11	0.22
Uniform Delay, d1		39.0	39.0	47.5	17.6					49.5	49.5	0.0
Progression Factor		0.72	0.50	1.02	0.59					1.00	1.00	1.00
Incremental Delay, d2		39.7	52.7	70.0	3.6					79.8	79.8	0.3
Delay (s)		67.9	72.1	118.7	14.0					129.3	129.3	0.3
Level of Service		E	E	F	B					F	F	A
Approach Delay (s)		69.8			34.7			0.0			93.3	
Approach LOS		E			C			A			F	

Intersection Summary			
HCM Average Control Delay	54.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	107.0%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0				4.0			4.0
Lane Util. Factor	1.00	0.95			0.86				1.00			0.88
Frt	1.00	1.00			0.98				0.86			0.85
Flt Protected	0.95	1.00			1.00				1.00			1.00
Satd. Flow (prot)	1770	3539			6276				1611			2787
Flt Permitted	0.95	1.00			1.00				1.00			1.00
Satd. Flow (perm)	1770	3539			6276				1611			2787
Volume (vph)	272	2306	0	0	2838	450	0	0	1100	0	0	2177
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)	292	2480	0	0	3052	484	0	0	1183	0	0	2341
RTOR Reduction (vph)	0	0	0	0	22	0	0	0	0	0	0	0
Lane Group Flow (vph)	292	2480	0	0	3514	0	0	0	1183	0	0	2341
Turn Type	Prot								Free			Free
Protected Phases	5	2			6							
Permitted Phases									Free			Free
Actuated Green, G (s)	36.0	130.0			85.0				130.0			130.0
Effective Green, g (s)	36.0	130.0			86.0				130.0			130.0
Actuated g/C Ratio	0.28	1.00			0.66				1.00			1.00
Clearance Time (s)	4.0	5.0			5.0							
Vehicle Extension (s)	3.0	3.0			3.0							
Lane Grp Cap (vph)	490	3539			4152				1611			2787
v/s Ratio Prot	0.17	0.70			0.56							
v/s Ratio Perm									0.73			c0.84
v/c Ratio	0.60	0.70			0.85				0.73			0.84
Uniform Delay, d1	40.7	0.0			16.9				0.0			0.0
Progression Factor	0.52	1.00			0.77				1.00			1.00
Incremental Delay, d2	0.2	0.1			1.2				3.0			3.2
Delay (s)	21.1	0.1			14.3				3.0			3.2
Level of Service	C	A			B				A			A
Approach Delay (s)		2.3			14.3			3.0			3.2	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	6.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project Mitigated Alternative 1
PM Peak Hour

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

Intersection #9 Eight Mile Road/Davis Street

Cycle (sec):	130	Critical Vol./Cap.(X):	1.121
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	74.3
Optimal Cycle:	130	Level Of Service:	E

Street Name:	Davis Street						Eight Mile Road					
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			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	2 0 2 0 1			1 0 2 0 1			2 0 4 0 1			2 0 3 1 0		
Volume Module:												
Base Vol:	570	460	650	40	280	270	230	1930	300	850	2150	40
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:	570	460	650	40	280	270	230	1930	300	850	2150	40
Added Vol:	67	0	0	0	0	102	82	286	55	0	363	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	637	460	650	40	280	372	312	2216	355	850	2513	40
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:	692	500	707	43	304	404	339	2409	386	924	2732	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	692	500	707	43	304	404	339	2409	386	924	2732	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	692	500	707	43	304	404	339	2409	386	924	2732	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.93	0.83	0.93	0.93	0.83	0.90	0.89	0.83	0.90	0.89	0.89
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	2.00	4.00	1.00	2.00	3.94	0.06
Final Sat.:	3432	3538	1583	1769	3538	1583	3432	6778	1583	3432	6658	106
Capacity Analysis Module:												
Vol/Sat:	0.20	0.14	0.45	0.02	0.09	0.26	0.10	0.36	0.24	0.27	0.41	0.41
Crit Moves:	****					****		****		****		
Green/Cycle:	0.18	0.27	0.51	0.05	0.14	0.25	0.11	0.32	0.50	0.24	0.45	0.45
Volume/Cap:	1.12	0.52	0.87	0.52	0.62	1.03	0.91	1.12	0.49	1.12	0.91	0.91
Delay/Veh:	127.6	40.6	38.0	66.2	55.0	102.4	83.7	106	22.2	119.5	38.3	38.3
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:	127.6	40.6	38.0	66.2	55.0	102.4	83.7	106	22.2	119.5	38.3	38.3
LOS by Move:	F	D	D	E	D	F	F	F	C	F	D	D
HCM2kAvgQ:	22	8	25	2	7	22	10	38	8	29	31	31

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

Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project Mitigated Alternative 2
PM Peak Hour

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

Intersection #9 Eight Mile Road/Davis Street

Cycle (sec):	130	Critical Vol./Cap.(X):	1.257
Loss Time (sec):	16 (Y+R=5.0 sec)	Average Delay (sec/veh):	113.3
Optimal Cycle:	130	Level Of Service:	F

Street Name:	Davis Street						Eight Mile Road					
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			Ignore			Ovl			Include		
Min. Green:	4	10	0	4	10	0	4	10	0	4	10	0
Lanes:	1 0 2 0 1			1 0 2 0 1			2 0 4 0 1			2 0 3 1 0		
Volume Module:												
Base Vol:	570	460	650	40	280	270	230	1930	300	850	2150	40
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:	570	460	650	40	280	270	230	1930	300	850	2150	40
Added Vol:	67	0	0	0	0	102	82	286	55	0	363	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	637	460	650	40	280	372	312	2216	355	850	2513	40
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.92	0.92	0.92	0.92	0.92	0.00	0.92	0.92	0.92	0.92	0.92	0.92
PHF Volume:	692	500	707	43	304	0	339	2409	386	924	2732	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	692	500	707	43	304	0	339	2409	386	924	2732	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	692	500	707	43	304	0	339	2409	386	924	2732	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.93	1.00	0.90	0.89	0.83	0.90	0.89	0.89
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	2.00	4.00	1.00	2.00	3.94	0.06
Final Sat.:	1769	3538	1583	1769	3538	1900	3432	6778	1583	3432	6658	106
Capacity Analysis Module:												
Vol/Sat:	0.39	0.14	0.45	0.02	0.09	0.00	0.10	0.36	0.24	0.27	0.41	0.41
Crit Moves:	****				****			****		****		
Green/Cycle:	0.31	0.33	0.54	0.06	0.08	0.00	0.10	0.28	0.59	0.21	0.40	0.40
Volume/Cap:	1.27	0.43	0.83	0.43	1.12	0.00	1.04	1.27	0.41	1.27	1.04	1.04
Delay/Veh:	180.4	34.4	31.5	62.2	150	0.0	117.9	173	14.9	183.4	66.5	66.5
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:	180.4	34.4	31.5	62.2	150	0.0	117.9	173	14.9	183.4	66.5	66.5
LOS by Move:	F	C	C	E	F	A	F	F	B	F	E	E
HCM2kAvgQ:	47	7	22	2	11	0	11	45	5	34	39	39

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	1770	5085	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	1770	5085	1583	3433	3539	1583	3433	3539	1583
Volume (vph)	261	806	186	220	1667	833	315	480	202	673	512	376
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)	284	876	202	239	1812	905	342	522	220	732	557	409
RTOR Reduction (vph)	0	0	95	0	0	17	0	0	182	0	0	189
Lane Group Flow (vph)	284	876	107	239	1812	888	342	522	38	732	557	220
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot		Perm	Prot		Perm
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases			2			6			8			4
Actuated Green, G (s)	15.1	38.0	53.6	21.3	44.2	76.2	15.6	22.7	22.7	32.0	39.1	39.1
Effective Green, g (s)	15.1	38.0	53.6	21.3	44.2	76.2	15.6	22.7	22.7	32.0	39.1	39.1
Actuated g/C Ratio	0.12	0.29	0.41	0.16	0.34	0.59	0.12	0.17	0.17	0.25	0.30	0.30
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	399	1486	701	290	1729	928	412	618	276	845	1064	476
v/s Ratio Prot	0.08	0.17	0.02	c0.14	c0.36	c0.24	0.10	c0.15		0.21	0.16	
v/s Ratio Perm			0.05			0.33			0.02			0.14
v/c Ratio	0.71	0.59	0.15	0.82	1.05	0.96	0.83	0.84	0.14	0.87	0.52	0.46
Uniform Delay, d1	55.4	39.3	24.0	52.5	42.9	25.4	55.9	51.9	45.4	46.9	37.7	36.9
Progression Factor	1.00	1.00	1.00	1.27	0.86	1.11	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.9	1.7	0.1	9.9	30.3	12.9	13.2	10.3	0.2	9.3	0.5	0.7
Delay (s)	61.3	41.1	24.1	76.5	67.0	41.0	69.1	62.2	45.6	56.2	38.2	37.6
Level of Service	E	D	C	E	E	D	E	E	D	E	D	D
Approach Delay (s)		42.7			59.8			61.0			45.8	
Approach LOS		D			E			E			D	

Intersection Summary			
HCM Average Control Delay	53.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.5%	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												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95	0.95	0.97	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.94	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5081		1770	5085	1583	1770	1657	1504	3433	1795	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	5081		1770	5085	1583	1770	1657	1504	3433	1795	
Volume (vph)	10	1657	10	200	2335	642	20	60	150	429	30	10
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)	10	1726	10	208	2432	669	21	62	156	447	31	10
RTOR Reduction (vph)	0	1	0	0	0	171	0	23	96	0	8	0
Lane Group Flow (vph)	10	1735	0	208	2432	498	21	85	14	447	33	0
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			
Actuated Green, G (s)	1.2	61.3		18.0	78.1	78.1	3.0	15.7	15.7	16.0	28.7	
Effective Green, g (s)	1.2	62.3		18.0	79.1	79.1	4.0	16.7	16.7	17.0	29.7	
Actuated g/C Ratio	0.01	0.48		0.14	0.61	0.61	0.03	0.13	0.13	0.13	0.23	
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	16	2435		245	3094	963	54	213	193	449	410	
v/s Ratio Prot	0.01	0.34		c0.12	c0.48		0.01	c0.05		c0.13	0.02	
v/s Ratio Perm						0.31			0.01			
v/c Ratio	0.62	0.71		0.85	0.79	0.52	0.39	0.40	0.07	1.00	0.08	
Uniform Delay, d1	64.2	26.8		54.7	19.1	14.5	61.8	52.1	49.8	56.5	39.4	
Progression Factor	1.33	0.45		1.13	0.89	1.03	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	35.5	1.0		11.2	0.9	0.8	4.6	1.2	0.2	41.0	0.1	
Delay (s)	120.6	13.1		73.1	17.9	15.8	66.4	53.3	50.0	97.5	39.5	
Level of Service	F	B		E	B	B	E	D	D	F	D	
Approach Delay (s)		13.7			21.0			52.9			92.6	
Approach LOS		B			C			D			F	

Intersection Summary			
HCM Average Control Delay	26.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

INTERSECTION QUEUES
WORKSHEETS

Existing Conditions

Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

Base Queue Report (cars)

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
#3	[2Way95thQ]:	0.0	xxxx	1.7	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.3	xxxx	xxxx
#7	[2Way95thQ]:	0.0	0.0	0.0	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.0	xxxx	xxxx
#8	[HCM2kAvgQ]:	7	2	4	0	7	7	2	6	3	3	4	4
#9	[HCM2kAvgQ]:	4	10	10	0	6	6	1	11	4	5	8	8
#10	[HCM2kAvgQ]:	0	6	9	2	22	1	1	29	29	17	10	10
#11	[HCM2kAvgQ]:	7	6	6	1	12	12	5	13	9	5	12	12
#12	[AllWayAvgQ]	0.5	0.5	0.3	0.1	0.1	0.0	1.1	1.1	0.3	6.4	6.4	0.0
#13	[2Way95thQ]:	0.0	xxxx	xxxx	0.0	xxxx	xxxx	0.8	0.2	0.2	0.0	0.2	0.2
#14	[HCM2kAvgQ]:	2	2	0	0	2	2	1	0	2	0	0	0
#15	[2Way95thQ]:	xxxx	xxxx	xxxx	0.6	xxxx	xxxx	xxxx	xxxx	xxxx	0.0	xxxx	1.6
#16	[HCM2kAvgQ]:	5	2	2	0	6	0	1	1	6	1	1	0
#17	[HCM2kAvgQ]:	3	9	1	2	9	2	4	4	5	3	6	2
#26	[HCM2kAvgQ]:	3	4	1	11	13	13	1	13	3	2	7	8
#27	[HCM2kAvgQ]:	1	3	1	3	4	4	1	2	1	4	4	4

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	414	229	252	10	395
v/c Ratio	0.11	0.28	0.08	0.10	0.70
Control Delay	10.3	17.8	0.5	44.7	22.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	10.3	17.8	0.5	44.7	22.3
Queue Length 50th (ft)	32	32	3	6	127
Queue Length 95th (ft)	51	46	5	22	181
Internal Link Dist (ft)	2166		844	2511	
Turn Bay Length (ft)		200			
Base Capacity (vph)	3754	927	3058	620	614
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.11	0.25	0.08	0.02	0.64

Intersection Summary

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	445	364	392	416	31	31	71
v/c Ratio	0.16	0.27	0.50	0.13	0.25	0.25	0.04
Control Delay	4.7	1.0	28.0	0.3	43.8	43.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.7	1.0	28.0	0.3	43.8	43.8	0.1
Queue Length 50th (ft)	25	0	59	1	20	20	0
Queue Length 95th (ft)	38	0	55	2	47	47	0
Internal Link Dist (ft)	844			301		749	
Turn Bay Length (ft)			150				
Base Capacity (vph)	2792	1341	1236	3194	353	353	1583
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	0.16	0.27	0.32	0.13	0.09	0.09	0.04

Intersection Summary

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	72	194	554	133	133	381
v/c Ratio	0.24	0.07	0.15	0.64	0.64	0.24
Control Delay	34.0	2.0	9.0	42.0	42.0	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	2.0	9.0	42.0	42.0	0.4
Queue Length 50th (ft)	43	5	39	86	86	0
Queue Length 95th (ft)	89	20	59	143	143	0
Internal Link Dist (ft)		301	1049		852	
Turn Bay Length (ft)	150			500		
Base Capacity (vph)	478	2817	3709	555	555	1583
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	0.15	0.07	0.15	0.24	0.24	0.24

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	1	17	371	208	1	18	341	730
v/c Ratio	0.01	0.03	0.60	0.13	0.01	0.13	0.78	0.98
Control Delay	55.0	39.6	45.7	9.5	47.0	49.2	9.2	60.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.0	39.6	45.7	9.5	47.0	49.2	9.2	60.7
Queue Length 50th (ft)	1	5	125	4	1	14	0	543
Queue Length 95th (ft)	6	15	#221	16	5	32	57	#694
Internal Link Dist (ft)		447		490		416		1249
Turn Bay Length (ft)	90		275		100		100	
Base Capacity (vph)	83	678	618	1555	369	388	600	754
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.03	0.60	0.13	0.00	0.05	0.57	0.97

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)	419	517	1696	441	87	88	69
v/c Ratio	0.42	0.33	0.93	0.10	0.59	0.59	0.34
Control Delay	23.5	0.3	25.6	0.8	54.1	54.2	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	0.3	25.6	0.8	54.1	54.2	12.7
Queue Length 50th (ft)	90	0	585	9	69	70	0
Queue Length 95th (ft)	m132	m0	704	0	122	124	44
Internal Link Dist (ft)	490			348		1013	
Turn Bay Length (ft)					150		300
Base Capacity (vph)	986	1583	1860	4299	307	308	345
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	0.42	0.33	0.91	0.10	0.28	0.29	0.20

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)	126	488	1920	202	108	108	723
v/c Ratio	0.71	0.30	0.37	0.18	0.58	0.58	0.50
Control Delay	22.7	4.5	8.8	5.4	51.2	51.2	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.7	4.5	8.8	5.4	51.2	51.2	13.8
Queue Length 50th (ft)	81	82	140	30	85	85	135
Queue Length 95th (ft)	109	101	205	74	142	142	173
Internal Link Dist (ft)		348	502			1010	
Turn Bay Length (ft)	400			70	275		475
Base Capacity (vph)	472	1647	5201	1116	430	430	1811
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	565	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.30	0.41	0.18	0.25	0.25	0.40

Intersection Summary

Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

Base Queue Report (cars)

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
#3	[2Way95thQ]:	0.1	xxxx	0.5	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	1.0	xxxx	xxxx
#7	[2Way95thQ]:	0.1	0.1	0.1	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.0	xxxx	xxxx
#8	[HCM2kAvgQ]:	3	2	2	1	5	5	2	5	5	3	4	4
#9	[HCM2kAvgQ]:	2	9	9	1	7	7	2	11	2	6	8	8
#10	[HCM2kAvgQ]:	1	17	11	1	13	1	3	22	22	13	12	12
#11	[HCM2kAvgQ]:	9	9	9	0	11	11	8	11	6	3	12	12
#12	[AllWayAvgQ]	0.6	0.6	0.3	0.1	0.1	0.0	1.6	1.6	0.4	2.4	2.4	0.0
#13	[2Way95thQ]:	0.0	xxxx	xxxx	0.0	xxxx	xxxx	0.4	0.2	0.2	0.0	0.3	0.3
#14	[HCM2kAvgQ]:	2	1	0	0	1	1	1	0	1	0	0	0
#15	[2Way95thQ]:	xxxx	xxxx	xxxx	0.5	xxxx	xxxx	xxxx	xxxx	xxxx	0.0	xxxx	0.9
#16	[HCM2kAvgQ]:	5	2	2	1	4	1	1	1	6	1	1	0
#17	[HCM2kAvgQ]:	2	19	0	2	5	1	6	5	5	3	6	3
#26	[HCM2kAvgQ]:	13	15	1	11	11	11	6	14	4	1	10	18
#27	[HCM2kAvgQ]:	2	3	1	2	3	3	1	1	1	2	2	2

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	297	434	462	16	422
v/c Ratio	0.09	0.41	0.15	0.15	0.59
Control Delay	12.1	19.8	0.4	44.5	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	12.1	19.8	0.4	44.5	14.4
Queue Length 50th (ft)	25	52	4	10	92
Queue Length 95th (ft)	40	124	7	31	172
Internal Link Dist (ft)	2166		844	2511	
Turn Bay Length (ft)		200			
Base Capacity (vph)	3240	1139	3048	566	744
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.38	0.15	0.03	0.57

Intersection Summary

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	375	308	265	741	53	52	146
v/c Ratio	0.13	0.23	0.46	0.24	0.38	0.37	0.09
Control Delay	4.8	0.6	58.4	2.7	43.4	43.4	0.1
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Total Delay	4.8	0.6	58.4	2.8	43.4	43.4	0.1
Queue Length 50th (ft)	26	0	56	20	34	33	0
Queue Length 95th (ft)	40	0	131	100	73	71	0
Internal Link Dist (ft)	844			301		749	
Turn Bay Length (ft)			150				
Base Capacity (vph)	2963	1341	1064	3058	420	420	1583
Starvation Cap Reductn	0	0	0	1305	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	0.13	0.23	0.25	0.42	0.13	0.12	0.09

Intersection Summary

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	91	256	479	303	302	542
v/c Ratio	0.30	0.10	0.16	0.81	0.81	0.34
Control Delay	43.3	4.1	14.2	38.3	38.2	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	4.1	14.2	38.3	38.2	0.6
Queue Length 50th (ft)	56	9	42	195	194	0
Queue Length 95th (ft)	107	32	72	263	262	0
Internal Link Dist (ft)		301	1049		852	
Turn Bay Length (ft)	150			500		
Base Capacity (vph)	443	2469	3084	656	656	1583
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	0.21	0.10	0.16	0.46	0.46	0.34

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	2	21	485	506	1	45	291	376
v/c Ratio	0.03	0.02	0.57	0.20	0.01	0.33	0.76	0.87
Control Delay	60.0	34.4	32.2	3.2	52.0	56.4	10.0	51.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.0	34.4	32.2	3.2	52.0	56.4	10.0	51.3
Queue Length 50th (ft)	2	5	114	22	1	37	0	306
Queue Length 95th (ft)	11	19	279	71	7	73	87	389
Internal Link Dist (ft)		447		490		416		1249
Turn Bay Length (ft)	90		275		100		100	
Base Capacity (vph)	78	1112	845	2491	340	358	539	601
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.02	0.57	0.20	0.00	0.13	0.54	0.63

Intersection Summary

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	471	217	1313	935	122	122	78
v/c Ratio	0.36	0.14	0.88	0.22	0.71	0.71	0.33
Control Delay	17.2	0.2	21.7	1.9	57.5	57.5	11.6
Queue Delay	0.0	0.0	0.0	0.1	0.1	0.1	0.0
Total Delay	17.2	0.2	21.7	2.0	57.7	57.7	11.6
Queue Length 50th (ft)	122	0	223	18	106	106	0
Queue Length 95th (ft)	173	0	270	67	170	170	46
Internal Link Dist (ft)	490			348		1013	
Turn Bay Length (ft)					150		300
Base Capacity (vph)	1305	1583	1584	4250	405	405	440
Starvation Cap Reductn	0	0	0	2040	0	0	0
Spillback Cap Reductn	0	0	0	0	33	33	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.14	0.83	0.42	0.33	0.33	0.18

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	111	636	1579	317	377	379	1714
v/c Ratio	0.68	0.63	0.40	0.35	0.79	0.79	0.93
Control Delay	38.4	28.1	19.5	11.2	51.2	51.3	26.0
Queue Delay	0.0	1.5	0.0	0.0	0.0	0.0	0.0
Total Delay	38.4	29.7	19.5	11.2	51.2	51.3	26.0
Queue Length 50th (ft)	94	284	199	77	297	300	599
Queue Length 95th (ft)	145	302	242	156	425	427	761
Internal Link Dist (ft)		348	502			1010	
Turn Bay Length (ft)	400			70	275		475
Base Capacity (vph)	300	1005	3995	909	520	521	1914
Starvation Cap Reductn	0	199	0	0	0	0	0
Spillback Cap Reductn	0	0	58	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.79	0.40	0.35	0.72	0.73	0.90

Intersection Summary

Existing Plus Approved Projects
Without and With Project Conditions

Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

Future Queue Report (cars)

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
#1	[HCM2kAvgQ]:	0	0	8	0	0	0	0	0	0	6	0	0
#2	[HCM2kAvgQ]:	0	0	5	0	0	0	0	6	6	4	2	0
#3	[HCM2kAvgQ]:	0	0	22	0	0	0	0	16	16	10	4	0
#7	[2Way95thQ]:	1.5	1.5	1.5	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.0	xxxx	xxxx
#8	[HCM2kAvgQ]:	13	3	5	2	12	12	6	14	4	7	17	17
#9	[HCM2kAvgQ]:	6	32	32	4	10	10	3	30	5	15	18	18
#10	[HCM2kAvgQ]:	1	8	18	13	24	3	2	28	28	20	9	9
#11	[HCM2kAvgQ]:	11	8	8	1	24	24	14	33	7	5	25	25
#12	[HCM2kAvgQ]:	9	8	8	1	5	5	3	21	21	10	12	12
#13	[HCM2kAvgQ]:	0	10	10	1	5	5	5	3	3	0	5	5
#14	[HCM2kAvgQ]:	6	10	10	5	9	9	8	9	9	1	0	1
#15	[HCM2kAvgQ]:	0	7	7	9	3	0	0	0	0	4	0	5
#16	[HCM2kAvgQ]:	12	3	3	0	10	1	1	1	14	2	2	0
#17	[HCM2kAvgQ]:	2	14	1	3	13	1	3	4	5	2	7	2
#19	[2Way95thQ]:	1.0	xxxx	xxxx	xxxx	xxxx	xxxx	0.1	xxxx	2.8	xxxx	xxxx	xxxx
#26	[HCM2kAvgQ]:	2	5	5	14	11	11	2	14	5	3	11	2
#27	[HCM2kAvgQ]:	2	4	2	3	5	5	2	2	3	5	4	4

Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

Future Queue Report (cars)

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
#1	[HCM2kAvgQ]:	0	0	6	0	0	0	0	0	0	2	0	0
#2	[HCM2kAvgQ]:	0	0	10	0	0	0	0	2	2	16	3	0
#3	[HCM2kAvgQ]:	1	0	7	0	0	0	0	7	7	9	10	0
#7	[2Way95thQ]:	4.1	4.1	4.1	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.1	xxxx	xxxx
#8	[HCM2kAvgQ]:	11	3	6	1	11	11	5	26	8	9	14	14
#9	[HCM2kAvgQ]:	9	31	31	3	20	20	8	44	5	27	21	21
#10	[HCM2kAvgQ]:	1	27	22	2	18	3	6	29	29	25	16	16
#11	[HCM2kAvgQ]:	18	15	15	0	35	35	32	24	6	8	47	47
#12	[HCM2kAvgQ]:	17	7	7	3	16	16	3	33	33	12	15	15
#13	[HCM2kAvgQ]:	1	4	4	1	10	10	5	3	3	0	8	8
#14	[HCM2kAvgQ]:	18	10	10	2	27	27	8	12	12	3	0	5
#15	[HCM2kAvgQ]:	0	18	18	21	3	0	0	0	0	3	0	15
#16	[HCM2kAvgQ]:	22	5	5	2	13	2	1	1	20	1	1	0
#17	[HCM2kAvgQ]:	3	32	0	3	6	1	8	6	6	4	7	4
#19	[2Way95thQ]:	3.0	xxxx	xxxx	xxxx	xxxx	xxxx	0.7	xxxx	5.0	xxxx	xxxx	xxxx
#26	[HCM2kAvgQ]:	8	16	16	17	9	9	7	14	7	2	24	18
#27	[HCM2kAvgQ]:	3	4	2	2	5	5	2	1	2	3	2	2

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

Future Queue Report (cars)

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
#1	[HCM2kAvgQ]:	0	0	13	0	0	0	0	10	10	7	2	0
#2	[HCM2kAvgQ]:	0	0	7	0	0	0	0	10	10	5	3	0
#3	[HCM2kAvgQ]:	0	0	32	0	0	0	0	33	33	13	6	0
#7	[2Way95thQ]:	2.2	2.2	2.2	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.0	xxxx	xxxx
#8	[HCM2kAvgQ]:	13	3	5	2	12	12	6	16	5	7	18	18
#9	[HCM2kAvgQ]:	7	34	34	4	10	10	4	35	6	15	18	18
#10	[HCM2kAvgQ]:	1	8	19	13	24	3	2	30	30	20	9	9
#11	[HCM2kAvgQ]:	12	8	8	1	26	26	15	36	7	5	26	26
#12	[HCM2kAvgQ]:	10	8	8	1	5	5	3	24	24	10	12	12
#13	[HCM2kAvgQ]:	0	11	11	1	5	5	5	8	8	0	6	6
#14	[HCM2kAvgQ]:	6	10	10	5	11	11	8	10	10	1	0	1
#15	[HCM2kAvgQ]:	0	7	7	10	4	0	0	0	0	5	0	6
#16	[HCM2kAvgQ]:	13	3	3	0	11	1	1	1	16	2	2	0
#17	[HCM2kAvgQ]:	2	14	1	3	14	1	3	4	5	2	8	2
#19	[2Way95thQ]:	1.2	xxxx	xxxx	xxxx	xxxx	xxxx	0.2	xxxx	4.6	xxxx	xxxx	xxxx
#26	[HCM2kAvgQ]:	2	6	6	15	11	11	2	15	6	3	11	2
#27	[HCM2kAvgQ]:	2	4	2	3	5	5	2	2	3	5	4	4

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

Future Queue Report (cars)

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
#1	[HCM2kAvgQ]:	0	0	6	0	0	0	0	3	3	3	3	0
#2	[HCM2kAvgQ]:	0	0	10	0	0	0	0	9	9	17	8	0
#3	[HCM2kAvgQ]:	1	0	9	0	0	0	0	11	11	11	19	0
#7	[2Way95thQ]:	4.2	4.2	4.2	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.1	xxxx	xxxx
#8	[HCM2kAvgQ]:	13	3	6	1	12	12	6	29	8	9	16	16
#9	[HCM2kAvgQ]:	11	32	32	3	23	23	9	48	6	27	26	26
#10	[HCM2kAvgQ]:	2	27	22	2	19	3	7	30	30	25	17	17
#11	[HCM2kAvgQ]:	19	16	16	0	37	37	33	25	6	8	52	52
#12	[HCM2kAvgQ]:	18	7	7	3	16	16	3	35	35	13	17	17
#13	[HCM2kAvgQ]:	1	4	4	1	14	14	5	5	5	0	13	13
#14	[HCM2kAvgQ]:	18	11	11	2	30	30	8	12	12	3	0	5
#15	[HCM2kAvgQ]:	0	21	21	25	3	0	0	0	0	3	0	18
#16	[HCM2kAvgQ]:	25	5	5	2	14	2	1	1	22	1	1	0
#17	[HCM2kAvgQ]:	3	39	0	3	6	1	8	6	7	4	7	4
#19	[2Way95thQ]:	4.1	xxxx	xxxx	xxxx	xxxx	xxxx	1.1	xxxx	6.7	xxxx	xxxx	xxxx
#26	[HCM2kAvgQ]:	8	16	16	18	9	9	7	14	8	2	25	20
#27	[HCM2kAvgQ]:	3	4	2	2	5	5	2	1	2	3	2	2

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1437	1509	497	51	1212
v/c Ratio	0.80	0.84	0.17	0.39	0.73
Control Delay	37.4	22.8	2.4	43.8	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.4	22.8	2.4	43.8	16.8
Queue Length 50th (ft)	245	528	31	32	253
Queue Length 95th (ft)	290	603	51	68	332
Internal Link Dist (ft)	2166		844	2511	
Turn Bay Length (ft)		200			
Base Capacity (vph)	1786	1804	2992	620	1668
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.80	0.84	0.17	0.08	0.73

Intersection Summary

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1618	963	630	1755	98	98	250
v/c Ratio	0.93dr	1.02	1.00	0.58	0.97	0.97	0.16
Control Delay	5.5	39.8	48.2	4.0	131.2	131.2	0.2
Queue Delay	0.0	0.0	0.0	2.0	0.0	0.0	0.0
Total Delay	5.5	39.8	48.2	5.9	131.2	131.2	0.2
Queue Length 50th (ft)	47	~543	203	193	67	67	0
Queue Length 95th (ft)	85	#970	m#285	m93	#176	#176	0
Internal Link Dist (ft)	844			301		749	
Turn Bay Length (ft)			150				
Base Capacity (vph)	2842	947	632	3044	101	101	1583
Starvation Cap Reductn	0	0	0	1080	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	0.57	1.02	1.00	0.89	0.97	0.97	0.16

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.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	194	648	1420	546	545	290
v/c Ratio	0.55	0.31	0.64	0.98	0.98	0.18
Control Delay	29.0	7.5	28.7	69.1	68.7	0.3
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0
Total Delay	29.0	7.9	28.7	69.1	68.7	0.3
Queue Length 50th (ft)	122	108	209	361	360	0
Queue Length 95th (ft)	m180	m115	277	#591	#590	0
Internal Link Dist (ft)		301	1049		852	
Turn Bay Length (ft)	150			500		
Base Capacity (vph)	478	2088	2231	555	555	1583
Starvation Cap Reductn	0	811	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	0.41	0.51	0.64	0.98	0.98	0.18

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	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	11	44	380	569	11	11	315	934	11	11
v/c Ratio	0.12	0.06	0.56	0.26	0.09	0.08	0.77	1.38	0.02	0.02
Control Delay	56.6	30.9	52.9	6.1	48.9	48.9	9.3	209.7	23.1	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	30.9	52.9	6.1	48.9	48.9	9.3	209.7	23.1	11.4
Queue Length 50th (ft)	8	10	160	43	8	8	0	~959	5	0
Queue Length 95th (ft)	28	28	212	53	26	26	87	#1207	18	12
Internal Link Dist (ft)		447		490		416			1249	
Turn Bay Length (ft)	90		275		100		100			
Base Capacity (vph)	92	730	682	2161	369	388	579	679	714	614
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.06	0.56	0.26	0.03	0.03	0.54	1.38	0.02	0.02

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)	592	676	1731	853	227	226	86
v/c Ratio	0.83	0.43	0.93	0.22	0.85	0.84	0.26
Control Delay	28.6	0.7	23.2	1.1	63.6	63.4	10.5
Queue Delay	0.0	0.0	3.2	0.0	2.4	2.3	0.0
Total Delay	28.6	0.7	26.5	1.1	66.0	65.7	10.5
Queue Length 50th (ft)	201	0	639	2	178	177	0
Queue Length 95th (ft)	m170	m0	#821	3	#294	#291	45
Internal Link Dist (ft)	490			348		1013	
Turn Bay Length (ft)					150		300
Base Capacity (vph)	709	1583	1860	3934	307	307	359
Starvation Cap Reductn	0	0	78	0	0	0	0
Spillback Cap Reductn	0	0	0	0	24	24	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.43	0.97	0.22	0.80	0.80	0.24

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)	118	926	2197	327	194	193	720
v/c Ratio	0.51	0.63	0.48	0.33	0.71	0.71	0.49
Control Delay	7.9	4.6	14.5	9.6	50.0	49.9	17.8
Queue Delay	0.0	0.7	0.0	0.0	0.0	0.0	0.0
Total Delay	7.9	5.3	14.5	9.6	50.0	49.9	17.8
Queue Length 50th (ft)	0	0	239	80	152	151	187
Queue Length 95th (ft)	m56	243	300	157	218	217	204
Internal Link Dist (ft)		348	502			1010	
Turn Bay Length (ft)	400			70	275		475
Base Capacity (vph)	472	1463	4591	1006	430	430	1726
Starvation Cap Reductn	0	231	0	0	0	0	0
Spillback Cap Reductn	0	0	408	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.75	0.53	0.33	0.45	0.45	0.42

