APPENDIX C

TRANSPORTATION AND CIRCULATION DATA

Bentley School EIR Appendices

Submitted by:

Dowling Associates, Inc.
Transportation Engineering • Planning • Research • Education

180 Grand Avenue, Suite 250
Oakland, CA 94612
Phone: (510) 839-1742; Fax: (510) 839-0871
www.dowlinginc.com
Contact: Mark Bowman & Kevin Chen

January 25, 2008

Bentley School Major Conditional Use Permit EIR
Traffic Data

C-1: Existing Traffic Counts

C-2: Existing No Project Conditions Synchro Level of Service Worksheets

C-3: Cumulative No Project Conditions Synchro Level of Service Worksheets

C-4: Existing Plus Project Conditions Synchro Level of Service Worksheets

C-5: Cumulative Plus Project Conditions Synchro Level of Service Worksheets

C-1

Existing Traffic Counts

G-1

Existing Traffic Counts

Traffic counts for all study intersections were initially collected on Wednesday, October 24, by subcontractor, Wiltec. The initial traffic counts were reviewed by Dowling Associates staff and City of Oakland staff to check for reasonableness.

Traffic Count Issue and Reconciliation:

The review found that the counts collected at the school driveway location were unrealistically high during the AM peak hour. Specifically, the counts showed a total of 518 vehicles entered the school driveway on Hiller Drive during the morning peak hour. There are only 352 students enrolled in the school, of which approximately 79 students take bus transit to school, leaving approximately 273 students requiring drop off from parents by vehicle. Additional factors to be considered to check the reasonableness of counts at the school driveway include:

1. A small portion of the parents park on Hiller Drive without entering the school, and walk the students to class.
2. There are students who carpool (i.e. parents that drop off more than one student per vehicle).
3. At the Hiller Drive on-campus drive parking lot, there are a total 23 spaces, and most staff would enter the parking lot during the peak hour.

For the reasons stated above, a total of 518 vehicles entering the school driveway in the morning peak hour is concluded to be unreasonably high. Therefore, the subcontractor, Wiltec, was requested to conduct recount at that location.

Counts were collected for the second time by Wiltec on Wednesday, December 5, 2007, at the school driveway. The re-count showed that a total of 397 vehicles entered the school during the morning peak hour, which was still considered to be unrealistically high for the reasons stated above.

Therefore, a third count was required in order to reconcile the conflict and obtain accurate data to proceed with the analysis. Dowling Associates staff collected traffic counts at the school driveway on Tuesday, January 8, 2008. A total of 220 vehicles were counted that entered the driveway during the morning peak hour, which is a reasonable count, considering the current

enrollment level and the other factors listed above. Therefore, this latest set of data is used to replace the previous counts at this location.

To further demonstrate the validity of the latest set of traffic counts (collected on January 8, 2008), Table G-A provides a comparison with the ITE trip generation rate, as well as previously collected counts at the Bentley school driveway, in 2005. As shown in the Table, the counts collected at the school driveway were relatively consistent between 2005 and 2008. And, both of the actual counts were higher than the standard ITE Trip Generation rate. Therefore, using the latest traffic counts in 2008 would be appropriate, and would yield more conservative results than ITE rates.

Table G-A. Comparison of Traffic Counts at School Driveway

Source	Amount		AM Peak Hour		
			In	Out	Total
ITE Trip Generation *	352	students	170	139	309
2005 **	354	students	201	183	384
2008 ***	352	students	220	208	428

* ITE Trip Generation were calculated from regression equation of the 7th Edition, ITE land use code 534 (private K-8)

