Russell City Energy Center

Appendix 8.12-A
City of Hayward Peak Traffic Data

May 2001

Russell City Energy Center AFC

May 2001

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4f 02-09-2000
Center For Microcomputers In Transportation

Streets: (E-W) Industrial (N-S) SR92
Analyst: TJKM File Name: 4AEXIST.HC9
Area Type: Other 2-8-0 am peak
Comment: Existing Conditions

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	> 1	1	0	> 1	1	1	2	< 0	1	2	1
Volumes	132	5	68	77	28	9	501	873	128	2	407	92
Lane W (ft)		12.0	12.0		12.0	12.0	12.0	12.0		12.0	12.0	12.0
RTOR Vols			0			0			0			0
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	*				NB	Left	*	*		
	Thru	*					Thru		*	*	
	Right	*					Right		*	*	
	Peds						Peds		*		
WB	Left	*				SB	Left	*			
	Thru	*					Thru			*	
	Right	*					Right			*	
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		21.0A				Green		3.0A	14.0A	10.0A	
Yellow/AR		4.0				Yellow/AR		4.0	0.0	4.0	

Cycle Length: 60 secs Phase combination order: #1 #5 #6 #7

Intersection Performance Summary

	Lane Mvmts	Group: Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	LT	426	1163	0.338	0.367	9.1	B	8.8	B
	R	580	1583	0.124	0.367	8.1	B		
WB	LT	464	1265	0.237	0.367	8.6	B	8.5	B
	R	580	1583	0.016	0.367	7.8	B		
NB	L	531	1770	0.992	0.300	41.7	E	20.7	C
	TR	1522	3654	0.727	0.417	10.7	B		
SB	L	118	1770	0.017	0.067	16.9	C	15.9	C
	T	683	3725	0.657	0.183	16.3	C		
	R	290	1583	0.334	0.183	14.0	B		

Intersection Delay = 18.1 sec/veh Intersection LOS = C
Lost Time/Cycle, L = 9.0 sec Critical v/c(x) = 0.638

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4f 02-09-2000
Center For Microcomputers In Transportation

Streets: (E-W) Industrial (N-S) SR92
Analyst: TJKM File Name: 4PEXIST.HC9
Area Type: Other 2-8-0 pm peak
Comment: Existing Conditions

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	> 1	1	0	> 1	1	1	2	< 0	1	2	1
Volumes	136	34	77	17	6	12	327	466	61	6	960	63
Lane W (ft)		12.0	12.0		12.0	12.0	12.0	12.0		12.0	12.0	12.0
RTOR Vols			0			0			0			0
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	*				NB	Left	*	*		
Thru	*					Thru		*	*	
Right	*					Right		*	*	
Peds						Peds		*		
WB Left	*				SB	Left	*			
Thru	*					Thru			*	
Right	*					Right			*	
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	21.0A				Green		3.0A	12.0A	22.0A	
Yellow/AR	4.0				Yellow/AR		4.0	0.0	4.0	

Cycle Length: 70 secs Phase combination order: #1 #5 #6 #7

Intersection Performance Summary

	Lane Group: Mvmts	Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	LT	510	1623	0.351	0.314	12.1	B	11.8	B
	R	498	1583	0.163	0.314	11.2	B		
WB	LT	453	1441	0.053	0.314	10.8	B	10.8	B
	R	498	1583	0.026	0.314	10.7	B		
NB	L	405	1770	0.850	0.229	27.6	D	14.5	B
	TR	1830	3661	0.318	0.500	6.8	B		
SB	L	101	1770	0.059	0.057	20.2	C	18.7	C
	T	1224	3725	0.868	0.329	19.1	C		
	R	520	1583	0.127	0.329	10.6	B		

Intersection Delay = 16.1 sec/veh Intersection LOS = C
Lost Time/Cycle, L = 9.0 sec Critical v/c(x) = 0.677

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4f 02-09-2000
Center For Microcomputers In Transportation

Streets: (E-W) Depot Road (N-S) Industrial Blvd.
Analyst: TJKM File Name: 3AEXIST.HC9
Area Type: Other 2-8-0 am peak
Comment: Existing Conditions

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	0	> 1	< 0	1	2	1	1	2	1
Volumes	13	39	155	67	304	41	463	424	48	20	377	8
Lane W (ft)	12.0	12.0	12.0		12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vols			0			0			0			0
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	*				NB	Left	*	*		
	Thru	*					Thru		*	*	
	Right	*					Right			*	
	Peds	*					Peds		*		
WB	Left	*				SB	Left	*			
	Thru	*					Thru			*	
	Right	*					Right			*	
	Peds	*					Peds			*	
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		26.0A				Green		5.0A	26.0A	11.0A	
Yellow/AR		4.0				Yellow/AR		4.0	0.0	4.0	