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	819	2119	1396	123	2246
v/c Ratio	0.68	1.00	0.47	0.67	1.12
Control Delay	50.6	33.8	1.2	58.2	82.7
Queue Delay	0.0	8.5	0.0	0.0	0.0
Total Delay	50.6	42.4	1.2	58.2	82.7
Queue Length 50th (ft)	181	~815	33	102	~1242
Queue Length 95th (ft)	220	m#994	m91	162	#1389
Internal Link Dist (ft)	2166		844	2511	
Turn Bay Length (ft)		200			
Base Capacity (vph)	1199	2113	2954	347	1999
Starvation Cap Reductn	0	57	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.68	1.03	0.47	0.35	1.12

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	SBT	SBR
Lane Group Flow (vph)	2062	847	362	3098	149	149	380
v/c Ratio	0.65	0.80	0.81	1.03	1.05	1.05	0.24
Control Delay	10.9	8.1	66.2	24.7	145.6	145.6	0.4
Queue Delay	0.1	0.0	0.0	45.2	246.4	246.4	0.0
Total Delay	11.0	8.1	66.2	69.9	392.0	392.0	0.4
Queue Length 50th (ft)	363	341	167	~1181	~143	~143	0
Queue Length 95th (ft)	m305	m317	m157	m137	#292	#292	0
Internal Link Dist (ft)	844			301		749	
Turn Bay Length (ft)			150				
Base Capacity (vph)	3171	1054	449	3022	142	142	1583
Starvation Cap Reductn	0	1	0	232	0	0	0
Spillback Cap Reductn	236	0	0	288	51	51	129
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.80	0.81	1.13	1.64	1.64	0.26

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	NBL	NBT	NBR
Lane Group Flow (vph)	351	1180	1308	1175	1174	720
v/c Ratio	1.07	0.82	1.06	1.32	1.32	0.45
Control Delay	131.7	26.7	93.1	179.2	178.8	0.9
Queue Delay	0.0	45.3	14.6	43.2	43.2	0.0
Total Delay	131.7	72.0	107.7	222.5	222.0	0.9
Queue Length 50th (ft)	~316	344	~348	~1343	~1341	0
Queue Length 95th (ft)	m#498	m431	#426	#1620	#1617	0
Internal Link Dist (ft)		301	1049		852	
Turn Bay Length (ft)	150			500		
Base Capacity (vph)	327	1443	1230	892	892	1583
Starvation Cap Reductn	0	363	0	0	0	0
Spillback Cap Reductn	0	0	40	61	61	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.07	1.09	1.10	1.41	1.41	0.45

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	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	10	52	583	1158	10	42	292	1098	42	10
v/c Ratio	0.12	0.08	0.66	0.92dr	0.08	0.31	0.76	1.68	0.06	0.02
Control Delay	61.5	37.6	54.6	13.7	53.6	56.2	10.0	341.2	26.9	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	37.6	54.6	13.7	53.6	56.2	10.0	341.2	26.9	12.9
Queue Length 50th (ft)	8	15	264	114	8	35	0	~1350	23	0
Queue Length 95th (ft)	27	35	#338	156	25	69	87	#1611	49	12
Internal Link Dist (ft)		447		490		416			1249	
Turn Bay Length (ft)	90		275		100		100			
Base Capacity (vph)	86	624	880	2289	340	358	540	654	688	591
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.08	0.66	0.51	0.03	0.12	0.54	1.68	0.06	0.02

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.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	887	576	1351	1693	251	250	85
v/c Ratio	0.82	0.36	0.92	0.44	0.85	0.85	0.27
Control Delay	24.1	0.2	27.4	3.5	60.5	60.3	23.8
Queue Delay	23.3	0.0	136.5	0.3	2.0	1.9	0.0
Total Delay	47.4	0.2	163.9	3.8	62.4	62.3	23.8
Queue Length 50th (ft)	379	0	626	153	216	215	29
Queue Length 95th (ft)	m296	m0	692	147	306	305	74
Internal Link Dist (ft)	490			348		1013	
Turn Bay Length (ft)					150		300
Base Capacity (vph)	1079	1583	1664	3880	375	375	388
Starvation Cap Reductn	0	0	626	1328	0	0	0
Spillback Cap Reductn	219	0	0	0	43	43	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.36	1.30	0.66	0.76	0.75	0.22

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)	120	1298	2034	532	539	538	1674
v/c Ratio	0.75	0.95	0.65	0.69	0.80	0.80	1.08
Control Delay	26.4	25.9	31.7	26.0	45.1	45.0	76.0
Queue Delay	0.0	25.5	0.6	0.7	0.0	0.0	2.6
Total Delay	26.4	51.5	32.3	26.7	45.1	45.0	78.6
Queue Length 50th (ft)	68	368	330	243	417	416	~890
Queue Length 95th (ft)	m36	#548	389	408	581	578	#1043
Internal Link Dist (ft)		348	502			1010	
Turn Bay Length (ft)	400			70	275		475
Base Capacity (vph)	218	1361	3150	766	672	672	1552
Starvation Cap Reductn	0	132	0	60	0	0	0
Spillback Cap Reductn	0	7	641	0	0	0	9
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	1.06	0.81	0.75	0.80	0.80	1.08

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	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2001	1509	657	68	1212
v/c Ratio	1.14	0.84	0.22	0.46	0.72
Control Delay	105.5	24.1	1.8	43.6	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	105.5	24.1	1.8	43.6	16.3
Queue Length 50th (ft)	~436	528	18	42	250
Queue Length 95th (ft)	#514	#615	54	83	327
Internal Link Dist (ft)	2166		844	2511	
Turn Bay Length (ft)		200			
Base Capacity (vph)	1752	1787	2957	451	1681
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.14	0.84	0.22	0.15	0.72

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)	1975	1116	630	1891	98	98	274
v/c Ratio	1.06dr	1.15	1.08	0.62	0.97	0.97	0.17
Control Delay	4.5	87.3	78.6	2.2	131.2	131.2	0.2
Queue Delay	0.0	0.0	0.0	2.8	0.0	0.0	0.0
Total Delay	4.5	87.3	78.6	4.9	131.2	131.2	0.2
Queue Length 50th (ft)	72	~900	~86	5	67	67	0
Queue Length 95th (ft)	m88	m#887	m#294	m2	#176	#176	0
Internal Link Dist (ft)	844			301		749	
Turn Bay Length (ft)			150				
Base Capacity (vph)	2919	967	584	3044	101	101	1583
Starvation Cap Reductn	0	0	0	1003	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	0.68	1.15	1.08	0.93	0.97	0.97	0.17

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.

m Volume for 95th percentile queue is metered by upstream signal.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	267	776	1460	593	593	290
v/c Ratio	0.66	0.37	0.71	1.07	1.07	0.18
Control Delay	27.8	10.9	32.3	91.6	91.6	0.3
Queue Delay	0.0	0.7	0.0	0.0	0.0	0.0
Total Delay	27.8	11.6	32.3	91.6	91.6	0.3
Queue Length 50th (ft)	169	165	234	~443	~443	0
Queue Length 95th (ft)	m249	m184	293	#664	#664	0
Internal Link Dist (ft)		301	1049		852	
Turn Bay Length (ft)	150			500		
Base Capacity (vph)	478	2088	2044	555	555	1583
Starvation Cap Reductn	0	885	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	0.56	0.65	0.71	1.07	1.07	0.18

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	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	11	44	380	610	11	11	315	1063	11	11
v/c Ratio	0.12	0.04	1.48	0.28	0.09	0.08	0.77	1.57	0.02	0.02
Control Delay	56.6	23.5	271.8	5.6	48.9	48.9	9.3	290.6	23.1	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	23.5	271.8	5.6	48.9	48.9	9.3	290.6	23.1	11.4
Queue Length 50th (ft)	8	8	~212	49	8	8	0	~1167	5	0
Queue Length 95th (ft)	28	25	#308	59	26	26	87	#1421	18	12
Internal Link Dist (ft)		447		490		416			1249	
Turn Bay Length (ft)	90		275		100		100			
Base Capacity (vph)	92	1150	257	2183	369	388	579	679	714	614
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.04	1.48	0.28	0.03	0.03	0.54	1.57	0.02	0.02

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)	619	776	1731	894	227	226	86
v/c Ratio	0.87	0.49	0.93	0.23	0.85	0.84	0.26
Control Delay	25.3	2.7	23.7	1.3	63.6	63.4	10.5
Queue Delay	0.0	0.0	3.2	0.1	4.5	4.4	0.0
Total Delay	25.3	2.7	27.0	1.4	68.1	67.8	10.5
Queue Length 50th (ft)	216	26	639	28	178	177	0
Queue Length 95th (ft)	m157	m0	#819	5	#294	#291	45
Internal Link Dist (ft)	490			348		1013	
Turn Bay Length (ft)					150		300
Base Capacity (vph)	709	1583	1860	3934	307	307	359
Starvation Cap Reductn	0	0	78	1625	0	0	0
Spillback Cap Reductn	0	0	0	0	37	37	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.49	0.97	0.39	0.84	0.84	0.24

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)	118	954	2205	327	209	209	720
v/c Ratio	0.59	0.67	0.48	0.32	0.72	0.72	0.48
Control Delay	10.1	6.0	14.1	9.4	49.7	49.7	17.1
Queue Delay	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.1	6.9	14.1	9.4	49.7	49.7	17.1
Queue Length 50th (ft)	9	2	218	72	162	162	181
Queue Length 95th (ft)	m66	m350	310	161	231	231	198
Internal Link Dist (ft)		348	502			1010	
Turn Bay Length (ft)	400			70	275		475
Base Capacity (vph)	472	1426	4633	1015	430	430	1724
Starvation Cap Reductn	0	226	0	0	0	0	0
Spillback Cap Reductn	0	0	528	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.80	0.54	0.32	0.49	0.49	0.42

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1140	2119	1898	177	2246
v/c Ratio	1.08	1.01	0.67	0.75	1.09
Control Delay	101.5	40.7	8.2	58.7	67.9
Queue Delay	0.0	11.1	0.4	0.0	0.0
Total Delay	101.5	51.7	8.5	58.7	67.9
Queue Length 50th (ft)	~306	~887	403	146	~1210
Queue Length 95th (ft)	#383	m716	m404	215	#1355
Internal Link Dist (ft)	2166		844	2511	
Turn Bay Length (ft)		200			
Base Capacity (vph)	1055	2088	2847	347	2059
Starvation Cap Reductn	0	63	384	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.08	1.05	0.77	0.51	1.09

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	SBT	SBR
Lane Group Flow (vph)	2263	933	362	3523	149	149	452
v/c Ratio	0.86dr	0.87	0.76	1.17	1.05	1.05	0.29
Control Delay	7.1	9.8	83.4	87.3	145.6	145.6	0.5
Queue Delay	0.4	0.8	0.0	97.8	4.9	4.9	0.1
Total Delay	7.5	10.5	83.4	185.2	150.5	150.5	0.5
Queue Length 50th (ft)	245	106	167	~1911	~143	~143	0
Queue Length 95th (ft)	m113	m91	m143	m6	#292	#292	0
Internal Link Dist (ft)	844			301		749	
Turn Bay Length (ft)			150				
Base Capacity (vph)	3138	1077	475	3022	142	142	1583
Starvation Cap Reductn	0	28	0	477	0	0	0
Spillback Cap Reductn	350	0	0	307	2	2	214
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.89	0.76	1.38	1.06	1.06	0.33

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.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	392	1253	1436	1326	1326	720
v/c Ratio	1.20	0.87	1.17	1.49	1.49	0.85
Control Delay	157.5	37.0	130.0	251.9	251.9	36.9
Queue Delay	0.0	55.7	596.3	48.1	48.1	0.0
Total Delay	157.5	92.7	726.3	300.1	300.1	36.9
Queue Length 50th (ft)	~401	357	~415	~1621	~1621	493
Queue Length 95th (ft)	m#590	m551	#493	#1900	#1900	#720
Internal Link Dist (ft)		301	1049		852	
Turn Bay Length (ft)	150			500		
Base Capacity (vph)	327	1443	1229	892	892	847
Starvation Cap Reductn	0	324	0	0	0	0
Spillback Cap Reductn	0	0	837	60	60	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.20	1.12	3.66	1.59	1.59	0.85

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	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	10	52	583	1282	10	42	292	1170	42	10
v/c Ratio	0.12	0.05	1.84	1.03dr	0.08	0.31	0.76	1.62	0.06	0.02
Control Delay	61.5	28.5	420.4	14.2	53.6	56.2	10.0	314.4	23.7	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	28.5	420.4	14.2	53.6	56.2	10.0	314.4	23.7	11.4
Queue Length 50th (ft)	8	13	~392	142	8	35	0	~1417	21	0
Queue Length 95th (ft)	27	32	#496	158	25	69	87	#1678	46	12
Internal Link Dist (ft)		447		490		416			1249	
Turn Bay Length (ft)	90		275		100		100			
Base Capacity (vph)	86	1054	317	2164	340	358	540	722	760	651
Starvation Cap Reductn	0	0	0	49	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.05	1.84	0.61	0.03	0.12	0.54	1.62	0.06	0.02

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.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	902	633	1351	1819	251	250	85
v/c Ratio	0.84	0.40	0.92	0.47	0.85	0.85	0.28
Control Delay	22.1	0.2	21.6	1.7	60.5	60.3	28.2
Queue Delay	9.2	0.0	60.2	0.3	24.4	23.6	0.0
Total Delay	31.3	0.2	81.8	2.0	84.9	84.0	28.2
Queue Length 50th (ft)	252	0	625	83	216	215	36
Queue Length 95th (ft)	m261	m0	692	85	306	305	82
Internal Link Dist (ft)	490			348		1013	
Turn Bay Length (ft)					150		300
Base Capacity (vph)	1079	1583	1664	3880	375	375	380
Starvation Cap Reductn	0	0	467	1204	0	0	0
Spillback Cap Reductn	156	0	0	0	120	120	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.40	1.13	0.68	0.98	0.98	0.22

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)	120	1314	2061	532	589	589	1674
v/c Ratio	0.75	0.97	0.65	0.69	0.88	0.88	1.08
Control Delay	21.5	32.3	31.9	26.1	51.8	51.8	76.3
Queue Delay	0.0	83.0	0.4	0.7	0.0	0.0	1.2
Total Delay	21.5	115.3	32.3	26.8	51.8	51.8	77.4
Queue Length 50th (ft)	87	610	337	245	476	476	~891
Queue Length 95th (ft)	m56	#687	396	410	#705	#705	#1044
Internal Link Dist (ft)		348	502			1010	
Turn Bay Length (ft)	400			70	275		475
Base Capacity (vph)	218	1361	3153	766	672	672	1551
Starvation Cap Reductn	0	261	0	59	0	0	0
Spillback Cap Reductn	0	17	493	0	0	0	4
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	1.19	0.77	0.75	0.88	0.88	1.08

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.

Future 2025
Without and With Project Conditions

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
AM Peak Hour

Future Queue Report (cars)

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
#1	[HCM2kAvgQ]:	0	0	4	0	0	0	0	0	0	5	0	0
#2	[HCM2kAvgQ]:	2	0	1	0	0	0	0	2	2	2	0	0
#3	[HCM2kAvgQ]:	0	0	2	0	0	0	0	10	10	19	2	0
#7	[HCM2kAvgQ]:	1	0	1	0	0	0	0	0	0	1	0	0
#8	[HCM2kAvgQ]:	20	1	12	4	4	3	2	13	5	7	10	10
#9	[HCM2kAvgQ]:	6	2	10	4	5	3	2	9	5	9	7	7
#10	[HCM2kAvgQ]:	1	3	22	6	7	3	2	18	4	14	10	10
#11	[HCM2kAvgQ]:	17	6	4	1	13	28	8	18	50	9	13	0
#12	[HCM2kAvgQ]:	9	0	25	1	1	0	0	26	26	9	14	14
#13	[HCM2kAvgQ]:	0	7	7	1	12	12	14	7	7	0	5	5
#14	[HCM2kAvgQ]:	11	14	14	2	16	16	4	23	23	3	0	0
#15	[HCM2kAvgQ]:	0	10	10	10	4	0	0	0	0	3	0	9
#16	[HCM2kAvgQ]:	15	2	2	0	12	3	4	4	12	4	4	0
#17	[HCM2kAvgQ]:	4	6	6	4	16	1	5	7	5	4	8	7
#26	[HCM2kAvgQ]:	4	6	6	15	14	14	4	14	7	3	17	1
#27	[HCM2kAvgQ]:	3	4	2	3	5	5	2	2	4	5	4	4

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025)
PM Peak Hour

Future Queue Report (cars)

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
#1	[HCM2kAvgQ]:	0	0	9	0	0	0	0	0	0	10	0	0
#2	[HCM2kAvgQ]:	3	0	3	0	0	0	0	2	2	4	0	0
#3	[HCM2kAvgQ]:	1	0	1	0	0	0	0	12	12	51	2	0
#7	[HCM2kAvgQ]:	1	0	1	0	0	0	0	1	1	1	0	0
#8	[HCM2kAvgQ]:	9	2	22	7	3	3	3	20	15	9	13	13
#9	[HCM2kAvgQ]:	12	2	26	4	3	6	3	18	10	14	9	9
#10	[HCM2kAvgQ]:	7	9	22	3	10	4	3	21	8	18	7	7
#11	[HCM2kAvgQ]:	21	9	9	1	17	21	21	16	23	9	35	1
#12	[HCM2kAvgQ]:	25	1	9	1	1	0	1	37	37	35	26	26
#13	[HCM2kAvgQ]:	0	1	1	0	36	36	19	2	2	0	6	6
#14	[HCM2kAvgQ]:	28	11	11	1	32	32	5	16	16	8	0	1
#15	[HCM2kAvgQ]:	0	25	25	22	1	0	0	0	0	6	0	23
#16	[HCM2kAvgQ]:	16	3	3	2	11	3	6	6	8	3	3	1
#17	[HCM2kAvgQ]:	4	29	29	9	11	2	8	4	3	3	3	18
#26	[HCM2kAvgQ]:	11	16	16	16	9	9	7	18	8	2	24	16
#27	[HCM2kAvgQ]:	4	6	2	3	6	6	4	1	4	4	3	3

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
AM Peak Hour

Future Queue Report (cars)

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
#1	[HCM2kAvgQ]:	0	0	7	0	0	0	0	7	7	6	2	0
#2	[HCM2kAvgQ]:	2	0	1	0	0	0	0	5	5	2	0	0
#3	[HCM2kAvgQ]:	0	0	5	0	0	0	0	18	18	22	3	0
#7	[HCM2kAvgQ]:	1	0	1	0	0	0	0	0	0	1	0	0
#8	[HCM2kAvgQ]:	21	1	12	4	4	3	2	14	6	7	10	10
#9	[HCM2kAvgQ]:	6	2	10	4	5	3	2	10	5	9	7	7
#10	[HCM2kAvgQ]:	1	3	23	6	7	3	2	19	4	15	10	10
#11	[HCM2kAvgQ]:	17	6	4	1	13	28	9	19	49	9	13	0
#12	[HCM2kAvgQ]:	9	0	25	1	1	0	0	27	27	9	14	14
#13	[HCM2kAvgQ]:	0	8	8	1	14	14	15	15	15	1	8	8
#14	[HCM2kAvgQ]:	12	14	14	2	24	24	5	28	28	3	0	0
#15	[HCM2kAvgQ]:	0	12	12	11	6	0	0	0	0	3	0	10
#16	[HCM2kAvgQ]:	16	2	2	0	13	3	4	4	13	4	4	0
#17	[HCM2kAvgQ]:	4	6	6	4	17	1	5	7	6	4	8	8
#26	[HCM2kAvgQ]:	4	6	6	15	14	14	4	14	8	3	18	1
#27	[HCM2kAvgQ]:	3	5	2	3	5	5	2	2	4	5	4	4

Crystal Bay (The Spanos Parcel) EIR
Cumulative (Year 2025) With Project
PM Peak Hour

Future Queue Report (cars)

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
#1	[HCM2kAvgQ]:	0	0	10	0	0	0	0	6	6	12	5	0
#2	[HCM2kAvgQ]:	3	0	3	0	0	0	0	3	3	4	1	0
#3	[HCM2kAvgQ]:	1	0	1	0	0	0	0	18	18	55	4	0
#7	[HCM2kAvgQ]:	1	0	1	0	0	0	0	1	1	1	0	0
#8	[HCM2kAvgQ]:	11	2	22	7	3	3	3	21	16	9	14	14
#9	[HCM2kAvgQ]:	12	2	27	4	3	7	3	18	10	14	10	10
#10	[HCM2kAvgQ]:	7	9	22	3	10	4	3	21	8	18	8	8
#11	[HCM2kAvgQ]:	22	9	9	1	17	23	22	16	23	8	36	1
#12	[HCM2kAvgQ]:	25	1	9	1	1	0	1	37	37	35	28	28
#13	[HCM2kAvgQ]:	1	2	2	0	53	53	23	7	7	0	24	24
#14	[HCM2kAvgQ]:	30	14	14	1	38	38	5	17	17	8	0	1
#15	[HCM2kAvgQ]:	0	36	36	27	1	0	0	0	0	7	0	29
#16	[HCM2kAvgQ]:	17	3	3	2	11	3	6	6	8	3	3	1
#17	[HCM2kAvgQ]:	4	31	31	10	11	2	8	4	3	3	4	19
#26	[HCM2kAvgQ]:	12	16	16	17	9	9	7	18	9	2	24	17
#27	[HCM2kAvgQ]:	4	7	1	3	6	6	4	1	4	5	3	3

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1225	971	629	40	1065
v/c Ratio	0.35	0.92	0.20	0.26	0.95
Control Delay	18.6	44.8	0.9	52.6	53.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.6	44.8	0.9	52.6	53.5
Queue Length 50th (ft)	164	260	4	33	472
Queue Length 95th (ft)	256	#545	62	61	435
Internal Link Dist (ft)	2166		844	2511	
Turn Bay Length (ft)		200			
Base Capacity (vph)	3466	1056	3167	368	1119
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.35	0.92	0.20	0.11	0.95

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)	1498	735	500	1327	169	168	272
v/c Ratio	0.57	0.73	0.80	0.48	0.66	0.66	0.17
Control Delay	15.4	13.3	45.2	4.3	53.8	53.8	0.2
Queue Delay	0.0	0.0	0.0	0.7	0.0	0.0	0.0
Total Delay	15.4	13.3	45.2	5.0	53.8	53.8	0.2
Queue Length 50th (ft)	106	80	226	58	145	144	0
Queue Length 95th (ft)	m374	m519	280	249	203	202	0
Internal Link Dist (ft)	844			301		749	
Turn Bay Length (ft)		300	150				
Base Capacity (vph)	2650	1008	1188	2782	401	401	1583
Starvation Cap Reductn	0	0	37	999	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	0.57	0.73	0.43	0.74	0.42	0.42	0.17

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	226	1032	1402	344	343	548
v/c Ratio	0.88	0.42	0.43	0.86	0.86	0.35
Control Delay	78.1	2.0	19.1	51.0	50.9	0.6
Queue Delay	0.0	0.2	0.0	0.2	0.2	0.0
Total Delay	78.1	2.2	19.1	51.2	51.2	0.6
Queue Length 50th (ft)	181	34	197	293	292	0
Queue Length 95th (ft)	#305	26	214	377	374	0
Internal Link Dist (ft)		301	1049		852	
Turn Bay Length (ft)	150			400		
Base Capacity (vph)	272	2482	3292	582	582	1583
Starvation Cap Reductn	0	621	0	0	0	0
Spillback Cap Reductn	0	0	1	28	28	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.55	0.43	0.62	0.62	0.35

Intersection Summary

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

Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	1470	10	1293	20
v/c Ratio	0.25	0.12	0.21	0.19
Control Delay	0.5	59.2	0.7	38.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	0.5	59.2	0.7	38.0
Queue Length 50th (ft)	0	8	0	8
Queue Length 95th (ft)	28	27	42	35
Internal Link Dist (ft)	1049		4753	697
Turn Bay Length (ft)				
Base Capacity (vph)	5961	381	6081	386
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.03	0.21	0.05

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	151	866	11	192	401	93	526	536	390
v/c Ratio	0.38	0.46	0.11	0.17	0.52	0.85	0.83	0.84	0.41
Control Delay	46.3	19.1	55.9	20.9	11.7	113.5	41.7	58.1	37.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	19.1	55.9	20.9	11.7	113.5	41.7	58.1	37.1
Queue Length 50th (ft)	109	196	0	52	125	79	158	225	134
Queue Length 95th (ft)	175	354	m30	94	217	#181	217	285	170
Internal Link Dist (ft)		838		624			914		1182
Turn Bay Length (ft)									
Base Capacity (vph)	395	1879	163	1128	778	109	741	713	1157
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.46	0.07	0.17	0.52	0.85	0.71	0.75	0.34

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	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	1384	120	577	38	391	11	141
v/c Ratio	0.14	0.46	0.67	0.25	0.34	0.87	0.13	0.57
Control Delay	70.2	9.0	53.0	5.8	61.0	48.7	59.8	57.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.2	9.0	53.0	5.8	61.0	48.7	59.8	57.4
Queue Length 50th (ft)	10	85	68	108	31	191	9	113
Queue Length 95th (ft)	m17	202	165	166	67	#380	30	176
Internal Link Dist (ft)		624		441		943		332
Turn Bay Length (ft)								
Base Capacity (vph)	82	2998	313	2297	163	450	163	300
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.46	0.38	0.25	0.23	0.87	0.07	0.47

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	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	1628	739	620	554	66
v/c Ratio	1.65dr	1.11	0.27	1.10	0.10
Control Delay	74.7	112.0	4.9	113.3	0.3
Queue Delay	28.5	11.3	0.3	10.8	0.0
Total Delay	103.2	123.3	5.2	124.2	0.3
Queue Length 50th (ft)	~420	~722	103	~529	0
Queue Length 95th (ft)	#277	#968	17	#753	0
Internal Link Dist (ft)	441		298		509
Turn Bay Length (ft)					
Base Capacity (vph)	1491	667	2314	504	679
Starvation Cap Reductn	85	16	1042	0	0
Spillback Cap Reductn	3	0	0	12	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.16	1.14	0.49	1.13	0.10

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.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	253	637	912	278	277	272
v/c Ratio	0.87	0.25	0.34	0.81	0.80	0.50
Control Delay	62.9	2.9	18.1	52.2	52.1	6.1
Queue Delay	0.6	0.8	0.1	0.9	0.9	0.0
Total Delay	63.6	3.7	18.2	53.1	53.0	6.1
Queue Length 50th (ft)	200	45	152	237	236	0
Queue Length 95th (ft)	m152	m70	217	314	313	66
Internal Link Dist (ft)		298	826		697	
Turn Bay Length (ft)						
Base Capacity (vph)	313	2596	2701	517	517	675
Starvation Cap Reductn	5	1574	0	0	0	0
Spillback Cap Reductn	0	0	440	81	81	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.62	0.40	0.64	0.64	0.40

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	163	390	174	707	11
v/c Ratio	0.08	0.25	0.62	0.85	0.02
Control Delay	10.6	0.8	10.7	47.8	34.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	10.6	0.8	10.7	47.8	34.6
Queue Length 50th (ft)	23	0	9	295	7
Queue Length 95th (ft)	63	58	73	340	22
Internal Link Dist (ft)			553		717
Turn Bay Length (ft)					
Base Capacity (vph)	2012	1583	580	1479	803
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.25	0.30	0.48	0.01

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	11	804	174	624	11	22	163	375	11	11
v/c Ratio	0.20	0.49	0.68	0.23	0.07	0.13	0.56	0.87	0.02	0.03
Control Delay	46.8	5.5	52.5	6.0	48.7	50.1	8.8	56.2	34.4	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.8	5.5	52.5	6.0	48.7	50.1	8.8	56.2	34.4	15.9
Queue Length 50th (ft)	10	32	77	20	9	18	0	300	7	0
Queue Length 95th (ft)	m23	88	117	94	24	39	59	408	22	15
Internal Link Dist (ft)		590		490		416			1249	
Turn Bay Length (ft)	90		275		100		100			
Base Capacity (vph)	54	1645	264	2699	395	416	480	504	530	458
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.49	0.66	0.23	0.03	0.05	0.34	0.74	0.02	0.02

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	655	662	1699	704	274	274	86
v/c Ratio	0.98	0.42	0.95	0.19	0.84	0.84	0.23
Control Delay	69.5	1.5	20.6	1.1	63.9	63.9	9.8
Queue Delay	0.0	0.0	65.3	0.0	7.9	7.9	0.0
Total Delay	69.5	1.5	86.0	1.1	71.8	71.8	9.8
Queue Length 50th (ft)	~349	18	785	5	229	229	0
Queue Length 95th (ft)	#493	12	849	9	#357	#357	44
Internal Link Dist (ft)	490			348		1013	
Turn Bay Length (ft)					150		300
Base Capacity (vph)	671	1583	1901	3782	362	362	408
Starvation Cap Reductn	0	0	416	0	0	0	0
Spillback Cap Reductn	0	0	0	0	57	57	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.42	1.14	0.19	0.90	0.90	0.21

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)	129	1074	1961	376	221	221	720
v/c Ratio	0.52	0.48	0.50	0.43	0.53	0.53	0.76
Control Delay	6.0	6.7	9.6	4.5	42.9	42.9	34.5
Queue Delay	0.0	4.6	0.0	0.0	0.0	0.0	0.1
Total Delay	6.0	11.3	9.6	4.5	42.9	42.9	34.6
Queue Length 50th (ft)	0	0	104	28	171	171	262
Queue Length 95th (ft)	m93	m532	m112	m33	229	229	301
Internal Link Dist (ft)		348	502			1010	
Turn Bay Length (ft)	400			70	275		475
Base Capacity (vph)	436	2232	3927	881	595	595	1230
Starvation Cap Reductn	0	955	0	0	0	0	0
Spillback Cap Reductn	0	1068	277	0	0	0	37
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.92	0.54	0.43	0.37	0.37	0.60

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	964	1719	1478	101	1700
v/c Ratio	0.47	1.05	0.50	0.52	0.99
Control Delay	36.5	56.1	2.3	54.0	43.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	36.5	56.1	2.3	54.0	43.3
Queue Length 50th (ft)	179	~804	12	83	~821
Queue Length 95th (ft)	253	m#761	m224	126	673
Internal Link Dist (ft)	2166		844	2511	
Turn Bay Length (ft)		200			
Base Capacity (vph)	2041	1637	2935	449	1720
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.47	1.05	0.50	0.22	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.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	EBR	WBL	WBT	SBL	SBT	SBR
Lane Group Flow (vph)	1802	732	415	2699	303	303	465
v/c Ratio	0.70	0.69	0.83	1.05	0.85	0.85	0.29
Control Delay	24.3	6.2	39.0	41.0	61.4	61.4	0.5
Queue Delay	0.3	0.1	0.0	58.2	179.9	179.9	0.0
Total Delay	24.6	6.3	39.0	99.2	241.2	241.2	0.5
Queue Length 50th (ft)	368	144	191	~1326	252	252	0
Queue Length 95th (ft)	m447	m18	m171	m404	#384	#384	0
Internal Link Dist (ft)	844			301		749	
Turn Bay Length (ft)		300	150				
Base Capacity (vph)	2576	1059	502	2568	401	401	1583
Starvation Cap Reductn	0	21	0	291	0	0	0
Spillback Cap Reductn	244	0	0	0	183	183	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.71	0.83	1.19	1.39	1.39	0.29

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	NBL	NBT	NBR
Lane Group Flow (vph)	394	1535	1745	873	873	559
v/c Ratio	1.11	0.91	1.12	1.12	1.12	0.35
Control Delay	136.9	28.3	105.2	106.1	106.1	0.6
Queue Delay	11.7	65.2	4.7	140.3	140.3	0.0
Total Delay	148.6	93.4	109.9	246.3	246.3	0.6
Queue Length 50th (ft)	~354	536	~482	~893	~893	0
Queue Length 95th (ft)	#545	635	#560	#1157	#1157	0
Internal Link Dist (ft)		301	1049		852	
Turn Bay Length (ft)	150			400		
Base Capacity (vph)	354	1688	1564	776	776	1583
Starvation Cap Reductn	9	347	0	0	0	0
Spillback Cap Reductn	0	0	15	171	171	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.14	1.14	1.13	1.44	1.44	0.35

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	WBL	WBT	NBL
Lane Group Flow (vph)	2118	11	1753	22
v/c Ratio	0.36	0.11	0.29	0.17
Control Delay	2.0	48.3	1.0	31.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	2.0	48.3	1.0	31.6
Queue Length 50th (ft)	0	7	0	7
Queue Length 95th (ft)	164	26	63	33
Internal Link Dist (ft)	1049		4753	697
Turn Bay Length (ft)				
Base Capacity (vph)	5872	311	6015	323
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.36	0.04	0.29	0.07

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	85	482	574	795	267	637	613	628
v/c Ratio	0.66	0.33	0.51	0.76	0.82	0.87	0.63	0.59
Control Delay	78.7	25.1	47.9	22.1	57.4	53.6	41.0	37.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.7	25.1	47.9	22.1	57.4	53.6	41.0	37.1
Queue Length 50th (ft)	71	122	204	302	218	247	238	225
Queue Length 95th (ft)	#142	196	333	381	299	318	261	269
Internal Link Dist (ft)		838	624			914		1182
Turn Bay Length (ft)								
Base Capacity (vph)	136	1453	1123	1157	422	796	1241	1224
Starvation Cap Reductn	0	0	0	3	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.33	0.51	0.69	0.63	0.80	0.49	0.51

Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	1144	326	1288	91	380	11	87
v/c Ratio	0.13	0.48	0.87	0.52	0.57	1.00	0.13	0.48
Control Delay	60.0	19.3	60.8	6.4	58.8	90.2	59.3	53.6
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	60.0	19.3	60.8	6.5	58.8	90.2	59.3	53.6
Queue Length 50th (ft)	8	143	243	96	75	285	9	67
Queue Length 95th (ft)	m18	369	#399	373	129	#459	30	114
Internal Link Dist (ft)		624		441		943		332
Turn Bay Length (ft)								
Base Capacity (vph)	95	2408	422	2484	286	381	286	299
Starvation Cap Reductn	0	0	0	283	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.48	0.77	0.59	0.32	1.00	0.04	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	EBT	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	1304	370	1312	217	292
v/c Ratio	0.87dr	0.86	0.49	0.70	0.85
Control Delay	5.2	58.4	2.4	52.0	41.8
Queue Delay	0.0	1.9	0.3	0.0	0.0
Total Delay	5.2	60.3	2.7	52.1	41.8
Queue Length 50th (ft)	50	325	88	174	179
Queue Length 95th (ft)	m42	352	5	237	260
Internal Link Dist (ft)	441		298		509
Turn Bay Length (ft)					
Base Capacity (vph)	2436	572	2697	477	485
Starvation Cap Reductn	96	91	720	0	0
Spillback Cap Reductn	13	0	29	8	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.56	0.77	0.66	0.46	0.60

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	274	398	769	544	543	761
v/c Ratio	0.84	0.21	0.48	0.80	0.80	0.90
Control Delay	54.9	11.2	37.4	37.1	37.0	25.4
Queue Delay	2.3	0.0	0.2	0.0	0.0	0.0
Total Delay	57.2	11.2	37.6	37.1	37.0	25.4
Queue Length 50th (ft)	240	88	183	413	412	365
Queue Length 95th (ft)	282	117	261	489	489	505
Internal Link Dist (ft)		298	826		697	
Turn Bay Length (ft)						
Base Capacity (vph)	381	1890	1603	828	828	954
Starvation Cap Reductn	38	0	0	0	0	0
Spillback Cap Reductn	0	0	238	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.21	0.56	0.66	0.66	0.80

Intersection Summary

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	293	970	174	639	11
v/c Ratio	0.14	0.61	0.62	0.83	0.03
Control Delay	4.7	10.5	10.7	48.8	36.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	4.7	10.5	10.7	48.8	36.3
Queue Length 50th (ft)	29	572	9	266	7
Queue Length 95th (ft)	55	409	73	311	22
Internal Link Dist (ft)			553		717
Turn Bay Length (ft)					
Base Capacity (vph)	2072	1583	580	1347	731
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.14	0.61	0.30	0.47	0.02

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	10	654	208	1621	10	42	156	367	10	10
v/c Ratio	0.19	0.41	0.66	0.58	0.06	0.23	0.53	0.89	0.02	0.03
Control Delay	56.6	5.4	57.8	15.2	48.0	51.2	8.9	63.1	36.8	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	5.4	57.8	15.3	48.0	51.2	8.9	63.1	36.8	18.1
Queue Length 50th (ft)	9	34	85	132	8	34	0	292	6	0
Queue Length 95th (ft)	m21	61	131	201	22	61	57	#447	21	15
Internal Link Dist (ft)		590		490		416			1249	
Turn Bay Length (ft)	90		275		100		100			
Base Capacity (vph)	54	1606	343	2779	395	416	474	449	473	409
Starvation Cap Reductn	0	0	0	110	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.41	0.61	0.61	0.03	0.10	0.33	0.82	0.02	0.02

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	SBT	SBR
Lane Group Flow (vph)	704	487	1309	1762	282	282	106
v/c Ratio	0.54	0.31	1.15	0.48	0.80	0.80	0.30
Control Delay	22.6	0.4	91.4	11.6	55.1	55.1	29.7
Queue Delay	59.5	0.0	0.0	1.3	0.0	0.0	0.0
Total Delay	82.2	0.4	91.4	12.9	55.1	55.1	29.7
Queue Length 50th (ft)	142	0	~680	365	237	237	52
Queue Length 95th (ft)	248	m0	m#814	m375	327	327	100
Internal Link Dist (ft)	490			348		1013	
Turn Bay Length (ft)					150		300
Base Capacity (vph)	1302	1583	1136	3709	440	440	438
Starvation Cap Reductn	0	0	0	1625	0	0	0
Spillback Cap Reductn	672	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	0.31	1.15	0.85	0.64	0.64	0.24

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	NBT	NBR
Lane Group Flow (vph)	217	1078	2016	967	561	560	1674
v/c Ratio	0.82	0.76	0.62	1.11	1.01	1.01	1.10
Control Delay	43.5	33.0	8.3	67.6	83.8	83.4	83.9
Queue Delay	0.0	48.3	0.0	84.1	14.3	14.1	0.0
Total Delay	43.5	81.2	8.4	151.7	98.1	97.5	83.9
Queue Length 50th (ft)	93	497	60	~343	~506	~503	~897
Queue Length 95th (ft)	142	538	m44	m150	#757	#757	#1050
Internal Link Dist (ft)		348	502			1010	
Turn Bay Length (ft)	400			70	275		475
Base Capacity (vph)	300	1416	3228	875	556	556	1524
Starvation Cap Reductn	0	434	0	130	0	0	0
Spillback Cap Reductn	0	0	136	0	24	24	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	1.10	0.65	1.30	1.05	1.05	1.10

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	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1657	971	739	65	1065
v/c Ratio	0.50	0.92	0.24	0.38	0.91
Control Delay	22.2	41.2	1.2	53.6	46.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	41.2	1.2	53.6	46.1
Queue Length 50th (ft)	249	280	5	54	473
Queue Length 95th (ft)	368	#520	75	88	445
Internal Link Dist (ft)	2166		844	2511	
Turn Bay Length (ft)		200			
Base Capacity (vph)	3297	1056	3058	368	1173
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.50	0.92	0.24	0.18	0.91

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)	1734	850	500	1414	169	168	296
v/c Ratio	0.65	0.84	0.80	0.51	0.66	0.66	0.19
Control Delay	22.2	22.4	42.8	5.5	53.8	53.8	0.3
Queue Delay	0.0	0.0	0.0	0.8	0.0	0.0	0.0
Total Delay	22.2	22.4	42.8	6.3	53.8	53.8	0.3
Queue Length 50th (ft)	259	215	226	61	145	144	0
Queue Length 95th (ft)	518	m#834	280	437	203	202	0
Internal Link Dist (ft)	844			301		749	
Turn Bay Length (ft)		300	150				
Base Capacity (vph)	2650	1008	1188	2782	401	401	1583
Starvation Cap Reductn	0	0	37	959	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	0.65	0.84	0.43	0.78	0.42	0.42	0.19

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	NBL	NBT	NBR
Lane Group Flow (vph)	299	1105	1424	375	374	548
v/c Ratio	1.10	0.46	0.46	0.86	0.86	0.35
Control Delay	124.5	2.7	21.6	50.2	50.2	0.6
Queue Delay	0.0	0.3	0.0	0.7	0.7	0.0
Total Delay	124.5	3.0	21.6	50.9	50.8	0.6
Queue Length 50th (ft)	~283	73	211	320	317	0
Queue Length 95th (ft)	#455	27	227	397	395	0
Internal Link Dist (ft)		301	1049		852	
Turn Bay Length (ft)	150			400		
Base Capacity (vph)	272	2402	3103	582	582	1583
Starvation Cap Reductn	0	619	0	0	0	0
Spillback Cap Reductn	0	0	1	47	47	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.10	0.62	0.46	0.70	0.70	0.35

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	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	151	866	11	192	447	93	565	680	516
v/c Ratio	0.38	0.49	0.11	0.19	0.46	0.85	0.86	0.95	0.48
Control Delay	46.3	21.2	55.1	23.8	3.8	113.5	46.6	75.0	36.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	21.2	55.1	23.8	3.8	113.5	46.6	75.0	36.8
Queue Length 50th (ft)	109	213	0	54	153	79	183	294	180
Queue Length 95th (ft)	175	354	m30	94	83	#181	248	#413	229
Internal Link Dist (ft)		838		624			914		1182
Turn Bay Length (ft)									
Base Capacity (vph)	395	1767	163	1008	976	109	729	713	1159
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.49	0.07	0.19	0.46	0.85	0.78	0.95	0.45

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	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	1528	120	622	38	391	11	141
v/c Ratio	0.14	0.51	0.68	0.27	0.34	0.87	0.13	0.57
Control Delay	70.3	8.2	55.9	4.9	61.0	48.7	59.8	57.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.3	8.2	55.9	4.9	61.0	48.7	59.8	57.4
Queue Length 50th (ft)	9	82	70	114	31	191	9	113
Queue Length 95th (ft)	m14	m197	156	170	67	#380	30	176
Internal Link Dist (ft)		624		441		943		332
Turn Bay Length (ft)								
Base Capacity (vph)	82	3011	313	2297	163	450	163	300
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.51	0.38	0.27	0.23	0.87	0.07	0.47

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	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	1772	739	664	554	66
v/c Ratio	1.71dr	1.18	0.28	1.20	0.10
Control Delay	63.3	139.2	4.6	149.6	0.3
Queue Delay	22.4	10.0	0.3	12.6	0.0
Total Delay	85.7	149.2	5.0	162.2	0.3
Queue Length 50th (ft)	~469	~758	112	~565	0
Queue Length 95th (ft)	#252	#1003	10	#789	0
Internal Link Dist (ft)	441		298		509
Turn Bay Length (ft)					
Base Capacity (vph)	1663	626	2396	463	639
Starvation Cap Reductn	79	12	1067	0	0
Spillback Cap Reductn	3	0	0	11	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.12	1.20	0.50	1.23	0.10

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.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	253	660	919	297	296	272
v/c Ratio	0.88	0.26	0.35	0.80	0.80	0.49
Control Delay	63.7	3.4	19.4	51.5	51.4	5.9
Queue Delay	0.6	0.8	0.1	1.2	1.2	0.0
Total Delay	64.3	4.3	19.5	52.7	52.6	5.9
Queue Length 50th (ft)	207	53	160	251	250	0
Queue Length 95th (ft)	m150	m75	230	325	325	64
Internal Link Dist (ft)		298	826		697	
Turn Bay Length (ft)						
Base Capacity (vph)	313	2543	2630	517	517	675
Starvation Cap Reductn	5	1509	0	0	0	0
Spillback Cap Reductn	0	0	431	80	80	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.64	0.42	0.68	0.68	0.40

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	163	430	174	832	11
v/c Ratio	0.09	0.27	0.62	0.86	0.02
Control Delay	12.8	1.0	10.7	45.2	30.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	12.8	1.0	10.7	45.2	30.3
Queue Length 50th (ft)	26	0	9	342	7
Queue Length 95th (ft)	79	77	73	382	20
Internal Link Dist (ft)			553		717
Turn Bay Length (ft)					
Base Capacity (vph)	1869	1583	580	1479	803
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.27	0.30	0.56	0.01

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	11	929	174	664	11	22	163	375	11	11
v/c Ratio	0.20	0.56	0.73	0.25	0.07	0.12	0.58	0.88	0.02	0.03
Control Delay	46.2	6.1	61.1	6.4	48.1	49.6	12.8	59.5	35.6	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	6.1	61.1	6.4	48.1	49.6	12.8	59.5	35.6	16.6
Queue Length 50th (ft)	10	32	78	28	9	18	16	299	7	0
Queue Length 95th (ft)	m19	100	#129	103	24	39	74	#439	23	16
Internal Link Dist (ft)		590		490		416			1249	
Turn Bay Length (ft)	90		275		100		100			
Base Capacity (vph)	54	1666	238	2705	395	416	464	477	502	434
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.56	0.73	0.25	0.03	0.05	0.35	0.79	0.02	0.03

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	SBT	SBR
Lane Group Flow (vph)	699	742	1699	743	274	274	86
v/c Ratio	0.93	0.47	0.99	0.20	0.84	0.84	0.23
Control Delay	54.3	2.2	21.6	1.1	63.9	63.9	9.8
Queue Delay	0.0	0.0	26.1	0.0	25.3	25.3	0.0
Total Delay	54.3	2.2	47.7	1.1	89.2	89.2	9.8
Queue Length 50th (ft)	~391	25	785	1	229	229	0
Queue Length 95th (ft)	294	356	#742	12	#357	#357	44
Internal Link Dist (ft)	490			348		1013	
Turn Bay Length (ft)					150		300
Base Capacity (vph)	753	1583	1901	3782	362	362	408
Starvation Cap Reductn	0	0	284	0	0	0	0
Spillback Cap Reductn	0	0	0	0	88	88	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.47	1.05	0.20	1.00	1.00	0.21

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)	129	1118	1975	376	234	233	720
v/c Ratio	0.52	0.51	0.51	0.43	0.54	0.54	0.75
Control Delay	9.7	9.6	9.9	4.6	42.4	42.4	34.6
Queue Delay	0.0	6.2	0.0	0.0	0.0	0.0	0.1
Total Delay	9.7	15.8	10.0	4.6	42.4	42.4	34.6
Queue Length 50th (ft)	0	270	105	28	180	178	264
Queue Length 95th (ft)	m124	m587	m113	m33	237	237	300
Internal Link Dist (ft)		348	502			1010	
Turn Bay Length (ft)	400			70	275		475
Base Capacity (vph)	436	2198	3863	868	595	595	1222
Starvation Cap Reductn	0	951	0	0	0	0	0
Spillback Cap Reductn	0	1018	326	0	0	0	31
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.95	0.56	0.43	0.39	0.39	0.60

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1212	1719	1826	182	1700
v/c Ratio	0.66	1.05	0.65	0.73	0.94
Control Delay	42.6	63.9	6.4	55.1	31.5
Queue Delay	0.0	0.0	0.2	0.0	0.0
Total Delay	42.6	63.9	6.6	55.1	31.5
Queue Length 50th (ft)	254	~804	238	150	692
Queue Length 95th (ft)	327	m512	m229	214	674
Internal Link Dist (ft)	2166		844	2511	
Turn Bay Length (ft)		200			
Base Capacity (vph)	1836	1637	2821	449	1809
Starvation Cap Reductn	0	0	299	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.66	1.05	0.72	0.41	0.94

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
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	SBT	SBR
Lane Group Flow (vph)	1641	1090	415	2970	303	303	537
v/c Ratio	0.67	0.80	0.71	1.17	0.82	0.82	0.34
Control Delay	20.8	6.4	14.5	91.6	56.3	56.3	0.6
Queue Delay	10.1	0.0	0.0	103.2	0.0	0.0	0.0
Total Delay	30.9	6.4	14.5	194.9	56.3	56.3	0.6
Queue Length 50th (ft)	310	238	110	~1631	254	254	0
Queue Length 95th (ft)	m474	m550	m118	m#1175	355	355	0
Internal Link Dist (ft)	844			301		749	
Turn Bay Length (ft)		300	150				
Base Capacity (vph)	2443	1362	766	2545	440	440	1583
Starvation Cap Reductn	0	0	0	420	0	0	0
Spillback Cap Reductn	790	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.80	0.54	1.40	0.69	0.69	0.34

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	NBL	NBT	NBR
Lane Group Flow (vph)	435	1578	1818	974	973	559
v/c Ratio	1.23	0.93	1.16	1.26	1.25	0.35
Control Delay	148.1	30.5	122.0	157.2	156.7	0.6
Queue Delay	30.4	46.6	412.1	19.3	19.3	0.0
Total Delay	178.6	77.1	534.1	176.5	176.0	0.6
Queue Length 50th (ft)	~438	570	~520	~1080	~1077	0
Queue Length 95th (ft)	#632	#651	#598	#1349	#1347	0
Internal Link Dist (ft)		301	1049		852	
Turn Bay Length (ft)	150			400		
Base Capacity (vph)	354	1688	1565	776	776	1583
Starvation Cap Reductn	19	259	0	0	0	0
Spillback Cap Reductn	0	0	691	26	26	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.30	1.10	2.08	1.30	1.30	0.35

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	SBL	SBT
Lane Group Flow (vph)	85	482	574	939	267	764	697	699
v/c Ratio	0.89	0.46	0.76	0.93	0.82	0.95	0.53	0.47
Control Delay	127.7	34.6	64.4	23.2	57.4	67.2	32.5	27.3
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Total Delay	127.7	34.6	64.4	23.4	57.4	67.2	32.5	27.3
Queue Length 50th (ft)	73	155	214	408	218	321	228	205
Queue Length 95th (ft)	#177	210	295	#482	299	#445	287	287
Internal Link Dist (ft)		838	624			914		1182
Turn Bay Length (ft)								
Base Capacity (vph)	95	1040	751	1025	422	812	1347	1482
Starvation Cap Reductn	0	0	0	3	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.46	0.76	0.92	0.63	0.94	0.52	0.47

Intersection Summary

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

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	1227	326	1433	91	380	11	87
v/c Ratio	0.13	0.51	0.88	0.59	0.57	1.00	0.13	0.48
Control Delay	63.2	16.1	68.4	5.5	58.8	90.2	59.3	53.6
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	63.2	16.1	68.4	5.6	58.8	90.2	59.3	53.6
Queue Length 50th (ft)	9	192	249	46	75	285	9	67
Queue Length 95th (ft)	m16	m243	#382	327	129	#459	30	114
Internal Link Dist (ft)		624		441		943		332
Turn Bay Length (ft)								
Base Capacity (vph)	95	2418	422	2424	286	381	286	299
Starvation Cap Reductn	0	0	0	236	0	0	0	0
Spillback Cap Reductn	0	0	0	10	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.51	0.77	0.65	0.32	1.00	0.04	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	EBT	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	1388	370	1455	217	292
v/c Ratio	1.00dr	0.75	0.54	0.68	0.86
Control Delay	7.8	45.4	5.3	52.6	46.6
Queue Delay	0.1	0.9	0.9	0.0	0.0
Total Delay	7.8	46.3	6.2	52.6	46.6
Queue Length 50th (ft)	200	251	212	172	190
Queue Length 95th (ft)	m45	291	270	241	278
Internal Link Dist (ft)	441		298		509
Turn Bay Length (ft)					
Base Capacity (vph)	2252	722	2680	436	439
Starvation Cap Reductn	112	151	851	0	0
Spillback Cap Reductn	39	0	36	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.65	0.65	0.80	0.50	0.67

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	274	411	790	605	604	761
v/c Ratio	0.84	0.23	0.53	0.84	0.84	0.88
Control Delay	60.4	7.8	39.8	38.3	38.2	25.3
Queue Delay	1.9	0.0	0.0	0.2	0.2	0.0
Total Delay	62.3	7.8	39.8	38.5	38.4	25.3
Queue Length 50th (ft)	202	73	200	454	453	352
Queue Length 95th (ft)	297	61	269	574	572	518
Internal Link Dist (ft)		298	826		697	
Turn Bay Length (ft)						
Base Capacity (vph)	381	1810	1495	828	828	947
Starvation Cap Reductn	33	0	0	0	0	0
Spillback Cap Reductn	0	0	1	21	21	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.23	0.53	0.75	0.75	0.80

Intersection Summary

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	293	1096	174	712	11
v/c Ratio	0.15	0.69	0.62	0.84	0.02
Control Delay	5.0	15.7	10.7	47.6	34.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	5.0	15.7	10.7	47.6	34.0
Queue Length 50th (ft)	43	883	9	295	7
Queue Length 95th (ft)	42	534	73	340	22
Internal Link Dist (ft)			553		717
Turn Bay Length (ft)					
Base Capacity (vph)	1995	1583	580	1347	731
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.69	0.30	0.53	0.02

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	10	724	208	1742	10	42	156	367	10	10
v/c Ratio	0.19	0.46	0.61	0.63	0.06	0.23	0.53	0.90	0.02	0.03
Control Delay	101.9	5.0	52.2	11.6	48.0	51.2	8.9	66.1	37.5	18.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.9	5.0	52.2	11.7	48.0	51.2	8.9	66.1	37.5	18.5
Queue Length 50th (ft)	9	34	88	64	8	34	0	296	6	0
Queue Length 95th (ft)	m17	63	128	#88	22	61	57	#459	22	15
Internal Link Dist (ft)		590		490		416			1249	
Turn Bay Length (ft)	90		275		100		100			
Base Capacity (vph)	54	1589	343	2744	395	416	474	436	459	397
Starvation Cap Reductn	0	0	0	81	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.46	0.61	0.65	0.03	0.10	0.33	0.84	0.02	0.03

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	SBT	SBR
Lane Group Flow (vph)	729	534	1309	1885	282	282	106
v/c Ratio	0.56	0.34	1.15	0.51	0.80	0.80	0.30
Control Delay	28.5	0.5	93.0	16.1	55.1	55.1	32.7
Queue Delay	3.3	0.0	0.0	1.0	0.0	0.0	0.0
Total Delay	31.8	0.5	93.0	17.1	55.1	55.1	32.7
Queue Length 50th (ft)	170	0	~674	383	237	237	57
Queue Length 95th (ft)	342	m0	m#809	m378	327	327	105
Internal Link Dist (ft)	490			348		1013	
Turn Bay Length (ft)					150		300
Base Capacity (vph)	1302	1583	1136	3709	440	440	432
Starvation Cap Reductn	0	0	0	1428	0	0	0
Spillback Cap Reductn	458	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.34	1.15	0.83	0.64	0.64	0.25

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	NBT	NBR
Lane Group Flow (vph)	217	1103	2061	967	601	601	1674
v/c Ratio	0.84	0.78	0.63	1.11	1.08	1.08	1.10
Control Delay	63.4	24.3	8.4	68.3	103.3	103.3	84.5
Queue Delay	0.0	8.0	0.1	79.5	31.5	31.5	0.0
Total Delay	63.4	32.3	8.5	147.8	134.7	134.7	84.5
Queue Length 50th (ft)	87	408	65	~331	~594	~594	~899
Queue Length 95th (ft)	150	517	m47	m150	#836	#836	#1052
Internal Link Dist (ft)		348	502			1010	
Turn Bay Length (ft)	400			70	275		475
Base Capacity (vph)	300	1416	3253	875	556	556	1522
Starvation Cap Reductn	0	280	0	124	0	0	0
Spillback Cap Reductn	0	0	235	0	37	37	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.97	0.68	1.29	1.16	1.16	1.10

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.

Future 2035
Without and With Project Conditions

Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
AM Peak Hour

Future Queue Report (cars)

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
#1	[HCM2kAvgQ]:	0	7	7	3	1	1	0	12	12	8	4	4
#2	[HCM2kAvgQ]:	1	0	25	0	0	0	0	32	32	4	2	0
#3	[HCM2kAvgQ]:	1	7	15	20	2	1	7	32	32	7	11	4
#8	[HCM2kAvgQ]:	24	13	32	21	42	5	7	34	40	23	26	12
#9	[HCM2kAvgQ]:	14	3	31	2	14	7	5	21	33	15	13	1
#10	[HCM2kAvgQ]:	7	12	30	6	24	4	6	43	11	28	14	14
#11	[HCM2kAvgQ]:	23	7	4	3	41	39	9	56	107	27	22	1
#14	[HCM2kAvgQ]:	10	25	25	9	24	24	4	41	41	3	0	1
#15	[HCM2kAvgQ]:	0	7	7	4	4	0	0	0	0	3	0	3
#16	[HCM2kAvgQ]:	13	4	4	1	34	34	3	3	20	10	10	1
#17	[HCM2kAvgQ]:	6	8	8	10	25	25	6	9	10	7	8	4
#26	[HCM2kAvgQ]:	5	5	5	15	19	19	4	21	12	4	13	2
#27	[HCM2kAvgQ]:	2	6	6	4	28	28	3	2	1	10	6	6

Crystal Bay (The Spanos Parcel) EIR
Future 2035 No Project
PM Peak Hour

Future Queue Report (cars)

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
#1	[HCM2kAvgQ]:	1	5	5	2	1	1	3	12	12	12	4	4
#2	[HCM2kAvgQ]:	1	0	8	0	0	0	0	20	20	10	6	0
#3	[HCM2kAvgQ]:	5	8	2	13	10	6	7	21	21	14	22	9
#8	[HCM2kAvgQ]:	43	48	56	54	32	7	9	46	15	28	51	14
#9	[HCM2kAvgQ]:	48	7	21	2	8	25	11	46	6	35	37	1
#10	[HCM2kAvgQ]:	15	15	47	3	29	11	8	42	8	23	42	42
#11	[HCM2kAvgQ]:	41	19	24	3	23	29	23	44	44	10	70	3
#14	[HCM2kAvgQ]:	54	18	18	12	53	53	6	26	26	7	1	9
#15	[HCM2kAvgQ]:	0	32	32	14	12	0	0	0	0	3	0	7
#16	[HCM2kAvgQ]:	16	18	18	8	21	21	4	4	8	6	6	4
#17	[HCM2kAvgQ]:	5	40	40	19	8	8	9	8	4	5	10	17
#26	[HCM2kAvgQ]:	14	24	24	13	12	12	11	23	9	4	35	16
#27	[HCM2kAvgQ]:	10	23	1	6	19	19	5	1	4	6	3	3

Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
AM Peak Hour

Future Queue Report (cars)

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
#1	[HCM2kAvgQ]:	0	10	10	4	1	1	2	19	19	10	4	4
#2	[HCM2kAvgQ]:	1	0	25	0	0	0	0	58	58	4	3	0
#3	[HCM2kAvgQ]:	1	7	17	23	2	2	7	48	48	7	12	4
#8	[HCM2kAvgQ]:	26	13	33	22	44	5	8	37	45	23	27	12
#9	[HCM2kAvgQ]:	15	3	32	2	14	8	6	22	35	16	14	1
#10	[HCM2kAvgQ]:	7	12	30	6	24	4	7	44	11	29	14	14
#11	[HCM2kAvgQ]:	23	7	4	3	41	39	10	57	107	27	22	1
#14	[HCM2kAvgQ]:	10	25	25	9	26	26	4	43	43	3	0	2
#15	[HCM2kAvgQ]:	0	8	8	4	4	0	0	0	0	3	0	3
#16	[HCM2kAvgQ]:	14	4	4	1	36	36	3	3	20	10	10	1
#17	[HCM2kAvgQ]:	6	8	8	10	26	26	6	9	11	7	8	4
#26	[HCM2kAvgQ]:	5	5	5	15	19	19	4	21	12	4	14	2
#27	[HCM2kAvgQ]:	2	6	6	4	29	29	3	2	1	10	6	6

Crystal Bay (The Spanos Parcel) EIR
Future (Year 2035) plus Project
PM Peak Hour

Future Queue Report (cars)

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
#1	[HCM2kAvgQ]:	1	7	7	2	3	3	4	17	17	17	8	8
#2	[HCM2kAvgQ]:	1	0	8	0	0	0	0	31	31	10	8	0
#3	[HCM2kAvgQ]:	5	9	2	15	11	7	8	26	26	15	34	6
#8	[HCM2kAvgQ]:	49	49	56	54	34	8	10	47	15	28	55	15
#9	[HCM2kAvgQ]:	50	7	20	2	8	28	12	48	6	35	41	1
#10	[HCM2kAvgQ]:	15	15	47	3	30	11	8	43	9	23	44	44
#11	[HCM2kAvgQ]:	41	19	24	3	23	31	24	44	44	10	71	3
#14	[HCM2kAvgQ]:	55	19	19	13	55	55	6	27	27	8	1	10
#15	[HCM2kAvgQ]:	0	35	35	14	12	0	0	0	0	3	0	7
#16	[HCM2kAvgQ]:	16	19	19	8	21	21	4	4	8	6	6	4
#17	[HCM2kAvgQ]:	6	41	41	19	9	9	9	8	4	5	10	17
#26	[HCM2kAvgQ]:	15	24	24	13	12	12	11	23	9	4	36	16
#27	[HCM2kAvgQ]:	10	24	1	6	20	20	5	1	4	7	3	3

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	3104	951	1317	133	733
v/c Ratio	1.02	0.91	0.25	0.61	0.57
Control Delay	54.2	40.5	6.1	55.4	27.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	54.2	40.5	6.1	55.4	27.2
Queue Length 50th (ft)	~739	388	111	109	257
Queue Length 95th (ft)	#1010	#508	190	161	264
Internal Link Dist (ft)	2166		844	2511	
Turn Bay Length (ft)		200			
Base Capacity (vph)	3052	1056	5227	368	1285
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.02	0.90	0.25	0.36	0.57

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)	2535	1074	1120	2050	288	288	217
v/c Ratio	1.20	1.19	1.29	0.79	0.84	0.84	0.14
Control Delay	114.1	107.5	153.9	16.9	59.8	59.8	0.2
Queue Delay	143.2	0.0	69.5	62.2	0.2	0.2	0.0
Total Delay	257.3	107.5	223.5	79.0	60.1	60.1	0.2
Queue Length 50th (ft)	~1008	~975	~603	458	245	245	0
Queue Length 95th (ft)	m#1044	m#1020	m#675	487	347	347	0
Internal Link Dist (ft)	844			301		749	
Turn Bay Length (ft)		300	150				
Base Capacity (vph)	2117	903	871	2597	401	401	1583
Starvation Cap Reductn	0	0	94	790	0	0	0
Spillback Cap Reductn	446	0	0	0	6	6	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.52	1.19	1.44	1.13	0.73	0.73	0.14

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	NBL	NBT	NBR
Lane Group Flow (vph)	188	2051	2651	478	478	978
v/c Ratio	0.78	0.93	0.92	0.91	0.91	0.62
Control Delay	74.0	18.9	31.2	55.0	55.0	1.8
Queue Delay	0.0	158.1	140.9	185.8	185.8	0.0
Total Delay	74.0	177.1	172.0	240.7	240.7	1.8
Queue Length 50th (ft)	130	972	252	393	393	0
Queue Length 95th (ft)	m106	m873	#729	#569	#569	0
Internal Link Dist (ft)		301	1049		852	
Turn Bay Length (ft)	150			400		
Base Capacity (vph)	272	2215	2888	582	582	1583
Starvation Cap Reductn	0	701	0	0	0	0
Spillback Cap Reductn	0	0	872	243	243	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	1.35	1.31	1.41	1.41	0.62

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	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	353	1640	336	210	516	445	115	384	211	882	285	138
v/c Ratio	0.89	1.08	0.42	1.29	0.49	0.57	0.56	0.73	0.58	1.24	0.27	0.24
Control Delay	74.6	83.8	12.7	207.1	32.6	5.9	69.4	56.4	19.1	161.4	35.1	5.8
Queue Delay	0.0	41.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.6	125.6	12.7	207.1	32.6	5.9	69.4	56.4	19.1	161.4	35.1	5.8
Queue Length 50th (ft)	291	~808	74	~223	127	26	49	165	42	~474	97	0
Queue Length 95th (ft)	#467	#1011	166	#387	151	58	81	212	119	#603	128	46
Internal Link Dist (ft)		838			624			914			1182	
Turn Bay Length (ft)												
Base Capacity (vph)	395	1519	791	163	1056	785	211	653	419	713	1171	616
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	125	0	0	0	0	0	0	5	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	1.18	0.42	1.29	0.49	0.57	0.55	0.59	0.51	1.24	0.24	0.22

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	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	2743	130	1101	91	261	65	65
v/c Ratio	0.14	0.88	0.68	0.46	0.63	0.70	0.50	0.41
Control Delay	76.2	8.8	76.5	4.9	70.8	12.3	64.5	50.0
Queue Delay	0.0	129.4	0.0	0.1	0.0	0.7	0.0	0.0
Total Delay	76.2	138.2	76.5	5.0	70.8	12.9	64.5	50.0
Queue Length 50th (ft)	10	348	116	31	75	9	53	48
Queue Length 95th (ft)	m9	m#660	147	388	134	89	102	88
Internal Link Dist (ft)		624		441		943		332
Turn Bay Length (ft)								
Base Capacity (vph)	82	3115	313	2401	163	467	163	299
Starvation Cap Reductn	0	228	0	374	0	0	0	0
Spillback Cap Reductn	0	985	0	0	0	49	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	1.29	0.42	0.54	0.56	0.62	0.40	0.22

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	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	2885	1076	1054	174	177
v/c Ratio	2.26dr	1.68	0.37	0.75	0.48
Control Delay	189.9	340.9	3.7	63.2	9.4
Queue Delay	23.6	7.2	0.5	0.0	0.0
Total Delay	213.4	348.1	4.3	63.2	9.4
Queue Length 50th (ft)	~1114	~1345	138	143	0
Queue Length 95th (ft)	#1216	#1620	91	217	60
Internal Link Dist (ft)	441		298		509
Turn Bay Length (ft)					
Base Capacity (vph)	2096	640	2856	286	410
Starvation Cap Reductn	34	6	1263	0	0
Spillback Cap Reductn	77	0	8	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.43	1.70	0.66	0.61	0.43