** 2005 December Counts were collected by Dowling Associates staff.

** 2008 January Counts were collected by Dowling Associates staff.

WILTEC

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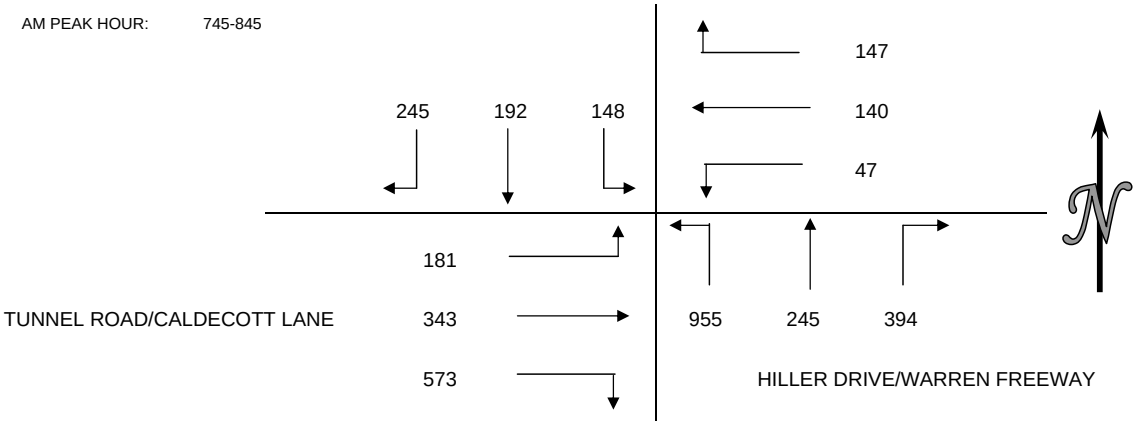
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: DOWLING ASSOCIATES
PROJECT: OAKLAND BENTLEY SCHOOL PROJECT
DATE: WEDNESDAY OCTOBER 24TH 2007
PERIOD" 7:00 AM TO 9:00 AM
INTERSECTION: N/S HILLER DRIVE/WARREN FREEWAY
E/W TUNNEL ROAD/CALDECOTT LANE

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-715	12	10	3	14	18	3	25	11	184	78	58	18	434
715-730	16	12	8	16	30	2	107	22	239	100	78	23	653
730-745	40	17	12	22	42	6	117	37	257	121	110	20	801
745-800	44	25	24	31	31	7	117	41	241	126	89	28	804
800-815	63	50	38	40	30	13	118	70	225	146	79	43	915
815-830	82	56	44	46	35	19	86	68	240	159	86	62	983
830-845	56	61	42	30	44	8	73	66	249	142	89	48	908
845-900	38	39	31	18	40	9	62	38	247	134	71	20	747
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-800	112	64	47	83	121	18	366	111	921	425	335	89	2692
715-815	163	104	82	109	133	28	459	170	962	493	356	114	3173
730-830	229	148	118	139	138	45	438	216	963	552	364	153	3503
745-845	245	192	148	147	140	47	394	245	955	573	343	181	3610
800-900	239	206	155	134	149	49	339	242	961	581	325	173	3553

AM PEAK HOUR: 745-845



PEDESTRIAN COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-715	0	0	0	0	0
715-730	1	0	0	0	1
730-745	0	0	0	0	0
745-800	2	0	0	0	2
800-815	0	0	0	0	0
815-830	1	0	0	0	1
830-845	0	0	0	0	0
845-900	0	0	0	0	0
HOUR TOTALS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-800	3	0	0	0	3
715-815	3	0	0	0	3
730-830	3	0	0	0	3
745-845	3	0	0	0	3
800-900	1	0	0	0	1

BICYCLE COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-715	2	0	0	0	2
715-730	1	0	0	0	1
730-745	0	0	0	0	0
745-800	0	0	0	0	0
800-815	2	0	0	0	2
815-830	0	0	0	0	0
830-845	0	0	0	0	0
845-900	0	0	0	0	0
HOUR TOTALS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-800	3	0	0	0	3
715-815	3	0	0	0	3
730-830	2	0	0	0	2
745-845	2	0	0	0	2
800-900	2	0	0	0	2