Cycle Length: 80 secs Phase combination order: #1 #5 #6 #7

Intersection Performance Summary

	Lane Mvmts	Group: Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	L	145	430	0.096	0.338	11.7	B	12.5	B
	T	629	1863	0.065	0.338	11.6	B		
	R	534	1583	0.305	0.338	12.7	B		
WB	LTR	537	1592	0.808	0.338	21.8	C	21.8	C
NB	L	708	1770	0.688	0.400	14.8	B	11.9	B
	T	1769	3725	0.265	0.475	8.2	B		
	R	237	1583	0.215	0.150	19.4	C		
SB	L	133	1770	0.158	0.075	22.4	C	24.6	C
	T	559	3725	0.746	0.150	24.8	C		
	R	237	1583	0.034	0.150	18.8	C		

Intersection Delay = 16.7 sec/veh Intersection LOS = C
Lost Time/Cycle, L = 9.0 sec Critical v/c(x) = 0.743

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4f 02-09-2000
Center For Microcomputers In Transportation

Streets: (E-W) Depot Road (N-S) Industrial Blvd.
Analyst: TJKM File Name: 3PEXIST.HC9
Area Type: Other 2-8-0 pm peak
Comment: Existing Conditions

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	1	0	> 1	< 0	1	2	1	1	2	1
Volumes	22	323	470	32	31	17	135	289	70	46	537	7
Lane W (ft)	12.0	12.0	12.0		12.0		12.0	12.0	12.0	12.0	12.0	12.0
RTOR Vols			0			0			0			0
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	*				NB	Left	*	*		
	Thru	*					Thru		*	*	
	Right	*					Right			*	
	Peds	*					Peds		*		
WB	Left	*				SB	Left	*			
	Thru	*					Thru			*	
	Right	*					Right			*	
	Peds	*					Peds			*	
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		33.0A				Green		5.0A	9.0A	21.0A	
Yellow/AR		4.0				Yellow/AR		4.0	0.0	4.0	

Cycle Length: 80 secs Phase combination order: #1 #5 #6 #7

Intersection Performance Summary

	Lane Group: Mvmts	Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	L	597	1405	0.039	0.425	8.7	B	13.3	B
	T	792	1863	0.429	0.425	10.7	B		
	R	673	1583	0.736	0.425	15.4	C		
WB	LTR	465	1094	0.183	0.425	9.3	B	9.3	B
NB	L	332	1770	0.428	0.188	19.1	C	13.4	B
	T	1443	3725	0.221	0.387	10.6	B		
	R	435	1583	0.170	0.275	14.3	B		
SB	L	133	1770	0.362	0.075	23.5	C	17.2	C
	T	1024	3725	0.579	0.275	16.8	C		
	R	435	1583	0.016	0.275	13.6	B		

Intersection Delay = 14.4 sec/veh Intersection LOS = B
Lost Time/Cycle, L = 9.0 sec Critical v/c(x) = 0.622

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4f 02-09-2000
Center For Microcomputers In Transportation

Streets: (E-W) Industrial Blvd. (N-S) Clawater
Analyst: TJKM File Name: 2AEXIST.HC9
Area Type: Other 2-8-0 am peak
Comment: Existing Conditions

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	> 0	< 0	0	0	0	1	2	0	0	2	0
Volumes	141		3				32	438			317	
Lane W (ft)	12.0	12.0					12.0	12.0			12.0	
RTOR Vols			0						0			0
Lost Time	3.00		3.00				3.00	3.00			3.00	

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	*				NB	Left	*	*		
Thru						Thru		*	*	
Right	*					Right			*	
Peds	*					Peds				
WB Left					SB	Left	*			
Thru						Thru			*	
Right						Right			*	
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	18.0A				Green		3.0A	5.0A	17.0A	
Yellow/AR	4.0				Yellow/AR		4.0	0.0	4.0	

Cycle Length: 55 secs Phase combination order: #1 #5 #6 #7

Intersection Performance Summary

	Lane Mvmts	Group: Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	L	611	1770	0.242	0.345	8.3	B	8.3	B
	LR	547	1583	0.005	0.345	7.6	B		
NB	L	290	1770	0.117	0.164	12.7	B	7.3	B
	T	1558	3725	0.311	0.418	7.0	B		
SB	T	1219	3725	0.288	0.327	8.9	B	8.9	B

Intersection Delay = 8.0 sec/veh Intersection LOS = B
Lost Time/Cycle, L = 9.0 sec Critical v/c(x) = 0.236

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4f 02-09-2000
Center For Microcomputers In Transportation

Streets: (E-W) Industrial Blvd. (N-S) Clawater
Analyst: TJKM File Name: 2PEXIST.HC9
Area Type: Other 2-8-0 pm peak
Comment: Existing Conditions