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.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	250	833	1422	370	370	435
v/c Ratio	0.88	0.35	0.58	0.85	0.85	0.79
Control Delay	43.2	8.9	26.3	53.3	53.3	30.1
Queue Delay	0.7	3.3	0.3	2.8	2.8	0.0
Total Delay	43.9	12.3	26.6	56.1	56.1	30.1
Queue Length 50th (ft)	180	194	322	307	307	195
Queue Length 95th (ft)	m138	m156	399	415	415	312
Internal Link Dist (ft)		298	826		697	
Turn Bay Length (ft)						
Base Capacity (vph)	313	2401	2471	517	517	621
Starvation Cap Reductn	6	1440	0	0	0	0
Spillback Cap Reductn	0	0	425	70	70	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.87	0.70	0.83	0.83	0.70

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	17	146	12	476	55	800	4	370	988	1570	504
v/c Ratio	0.08	0.46	0.04	1.06	0.09	0.29	0.03	0.71	0.62	1.06	0.23
Control Delay	48.5	55.3	22.5	119.8	57.4	1.8	46.2	57.3	1.9	77.8	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	55.3	22.5	119.8	57.4	1.8	46.2	57.3	1.9	77.8	11.6
Queue Length 50th (ft)	12	113	0	~234	49	26	3	157	0	~749	95
Queue Length 95th (ft)	36	188	19	#348	96	36	14	208	0	#886	116
Internal Link Dist (ft)		455			590			553			717
Turn Bay Length (ft)											
Base Capacity (vph)	226	314	277	449	615	2787	147	599	1583	1479	2229
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.46	0.04	1.06	0.09	0.29	0.03	0.62	0.62	1.06	0.23

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	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	11	2693	174	1310	341	11	103	93	632	54	11
v/c Ratio	0.13	1.24	0.98	0.48	0.34	0.06	0.48	0.41	1.41	0.11	0.03
Control Delay	73.9	133.4	119.9	17.5	4.8	48.0	20.7	10.3	233.1	38.2	17.3
Queue Delay	0.0	108.6	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.9	242.0	119.9	17.6	4.8	48.0	20.7	10.3	233.1	38.2	17.3
Queue Length 50th (ft)	10	~971	128	97	7	9	28	0	~713	35	0
Queue Length 95th (ft)	m11	m#1208	#292	481	256	24	75	47	#946	71	16
Internal Link Dist (ft)		590		490			416			1249	
Turn Bay Length (ft)	90		275			100		100			
Base Capacity (vph)	123	2169	177	2744	1003	395	409	408	449	473	410
Starvation Cap Reductn	0	0	0	355	0	0	0	0	0	0	0
Spillback Cap Reductn	0	354	0	0	0	0	4	6	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	1.48	0.98	0.55	0.34	0.03	0.25	0.23	1.41	0.11	0.03

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	SBT	SBR
Lane Group Flow (vph)	1708	1732	1699	1639	399	399	166
v/c Ratio	1.34	1.09	1.43	0.44	1.19	1.19	0.46
Control Delay	175.0	70.1	236.2	9.6	155.1	155.1	34.6
Queue Delay	30.5	0.0	416.6	4.6	333.4	333.4	0.0
Total Delay	205.5	70.1	652.8	14.2	488.5	488.5	34.6
Queue Length 50th (ft)	~972	~1047	~1022	333	~425	~425	81
Queue Length 95th (ft)	m#642	m819	#1154	347	#638	#638	154
Internal Link Dist (ft)	490			348		1013	
Turn Bay Length (ft)					150		300
Base Capacity (vph)	1279	1583	1188	3755	336	336	361
Starvation Cap Reductn	62	0	467	2025	0	0	0
Spillback Cap Reductn	54	0	0	0	130	130	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.40	1.09	2.36	0.95	1.94	1.94	0.46

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.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	282	2224	2391	463	473	473	731
v/c Ratio	0.77	1.15	0.85	0.70	0.85	0.85	0.67
Control Delay	71.5	92.6	24.1	13.7	51.2	51.2	34.8
Queue Delay	0.7	84.6	36.3	0.1	38.7	38.7	0.0
Total Delay	72.2	177.1	60.4	13.8	89.9	89.9	34.8
Queue Length 50th (ft)	191	~1232	395	79	375	375	271
Queue Length 95th (ft)	m130	m296	m#571	m157	#526	#526	346
Internal Link Dist (ft)		348	502			1010	
Turn Bay Length (ft)	400			70	275		475
Base Capacity (vph)	436	1938	2813	665	595	595	1161
Starvation Cap Reductn	30	275	0	9	0	0	0
Spillback Cap Reductn	0	0	591	0	150	150	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	1.34	1.08	0.71	1.06	1.06	0.63

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	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2103	1486	2753	342	1544
v/c Ratio	0.99	1.17	0.58	0.95	0.92
Control Delay	59.6	112.0	1.6	83.2	32.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	59.6	112.0	1.6	83.2	32.9
Queue Length 50th (ft)	~510	~762	77	286	614
Queue Length 95th (ft)	#606	m314	m32	#470	#772
Internal Link Dist (ft)	2166		844	2511	
Turn Bay Length (ft)		200			
Base Capacity (vph)	2125	1268	4710	368	1682
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.99	1.17	0.58	0.93	0.92

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	SBT	SBR
Lane Group Flow (vph)	2309	1017	1053	3866	447	447	329
v/c Ratio	1.17	1.13	1.33	1.61	1.02	1.02	0.21
Control Delay	118.9	88.1	206.7	298.0	94.4	94.4	0.3
Queue Delay	154.4	9.3	41.8	74.5	647.5	647.5	0.0
Total Delay	273.3	97.5	248.4	372.5	741.9	741.9	0.3
Queue Length 50th (ft)	~888	~910	~567	~2463	~418	~418	0
Queue Length 95th (ft)	m#947	m#1034	m284	m#1278	#640	#640	0
Internal Link Dist (ft)	844			301		749	
Turn Bay Length (ft)		300	150				
Base Capacity (vph)	1968	900	792	2396	440	440	1583
Starvation Cap Reductn	0	17	52	223	0	0	0
Spillback Cap Reductn	447	0	0	0	440	440	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.52	1.15	1.42	1.78	447.00	447.00	0.21

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	NBL	NBT	NBR
Lane Group Flow (vph)	282	2362	3332	1062	1062	1183
v/c Ratio	1.22	1.31	1.52	1.47	1.47	0.75
Control Delay	154.2	177.5	258.9	247.8	247.8	3.3
Queue Delay	0.0	387.8	310.5	462.6	462.6	0.0
Total Delay	154.2	565.3	569.4	710.4	710.4	3.3
Queue Length 50th (ft)	~289	~1317	~1140	~1289	~1289	0
Queue Length 95th (ft)	m#210	m#1091	#1173	#1563	#1563	0
Internal Link Dist (ft)		301	1049		852	
Turn Bay Length (ft)	150			400		
Base Capacity (vph)	231	1797	2193	724	724	1583
Starvation Cap Reductn	0	712	0	0	0	0
Spillback Cap Reductn	0	0	685	724	724	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.22	2.18	2.21	1062.00	1062.00	0.75

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	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	278	863	197	239	1789	888	334	489	220	722	537	405
v/c Ratio	1.13	0.65	0.28	0.86	1.29	1.00	0.72	0.81	0.49	1.19	0.71	0.75
Control Delay	148.3	37.5	5.0	45.7	173.2	42.8	56.0	59.6	9.2	146.7	53.7	26.2
Queue Delay	0.0	0.0	0.0	0.0	2.1	4.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	148.3	37.5	5.0	45.7	175.3	46.8	56.0	59.6	9.2	146.7	53.7	26.2
Queue Length 50th (ft)	~272	328	0	205	~1023	~500	141	207	0	~377	218	113
Queue Length 95th (ft)	#451	405	52	m184	m#841	m503	185	270	69	#502	295	#260
Internal Link Dist (ft)		838			624			914			1182	
Turn Bay Length (ft)												
Base Capacity (vph)	245	1320	714	300	1385	886	687	653	472	607	753	542
Starvation Cap Reductn	0	0	0	0	5	13	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.13	0.65	0.28	0.80	1.30	1.02	0.49	0.75	0.47	1.19	0.71	0.75

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	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	22	1782	359	2764	217	207	33	33
v/c Ratio	0.25	0.76	0.91	1.18	0.83	0.49	0.31	0.24
Control Delay	81.2	16.9	56.2	100.8	70.9	10.5	58.8	40.3
Queue Delay	0.0	0.9	0.0	55.6	237.8	0.1	0.0	0.8
Total Delay	81.2	17.9	56.2	156.4	308.7	10.6	58.8	41.1
Queue Length 50th (ft)	20	331	291	~1560	177	8	27	18
Queue Length 95th (ft)	m22	m#624	m267	m#1621	#294	71	62	48
Internal Link Dist (ft)		624		441		943		332
Turn Bay Length (ft)								
Base Capacity (vph)	95	2331	422	2350	286	445	286	295
Starvation Cap Reductn	0	0	0	118	0	0	0	0
Spillback Cap Reductn	0	275	0	225	143	10	0	145
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.87	0.85	1.30	1.52	0.48	0.12	0.22

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	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	1860	609	2826	65	297
v/c Ratio	1.37dr	0.99	1.05	0.21	1.04
Control Delay	19.1	53.1	37.0	47.8	115.2
Queue Delay	24.3	155.9	119.4	0.4	110.0
Total Delay	43.5	209.0	156.5	48.1	225.1
Queue Length 50th (ft)	549	474	~1359	47	~266
Queue Length 95th (ft)	116	m379	m775	92	#451
Internal Link Dist (ft)	441		298		509
Turn Bay Length (ft)					
Base Capacity (vph)	2012	613	2695	313	285
Starvation Cap Reductn	239	171	379	0	0
Spillback Cap Reductn	26	0	554	69	59
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.05	1.38	1.32	0.27	1.31

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.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	165	577	1470	1081	1080	1185
v/c Ratio	1.21	0.45	1.15	1.11	1.11	1.22
Control Delay	167.0	51.6	118.9	93.4	93.0	133.9
Queue Delay	0.0	7.3	22.2	78.9	78.8	0.0
Total Delay	167.0	58.9	141.0	172.3	171.8	133.9
Queue Length 50th (ft)	~175	267	~528	~1098	~1096	~1181
Queue Length 95th (ft)	m#210	m287	#627	#1371	#1369	#1448
Internal Link Dist (ft)		298	826		697	
Turn Bay Length (ft)						
Base Capacity (vph)	136	1279	1281	970	970	970
Starvation Cap Reductn	0	648	0	0	0	0
Spillback Cap Reductn	0	0	54	135	135	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.21	0.91	1.20	1.29	1.29	1.22

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	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	12	88	8	948	149	1429	13	614	621	1088	506
v/c Ratio	0.07	0.34	0.04	1.06	0.19	0.51	0.08	0.98	0.39	1.06	0.28
Control Delay	50.1	54.8	26.1	60.1	8.6	5.6	46.5	84.7	0.7	87.9	18.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.1	54.8	26.1	60.1	8.6	5.6	46.5	84.7	0.7	87.9	18.7
Queue Length 50th (ft)	9	68	0	~444	60	25	9	274	0	~517	124
Queue Length 95th (ft)	29	122	16	m#521	m16	m336	29	#398	0	#651	161
Internal Link Dist (ft)		455			590			553			717
Turn Bay Length (ft)											
Base Capacity (vph)	171	258	226	898	803	2787	154	626	1583	1030	1789
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.34	0.04	1.06	0.19	0.51	0.08	0.98	0.39	1.06	0.28

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	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	10	1711	208	2390	667	21	108	110	446	31	10
v/c Ratio	0.13	0.99	0.83	0.94	0.70	0.10	0.51	0.41	0.90	0.06	0.02
Control Delay	63.9	43.7	64.0	40.4	22.5	47.6	40.6	9.6	56.1	32.3	15.2
Queue Delay	0.0	30.3	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.9	74.0	64.0	40.4	23.2	47.6	40.6	9.6	56.1	32.3	15.2
Queue Length 50th (ft)	8	~571	158	462	217	17	70	0	355	19	0
Queue Length 95th (ft)	m14	m#831	m185	#1147	m#382	38	116	51	#490	43	13
Internal Link Dist (ft)		590		490			416			1249	
Turn Bay Length (ft)	90		275			100		100			
Base Capacity (vph)	82	1735	286	2535	954	395	390	421	558	588	506
Starvation Cap Reductn	0	0	0	0	84	0	0	0	0	0	0
Spillback Cap Reductn	0	148	0	0	0	0	1	5	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	1.08	0.73	0.94	0.77	0.05	0.28	0.26	0.80	0.05	0.02

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	SBT	SBR
Lane Group Flow (vph)	1239	1113	1319	3116	435	435	218
v/c Ratio	1.11	0.70	1.16	0.91	0.99	0.99	0.53
Control Delay	83.6	14.6	95.8	23.2	88.1	88.1	46.1
Queue Delay	276.4	0.0	131.2	71.3	108.4	108.4	0.0
Total Delay	360.0	14.6	227.1	94.4	196.5	196.5	46.1
Queue Length 50th (ft)	~645	291	~696	701	386	386	157
Queue Length 95th (ft)	m#697	m664	m#835	m563	#615	#615	240
Internal Link Dist (ft)	490			348		1013	
Turn Bay Length (ft)					150		300
Base Capacity (vph)	1116	1583	1136	3442	440	440	415
Starvation Cap Reductn	61	0	230	752	0	0	0
Spillback Cap Reductn	400	0	0	0	98	98	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.73	0.70	1.46	1.16	1.27	1.27	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.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	193	1962	2722	907	905	905	1685
v/c Ratio	1.42	1.31	0.87	1.13	1.30	1.30	1.17
Control Delay	250.8	163.3	16.0	85.3	177.1	177.1	115.4
Queue Delay	0.0	161.9	1.7	39.9	137.8	137.8	0.0
Total Delay	250.8	325.2	17.7	125.2	314.9	314.9	115.4
Queue Length 50th (ft)	~196	~1117	104	~451	~1024	~1024	~964
Queue Length 95th (ft)	m#159	m#998	m73	m112	#1289	#1289	#1116
Internal Link Dist (ft)		348	502			1010	
Turn Bay Length (ft)	400			70	275		475
Base Capacity (vph)	136	1497	3134	800	698	698	1438
Starvation Cap Reductn	0	323	219	60	0	0	0
Spillback Cap Reductn	0	0	250	0	134	134	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.42	1.67	0.94	1.23	1.60	1.60	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.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	3617	951	1457	153	733
v/c Ratio	1.21	0.91	0.28	0.66	0.56
Control Delay	129.1	44.4	3.5	55.9	26.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	129.1	44.4	3.5	55.9	26.3
Queue Length 50th (ft)	~1072	377	77	126	251
Queue Length 95th (ft)	#1267	#506	129	182	264
Internal Link Dist (ft)	2166		844	2511	
Turn Bay Length (ft)		200			
Base Capacity (vph)	2992	1056	5174	368	1309
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.21	0.90	0.28	0.42	0.56

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)	2850	1202	1120	2183	288	288	224
v/c Ratio	1.32	1.32	1.33	0.84	0.84	0.84	0.14
Control Delay	170.0	165.4	177.9	14.1	59.8	59.8	0.2
Queue Delay	8.1	0.0	158.6	24.4	5.7	5.7	0.0
Total Delay	178.1	165.4	336.5	38.5	65.5	65.5	0.2
Queue Length 50th (ft)	~1220	~1233	~632	341	245	245	0
Queue Length 95th (ft)	m#997	m#950	m#636	m431	347	347	0
Internal Link Dist (ft)	844			301		749	
Turn Bay Length (ft)		300	150				
Base Capacity (vph)	2153	914	845	2597	401	401	1583
Starvation Cap Reductn	0	0	178	510	0	0	0
Spillback Cap Reductn	29	0	0	0	68	68	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.34	1.32	1.68	1.05	0.86	0.86	0.14

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	NBL	NBT	NBR
Lane Group Flow (vph)	206	2254	2716	513	512	978
v/c Ratio	0.81	1.04	0.98	0.94	0.93	0.62
Control Delay	87.1	28.8	36.1	59.8	59.6	1.8
Queue Delay	0.0	95.8	282.9	21.5	21.1	0.0
Total Delay	87.1	124.6	319.0	81.3	80.6	1.8
Queue Length 50th (ft)	174	~1123	~720	426	425	0
Queue Length 95th (ft)	m139	m196	#762	#640	#637	0
Internal Link Dist (ft)		301	1049		852	
Turn Bay Length (ft)	150			400		
Base Capacity (vph)	272	2168	2768	582	582	1583
Starvation Cap Reductn	0	380	0	0	0	0
Spillback Cap Reductn	0	0	1112	80	80	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.76	1.26	1.64	1.02	1.02	0.62

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	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	355	1663	345	210	524	450	117	393	211	899	318	143
v/c Ratio	0.90	1.10	0.44	1.29	0.50	0.57	0.57	0.74	0.57	1.26	0.30	0.25
Control Delay	75.3	91.1	13.0	207.8	33.9	6.3	69.8	56.5	19.1	170.7	35.5	5.8
Queue Delay	0.0	47.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	75.3	138.6	13.0	207.8	33.9	6.3	69.8	56.5	19.1	170.7	35.5	5.8
Queue Length 50th (ft)	293	~833	79	~223	141	26	50	169	42	~489	109	0
Queue Length 95th (ft)	#470	#1031	171	#390	154	62	83	217	119	#619	143	47
Internal Link Dist (ft)		838			624			914			1182	
Turn Bay Length (ft)												
Base Capacity (vph)	395	1512	790	163	1050	786	211	653	419	713	1171	619
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	136	0	0	0	0	0	0	6	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	1.21	0.44	1.29	0.50	0.57	0.55	0.60	0.51	1.26	0.27	0.23

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	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	2785	130	1113	91	261	65	65
v/c Ratio	0.14	0.89	0.72	0.46	0.63	0.70	0.50	0.41
Control Delay	77.1	8.8	66.8	6.0	70.8	12.3	64.5	50.0
Queue Delay	0.0	2.2	0.0	0.1	0.0	2.2	4.9	0.0
Total Delay	77.1	11.0	66.8	6.1	70.8	14.5	69.4	50.0
Queue Length 50th (ft)	10	354	104	45	75	9	53	48
Queue Length 95th (ft)	m9	m#794	153	397	134	89	102	88
Internal Link Dist (ft)		624		441		943		332
Turn Bay Length (ft)								
Base Capacity (vph)	82	3140	313	2401	163	467	163	299
Starvation Cap Reductn	0	231	0	364	0	0	0	0
Spillback Cap Reductn	0	182	0	0	0	104	54	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.96	0.42	0.55	0.56	0.72	0.60	0.22

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	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	2923	1076	1066	174	177
v/c Ratio	2.23dr	1.76	0.37	0.75	0.48
Control Delay	181.9	371.1	1.2	63.2	10.0
Queue Delay	30.6	0.0	0.2	30.2	0.0
Total Delay	212.5	371.1	1.4	93.4	10.0
Queue Length 50th (ft)	~1113	~1371	8	143	0
Queue Length 95th (ft)	#719	#1590	50	217	63
Internal Link Dist (ft)	441		298		509
Turn Bay Length (ft)					
Base Capacity (vph)	2166	613	2856	286	407
Starvation Cap Reductn	26	0	929	0	0
Spillback Cap Reductn	104	0	18	109	1
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.42	1.76	0.55	0.98	0.44

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.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	250	846	1426	375	374	435
v/c Ratio	0.88	0.35	0.58	0.85	0.85	0.79
Control Delay	36.3	22.0	26.6	53.6	53.5	30.7
Queue Delay	0.7	23.1	0.0	37.7	36.8	0.0
Total Delay	37.0	45.2	26.6	91.3	90.3	30.7
Queue Length 50th (ft)	188	329	327	310	309	198
Queue Length 95th (ft)	m162	m263	401	424	421	317
Internal Link Dist (ft)		298	826		697	
Turn Bay Length (ft)						
Base Capacity (vph)	313	2394	2457	517	517	617
Starvation Cap Reductn	6	1567	0	0	0	0
Spillback Cap Reductn	0	0	90	160	160	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.81	1.02	0.60	1.05	1.05	0.71

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	17	146	12	476	55	814	4	382	988	1615	541
v/c Ratio	0.08	0.47	0.04	1.06	0.09	0.29	0.04	0.72	0.62	1.09	0.25
Control Delay	48.7	55.8	22.6	99.2	32.1	1.8	46.5	57.6	1.9	88.4	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.7	55.8	22.6	99.2	32.1	1.8	46.5	57.6	1.9	88.4	11.7
Queue Length 50th (ft)	12	113	0	~234	49	25	3	163	0	~790	102
Queue Length 95th (ft)	36	188	19	#348	91	39	14	215	0	#927	125
Internal Link Dist (ft)		455			590			553			717
Turn Bay Length (ft)											
Base Capacity (vph)	223	309	273	449	610	2787	110	599	1583	1479	2229
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.47	0.04	1.06	0.09	0.29	0.04	0.64	0.62	1.09	0.24

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	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	11	2738	174	1324	341	11	103	93	634	54	11
v/c Ratio	0.12	1.26	0.98	0.48	0.34	0.06	0.48	0.41	1.41	0.11	0.03
Control Delay	42.1	141.3	121.6	14.5	2.9	48.0	20.7	10.3	235.0	38.2	17.3
Queue Delay	0.0	115.8	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.1	257.0	121.6	14.5	2.9	48.0	20.7	10.3	235.0	38.2	17.3
Queue Length 50th (ft)	9	~1001	128	93	7	9	28	0	~717	35	0
Queue Length 95th (ft)	m10	m#1207	#291	486	158	24	75	47	#950	71	16
Internal Link Dist (ft)		590		490			416			1249	
Turn Bay Length (ft)	90		275			100		100			
Base Capacity (vph)	123	2169	177	2734	999	395	409	408	449	473	410
Starvation Cap Reductn	0	0	0	342	0	0	0	0	0	0	0
Spillback Cap Reductn	0	368	0	0	0	0	5	6	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	1.52	0.98	0.55	0.34	0.03	0.25	0.23	1.41	0.11	0.03

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	SBT	SBR
Lane Group Flow (vph)	1741	1744	1699	1654	399	399	166
v/c Ratio	1.36	1.10	1.43	0.44	1.19	1.19	0.46
Control Delay	186.0	73.5	236.1	9.7	155.1	155.1	35.2
Queue Delay	30.6	0.0	416.6	5.1	401.9	401.9	0.0
Total Delay	216.6	73.5	652.7	14.8	557.0	557.0	35.2
Queue Length 50th (ft)	~1002	~1070	~1023	341	~425	~425	83
Queue Length 95th (ft)	m#649	m811	#1157	355	#638	#638	156
Internal Link Dist (ft)	490			348		1013	
Turn Bay Length (ft)					150		300
Base Capacity (vph)	1279	1583	1188	3755	336	336	360
Starvation Cap Reductn	61	0	467	2022	0	0	0
Spillback Cap Reductn	54	0	0	0	145	145	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.43	1.10	2.36	0.95	2.09	2.09	0.46

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.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	282	2258	2402	463	476	475	731
v/c Ratio	0.78	1.17	0.86	0.70	0.86	0.86	0.67
Control Delay	71.4	100.9	24.2	13.6	51.4	51.3	34.7
Queue Delay	0.8	84.9	39.4	0.1	41.0	40.2	0.0
Total Delay	72.1	185.9	63.6	13.7	92.4	91.5	34.7
Queue Length 50th (ft)	191	~1264	399	78	378	377	271
Queue Length 95th (ft)	m127	m0	m#572	m155	#536	#533	346
Internal Link Dist (ft)		348	502			1010	
Turn Bay Length (ft)	400			70	275		475
Base Capacity (vph)	436	1934	2807	664	595	595	1161
Starvation Cap Reductn	31	271	0	9	0	0	0
Spillback Cap Reductn	0	0	590	0	150	150	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	1.36	1.08	0.71	1.07	1.07	0.63

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	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2396	1486	3192	409	1544
v/c Ratio	1.14	1.17	0.68	1.11	0.91
Control Delay	109.3	111.2	3.0	127.6	32.1
Queue Delay	0.0	0.0	0.5	0.0	3.0
Total Delay	109.3	111.2	3.5	127.6	35.1
Queue Length 50th (ft)	~681	~762	180	~394	614
Queue Length 95th (ft)	#755	m271	m53	#599	#772
Internal Link Dist (ft)	2166		844	2511	
Turn Bay Length (ft)		200			
Base Capacity (vph)	2099	1268	4683	368	1694
Starvation Cap Reductn	0	0	877	0	0
Spillback Cap Reductn	0	0	0	0	86
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.14	1.17	0.84	1.11	0.96

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	SBT	SBR
Lane Group Flow (vph)	2479	1098	1053	4283	447	447	347
v/c Ratio	1.26	1.21	1.33	1.79	1.02	1.02	0.22
Control Delay	147.9	114.1	174.0	375.7	94.4	94.4	0.3
Queue Delay	24.8	10.3	113.7	78.9	335.1	335.1	0.0
Total Delay	172.7	124.4	287.7	454.6	429.6	429.6	0.3
Queue Length 50th (ft)	~976	~1184	~610	~2855	~418	~418	0
Queue Length 95th (ft)	m#861	m#1044	m303	m#1335	#640	#640	0
Internal Link Dist (ft)	844			301		749	
Turn Bay Length (ft)		300	150				
Base Capacity (vph)	1968	905	792	2396	440	440	1583
Starvation Cap Reductn	0	17	127	214	0	0	0
Spillback Cap Reductn	83	0	0	0	191	191	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.32	1.24	1.58	1.96	1.80	1.80	0.22

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	NBL	NBT	NBR
Lane Group Flow (vph)	292	2480	3536	1171	1170	1183
v/c Ratio	1.26	1.38	1.61	1.62	1.62	0.75
Control Delay	184.7	190.2	301.4	312.5	311.9	3.3
Queue Delay	0.0	81.2	399.1	395.2	395.8	0.0
Total Delay	184.7	271.3	700.5	707.7	707.7	3.3
Queue Length 50th (ft)	~291	~1431	~1232	~1490	~1488	0
Queue Length 95th (ft)	m184	m#1104	#1279	#1765	#1763	0
Internal Link Dist (ft)		301	1049		852	
Turn Bay Length (ft)	150			400		
Base Capacity (vph)	231	1797	2194	724	724	1583
Starvation Cap Reductn	0	208	0	0	0	0
Spillback Cap Reductn	0	0	887	422	422	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.26	1.56	2.71	3.88	3.87	0.75

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	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	284	876	202	239	1812	905	342	522	220	732	557	409
v/c Ratio	1.30	0.67	0.28	0.86	1.27	1.01	0.73	0.84	0.48	1.21	0.73	0.78
Control Delay	209.7	38.3	4.9	45.9	165.0	43.4	56.0	61.8	9.2	152.8	54.2	31.7
Queue Delay	0.0	0.0	0.0	0.0	14.8	4.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	209.7	38.3	4.9	45.9	179.8	47.5	56.0	61.8	9.2	152.8	54.2	31.7
Queue Length 50th (ft)	~307	336	0	205	~1022	~512	144	223	0	~386	228	142
Queue Length 95th (ft)	#487	413	53	m182	m#815	m506	189	290	69	#510	#313	#321
Internal Link Dist (ft)		838			624			914			1182	
Turn Bay Length (ft)												
Base Capacity (vph)	218	1305	711	300	1423	900	687	653	472	607	762	524
Starvation Cap Reductn	0	0	0	0	36	13	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.30	0.67	0.28	0.80	1.31	1.02	0.50	0.80	0.47	1.21	0.73	0.78

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	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	22	1804	359	2802	220	207	33	33
v/c Ratio	0.25	0.78	0.91	1.19	0.84	0.49	0.31	0.24
Control Delay	80.8	16.9	56.2	108.5	71.7	10.5	58.8	40.3
Queue Delay	0.0	0.8	0.0	54.9	246.7	0.1	0.0	0.8
Total Delay	80.8	17.7	56.2	163.4	318.4	10.6	58.8	41.1
Queue Length 50th (ft)	20	336	286	~1596	180	8	27	18
Queue Length 95th (ft)	m22	m#632	m264	m#1638	#298	71	62	48
Internal Link Dist (ft)		624		441		943		332
Turn Bay Length (ft)								
Base Capacity (vph)	95	2326	422	2347	286	445	286	295
Starvation Cap Reductn	0	0	0	116	0	0	0	0
Spillback Cap Reductn	0	229	0	219	143	8	0	145
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.86	0.85	1.32	1.54	0.47	0.12	0.22

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	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	1882	609	2864	65	297
v/c Ratio	1.37dr	0.99	1.05	0.22	1.09
Control Delay	18.0	53.9	38.4	48.8	128.9
Queue Delay	16.0	158.7	128.5	0.4	79.3
Total Delay	34.0	212.7	166.9	49.2	208.2
Queue Length 50th (ft)	557	474	~1381	48	~277
Queue Length 95th (ft)	126	m372	m350	93	#462
Internal Link Dist (ft)	441		298		509
Turn Bay Length (ft)					
Base Capacity (vph)	2047	613	2722	300	273
Starvation Cap Reductn	212	173	377	0	0
Spillback Cap Reductn	33	0	590	66	41
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.03	1.38	1.34	0.28	1.28

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.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR
Lane Group Flow (vph)	165	585	1482	1094	1093	1185
v/c Ratio	1.21	0.46	1.16	1.13	1.13	1.22
Control Delay	168.0	53.2	122.4	98.5	98.1	135.1
Queue Delay	0.0	8.3	1.2	88.0	87.9	0.0
Total Delay	168.0	61.4	123.6	186.5	186.0	135.1
Queue Length 50th (ft)	~174	271	~536	~1122	~1121	~1184
Queue Length 95th (ft)	m#212	m292	#635	#1394	#1393	#1451
Internal Link Dist (ft)		298	826		697	
Turn Bay Length (ft)						
Base Capacity (vph)	136	1279	1281	970	970	968
Starvation Cap Reductn	0	648	0	0	0	0
Spillback Cap Reductn	0	0	3	146	146	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.21	0.93	1.16	1.33	1.33	1.22

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	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	12	88	8	948	149	1474	13	651	621	1114	528
v/c Ratio	0.06	0.31	0.03	1.09	0.18	0.53	0.14	1.09	0.39	1.08	0.30
Control Delay	48.2	52.2	25.1	94.8	10.0	3.9	50.4	112.6	0.7	95.8	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.2	52.2	25.1	94.8	10.0	3.9	50.4	112.6	0.7	95.8	19.5
Queue Length 50th (ft)	9	67	0	~457	30	20	9	~324	0	~540	133
Queue Length 95th (ft)	28	120	15	#575	m17	236	31	#447	0	#675	172
Internal Link Dist (ft)		455			590			553			717
Turn Bay Length (ft)											
Base Capacity (vph)	190	287	250	871	817	2787	92	599	1583	1030	1761
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.31	0.03	1.09	0.18	0.53	0.14	1.09	0.39	1.08	0.30

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.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	10	1736	208	2432	669	21	108	110	447	31	10
v/c Ratio	0.19	0.76	1.28	0.86	0.64	0.10	0.51	0.41	1.13	0.07	0.03
Control Delay	65.7	25.5	187.8	27.6	13.7	47.6	40.6	9.6	131.7	40.6	19.7
Queue Delay	0.0	2.2	0.0	2.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.7	27.7	187.8	30.6	14.3	47.6	40.6	9.6	131.7	40.6	19.7
Queue Length 50th (ft)	8	536	~219	384	147	17	70	0	~437	21	0
Queue Length 95th (ft)	m15	m556	m#260	#993	m244	38	116	51	#647	49	15
Internal Link Dist (ft)		590		490			416			1249	
Turn Bay Length (ft)	90		275			100		100			
Base Capacity (vph)	54	2278	163	2843	1053	395	390	421	395	416	361
Starvation Cap Reductn	0	0	0	305	129	0	0	0	0	0	0
Spillback Cap Reductn	0	385	0	0	0	0	2	8	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.92	1.28	0.96	0.72	0.05	0.28	0.27	1.13	0.07	0.03

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	SBT	SBR
Lane Group Flow (vph)	1259	1119	1319	3162	435	435	218
v/c Ratio	1.13	0.71	1.16	0.92	0.99	0.99	0.53
Control Delay	92.3	12.3	95.6	23.5	88.1	88.1	46.1
Queue Delay	281.4	0.0	131.2	75.1	106.8	106.8	1.2
Total Delay	373.7	12.3	226.9	98.6	194.9	194.9	47.3
Queue Length 50th (ft)	~660	305	~697	730	386	386	157
Queue Length 95th (ft)	m#712	m460	m#836	m570	#615	#615	240
Internal Link Dist (ft)	490			348		1013	
Turn Bay Length (ft)					150		300
Base Capacity (vph)	1116	1583	1136	3442	440	440	415
Starvation Cap Reductn	14	0	230	734	0	0	0
Spillback Cap Reductn	400	0	0	247	97	97	70
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.76	0.71	1.46	1.17	1.27	1.27	0.63

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	NBT	NBR
Lane Group Flow (vph)	193	1982	2757	907	911	911	1685
v/c Ratio	1.42	1.32	0.88	1.14	1.31	1.31	1.17
Control Delay	250.8	169.2	16.5	86.6	180.6	180.6	115.4
Queue Delay	0.0	162.3	2.2	40.2	141.4	141.4	0.0
Total Delay	250.8	331.4	18.7	126.7	322.0	322.0	115.4
Queue Length 50th (ft)	~196	~1136	105	~452	~1035	~1035	~964
Queue Length 95th (ft)	m#155	m#1002	m72	m109	#1301	#1301	#1116
Internal Link Dist (ft)		348	502			1010	
Turn Bay Length (ft)	400			70	275		475
Base Capacity (vph)	136	1497	3134	798	698	698	1438
Starvation Cap Reductn	0	321	218	60	0	0	0
Spillback Cap Reductn	0	0	249	0	136	136	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.42	1.69	0.96	1.23	1.62	1.62	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.

m Volume for 95th percentile queue is metered by upstream signal.