WILTEC

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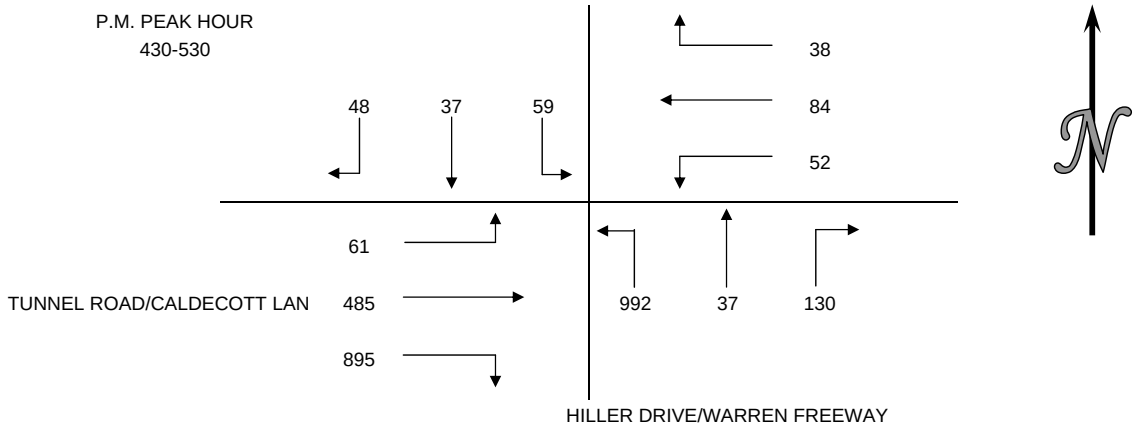
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: DOWLING ASSOCIATES
PROJECT: OAKLAND BENTLEY SCHOOL PROJECT
DATE: WEDNESDAY OCTOBER 24TH 2007
PERIOD: 3;00 PM TO 6:00 PM
INTERSECTION: N/S HILLER DRIVE/WARREN FREEWAY
E/W TUNNEL ROAD/CALDECOTT LANE

15 MIN COUNTS													
	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-315	7	8	16	13	15	7	6	7	215	180	116	11	601
315-330	11	8	13	14	12	4	6	13	219	197	125	18	640
330-345	21	19	22	19	20	7	5	26	211	201	121	16	688
345-400	14	3	16	4	17	7	10	20	207	184	127	14	623
400-415	10	3	16	6	21	6	38	14	198	204	137	22	675
415-430	14	7	18	8	13	9	28	12	218	218	122	18	685
430-445	15	12	11	12	26	4	28	10	237	223	102	18	698
445-500	11	8	18	9	14	21	25	9	251	247	112	14	739
500-515	8	5	12	3	25	18	56	4	245	214	131	12	733
515-530	14	12	18	14	19	9	21	14	259	211	140	17	748
530-545	8	4	14	3	14	9	22	13	250	188	90	6	621
545-600	10	8	4	11	15	12	19	20	246	135	97	19	596
HOUR TOTALS													
	1	2	3	4	5	6	7	8	9	10	11	12	
TIME	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-400	53	38	67	50	64	25	27	66	852	762	489	59	2552
315-415	56	33	67	43	70	24	59	73	835	786	510	70	2626
330-430	59	32	72	37	71	29	81	72	834	807	507	70	2671
345-445	53	25	61	30	77	26	104	56	860	829	488	72	2681
400-500	50	30	63	35	74	40	119	45	904	892	473	72	2797
415-515	48	32	59	32	78	52	137	35	951	902	467	62	2855
430-530	48	37	59	38	84	52	130	37	992	895	485	61	2918
445-545	41	29	62	29	72	57	124	40	1005	860	473	49	2841
500-600	40	29	48	31	73	48	118	51	1000	748	458	54	2698



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INTERSECTION PEDESTRIAN AND BICYCLE COUNT SUMMARY

CLIENT: DOWLING ASSOCIATES
PROJECT: OAKLAND BENTLEY SCHOOL PROJECT
DATE: WEDNESDAY OCTOBER 24TH 2007
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: N/S HILLER DRIVE
E/W SCHOOL ACCESS

15 MIN COUNTS

	PEDESTRIANS					BICYCLES			
PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG		NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
300-315	0	0	0	6		0	0	0	0
315-330	0	0	0	8		0	0	0	0
330-345	0	0	0	13		0	0	0	0
345-400	1	0	0	5		0	0	0	1
400-415	0	0	0	2		0	0	0	0
415-430	0	0	0	2		0	0	0	0
430-445	0	0	0	0		0	0	0	0
445-500	0	0	0	7		0	0	0	0
500-515	1	0	0	4		0	0	0	0
515-530	0	0	0	5		0	0	0	0
530-545	0	0	0	6		0	0	0	0
545-600	0	0	0	5		0	0	0	0