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	> 0	< 0	0	0	0	1	2	0	0	2	0
Volumes	783		15				60	362			579	
Lane W (ft)	12.0	12.0					12.0	12.0			12.0	
RTOR Vols			0						0			0
Lost Time	3.00		3.00				3.00	3.00			3.00	

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	*				NB Left	*	*		
Thru					Thru		*	*	
Right	*				Right			*	
Peds	*				Peds				
WB Left					SB Left	*			
Thru					Thru			*	
Right					Right			*	
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	18.0A				Green	3.0A	5.0A	17.0A	
Yellow/AR	4.0				Yellow/AR	4.0	0.0	4.0	

Cycle Length: 55 secs Phase combination order: #1 #5 #6 #7

Intersection Performance Summary

	Lane Mvmts	Group: Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	L	611	1770	0.674	0.345	12.0	B	12.3	B
	LR	610	1767	0.701	0.345	12.5	B		
NB	L	290	1770	0.218	0.164	12.9	B	7.6	B
	T	1558	3725	0.257	0.418	6.8	B		
SB	T	1219	3725	0.524	0.327	10.0	B	10.0	B

Intersection Delay = 10.4 sec/veh Intersection LOS = B
Lost Time/Cycle, L = 9.0 sec Critical v/c(x) = 0.537

@bFOUT4; HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4f 02-09-200
Center For Microcomputers In Transportation

Streets: (E-W) Depot Road (N-S) Clawater
Analyst: TJKM File Name: 1AEXIST.HC9
Area Type: Other 2-8-0 am peak
Comment: Existing Conditions

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	> 2	< 0	0	> 2	1	0	> 2	< 0	0	> 2	1
Volumes	59	149	48	208	516	3	54	66	27	21	771	306
Lane W (ft)		12.0			12.0	12.0		12.0			12.0	12.0
RTOR Vols			0			0			0			0
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	*				NB	Left	*			
	Thru	*					Thru	*			
	Right	*					Right	*			
	Peds	*					Peds	*			
WB	Left		*			SB	Left	*			
	Thru		*				Thru	*			
	Right		*				Right	*			
	Peds		*				Peds	*			
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		18.0A	23.0A			Green		27.0A			
Yellow/AR		4.0	4.0			Yellow/AR		4.0			

Cycle Length: 80 secs Phase combination order: #1 #2 #5

Intersection Performance Summary

	Lane Group: Mvmts	Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	LTR	850	3579	0.333	0.237	16.4	C	16.4	C
WB	LT	1102	3673	0.726	0.300	17.9	C	17.9	C
	R	475	1583	0.006	0.300	12.7	B		
NB	DfL	93	266	0.612	0.350	21.5	C	15.2	C
	TR	624	1782	0.156	0.350	11.6	B		
SB	LT	1231	3516	0.712	0.350	15.9	C	15.6	C
	R	554	1583	0.581	0.350	14.8	B		

Intersection Delay = 16.4 sec/veh Intersection LOS = C
Lost Time/Cycle, L = 9.0 sec Critical v/c(x) = 0.615

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4f 02-09-2000
Center For Microcomputers In Transportation

Streets: (E-W) Depot Road (N-S) Clawater
Analyst: TJKM File Name: 1PEXIST.HC9
Area Type: Other 2-8-0 pm peak
Comment: Existing Conditions

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	> 2	< 0	0	> 2	1	0	> 2	< 0	0	> 2	1
Volumes	246	531	43	38	148	7	40	426	220	18	113	79
Lane W (ft)		12.0			12.0	12.0		12.0			12.0	12.0
RTOR Vols			0			0			0			0
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	*				NB	Left	*			
	Thru	*					Thru	*			
	Right	*					Right	*			
	Peds	*					Peds	*			
WB	Left		*			SB	Left	*			
	Thru		*				Thru	*			
	Right		*				Right	*			
	Peds		*				Peds	*			
NB	Right					EB	Right				
SB	Right					WB	Right				
Green		34.0A	14.0A			Green		32.0A			
Yellow/AR		4.0	4.0			Yellow/AR		4.0			

Cycle Length: 92 secs Phase combination order: #1 #2 #5

Intersection Performance Summary

	Lane Group: Mvmts	Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	LTR	1386	3642	0.654	0.380	16.0	C	16.0	C
WB	LT	601	3688	0.343	0.163	22.2	C	22.1	C
	R	258	1583	0.027	0.163	20.9	C		
NB	LTR	1172	3266	0.647	0.359	16.8	C	16.8	C
SB	LT	986	2748	0.147	0.359	12.9	B	12.9	B
	R	568	1583	0.146	0.359	12.9	B		

Intersection Delay = 16.6 sec/veh Intersection LOS = C
Lost Time/Cycle, L = 9.0 sec Critical v/c(x) = 0.595