TRAFFIC SIGNAL WARRANT CALCULATION WORKSHEETS

Existing Conditions

Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 3 Eight Mile Road/Mokelumne Circle	No / No	??? / ???
# 7 Eight Mile Road/Oak Grove Regional	No / No	??? / ???
# 12 Eight Mile Road/SR 99 Frontage	No	???
# 13 Mokelumne Circle/Scott Creek Drive	No / No	??? / ???
# 15 Trinity Parkway/McAuliffe Road	No / No	??? / ???

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Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #3 Eight Mile Road/Mokelumne Circle

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0		
Initial Vol:	3	0	338	0	0	0	0	43	2	113	87	0
ApproachDel:	10.4			xxxxxx			xxxxxx			xxxxxx		

Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.0]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=341]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=586]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #3 Eight Mile Road/Mokelumne Circle

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Uncontrolled					Uncontrolled				
Lanes:	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0	1	0	2	0	0
Initial Vol:	3		0		338	0		0		0	0		43		2	113		87		0

Major Street Volume: 245
Minor Approach Volume: 341
Minor Approach Volume Threshold: 979

SIGNAL WARRANT DISCLAIMER

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Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #7 Eight Mile Road/Oak Grove Regional Park Entrance

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1! 0 0			0 0 0 0 0			0 0 2 1 0			1 0 2 0 0		
Initial Vol:	1	0	1	0	0	0	0	533	1	1	514	0
ApproachDel:	13.5			xxxxxx			xxxxxx			xxxxxx		

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=2]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1051]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Eight Mile Road/Oak Grove Regional Park Entrance

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1!	0	0	0 0	0	0	0 0	2	1 0	1 0	2	0 0
Initial Vol:	1	0	1	0	0	0	0	533	1	1	514	0

Major Street Volume: 1049
Minor Approach Volume: 2
Minor Approach Volume Threshold: 268

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #12 Eight Mile Road/SR 99 Frontage

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	1	0	0 1	0	1	0	0 1	0	1	0	0 1	0	1	0	0 1
Initial Vol:	135		14	140	21		30	8	5		284	148	139		362	17

Major Street Volume: 955
Minor Approach Volume: 289
Minor Approach Volume Threshold: 394

SIGNAL WARRANT DISCLAIMER
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Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #13 Mokelumne Circle/Scott Creek Drive

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0	0	1 0 0	1 0	0	1 0 0	1 0	0	1 0 0	1 0	0
Initial Vol:	2 220	6		4 53	53		106 30	4		4 17	8	
ApproachDel:	xxxxxx			xxxxxx			12.9			11.4		

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.5]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=140]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=507]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=29]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=507]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #13 Mokelumne Circle/Scott Creek Drive

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0		1 0 0	1 0		1 0 0	1 0		1 0 0	1 0	
Initial Vol:	2 220	6		4 53	53		106 30	4		4 17	8	

Major Street Volume: 338
Minor Approach Volume: 140
Minor Approach Volume Threshold: 841

SIGNAL WARRANT DISCLAIMER
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Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #15 Trinity Parkway/McAuliffe Road

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 1 1 0			1 0 2 0 0			0 0 0 0 0			1 0 0 0 1		
Initial Vol:	0	3	4	223	4	0	0	0	0	4	0	306
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			10.2		

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=310]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=544]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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Crystal Bay (The Spanos Parcel) EIR
Existing 2005
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #15 Trinity Parkway/McAuliffe Road

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 1	1 0		1 0 2	0 0		0 0 0	0 0		1 0 0	0 1	
Initial Vol:	0	3	4	223	4	0	0	0	0	4	0	306

Major Street Volume: 234
Minor Approach Volume: 310
Minor Approach Volume Threshold: 999

SIGNAL WARRANT DISCLAIMER
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Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 3 Eight Mile Road/Mokelumne Circle	No / No	??? / ???
# 7 Eight Mile Road/Oak Grove Regional	No / No	??? / ???
# 12 Eight Mile Road/SR 99 Frontage	No	???
# 13 Mokelumne Circle/Scott Creek Drive	No / No	??? / ???
# 15 Trinity Parkway/McAuliffe Road	No / No	??? / ???

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Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #3 Eight Mile Road/Mokelumne Circle

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	-	R	L	- T	-	R	L	- T	-	R	L	- T	-	R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Lanes:	1	0	0	0 1	0	0	0	0 0	0	0	1	1 0	1	0	2	0 0
Initial Vol:	4	0		123	0	0		0	0	187		8	293	121		0
ApproachDel:	10.0				xxxxxx				xxxxxx				xxxxxx			

Approach[northbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.4]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=127]
   FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=736]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #3 Eight Mile Road/Mokelumne Circle

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Uncontrolled					Uncontrolled				
Lanes:	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0	1	0	2	0	0
Initial Vol:	4		0		123	0		0		0	0		187		8	293		121		0

Major Street Volume: 609
Minor Approach Volume: 127
Minor Approach Volume Threshold: 587

SIGNAL WARRANT DISCLAIMER

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Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #7 Eight Mile Road/Oak Grove Regional Park Entrance

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1!		0 0	0 0	0 0	0	0 0	2 1	0	1 0	2 0	0
Initial Vol:	3	0	2	0	0	0	0	753	6	4	446	0
ApproachDel:	18.0			xxxxxx			xxxxxx			xxxxxx		

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=5]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1214]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Eight Mile Road/Oak Grove Regional Park Entrance

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1! 0 0			0 0 0 0 0			0 0 2 1 0			1 0 2 0 0		
Initial Vol:	3	0	2	0	0	0	0	753	6	4	446	0

Major Street Volume: 1209
Minor Approach Volume: 5
Minor Approach Volume Threshold: 219

SIGNAL WARRANT DISCLAIMER
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Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #12 Eight Mile Road/SR 99 Frontage

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Lanes:	0	1	0	0 1	0	1	0	0 1	0	1	0	0 1	0	1	0	0 1
Initial Vol:	152		24	123	15		32	12	4		327	178	99		270	20

Major Street Volume: 898
Minor Approach Volume: 299
Minor Approach Volume Threshold: 420

SIGNAL WARRANT DISCLAIMER
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Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #13 Mokelumne Circle/Scott Creek Drive

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0		1 0 0	1 0		1 0 0	1 0		1 0 0	1 0	
Initial Vol:	4	63		4	10	156	160	60	22	4	6	29	20
ApproachDel:	xxxxxx			xxxxxx			12.5			11.4		

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=86]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=538]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.2]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=55]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=538]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

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Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #13 Mokelumne Circle/Scott Creek Drive

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 0	1 0		1 0 0	1 0		1 0 0	1 0		1 0 0	1 0	
Initial Vol:	4	63	4	10	156	160	60	22	4	6	29	20

Major Street Volume: 397
Minor Approach Volume: 86
Minor Approach Volume Threshold: 771

SIGNAL WARRANT DISCLAIMER
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Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #15 Trinity Parkway/McAuliffe Road

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 1	1 0		1 0 2	0 0		0 0 0	0 0		1 0 0	0 1	
Initial Vol:	0	3	1	207	4	0	0	0	0	4	0	229
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.4		

Approach[westbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.6]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=233]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=448]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER
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Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #15 Trinity Parkway/McAuliffe Road

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0 0 1	1 0		1 0 2	0 0		0 0 0	0 0		1 0 0	0 1	
Initial Vol:	0	3	1	207	4	0	0	0	0	4	0	229

Major Street Volume: 215
Minor Approach Volume: 233
Minor Approach Volume Threshold: 1035

SIGNAL WARRANT DISCLAIMER
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Crystal Bay (The Spanos Parcel) EIR
Existing (Year 2005)
PM Peak Hour

Base Queue Report (cars)

Node	Intersection	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R
#3	[2Way95thQ]:	0.1	xxxx	0.5	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	1.0	xxxx	xxxx
#7	[2Way95thQ]:	0.1	0.1	0.1	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.0	xxxx	xxxx
#8	[HCM2kAvgQ]:	3	2	2	1	5	5	2	5	5	3	4	4
#9	[HCM2kAvgQ]:	2	9	9	1	7	7	2	11	2	6	8	8
#10	[HCM2kAvgQ]:	1	17	11	1	13	1	3	22	22	13	12	12
#11	[HCM2kAvgQ]:	9	9	9	0	11	11	8	11	6	3	12	12
#12	[AllWayAvgQ]	0.6	0.6	0.3	0.1	0.1	0.0	1.6	1.6	0.4	2.4	2.4	0.0
#13	[2Way95thQ]:	0.0	xxxx	xxxx	0.0	xxxx	xxxx	0.4	0.2	0.2	0.0	0.3	0.3
#14	[HCM2kAvgQ]:	2	1	0	0	1	1	1	0	1	0	0	0
#15	[2Way95thQ]:	xxxx	xxxx	xxxx	0.5	xxxx	xxxx	xxxx	xxxx	xxxx	0.0	xxxx	0.9
#16	[HCM2kAvgQ]:	5	2	2	1	4	1	1	1	6	1	1	0
#17	[HCM2kAvgQ]:	2	19	0	2	5	1	6	5	5	3	6	3
#26	[HCM2kAvgQ]:	13	15	1	11	11	11	6	14	4	1	10	18
#27	[HCM2kAvgQ]:	2	3	1	2	3	3	1	1	1	2	2	2

Existing Plus Approved Projects
Without and With Project Conditions

Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

Scenario Report

Scenario:	Near-Term CB BG AM
Command:	Near-Term CB BG AM
Volume:	Near-Term AM
Geometry:	Near Term With CB AM
Impact Fee:	Default Impact Fee
Trip Generation:	Crystal Bay BG AM
Trip Distribution:	Existing
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 7 Eight Mile Road/Oak Grove Regional	??? / ???	No / No
# 19 Mariners Drive/Otto Drive	??? / ???	No / No

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #7 Eight Mile Road/Oak Grove Regional Park Entrance

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1! 0			0 0 0 0 0			0 0 2 1 0			1 0 2 0 0		
Initial Vol:	10	0	10	0	0	0	0	863	10	10	1310	0
ApproachDel:	118.5			xxxxxx			xxxxxx			xxxxxx		

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.7]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=20]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2213]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Eight Mile Road/Oak Grove Regional Park Entrance

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1! 0 0			0 0 0 0 0			0 0 2 1 0			1 0 2 0 0		
Initial Vol:	10	0	10	0	0	0	0	863	10	10	1310	0

Major Street Volume: 2193
Minor Approach Volume: 20
Minor Approach Volume Threshold: 14 [less than minimum of 100]

SIGNAL WARRANT DISCLAIMER

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #19 Mariners Drive/Otto Drive

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1 0 0			0 0 0 1 0			1 0 0 0 1			0 0 0 0 0		
Initial Vol:	343	50	0	0	110	10	10	0	419	0	0	0
ApproachDel:	xxxxxx			xxxxxx			12.8			xxxxxx		

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.5]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=429]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=942]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #19 Mariners Drive/Otto Drive

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1 0 0			0 0 0 1 0			1 0 0 0 1			0 0 0 0 0		
Initial Vol:	343	50	0	0	110	10	10	0	419	0	0	0

Major Street Volume: 513
Minor Approach Volume: 429
Minor Approach Volume Threshold: 661

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

Scenario Report

Scenario:	Near-Term CB BG PM
Command:	Near-Term CB BG PM
Volume:	Near-Term PM
Geometry:	Near Term With CB PM
Impact Fee:	Default Impact Fee
Trip Generation:	Crystal Bay BG PM
Trip Distribution:	Existing
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 7 Eight Mile Road/Oak Grove Regional	??? / ???	No / No
# 19 Mariners Drive/Otto Drive	??? / ???	No / Yes

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #7 Eight Mile Road/Oak Grove Regional Park Entrance

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1! 0 0			0 0 0 0 0			0 0 2 1 0			1 0 2 0 0		
Initial Vol:	10	0	10	0	0	0	0	1757	10	10	1207	0
ApproachDel:	4507.3			xxxxxx			xxxxxx			xxxxxx		

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=25.0]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=20]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3004]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Eight Mile Road/Oak Grove Regional Park Entrance

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Lanes:	0 0 1! 0 0	0 0 0 0 0	0 0 2 1 0	1 0 2 0 0
Initial Vol:	10 0 10	0 0 0	0 1757 10	10 1207 0

Major Street Volume: 2984
Minor Approach Volume: 20
Minor Approach Volume Threshold: -92 [less than minimum of 100]

SIGNAL WARRANT DISCLAIMER
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Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #19 Mariners Drive/Otto Drive

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1 0 0			0 0 0 1 0			1 0 0 0 1			0 0 0 0 0		
Initial Vol:	711	140	0	0	60	10	10	0	594	0	0	0
ApproachDel:	xxxxxx			xxxxxx			16.3			xxxxxx		

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.7]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=604]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1525]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Crystal Bay (The Spanos Parcel) EIR
Existing plus Approved Projects
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #19 Mariners Drive/Otto Drive

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1 0 0			0 0 0 1 0			1 0 0 0 1			0 0 0 0 0		
Initial Vol:	711	140	0	0	60	10	10	0	594	0	0	0

Major Street Volume: 921
Minor Approach Volume: 604
Minor Approach Volume Threshold: 409

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

Scenario Report

Scenario:	Near-Term with CB AM
Command:	Near-Term with CB AM
Volume:	Near-Term AM
Geometry:	Near Term With CB AM
Impact Fee:	Default Impact Fee
Trip Generation:	Crystal Bay AM
Trip Distribution:	Existing
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 7 Eight Mile Road/Oak Grove Regional	??? / ???	No / No
# 19 Mariners Drive/Otto Drive	??? / ???	No / No

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #7 Eight Mile Road/Oak Grove Regional Park Entrance

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1! 0 0			0 0 0 0 0			0 0 2 1 0			1 0 2 0 0		
Initial Vol:	10	0	10	0	0	0	0	982	10	10	1347	0
ApproachDel:	234.0			xxxxxx			xxxxxx			xxxxxx		

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.3]
   FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=20]
   FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=2369]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Eight Mile Road/Oak Grove Regional Park Entrance

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Lanes:	0 0 1! 0	0		0 0 0 0 0			0 0 2 1 0			1 0 2 0 0		
Initial Vol:	10	0	10	0	0	0	0	982	10	10	1347	0

Major Street Volume: 2349
Minor Approach Volume: 20
Minor Approach Volume Threshold: -9 [less than minimum of 100]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #19 Mariners Drive/Otto Drive

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1 0 0			0 0 0 1 0			1 0 0 0 1			0 0 0 0 0		
Initial Vol:	381	50	0	0	110	10	10	0	538	0	0	0
ApproachDel:	xxxxxx			xxxxxx			15.5			xxxxxx		

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=2.4]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=548]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1099]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
AM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #19 Mariners Drive/Otto Drive

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1 0 0			0 0 0 1 0			1 0 0 0 1			0 0 0 0 0		
Initial Vol:	381	50	0	0	110	10	10	0	538	0	0	0

Major Street Volume: 551
Minor Approach Volume: 548
Minor Approach Volume Threshold: 630

SIGNAL WARRANT DISCLAIMER
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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

Scenario Report

Scenario:	Near-Term with CB PM
Command:	Near-Term with CB PM
Volume:	Near-Term PM
Geometry:	Near Term With CB PM
Impact Fee:	Default Impact Fee
Trip Generation:	Crystal Bay PM
Trip Distribution:	Existing
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 7 Eight Mile Road/Oak Grove Regional	??? / ???	No / No
# 19 Mariners Drive/Otto Drive	??? / ???	No / Yes

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #7 Eight Mile Road/Oak Grove Regional Park Entrance

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Lanes:	0 0 1! 0 0	0 0 0 0 0	0 0 2 1 0	1 0 2 0 0
Initial Vol:	10 0 10	0 0 0	0 1825 10	10 1326 0
ApproachDel:	7478.9	xxxxxx	xxxxxx	xxxxxx

Approach[northbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=41.5]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=20]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3191]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Eight Mile Road/Oak Grove Regional Park Entrance

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Lanes:	0 0 1! 0 0	0 0 0 0 0	0 0 2 1 0	1 0 2 0 0
Initial Vol:	10 0 10	0 0 0	0 1825 10	10 1326 0

Major Street Volume: 3171
Minor Approach Volume: 20
Minor Approach Volume Threshold: -113 [less than minimum of 100]

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

Peak Hour Delay Signal Warrant Report

Intersection #19 Mariners Drive/Otto Drive

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1 0 0			0 0 0 1 0			1 0 0 0 1			0 0 0 0 0		
Initial Vol:	830	140	0	0	60	10	10	0	663	0	0	0
ApproachDel:	xxxxxx			xxxxxx			19.7			xxxxxx		

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=3.7]
   FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=673]
   SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1713]
   SUCCEED - Total volume greater than or equal to 650 for intersection
             with less than four approaches.

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Crystal Bay (The Spanos Parcel) EIR
Existing Plus Approved Projects With Project
PM Peak Hour

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #19 Mariners Drive/Otto Drive

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1 0 1 0 0			0 0 0 1 0			1 0 0 0 1			0 0 0 0 0		
Initial Vol:	830	140	0	0	60	10	10	0	663	0	0	0

Major Street Volume: 1040
Minor Approach Volume: 673
Minor Approach Volume Threshold: 357

SIGNAL WARRANT DISCLAIMER
This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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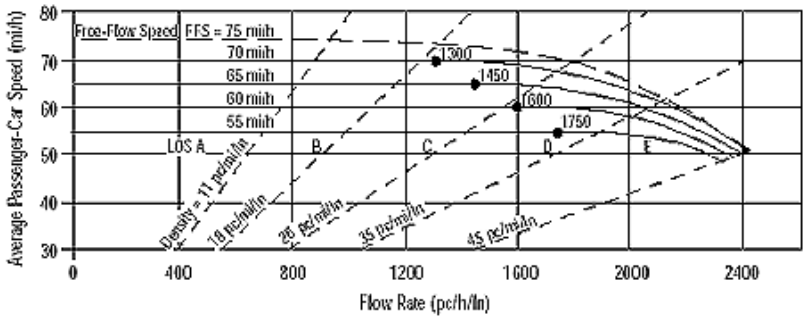
FREEWAY LEVEL OF SERVICE CALCULATION WORKSHEETS

Existing Conditions

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, 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	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2005*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*1600*	veh/h	Peak-Hour Factor, PHF	*0.95*
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 / 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)	*606*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*8.7*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*A*		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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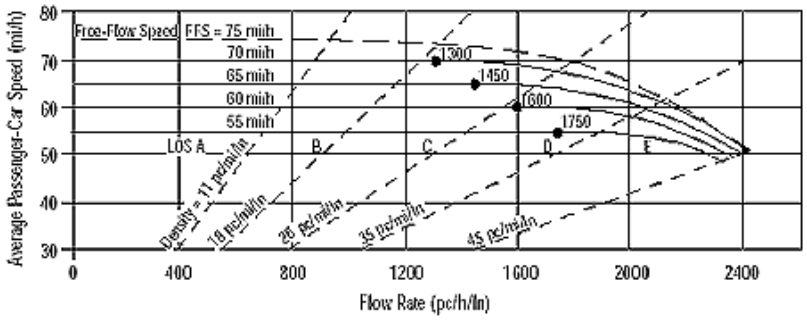
BASIC FREEWAY SEGMENTS WORKSHEET



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

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2005*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*2500*	veh/h	Peak-Hour Factor, PHF	*0.95*
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 / Calc Speed Adj and FFS

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)

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)	*947*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S	*70.0*	mi/h	S		mi/h
D = v_p / S	*13.5*	pc/mi/ln	D = v_p / S		pc/mi/ln
LOS	*B*		Required Number of Lanes, N		

Glossary / Factor Location

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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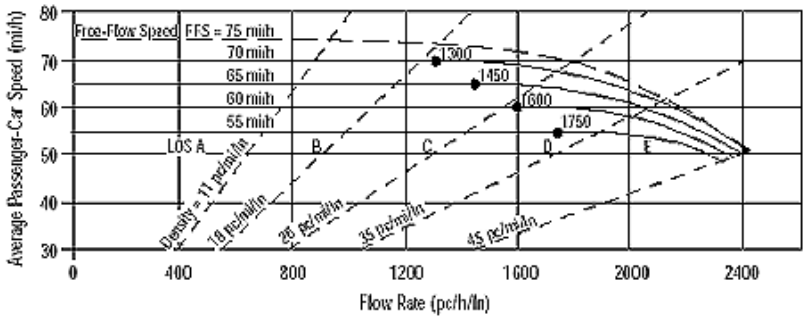

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2005*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*1934*	veh/h	Peak-Hour Factor, PHF	*0.95*
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 / Calc Speed Adj and FFS

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)

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)	*733*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S	*70.0*	mi/h	S		mi/h
D = v_p / S	*10.5*	pc/mi/ln	D = v_p / S		pc/mi/ln
LOS	*A*		Required Number of Lanes, N		

Glossary / Factor Location

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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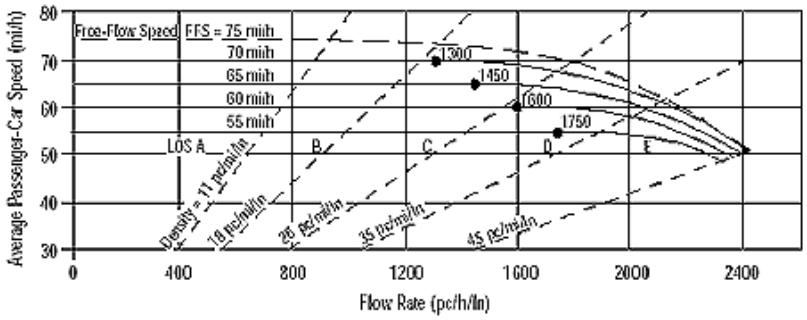

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2005*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*3143*	veh/h	Peak-Hour Factor, PHF	*0.95*
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 / 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)	*1191*	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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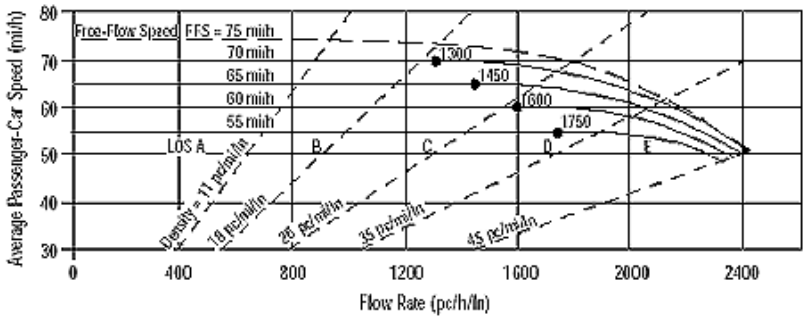

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2005*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*2602*	veh/h	Peak-Hour Factor, PHF	*0.95*
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 / Calc Speed Adj and FFS

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)

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)	*986*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S	*70.0*	mi/h	S		mi/h
D = v_p / S	*14.1*	pc/mi/ln	D = v_p / S		pc/mi/ln
LOS	*B*		Required Number of Lanes, N		

Glossary / Factor Location

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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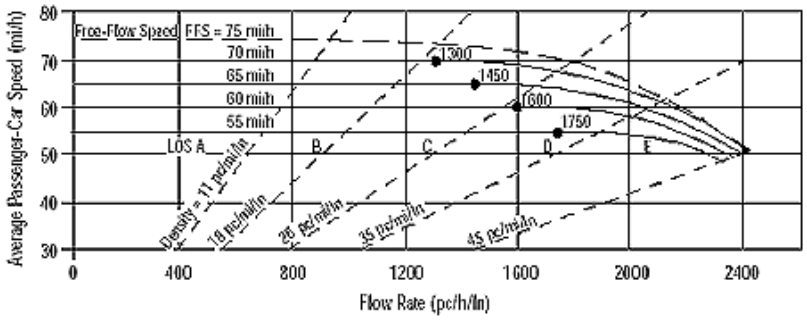

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2005*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs				
Volume, V	*4613*	veh/h	Peak-Hour Factor, PHF	*0.95*
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			**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)	*1748*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*68.4*	mi/h	S	mi/h
D = v_p / S	*25.6*	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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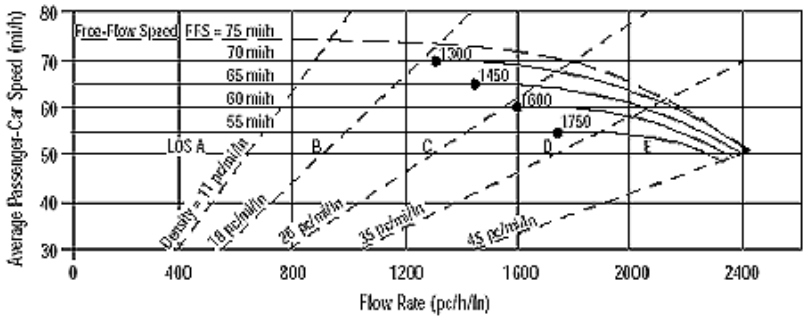

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2005*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*1900*	veh/h	Peak-Hour Factor, PHF	*0.95*
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 / 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)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*720*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*10.3*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*A*		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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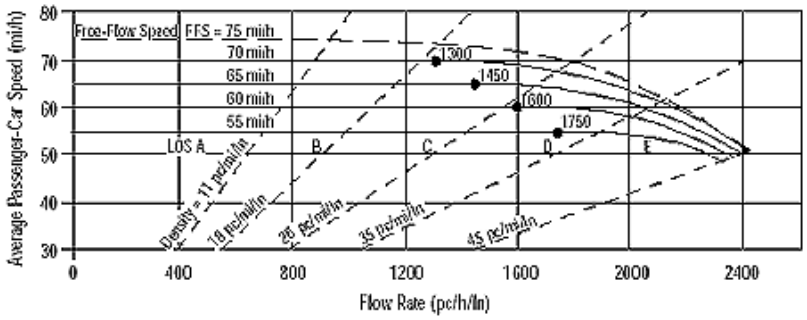

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*JCW*
Agency or Company	*Fehr & Peers Associates*
Date Performed	*7/22/05*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-5 Southbound*
From/To	*North of Eight Mile Road*
Jurisdiction	*Stockton*
Analysis Year	*2005*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*2900*	veh/h	Peak-Hour Factor, PHF	*0.95*
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)	*1099*	pc/h/ln
S	*70.0*	mi/h
D = v_p / S	*15.7*	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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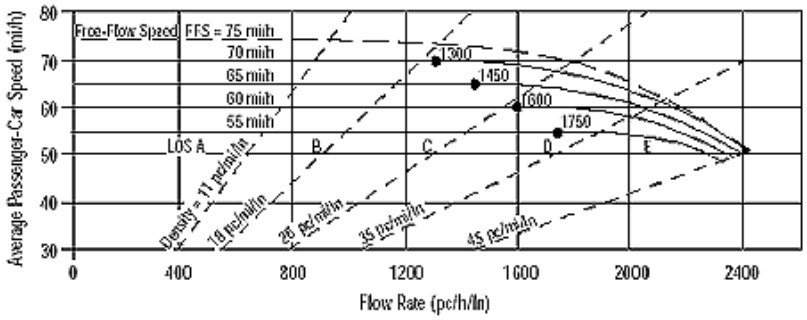
BASIC FREEWAY SEGMENTS WORKSHEET



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

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2005*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*2775*	veh/h	Peak-Hour Factor, PHF	*0.95*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1052*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*15.0*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

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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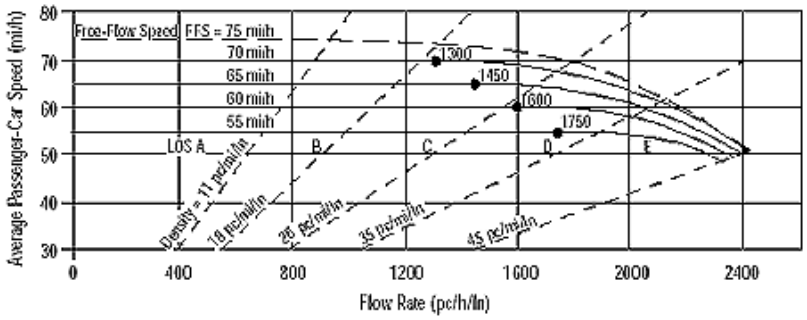
BASIC FREEWAY SEGMENTS WORKSHEET



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	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2005*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*3252*	veh/h	Peak-Hour Factor, PHF	*0.95*
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 / 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)	*1232*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*17.6*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		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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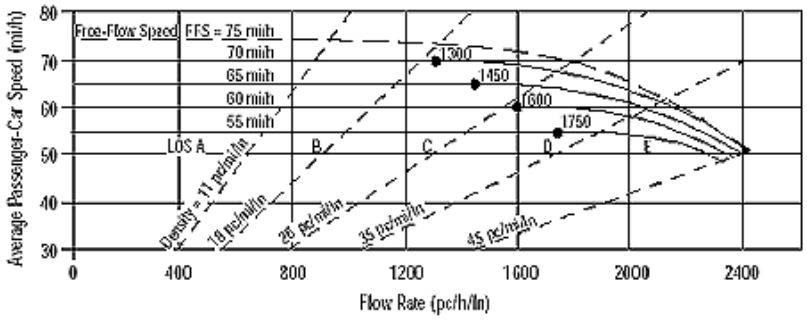
BASIC FREEWAY SEGMENTS WORKSHEET



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

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2005*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*4494*	veh/h	Peak-Hour Factor, PHF	*0.95*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1703*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*68.8*	mi/h	S	mi/h
D = v_p / S	*24.8*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary / Factor Location

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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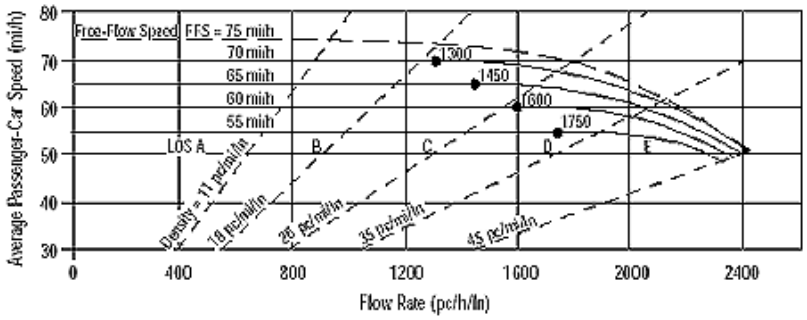

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2005*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*4155*	veh/h	Peak-Hour Factor, PHF	*0.95*
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 / Calc Speed Adj and FFS

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)

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)	*1575*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S	*69.5*	mi/h	S		mi/h
D = v_p / S	*22.6*	pc/mi/ln	D = v_p / S		pc/mi/ln
LOS	*C*		Required Number of Lanes, N		

Glossary / Factor Location

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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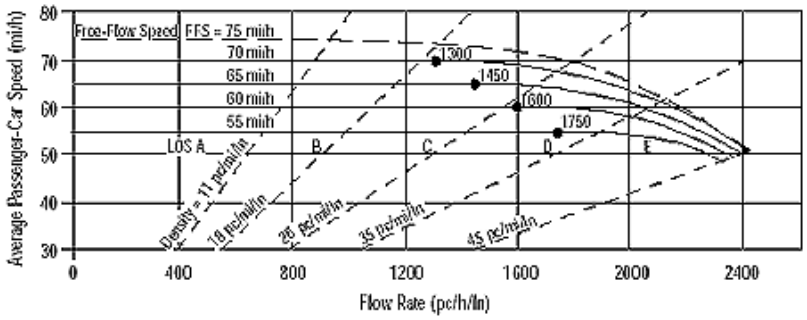
Existing Plus Approved Projects
Without and With Project Conditions

BASIC FREEWAY SEGMENTS WORKSHEET



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

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Near Term*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*2386*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

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)	*859*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S	*70.0*	mi/h	S		mi/h
D = v_p / S	*12.3*	pc/mi/ln	D = v_p / S		pc/mi/ln
LOS	*B*		Required Number of Lanes, N		

Glossary / Factor Location

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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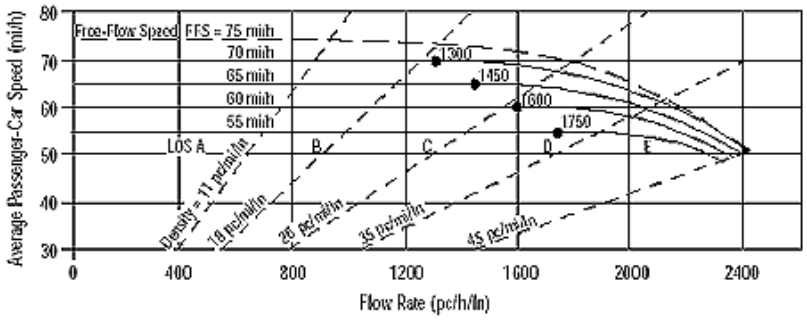

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*3230*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1163*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*16.6*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

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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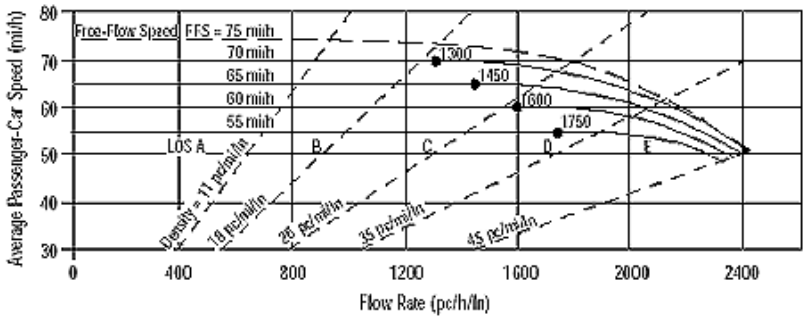