HOUR TOTALS

	PEDESTRIANS					BICYCLES			
TIME	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG		NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
300-400	1	0	0	32		0	0	0	1
315-415	1	0	0	28		0	0	0	1
330-430	1	0	0	22		0	0	0	1
345-445	1	0	0	9		0	0	0	1
400-500	0	0	0	11		0	0	0	0
415-515	1	0	0	13		0	0	0	0
430-530	1	0	0	16		0	0	0	0
445-545	1	0	0	22		0	0	0	0
500-600	1	0	0	20		0	0	0	0

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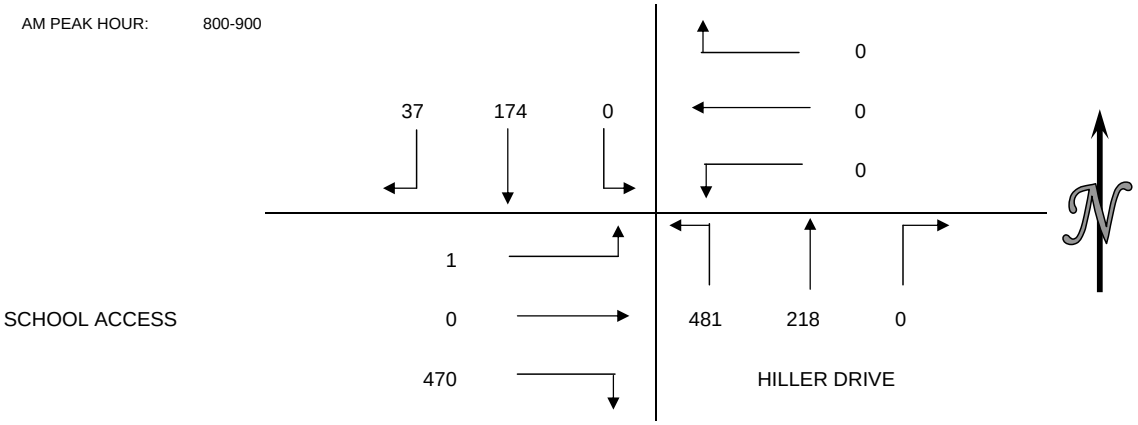
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: DOWLING ASSOCIATES
PROJECT: OAKLAND BENTLEY SCHOOL PROJECT
DATE: WEDNESDAY OCTOBER 24TH 2007
PERIOD" 7:00 AM TO 9:00 AM
INTERSECTION: N/S HILLER DRIVE
E/W SCHOOL ACCESS

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-715	5	25	0	0	0	0	0	14	12	10	0	0	66
715-730	4	24	0	0	0	0	0	31	23	18	0	0	100
730-745	8	33	0	0	0	0	0	15	33	25	0	1	115
745-800	6	39	0	0	0	0	0	31	43	46	0	2	167
800-815	6	29	0	0	0	0	0	31	125	107	0	0	298
815-830	11	41	0	0	0	0	0	49	183	178	0	0	462
830-845	15	51	0	0	0	0	0	90	114	101	0	1	372
845-900	5	53	0	0	0	0	0	48	59	84	0	0	249
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-800	23	121	0	0	0	0	0	91	111	99	0	3	448
715-815	24	125	0	0	0	0	0	108	224	196	0	3	680
730-830	31	142	0	0	0	0	0	126	384	356	0	3	1042
745-845	38	160	0	0	0	0	0	201	465	432	0	3	1299
800-900	37	174	0	0	0	0	0	218	481	470	0	1	1381

AM PEAK HOUR: 800-900



PEDESTRIAN COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-715	0	0	12	0	12
715-730	0	0	10	0	10
730-745	0	0	10	0	10
745-800	0	0	13	0	13
800-815	0	0	71	0	71
815-830	0	0	102	0	102
830-845	0	0	8	0	8
845-900	0	0	3	0	3
HOUR TOTALS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-800	0	0	45	0	45
715-815	0	0	104	0	104
730-830	0	0	196	0	196
745-845	0	0	194	0	194
800-900	0	0	184	0	184

BICYCLE COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-715	0	0	0	0	0
715-730	0	0	0	0	0
730-745	0	0	1	0	1
745-800	0	0	1	0	1
800-815	0	0	0	0	0
815-830	0	0	0	0	0
830-845	0	0	1	0	1
845-900	0	0	0	0	0
HOUR TOTALS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-800	0	0	2	0	2
715-815	0	0	2	0	2
730-830	0	0	2	0	2
745-845	0	0	2	0	2
800-900	0	0	1	0	1