Y OF HAYWARD

Fax 786-2879

File Name : ENTCL
Site Code : 000000
Start Date : 04/19/2
Page No : 1

Groups Printed- Movement 1

Start Time	CLAWITER RD. Southbound Left	Thru	Rght		App. Total	ENTERPRISE AVE. Westbound Left	Thru	Rght		App. Total	CLAWITER RD. Northbound Left	Thru	Rght		App. Total	BERKELEY FARMS Eastbound Left	Thru	Rght		App. Total	Int. Tot
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	1	188	44	0	233	4	0	1	0	5	12	80	6	0	98	7	0	6	0	13	349
07:15 AM	0	182	34	0	216	2	0	1	0	3	7	81	2	0	90	13	0	4	0	17	326
07:30 AM	1	191	41	0	233	5	0	1	0	6	17	80	3	0	100	9	0	9	0	18	357
07:45 AM	1	187	57	0	245	2	0	1	0	3	10	85	6	0	101	8	0	9	0	17	366
Total	3	748	176	0	927	13	0	4	0	17	46	326	17	0	389	37	0	28	0	65	1398
08:00 AM	1	200	49	0	250	1	0	1	0	2	13	87	1	0	101	15	1	11	0	27	380
08:15 AM	2	175	30	0	207	1	0	1	0	2	12	91	2	0	105	13	0	4	0	17	331
08:30 AM	1	132	30	0	163	4	0	1	0	5	8	68	3	0	79	7	0	8	0	15	262
08:45 AM	3	114	38	0	155	1	1	1	0	3	10	86	2	0	98	13	2	14	0	29	285
Total	7	621	147	0	775	7	1	4	0	12	43	332	8	0	383	48	3	37	0	88	1258
11:00 AM	0	81	11	0	92	1	0	0	0	1	16	97	2	0	115	10	0	15	0	25	233
11:15 AM	0	85	11	0	96	2	0	0	0	2	18	102	4	0	124	9	0	16	0	25	247
11:30 AM	0	89	22	0	111	4	1	0	0	5	17	86	8	0	111	19	0	14	0	33	260
11:45 AM	0	91	24	0	115	2	0	1	0	3	19	87	6	0	112	23	0	12	0	35	265
Total	0	346	68	0	414	9	1	1	0	11	70	372	20	0	462	61	0	57	0	118	1005
12:00 PM	1	101	8	0	110	3	1	1	0	5	8	111	8	0	127	25	1	16	0	42	284
12:15 PM	5	101	11	0	117	2	0	1	0	3	10	111	5	0	126	24	0	13	0	37	283
12:30 PM	0	104	14	0	118	3	1	2	0	6	16	110	1	0	127	21	0	22	0	43	294
12:45 PM	0	101	13	0	114	1	0	1	0	2	19	112	1	0	132	20	0	24	0	44	292
Total	6	407	46	0	459	9	2	5	0	16	53	444	15	0	512	90	1	75	0	166	1153
04:00 PM	1	99	10	0	110	5	0	0	0	5	12	162	2	0	176	45	0	35	0	80	371
04:15 PM	0	105	7	0	112	3	0	0	0	3	10	168	1	0	179	48	0	41	0	89	383
04:30 PM	1	137	5	0	143	8	0	6	0	14	5	143	3	0	151	41	0	21	0	62	370
04:45 PM	2	129	3	0	134	5	0	8	0	13	6	147	2	0	155	31	0	29	0	60	362
Total	4	470	25	0	499	21	0	14	0	35	33	620	8	0	661	165	0	126	0	291	1486
05:00 PM	0	128	8	0	136	3	0	1	0	4	4	144	1	0	149	51	0	21	0	72	361
05:15 PM	1	124	11	0	136	5	0	1	0	6	6	149	1	0	156	53	0	24	0	77	375
05:30 PM	0	111	3	0	114	7	0	1	0	8	4	134	4	0	142	42	0	17	0	59	323
05:45 PM	0	105	7	0	112	3	0	1	0	4	23	131	1	0	155	23	0	12	0	35	306
Total	1	468	29	0	498	18	0	4	0	22	37	558	7	0	602	169	0	74	0	243	1365
Grand Total	21	3060	491	0	3572	77	4	32	0	113	282	2652	75	0	3009	570	4	397	0	971	7665
Apprch %	0.6	85.7	13.7	0.0		68.1	3.5	28.3	0.0		9.4	88.1	2.5	0.0		58.7	0.4	40.9	0.0		
Total %	0.3	39.9	6.4	0.0	46.6	1.0	0.1	0.4	0.0	1.5	3.7	34.6	1.0	0.0	39.3	7.4	0.1	5.2	0.0	12.7	

Russell City Energy Center AFC

May 2001