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*3293*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1185*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*16.9*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

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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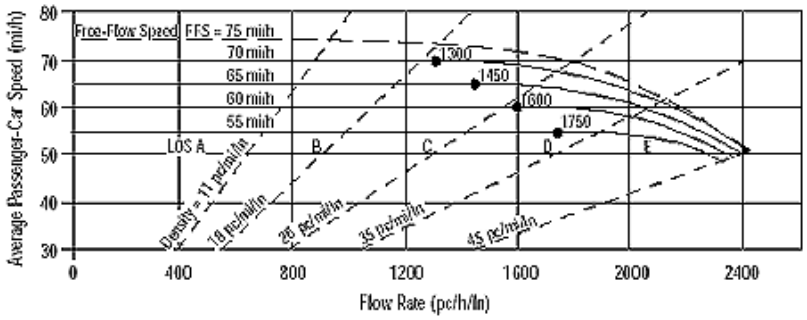
BASIC FREEWAY SEGMENTS WORKSHEET



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

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Near Term*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*5129*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1846*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*67.3*	mi/h	S	mi/h
D = v_p / S	*27.4*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary / Factor Location

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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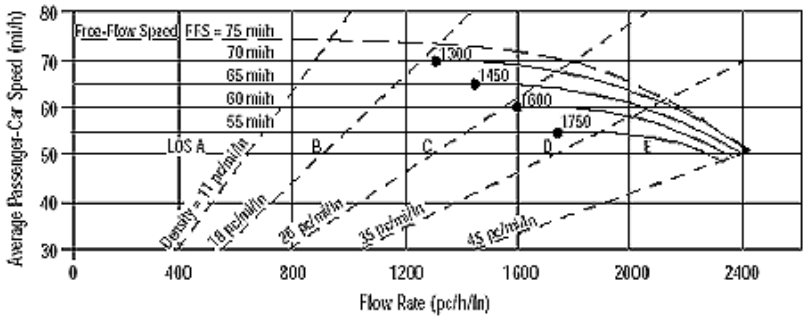

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Near Term*

Project Description Crystal Bay

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

Flow Inputs				
Volume, V	*3742*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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)	*1347*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*19.2*	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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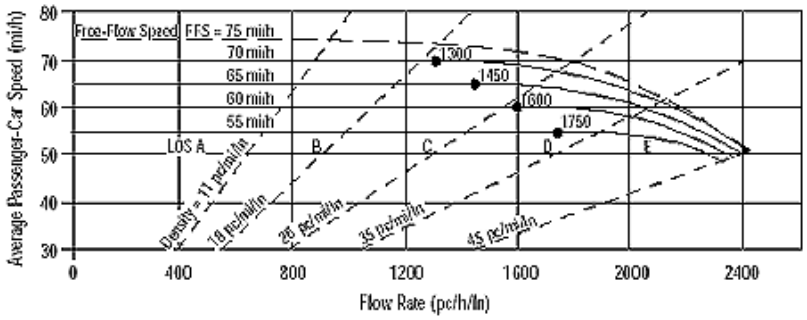

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Near Term*

Project Description Spanos Park West

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

Flow Inputs

Volume, V	*6194*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2230*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*59.2*	mi/h	S	mi/h
D = v_p / S	*37.7*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*E*		Required Number of Lanes, N	

Glossary / Factor Location

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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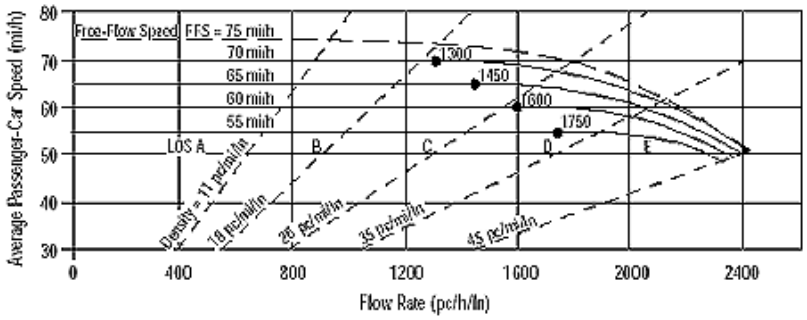

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Near Term*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*2795*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1006*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*14.4*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

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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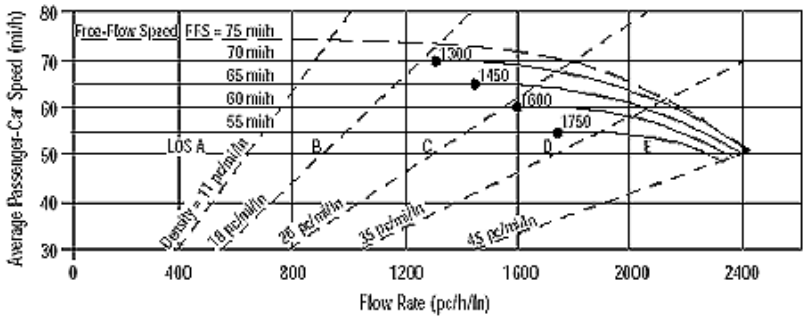

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*JCW*
Agency or Company	*Fehr & Peers Associates*
Date Performed	*7/22/05*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-5 Southbound*
From/To	*North of Eight Mile Road*
Jurisdiction	*Stockton*
Analysis Year	*Near Term*

Project Description

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

Flow Inputs

Volume, V	*4257*	veh/h	Peak-Hour Factor, PHF	*1.00*
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)	*1533*	pc/h/ln
S	*69.7*	mi/h
D = v_p / S	*22.0*	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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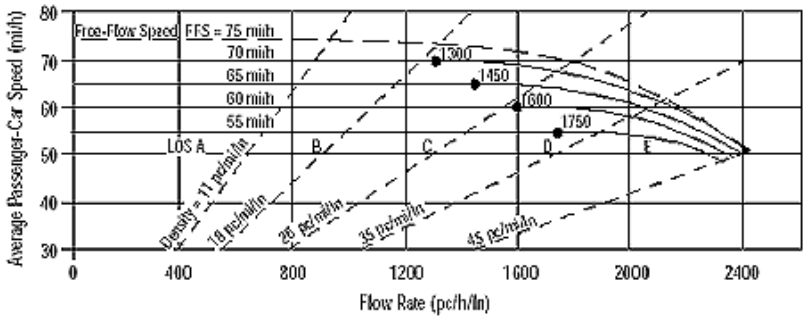

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Near Term*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*5050*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1818*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*67.6*	mi/h	S	mi/h
D = v_p / S	*26.9*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary / Factor Location

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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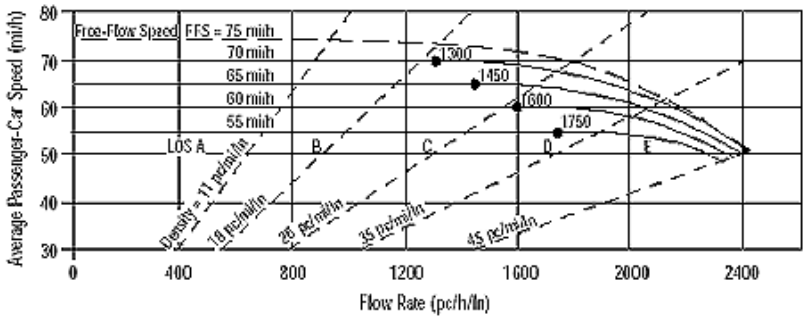
BASIC FREEWAY SEGMENTS WORKSHEET



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	*JCW*
Agency or Company	*Fehr & Peers Associates*
Date Performed	*7/22/05*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-5 Southbound*
From/To	*South of Eight Mile Road*
Jurisdiction	*Stockton*
Analysis Year	*Near Term*

Project Description

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

Flow Inputs

Volume, V	*5424*	veh/h	Peak-Hour Factor, PHF	*1.00*
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)	*1953*	pc/h/ln
S	*65.7*	mi/h
D = v_p / S	*29.7*	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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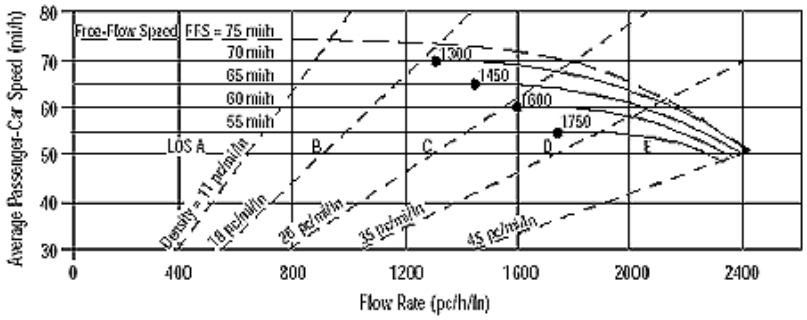
BASIC FREEWAY SEGMENTS WORKSHEET



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

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Near Term*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*6497*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

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)	*2339*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S	*55.6*	mi/h	S		mi/h
D = v_p / S	*42.0*	pc/mi/ln	D = v_p / S		pc/mi/ln
LOS	*E*		Required Number of Lanes, N		

Glossary / Factor Location

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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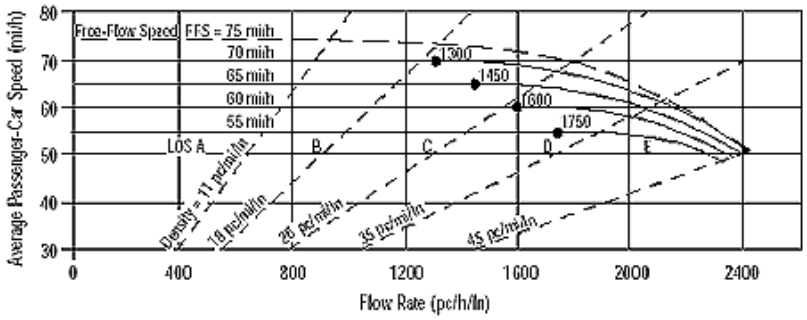

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Near Term*

Project Description

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

Flow Inputs

Volume, V	*5949*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2142*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*61.7*	mi/h	S	mi/h
D = v_p / S	*34.7*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary / Factor Location

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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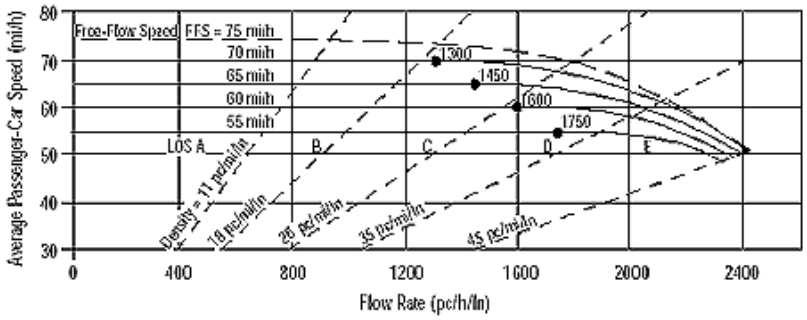

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Near Term plus Project*

Project Description Crystal Bay (The Spanos Parcel) EIR

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

Flow Inputs

Volume, V	*2454*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

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)	*883*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S	*70.0*	mi/h	S		mi/h
D = v_p / S	*12.6*	pc/mi/ln	D = v_p / S		pc/mi/ln
LOS	*B*		Required Number of Lanes, N		

Glossary / Factor Location

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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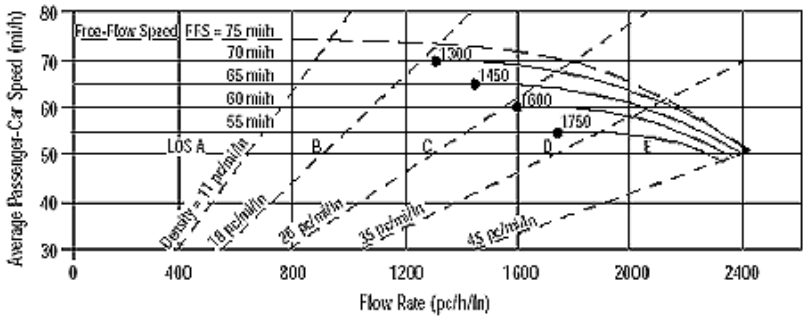

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Near Term*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*3251*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / 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)	*1170*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*16.7*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		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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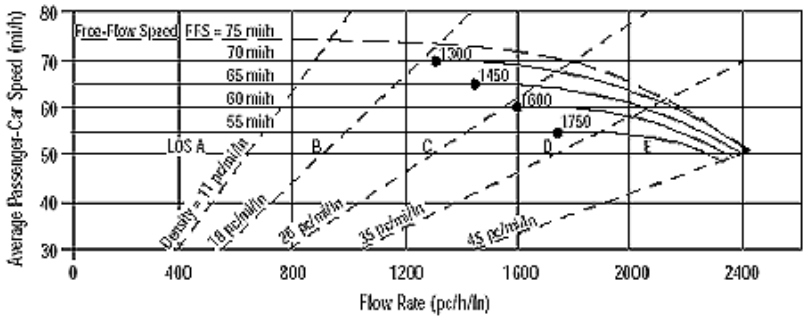

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Near Term plus Project*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*3381*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

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)	*1217*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S	*70.0*	mi/h	S		mi/h
D = v_p / S	*17.4*	pc/mi/ln	D = v_p / S		pc/mi/ln
LOS	*B*		Required Number of Lanes, N		

Glossary / Factor Location

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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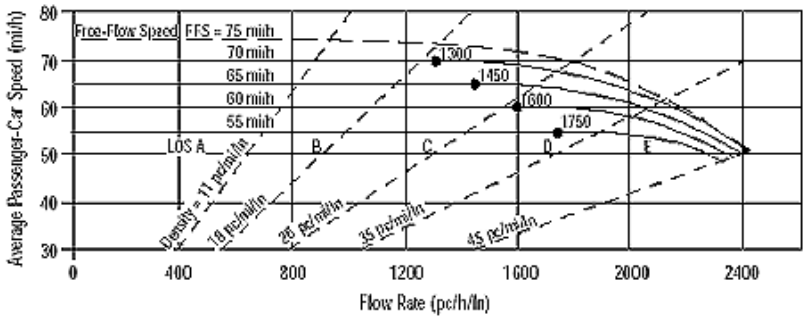

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Near Term plus Project*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs				
Volume, V	*5410*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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)	*1948*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*65.8*	mi/h	S	mi/h
D = v_p / S	*29.6*	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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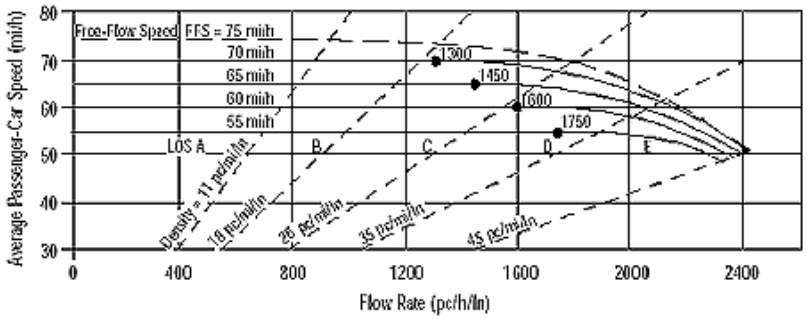

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*JCW*
Agency or Company	*Fehr & Peers Associates*
Date Performed	*7/22/05*
Analysis Time Period	*AM Peak Hour*

Site Information

Highway/Direction of Travel	*I-5 Northbound*
From/To	*South of Hammer Lane*
Jurisdiction	*Stockton*
Analysis Year	*Near Term plus Project*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*3859*	veh/h	Peak-Hour Factor, PHF	*1.00*
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)	*1389*	pc/h/ln
S	*70.0*	mi/h
D = v_p / S	*19.8*	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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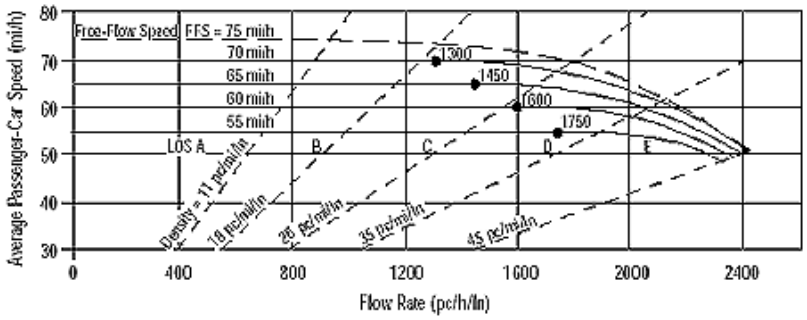

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Near Term plus Project*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs				
Volume, V	*6569*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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)	*2365*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*54.7*	mi/h	S	mi/h
D = v_p / S	*43.3*	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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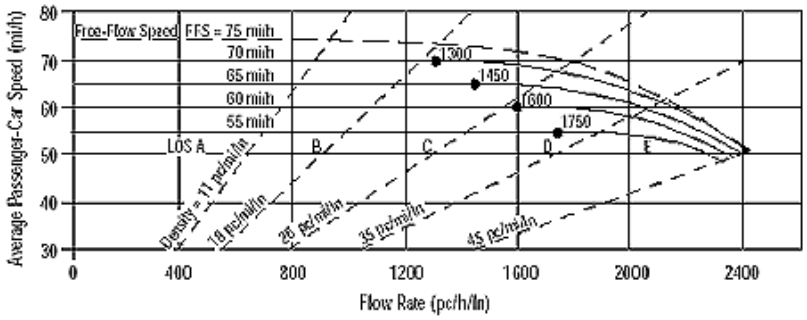

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Near Term plus Project*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*2834*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1020*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*14.6*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

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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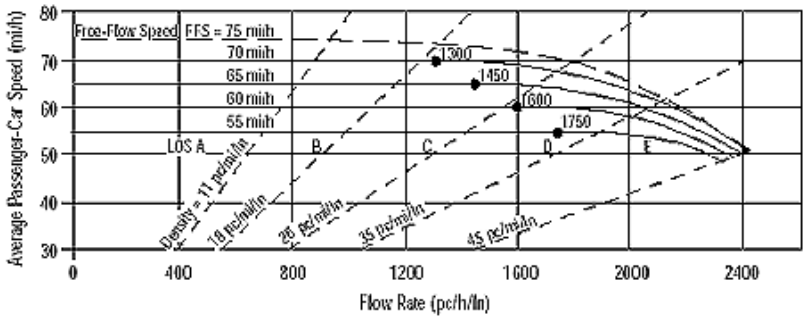

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Near Term plus Project*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*4325*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1557*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*69.6*	mi/h	S	mi/h
D = v_p / S	*22.4*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary / Factor Location

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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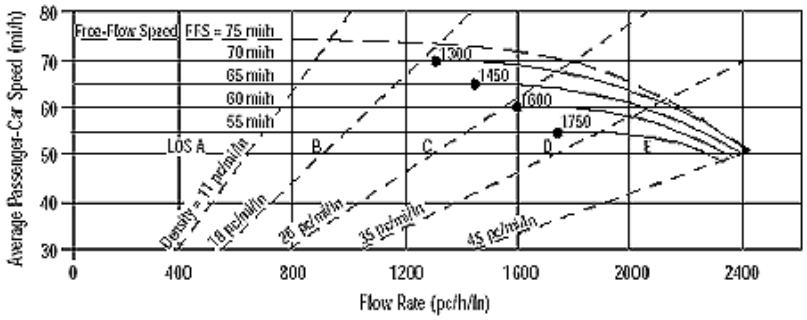

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Near Term plus Project*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*5331*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1919*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*66.3*	mi/h	S	mi/h
D = v_p / S	*29.0*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary / Factor Location

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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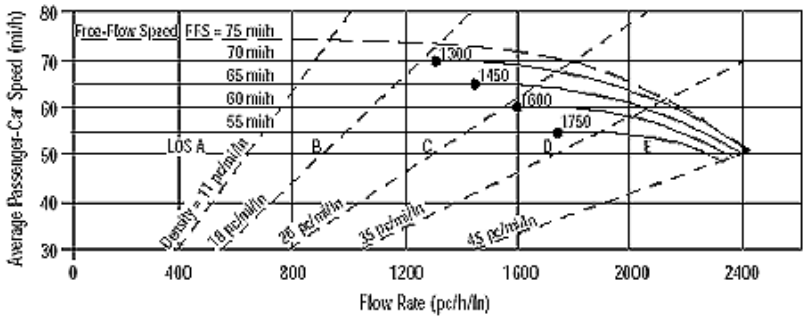

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Near Term plus Project*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*5701*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2052*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*63.8*	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

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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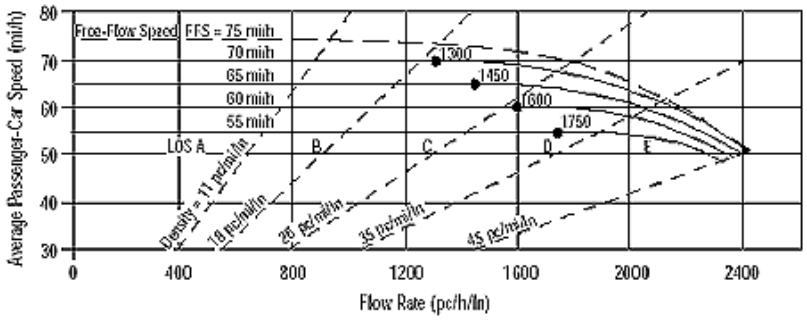
BASIC FREEWAY SEGMENTS WORKSHEET



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

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Near Term plus Project*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*6872*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

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)	*2474*	pc/h/ln	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

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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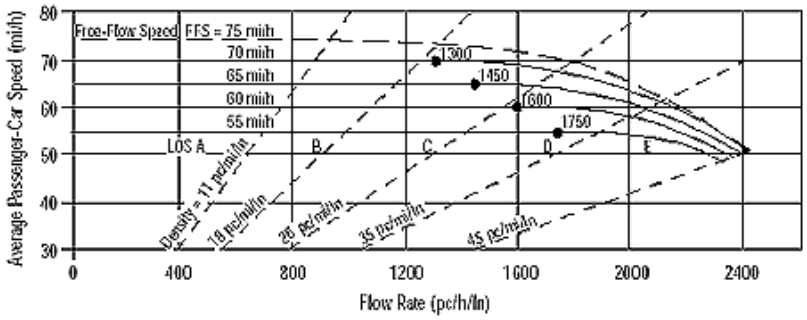
BASIC FREEWAY SEGMENTS WORKSHEET



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

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Near Term plus Project*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*6165*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

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)	*2219*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S	*59.6*	mi/h	S		mi/h
D = v_p / S	*37.3*	pc/mi/ln	D = v_p / S		pc/mi/ln
LOS	*E*		Required Number of Lanes, N		

Glossary / Factor Location

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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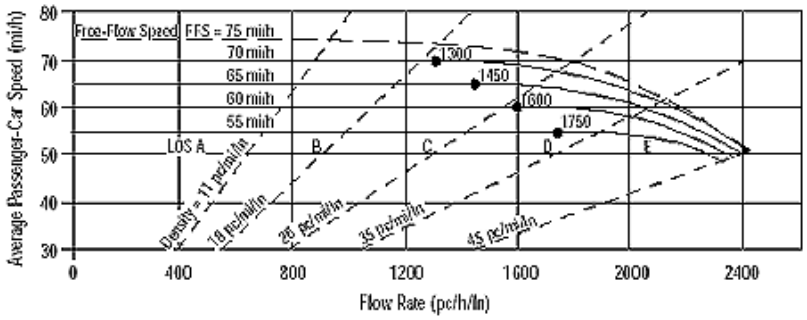
Future 2025
Without and With Project Conditions

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, 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	*JKF*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2025*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*2919*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / 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)	*1051*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*15.0*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		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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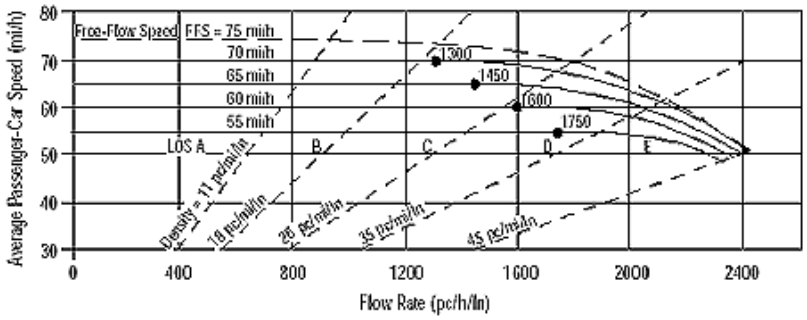
BASIC FREEWAY SEGMENTS WORKSHEET



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	*JKF*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2025*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*3881*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / 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)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1397*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*20.0*	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
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	

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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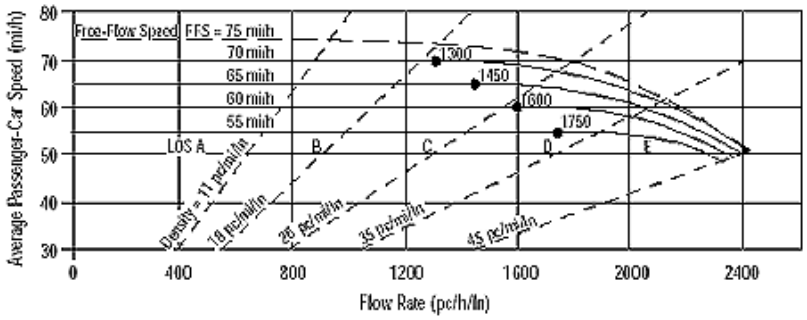

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*JKF*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2025*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*3316*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / 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)	*1194*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*17.1*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		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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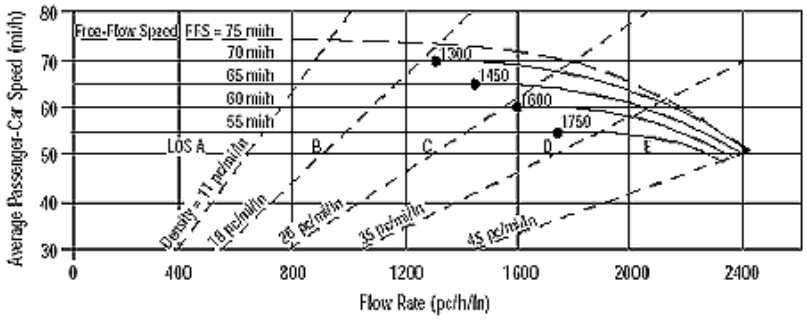

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*JKF*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2025*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*4750*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / 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)	*1710*	pc/h/ln	Design LOS	
S	*68.7*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
D = v_p / S	*24.9*	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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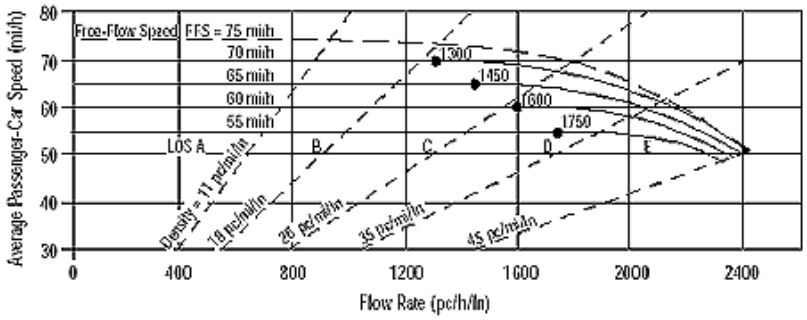

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*JKF*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Hammer Lane*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2025*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*3715*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / 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)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1337*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*19.1*	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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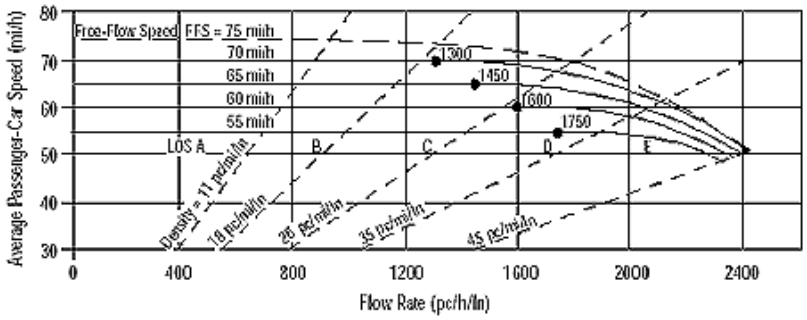
BASIC FREEWAY SEGMENTS WORKSHEET



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

General Information		Site Information	
Analyst	*JKF*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Hammer Lane*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2025*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*5647*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2033*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.2*	mi/h	S	mi/h
D = v_p / S	*31.7*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary / Factor Location

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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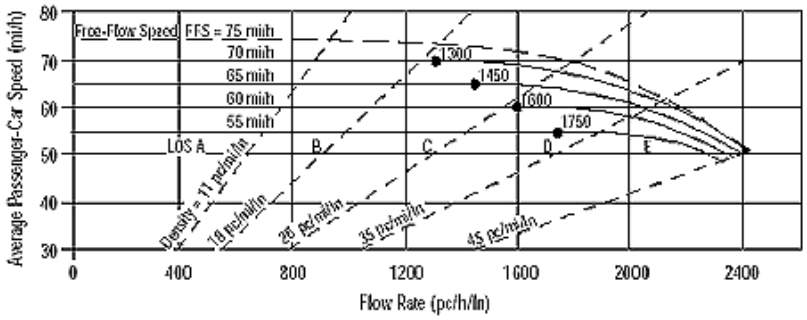

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JKF*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2025*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*4042*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1455*	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	*20.8*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary / Factor Location

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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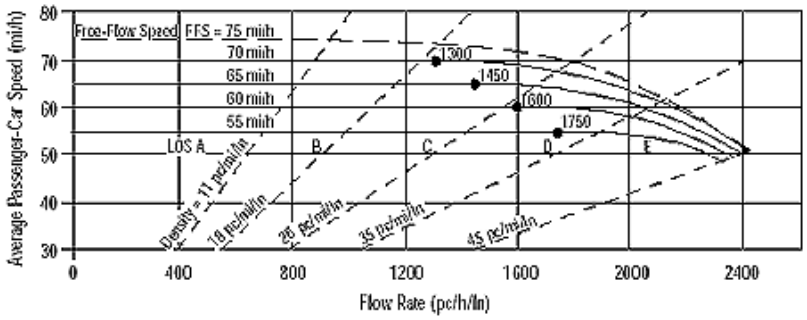

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*JKF*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2025*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs				
Volume, V	*6494*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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)	*2338*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*55.7*	mi/h	S	mi/h
D = v_p / S	*42.0*	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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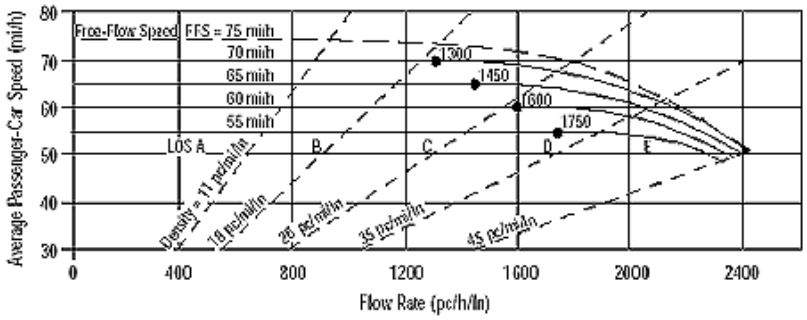

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*JKF*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2025*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*3277*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / 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)	*1180*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*16.9*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		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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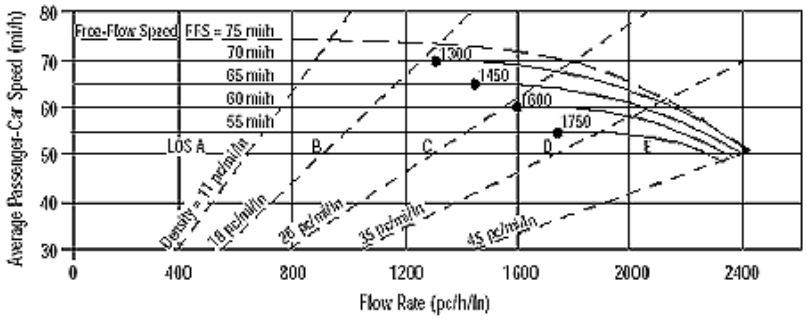

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*JKF*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2025*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*4916*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / 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)	*1770*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*68.2*	mi/h	S	mi/h
D = v_p / S	*26.0*	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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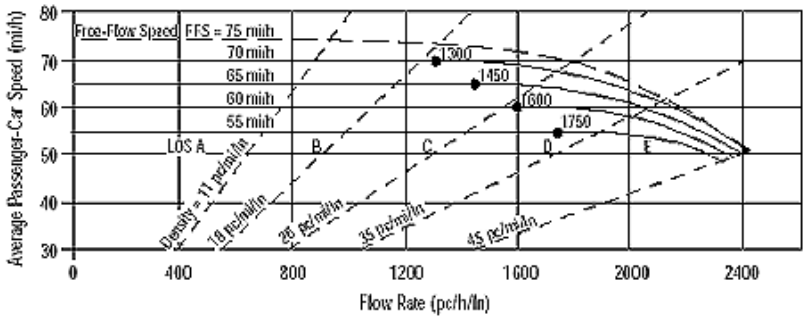