WILTEC

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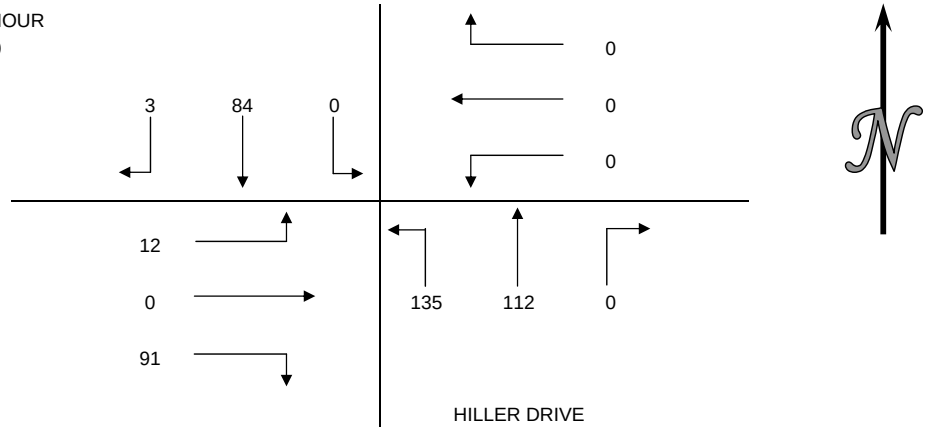
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: DOWLING ASSOCIATES
PROJECT: OAKLAND BENTLEY SCHOOL PROJECT
DATE: WEDNESDAY OCTOBER 24TH 2007
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: N/S HILLER DRIVE
E/W SCHOOL ACCESS

15 MIN COUNTS													
	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-315	0	18	0	0	0	0	0	22	36	19	0	3	98
315-330	0	15	0	0	0	0	0	29	41	23	0	2	110
330-345	1	23	0	0	0	0	0	36	36	24	0	4	124
345-400	2	28	0	0	0	0	0	25	22	25	0	3	105
400-415	3	25	0	0	0	0	0	23	18	21	0	3	93
415-430	1	31	0	0	0	0	0	26	15	14	0	3	90
430-445	2	17	0	0	0	0	0	25	10	6	0	1	61
445-500	2	14	0	0	0	0	0	24	12	6	0	4	62
500-515	4	16	0	0	0	0	0	28	18	8	0	1	75
515-530	3	14	0	0	0	0	0	33	7	6	0	2	65
530-545	3	20	0	0	0	0	0	26	7	6	0	3	65
545-600	3	13	0	0	0	0	0	28	9	9	0	5	67
HOUR TOTALS													
	1	2	3	4	5	6	7	8	9	10	11	12	
TIME	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-400	3	84	0	0	0	0	0	112	135	91	0	12	437
315-415	6	91	0	0	0	0	0	113	117	93	0	12	432
330-430	7	107	0	0	0	0	0	110	91	84	0	13	412
345-445	8	101	0	0	0	0	0	99	65	66	0	10	349
400-500	8	87	0	0	0	0	0	98	55	47	0	11	306
415-515	9	78	0	0	0	0	0	103	55	34	0	9	288
430-530	11	61	0	0	0	0	0	110	47	26	0	8	263
445-545	12	64	0	0	0	0	0	111	44	26	0	10	267
500-600	13	63	0	0	0	0	0	115	41	29	0	11	272

P.M. PEAK HOUR
300-400



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INTERSECTION PEDESTRIAN AND BICYCLE COUNT SUMMARY

CLIENT: DOWLING ASSOCIATES
PROJECT: OAKLAND BENTLEY SCHOOL PROJECT
DATE: WEDNESDAY OCTOBER 24TH 2007
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: N/S VINCENTE ROAD
E/W TUNNEL ROAD

15 MIN COUNTS

	PEDESTRIANS					BICYCLES			
PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG		NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
300-315	2	0	0	0		1	0	0	0
315-330	2	0	0	0		0	0	0	0
330-345	0	0	0	0		1	0	0	0
345-400	3	0	0	0		0	0	0	0
400-415	2	0	0	0		0	0	0	0
415-430	2	0	0	0		0	0	0	0
430-445	0	0	0	0		2	0	0	0
445-500	1	0	0	0		0	0	0	0
500-515	3	0	0	0		0	0	0	0
515-530	0	0	0	0		0	0	0	0
530-545	0	0	0	0		0	0	0	0
545-600	1	0	0	0		0	0	0	0