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*JKF*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2025*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs				
Volume, V	*4310*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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)	*1552*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*69.6*	mi/h	S	mi/h
D = v_p / S	*22.3*	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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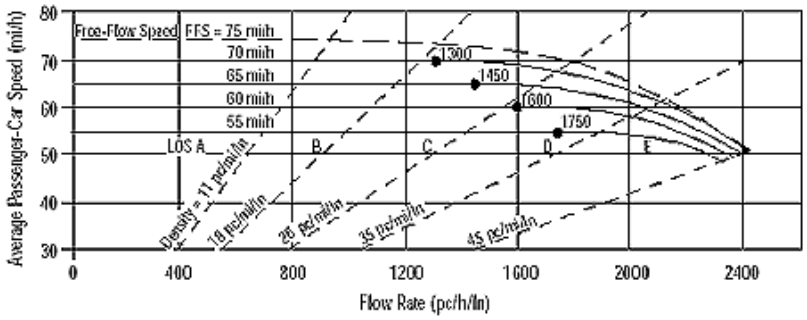

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JKF*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2025*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*5148*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1853*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*67.2*	mi/h	S	mi/h
D = v_p / S	*27.6*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary / Factor Location

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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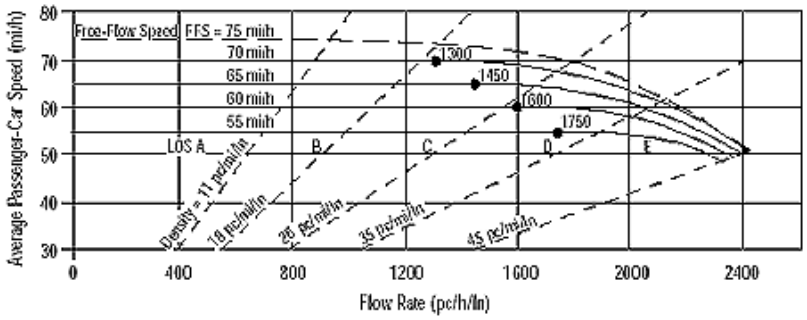
BASIC FREEWAY SEGMENTS WORKSHEET



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

General Information		Site Information	
Analyst	*JKF*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Hammer Lane*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2025*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*5580*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2009*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.7*	mi/h	S	mi/h
D = v_p / S	*31.1*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary / Factor Location

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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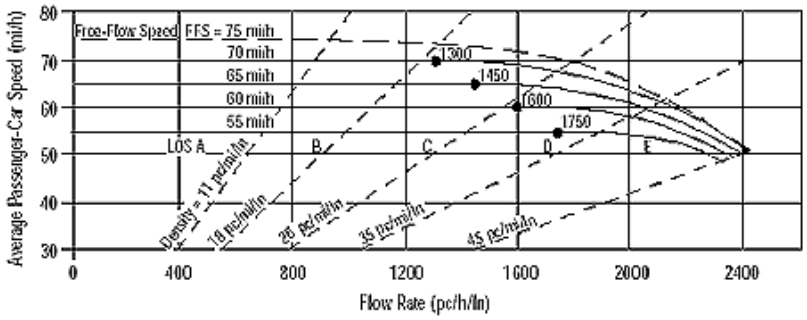

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*JKF*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Hammer Lane*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2025*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*5674*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / 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)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2043*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*64.0*	mi/h	S	mi/h
D = v_p / S	*31.9*	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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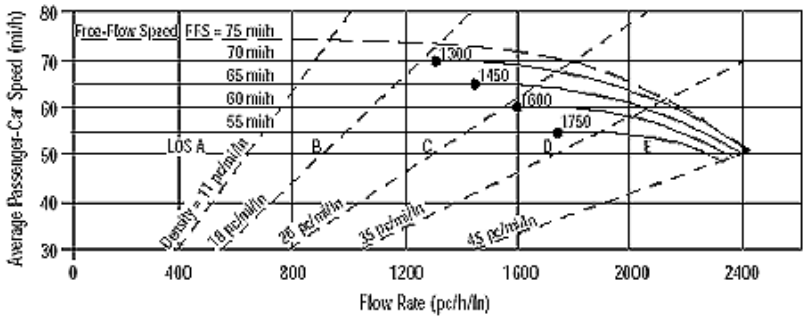

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*JKF*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2025*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs

Volume, V	*6356*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / 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)	*2288*	pc/h/ln	Design LOS	
S	*57.4*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
D = v_p / S	*39.9*	pc/mi/ln	S	mi/h
LOS	*E*		D = v_p / S	pc/mi/ln
			Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - 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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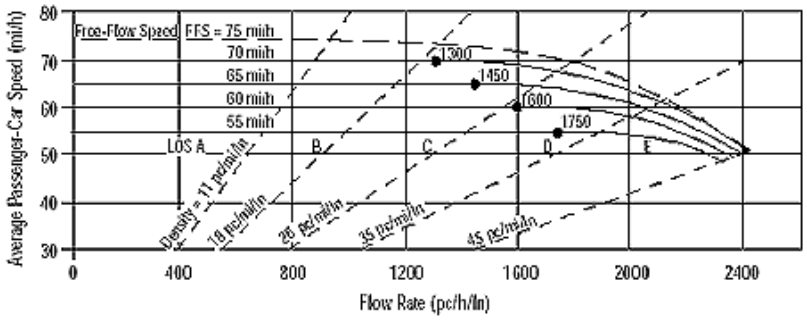

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*JKF*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2025*

Project Description Crystal Bay (The Spanos Parcel)

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

Flow Inputs				
Volume, V	*5797*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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)	*2087*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*63.0*	mi/h	S	mi/h
D = v_p / S	*33.1*	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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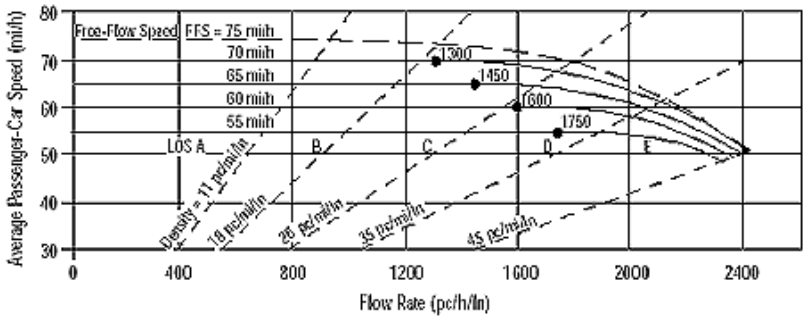

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*JKF*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2025 plus Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*2987*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / 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)	*1075*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*15.4*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		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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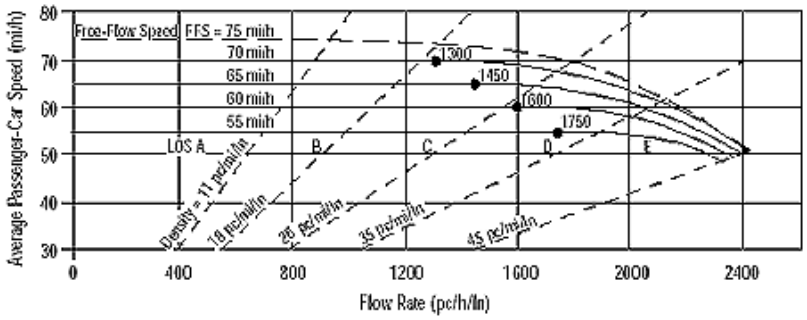

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JKF*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2025 plus Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*3902*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1405*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*20.1*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary / Factor Location

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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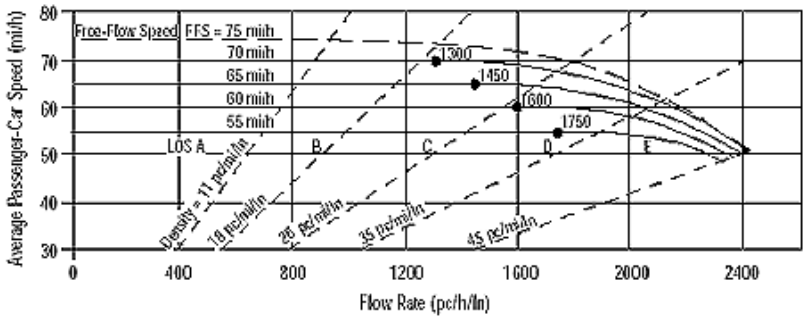
BASIC FREEWAY SEGMENTS WORKSHEET



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

General Information		Site Information	
Analyst	*JKF*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2025 plus Project*

Project Description

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

Flow Inputs

Volume, V	*3375*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

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)	*1215*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S	*70.0*	mi/h	S		mi/h
D = v_p / S	*17.4*	pc/mi/ln	D = v_p / S		pc/mi/ln
LOS	*B*		Required Number of Lanes, N		

Glossary / Factor Location

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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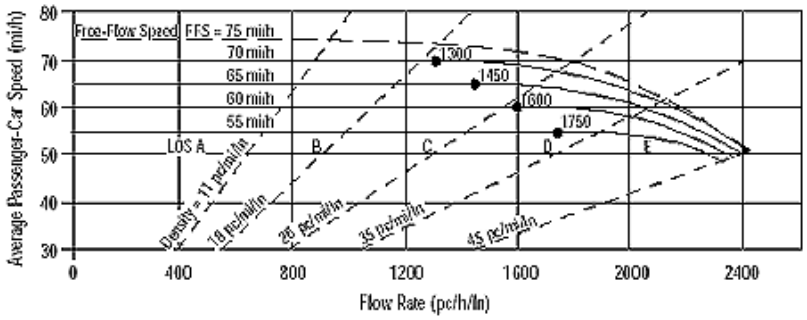

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JKF*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2025 plus Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*4937*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1777*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*68.1*	mi/h	S	mi/h
D = v_p / S	*26.1*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary / Factor Location

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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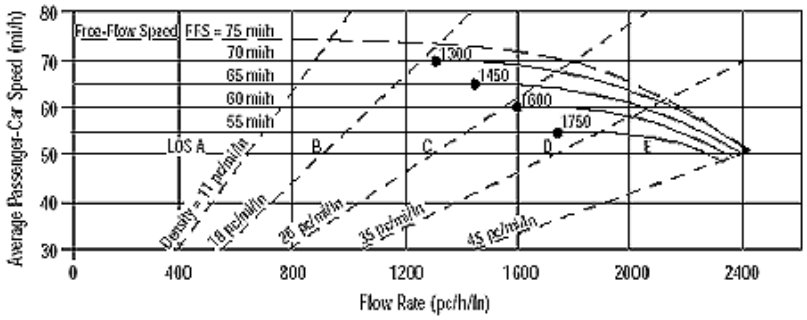

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*JKF*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Hammer Lane*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2025 plus Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*3809*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / 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)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1371*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*19.6*	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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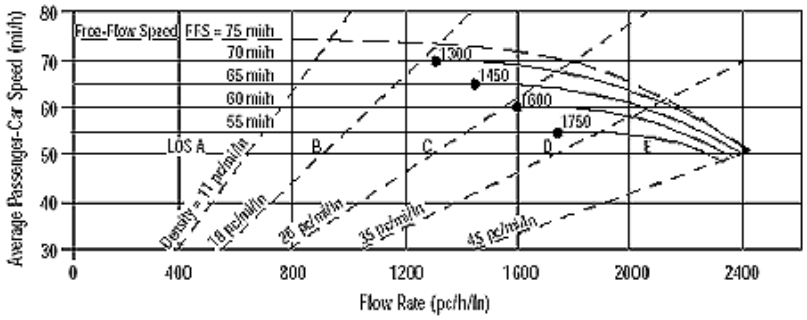

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*JKF*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Hammer Lane*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2025 plus Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*5946*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / 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)	*2141*	pc/h/ln	Design LOS	
S	*61.7*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
D = v_p / S	*34.7*	pc/mi/ln	S	mi/h
LOS	*D*		D = v_p / S	pc/mi/ln
			Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - 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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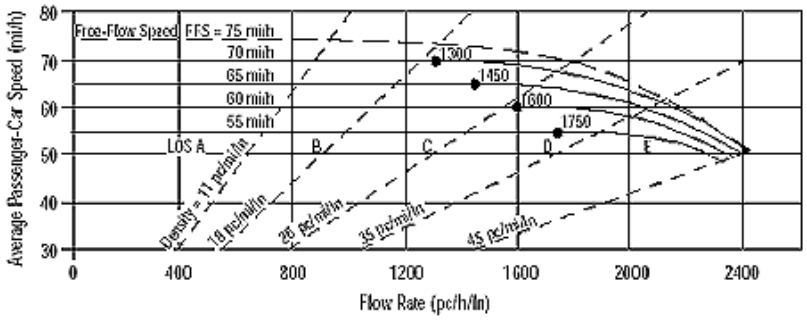

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*JKF*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2025 plus Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*4159*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / 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)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1497*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*69.8*	mi/h	S	mi/h
D = v_p / S	*21.4*	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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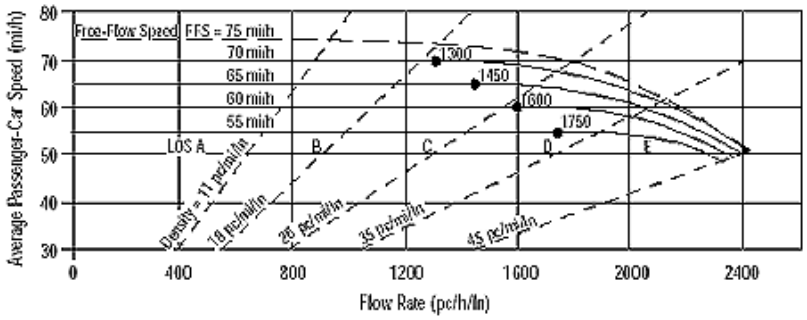

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*JKF*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2025 plus Project*

Project Description Crystal Bay

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

Flow Inputs				
Volume, V	*6867*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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)	*2472*	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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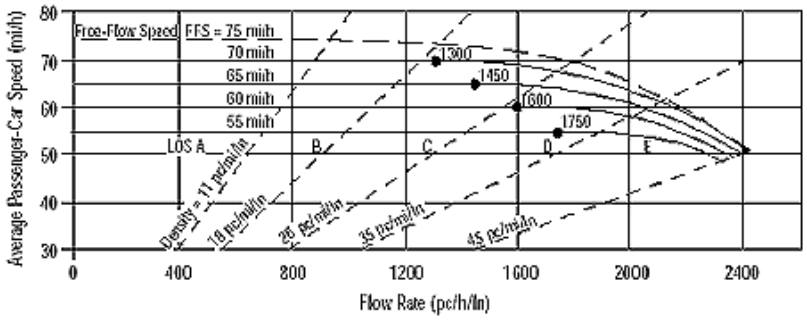

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*JKF*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2025 plus Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*3316*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / 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)	*1194*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*17.1*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		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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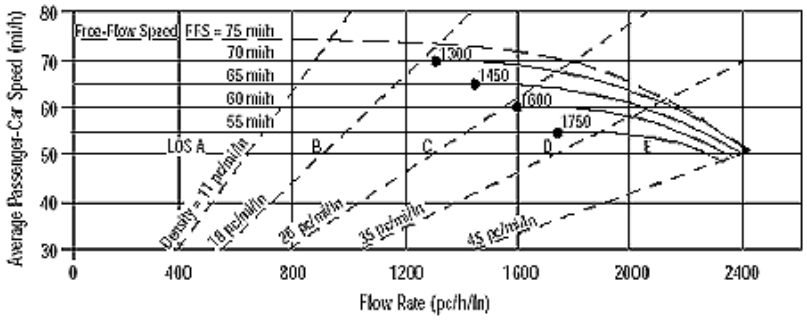

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JKF*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2025 plus Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*4984*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1794*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*67.9*	mi/h	S	mi/h
D = v_p / S	*26.4*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary / Factor Location

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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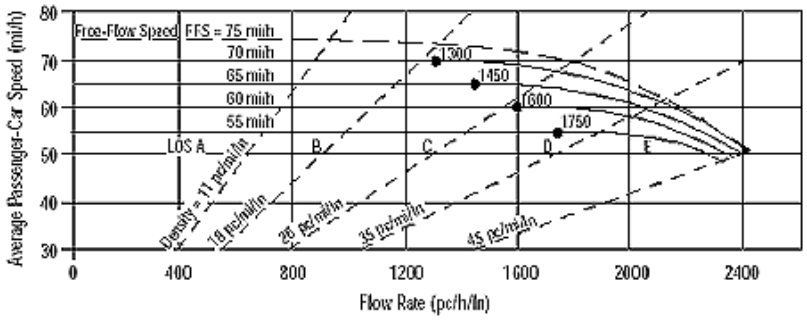

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*JKF*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2025 plus Project*

Project Description

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

Flow Inputs				
Volume, V	*4497*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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)	*1619*	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	*23.4*	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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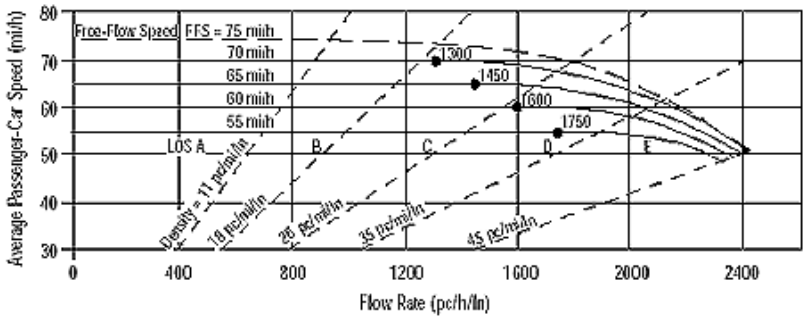

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*JKF*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2025 plus Project*

Project Description Crystal Bay

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

Flow Inputs				
Volume, V	*5255*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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)	*1892*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*66.7*	mi/h	S	mi/h
D = v_p / S	*28.4*	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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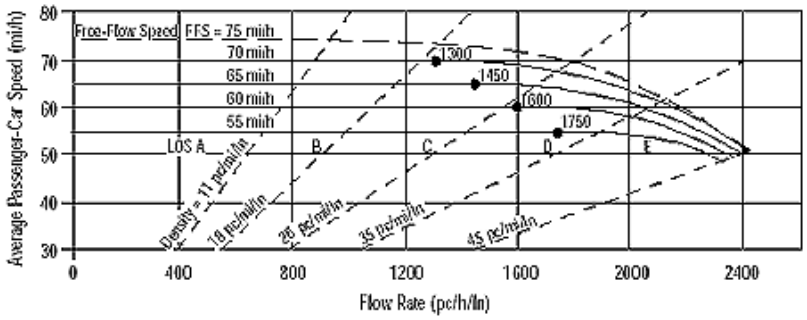

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*JKF*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Hammer Lane*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2025 plus Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*5879*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / 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)	*2116*	pc/h/ln	Design LOS	
S	*62.3*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
D = v_p / S	*33.9*	pc/mi/ln	S	mi/h
LOS	*D*		D = v_p / S	pc/mi/ln
			Required Number of Lanes, N	

Glossary / Factor Location

N - Number of lanes	S - Speed	E_R - 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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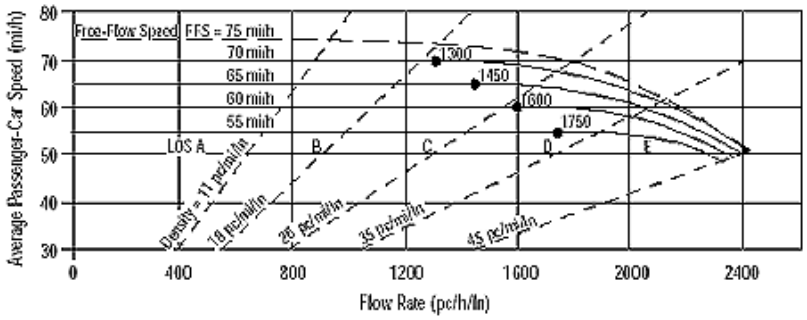

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JKF*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Hammer Lane*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2025 plus Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*5846*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2105*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*62.6*	mi/h	S	mi/h
D = v_p / S	*33.6*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary / Factor Location

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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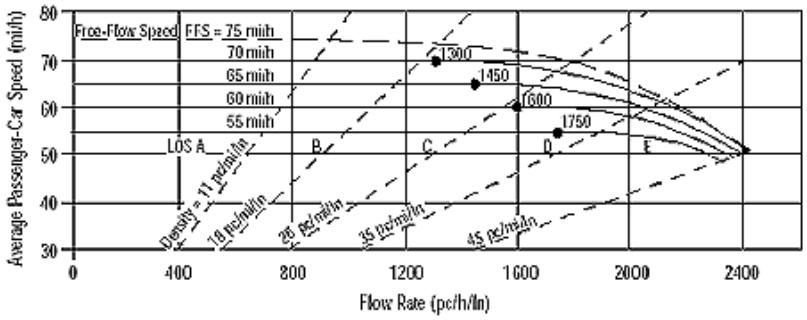

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*JKF*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2025 plus Project*

Project Description Crystal Bay

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

Flow Inputs				
Volume, V	*6730*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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)	*2423*	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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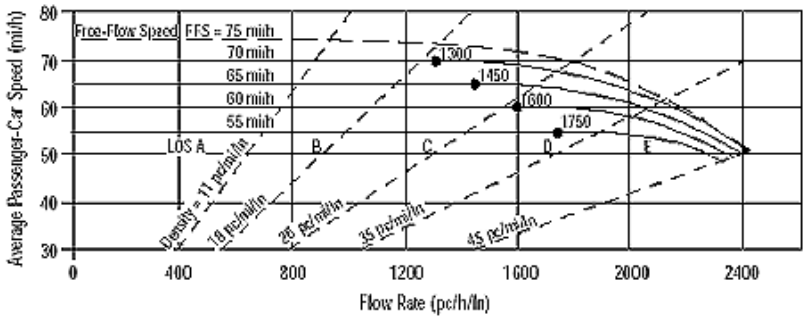

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JKF*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2025 plus Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*6013*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2165*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*61.1*	mi/h	S	mi/h
D = v_p / S	*35.4*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*E*		Required Number of Lanes, N	

Glossary / Factor Location

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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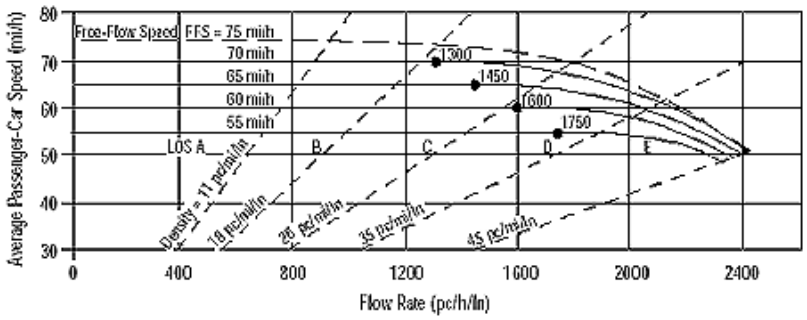
Future 2035
Without and With Project Conditions

BASIC FREEWAY SEGMENTS WORKSHEET



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

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*11/23/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2035*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*4382*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

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)	*947*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S	*70.0*	mi/h	S		mi/h
D = v_p / S	*13.5*	pc/mi/ln	D = v_p / S		pc/mi/ln
LOS	*B*		Required Number of Lanes, N		

Glossary / Factor Location

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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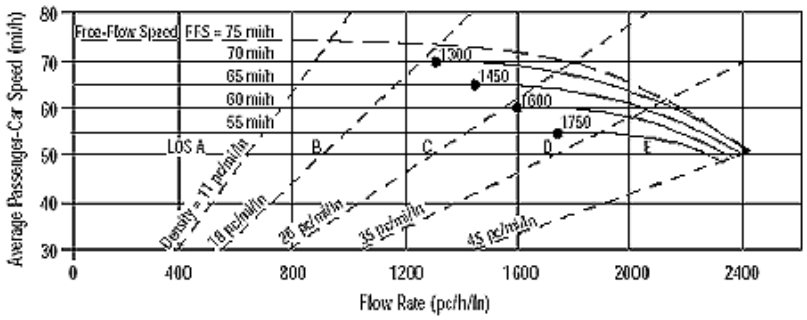

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*11/23/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2035*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*6059*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1309*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*18.7*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary / Factor Location

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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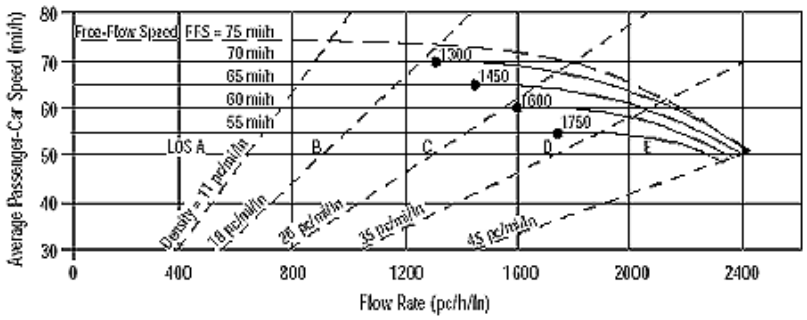

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*11/23/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2035*

Project Description Crystal Bay

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

Flow Inputs				
Volume, V	*5507*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1190*	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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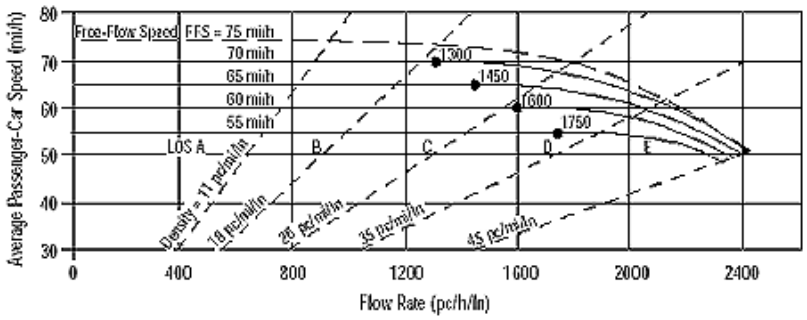

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*11/23/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2035*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*8031*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1735*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*68.5*	mi/h	S	mi/h
D = v_p / S	*25.3*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary / Factor Location

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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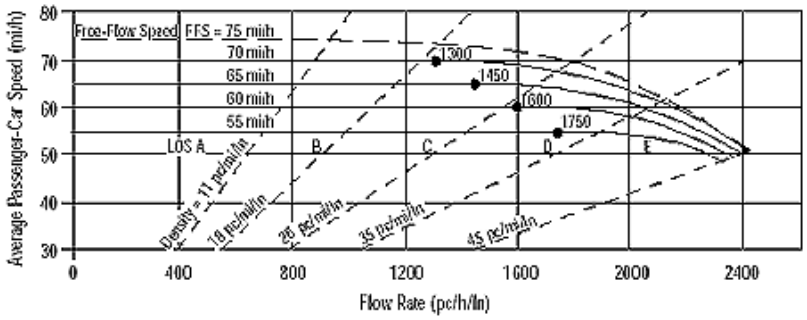

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Hammer Lane*
Date Performed	*11/23/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2035*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*6340*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

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)	*1369*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S	*70.0*	mi/h	S		mi/h
D = v_p / S	*19.6*	pc/mi/ln	D = v_p / S		pc/mi/ln
LOS	*C*		Required Number of Lanes, N		

Glossary / Factor Location

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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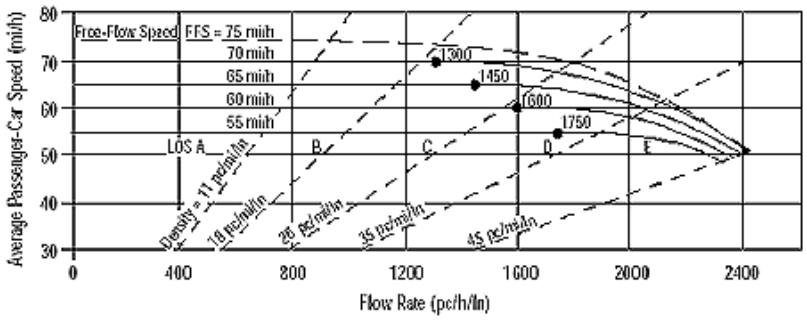

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Hammer Lane*
Date Performed	*11/23/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2035*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*10507*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2270*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*58.0*	mi/h	S	mi/h
D = v_p / S	*39.2*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*E*		Required Number of Lanes, N	

Glossary / Factor Location

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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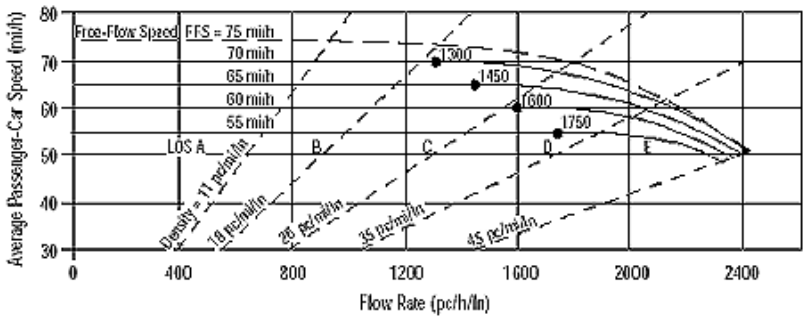
BASIC FREEWAY SEGMENTS WORKSHEET



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

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*11/23/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2035*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*6942*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1499*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*69.8*	mi/h	S	mi/h
D = v_p / S	*21.5*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary / Factor Location

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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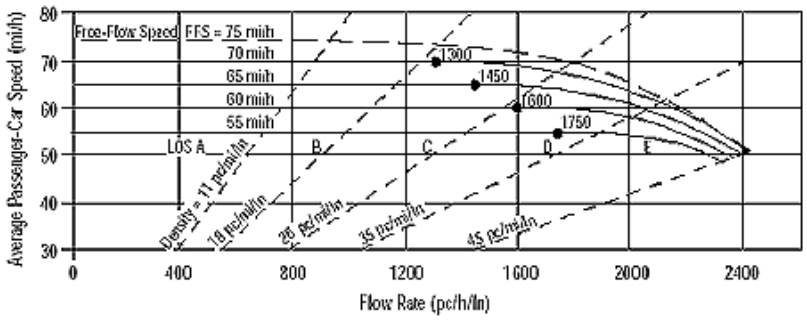

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*11/23/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2035*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*11804*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2550*	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

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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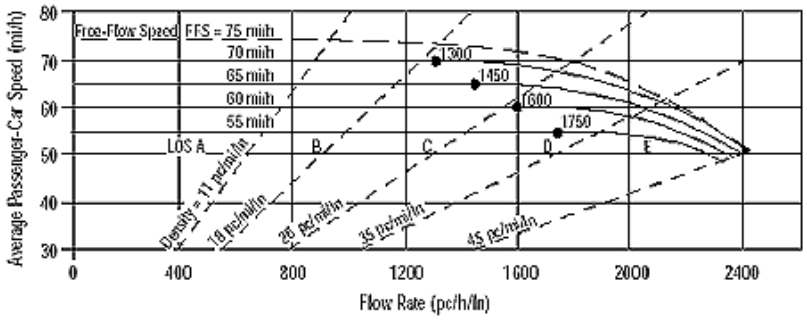

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*11/23/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2035*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*5524*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / 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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

Operational (LOS)			Design (N)	
			Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1193*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*17.0*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		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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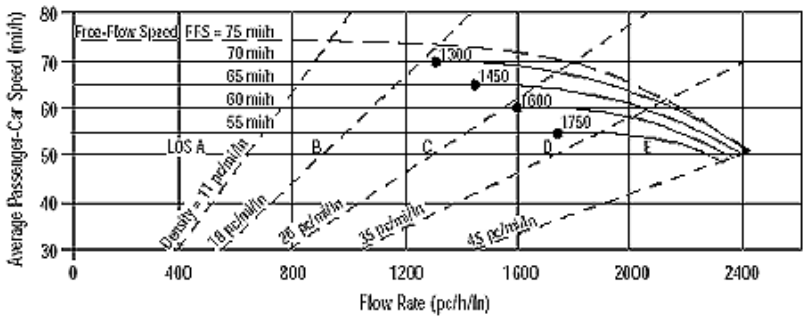

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*11-23-05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2035*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*7629*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1648*	pc/h/ln	Design LOS		
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S	*69.2*	mi/h	S		mi/h
D = v_p / S	*23.8*	pc/mi/ln	D = v_p / S		pc/mi/ln
LOS	*C*		Required Number of Lanes, N		

Glossary / Factor Location

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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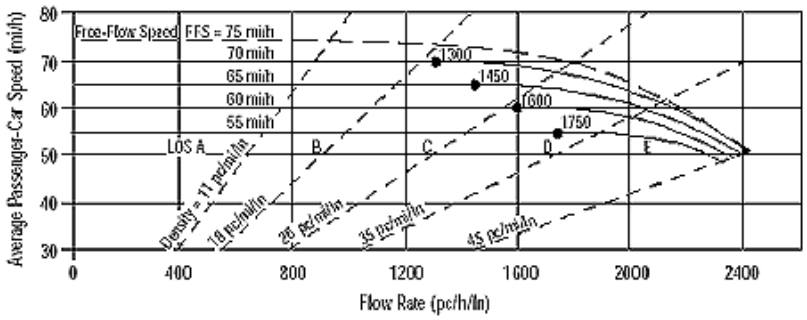

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*11/23/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2035*

Project Description Crystal Bay

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

Flow Inputs				
Volume, V	*7766*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1677*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*69.0*	mi/h	S	mi/h
D = v_p / S	*24.3*	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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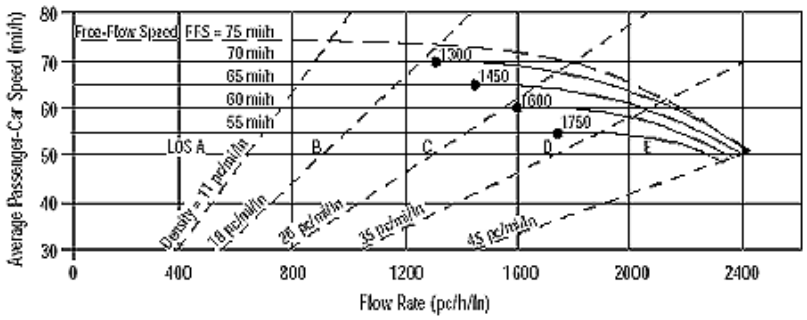

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*11-23-05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2035*

Project Description Crystal Bay

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

Flow Inputs				
Volume, V	*8856*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1913*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*66.4*	mi/h	S	mi/h
D = v_p / S	*28.8*	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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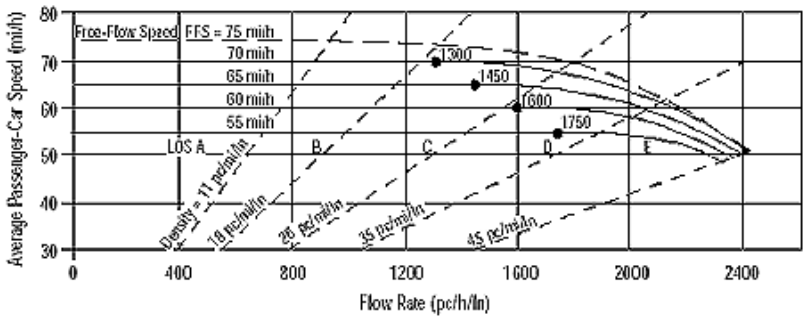

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Hammer Lane*
Date Performed	*11/23/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2035*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*10432*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2253*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*58.5*	mi/h	S	mi/h
D = v_p / S	*38.5*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*E*		Required Number of Lanes, N	

Glossary / Factor Location

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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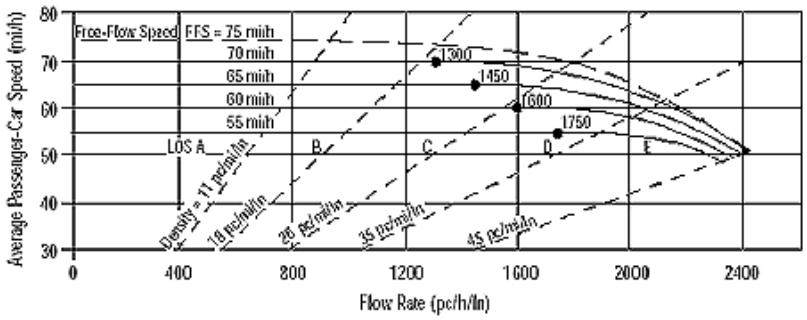
BASIC FREEWAY SEGMENTS WORKSHEET



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

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Hammer Lane*
Date Performed	*11/23/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2035*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*10140*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2190*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*60.4*	mi/h	S	mi/h
D = v_p / S	*36.3*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*E*		Required Number of Lanes, N	

Glossary / Factor Location

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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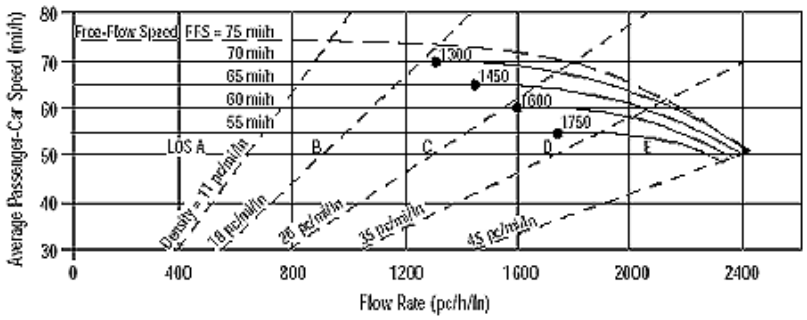

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*11/23/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2035*

Project Description Spanos Park West

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

Flow Inputs

Volume, V	*11767*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2542*	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

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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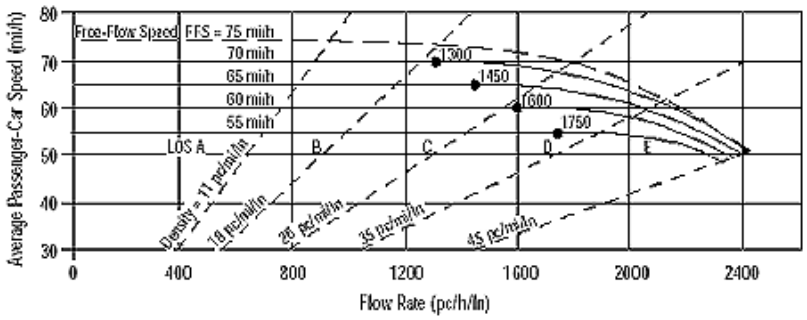

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*11/23/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2035*

Project Description Crystal Bay

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

Flow Inputs				
Volume, V	*10696*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2310*	pc/h/ln	Design LOS	
S	*56.7*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
D = v_p / S	*40.8*	pc/mi/ln	S	mi/h
LOS	*E*		D = v_p / S	pc/mi/ln
			Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - 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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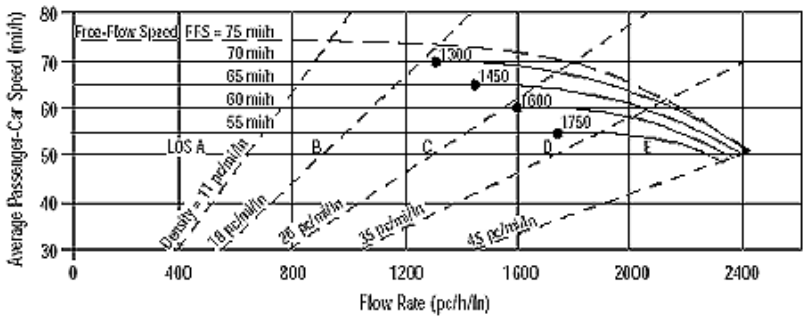

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*11/22/2005*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2035 with Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*4399*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

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)	*950*	pc/h/ln	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S	*70.0*	mi/h	S		mi/h
D = v_p / S	*13.6*	pc/mi/ln	D = v_p / S		pc/mi/ln
LOS	*B*		Required Number of Lanes, N		

Glossary / Factor Location

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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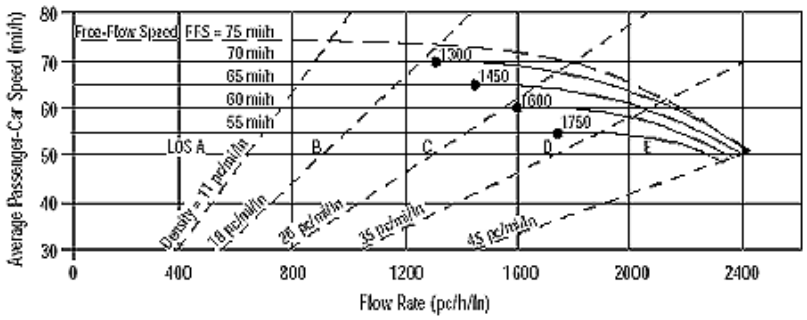

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*11/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2035 with Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*6065*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1310*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*18.7*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary / Factor Location

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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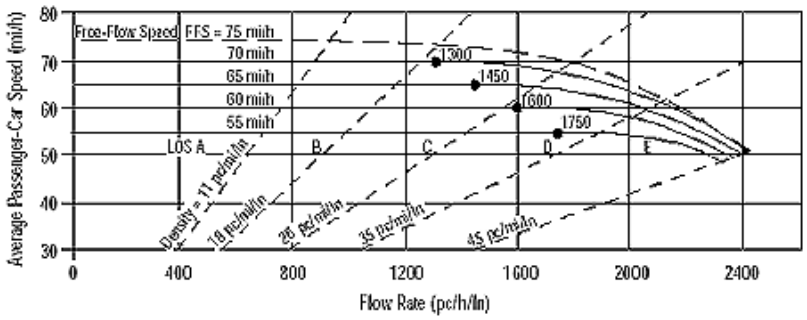

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*JCW*
Agency or Company	*Fehr & Peers Associates*
Date Performed	*11/22/05*
Analysis Time Period	*AM Peak Hour*

Site Information

Highway/Direction of Travel	*I-5 Northbound*
From/To	*South of Eight Mile Road*
Jurisdiction	*Stockton*
Analysis Year	*2035 with Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*5571*	veh/h	Peak-Hour Factor, PHF	*1.00*
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	*5*	
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)	*1203*	pc/h/ln
S	*70.0*	mi/h
D = v_p / S	*17.2*	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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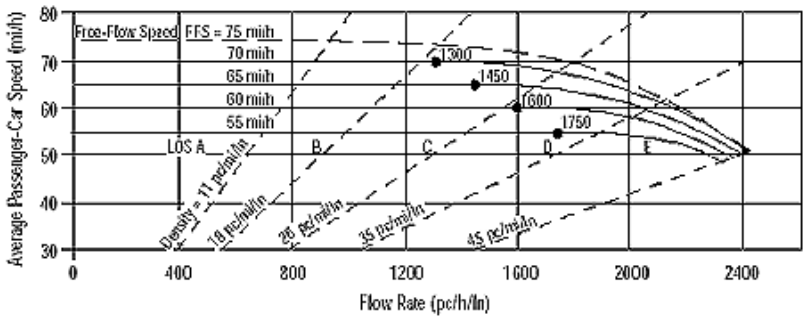
BASIC FREEWAY SEGMENTS WORKSHEET



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

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*11/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2035 with Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*8249*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1782*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*68.0*	mi/h	S	mi/h
D = v_p / S	*26.2*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary / Factor Location

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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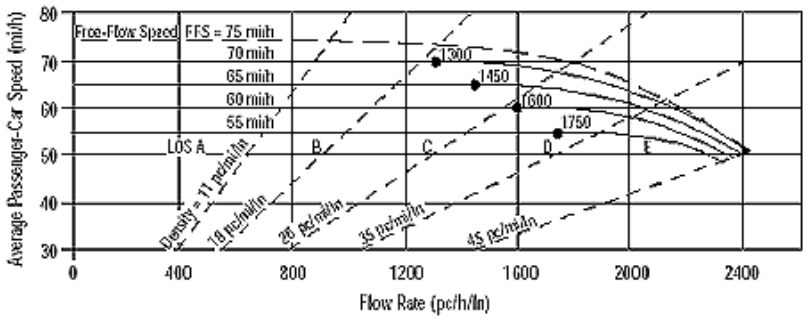

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Hammer Lane*
Date Performed	*11/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2035 with Project*

Project Description Crystal Bay

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

Flow Inputs				
Volume, V	*6411*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1385*	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	*19.8*	pc/mi/ln	S	mi/h
LOS	*C*		D = v_p / S	pc/mi/ln
			Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - 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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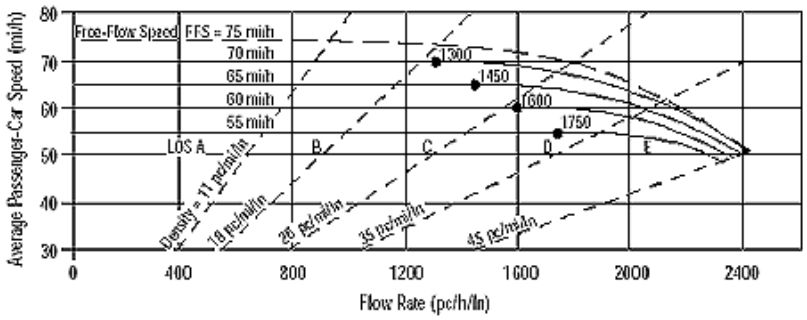

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Hammer Lane*
Date Performed	*11/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2035 with Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*10749*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2322*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*56.2*	mi/h	S	mi/h
D = v_p / S	*41.3*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*E*		Required Number of Lanes, N	

Glossary / Factor Location

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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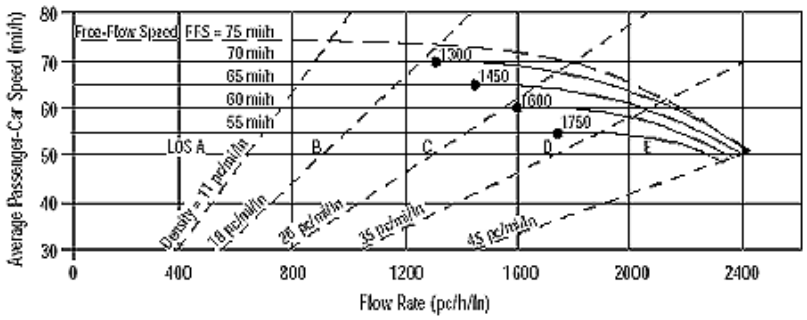

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*11/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2035 with Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*7017*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1516*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*69.8*	mi/h	S	mi/h
D = v_p / S	*21.7*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary / Factor Location

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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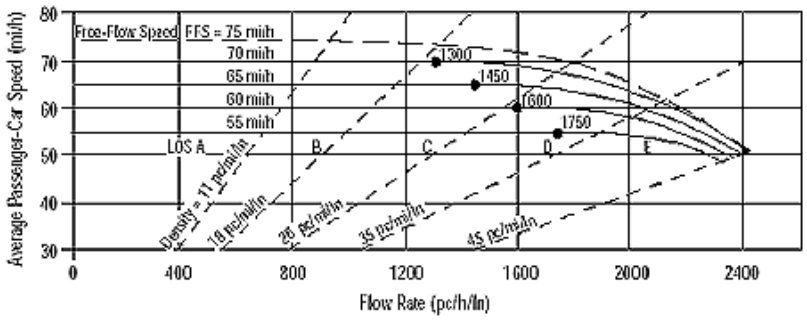

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*11/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2035 with Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*12041*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2601*	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

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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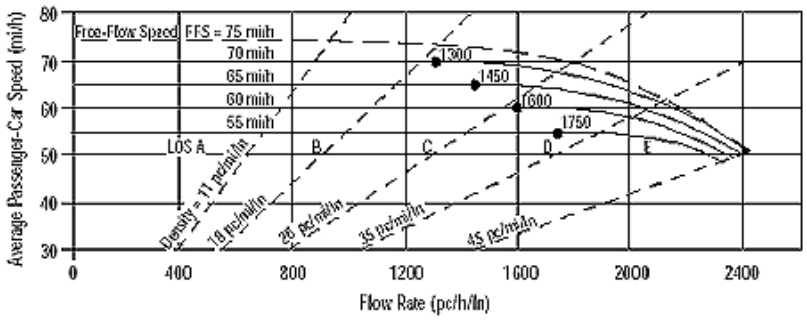

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*11/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2035 with Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*5534*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1195*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*17.1*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		Required Number of Lanes, N	

Glossary / Factor Location

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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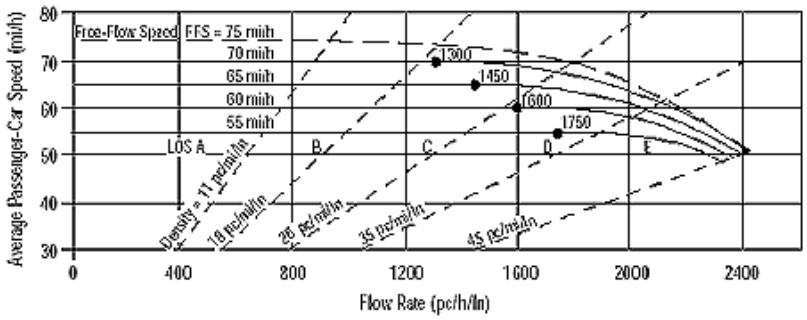

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*11/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2035 with Project*

Project Description Crystal Bay

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

Flow Inputs				
Volume, V	*7646*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1652*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*69.1*	mi/h	S	mi/h
D = v_p / S	*23.9*	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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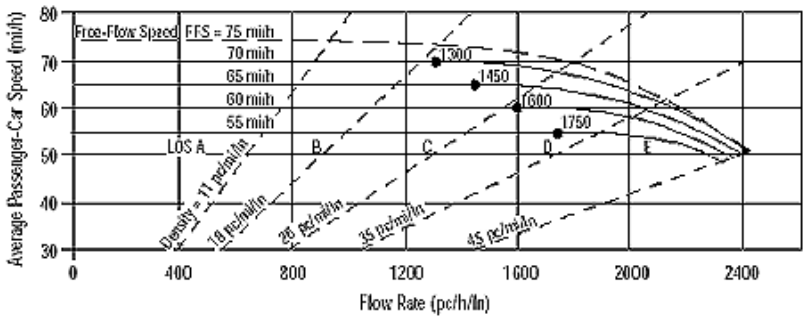
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, 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	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*11/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2035 with Project*

Project Description Crystal Bay

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

Flow Inputs				
Volume, V	*8044*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1738*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*68.5*	mi/h	S	mi/h
D = v_p / S	*25.4*	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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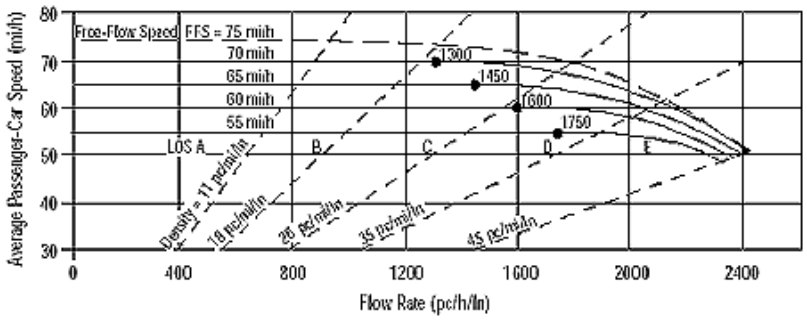

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Eight Mile Road*
Date Performed	*11/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2035 with Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*8973*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1938*	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	*29.4*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary / Factor Location

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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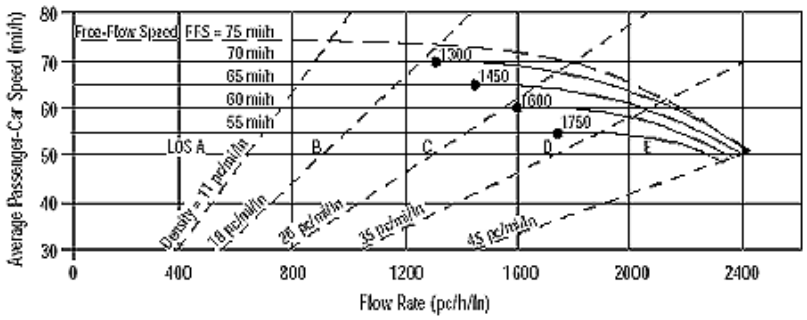

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Hammer Lane*
Date Performed	*11/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2035 with Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*10659*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2302*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*56.9*	mi/h	S	mi/h
D = v_p / S	*40.4*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*E*		Required Number of Lanes, N	

Glossary / Factor Location

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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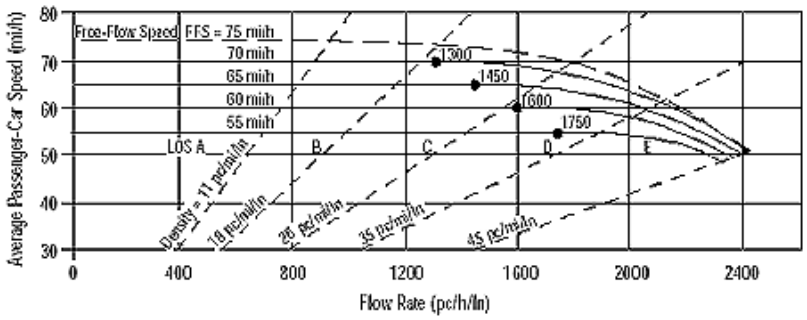

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Hammer Lane*
Date Performed	*11/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2035 with Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*10271*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2219*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*59.6*	mi/h	S	mi/h
D = v_p / S	*37.3*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*E*		Required Number of Lanes, N	

Glossary / Factor Location

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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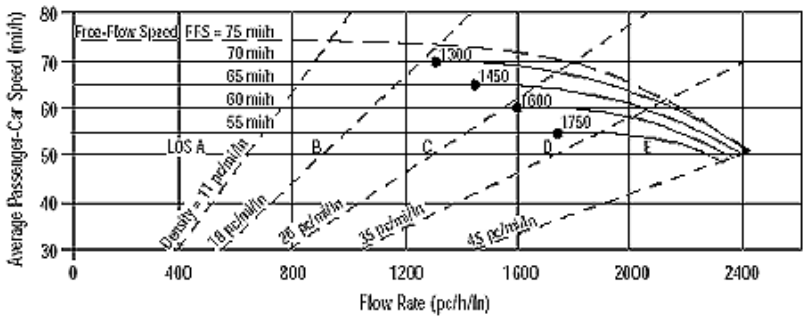

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*11/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2035 with Project*

Project Description Crystal Bay

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

Flow Inputs				
Volume, V	*12005*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2593*	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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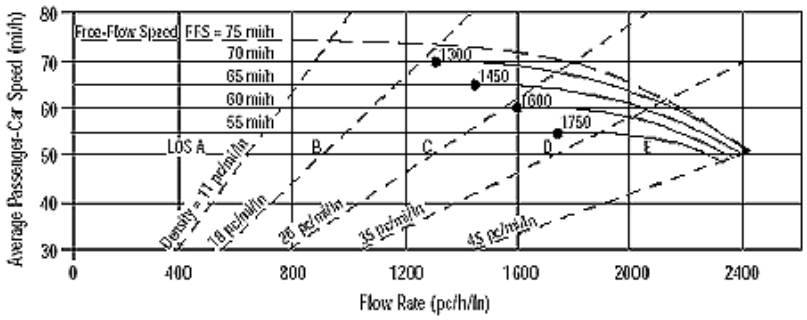

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*North of Eight Mile Road*
Date Performed	*11/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2035 with Project*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*7646*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*5*		f_N		mi/h
FFS (measured)	*70.0*	mi/h	FFS	*70.0*	mi/h
Base free-flow Speed, BFFS		mi/h			

LOS and Performance Measures / Design (N)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1652*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*69.1*	mi/h	S	mi/h
D = v_p / S	*23.9*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*C*		Required Number of Lanes, N	

Glossary / Factor Location

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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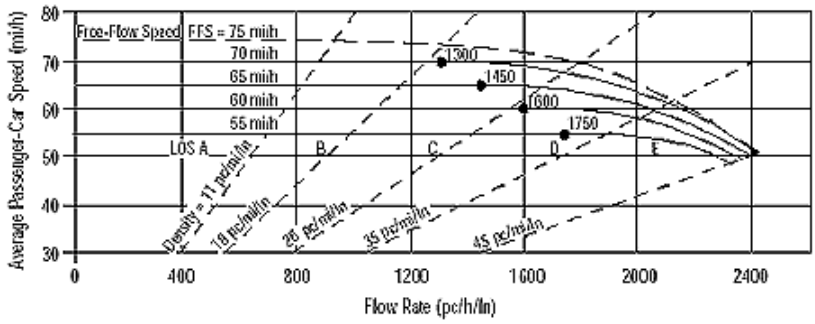
Existing Plus Approved Projects and Future 2025 and Future 2035
With Project Mitigations

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, 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	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Near Term plus Project*

Project Description Crystal Bay (The Spanos Parcel) - Mitigation

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

Flow Inputs				
Volume, V	*3859*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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	*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)	*1042*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*14.9*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		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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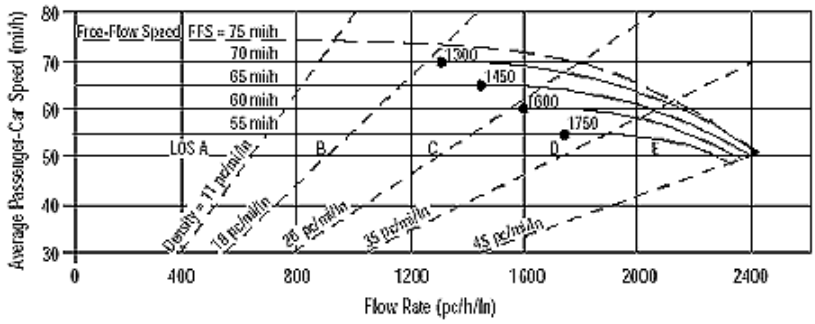
BASIC FREEWAY SEGMENTS WORKSHEET



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

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*Near Term plus Project*

Project Description Crystal Bay (The Spanos Parcel) - Mitigation

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

Flow Inputs

Volume, V	*6569*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1774*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*68.1*	mi/h	S	mi/h
D = v_p / S	*26.0*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary / Factor Location

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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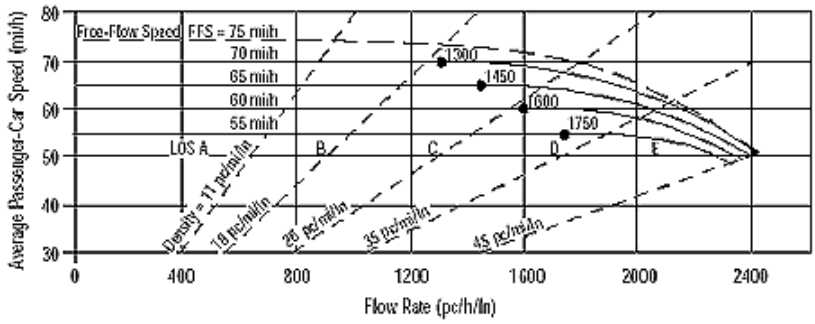
BASIC FREEWAY SEGMENTS WORKSHEET



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

General Information		Site Information	
Analyst	*JCW*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*7/22/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*Near Term plus Project*

Project Description Crystal Bay (The Spanos Parcel) - Mitigation

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

Flow Inputs

Volume, V	*6872*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / Calc Speed Adj and FFS

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	*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)

LOS and Performance Measures			Design (N)	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1855*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*67.2*	mi/h	S	mi/h
D = v_p / S	*27.6*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*D*		Required Number of Lanes, N	

Glossary / Factor Location

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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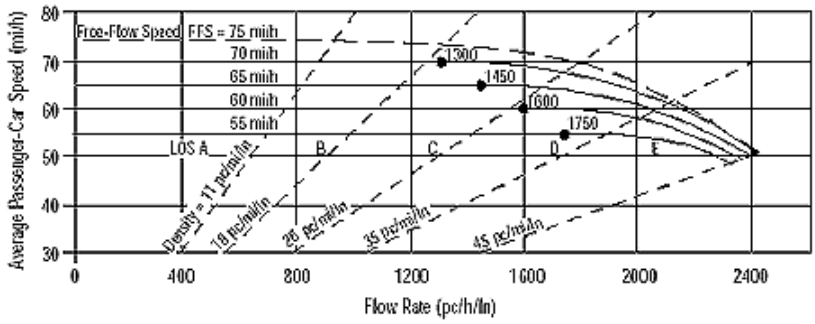
BASIC FREEWAY SEGMENTS WORKSHEET



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	*JCW*
Agency or Company	*Fehr & Peers Associates*
Date Performed	*7/22/05*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-5 Southbound*
From/To	*South of Hammer Lane*
Jurisdiction	*Stockton*
Analysis Year	*Near Term plus Project*

Project Description Crystal Bay (The Spanos Parcel) - Mitigation

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

Flow Inputs

Volume, V	*6165*	veh/h	Peak-Hour Factor, PHF	*1.00*
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	*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)	*1665*	pc/h/ln
S	*69.1*	mi/h
D = v_p / S	*24.1*	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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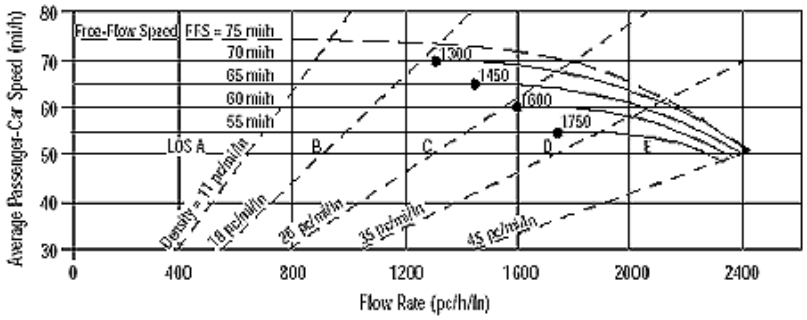

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information / Site Information

Analyst	*JKF*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2025 plus Project - Mitigated*

Project Description Crystal Bay

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

Flow Inputs

Volume, V	*4159*	veh/h	Peak-Hour Factor, PHF	*1.00*
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 / 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	*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)	*1123*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*70.0*	mi/h	S	mi/h
D = v_p / S	*16.0*	pc/mi/ln	D = v_p / S	pc/mi/ln
LOS	*B*		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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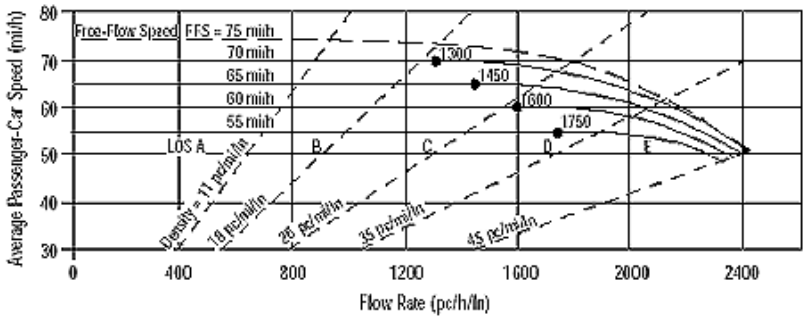

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*JKF*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*AM Peak Hour*	Analysis Year	*2025 plus Project - Mitigated*

Project Description Crystal Bay

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

Flow Inputs				
Volume, V	*6867*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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	*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)	*1854*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*67.2*	mi/h	S	mi/h
D = v_p / S	*27.6*	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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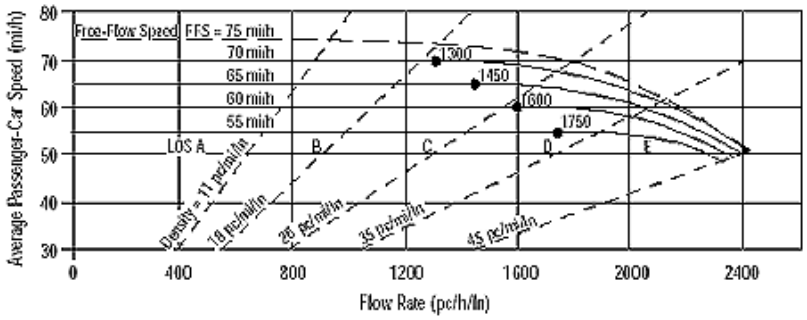
BASIC FREEWAY SEGMENTS WORKSHEET



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	*JKF*	Highway/Direction of Travel	*I-5 Northbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2025 plus Project- Mitigated*

Project Description Crystal Bay

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

Flow Inputs				
Volume, V	*6730*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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	*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)	*1817*	pc/h/ln	Design LOS	
			v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	*67.7*	mi/h	S	mi/h
D = v_p / S	*26.9*	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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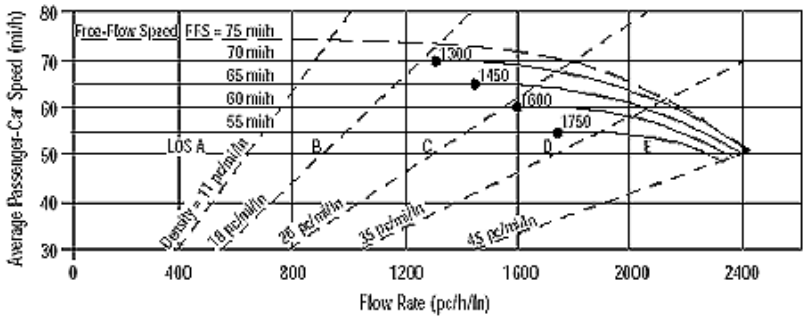
BASIC FREEWAY SEGMENTS WORKSHEET



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	*JKF*	Highway/Direction of Travel	*I-5 Southbound*
Agency or Company	*Fehr & Peers Associates*	From/To	*South of Hammer Lane*
Date Performed	*8/24/05*	Jurisdiction	*Stockton*
Analysis Time Period	*PM Peak Hour*	Analysis Year	*2025 plus Project - Mitigated*

Project Description Crystal Bay

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

Flow Inputs				
Volume, V	*6013*	veh/h	Peak-Hour Factor, PHF	*1.00*
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			**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	*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)	*1624*	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	*23.4*	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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