HOUR TOTALS

	PEDESTRIANS					BICYCLES			
TIME	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG		NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
300-400	7	0	0	0		2	0	0	0
315-415	7	0	0	0		1	0	0	0
330-430	7	0	0	0		1	0	0	0
345-445	7	0	0	0		2	0	0	0
400-500	5	0	0	0		2	0	0	0
415-515	6	0	0	0		2	0	0	0
430-530	4	0	0	0		2	0	0	0
445-545	4	0	0	0		0	0	0	0
500-600	4	0	0	0		0	0	0	0

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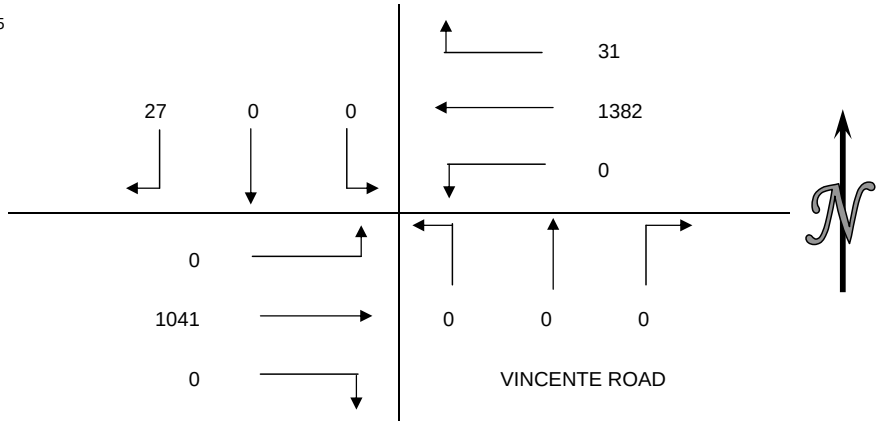
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: DOWLING ASSOCIATES
PROJECT: OAKLAND BENTLEY SCHOOL PROJECT
DATE: WEDNESDAY OCTOBER 24TH 2007
PERIOD" 7:00 AM TO 9:00 AM
INTERSECTION: N/S VINCENTE ROAD
E/W TUNNEL ROAD

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-715	5	0	0	3	253	0	0	0	0	0	210	0	471
715-730	4	0	0	3	288	0	0	0	0	0	228	0	523
730-745	3	0	0	1	268	0	0	0	0	0	258	0	530
745-800	6	0	0	8	355	0	0	0	0	0	269	0	638
800-815	8	0	0	10	353	0	0	0	0	0	281	0	652
815-830	5	0	0	4	321	0	0	0	0	0	254	0	584
830-845	8	0	0	9	353	0	0	0	0	0	237	0	607
845-900	6	0	0	5	324	0	0	0	0	0	214	0	549
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-800	18	0	0	15	1164	0	0	0	0	0	965	0	2162
715-815	21	0	0	22	1264	0	0	0	0	0	1036	0	2343
730-830	22	0	0	23	1297	0	0	0	0	0	1062	0	2404
745-845	27	0	0	31	1382	0	0	0	0	0	1041	0	2481
800-900	27	0	0	28	1351	0	0	0	0	0	986	0	2392

AM PEAK HOUR: 745-845



PEDESTRIAN COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-715	4	0	0	4	8
715-730	5	0	0	5	10
730-745	2	0	0	2	4
745-800	0	0	0	0	0
800-815	4	0	0	4	8
815-830	1	0	0	1	2
830-845	3	0	0	3	6
845-900	3	0	0	3	6
HOUR TOTALS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-800	11	0	0	11	22
715-815	11	0	0	11	22
730-830	7	0	0	7	14
745-845	8	0	0	8	16
800-900	11	0	0	11	22

BICYCLE COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-715	0	0	0	0	0
715-730	0	0	0	0	0
730-745	0	0	0	2	2
745-800	0	0	0	0	0
800-815	0	0	0	1	1
815-830	0	0	0	2	2
830-845	0	0	0	2	2
845-900	0	0	0	0	0
HOUR TOTALS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-800	0	0	0	2	2
715-815	0	0	0	3	3
730-830	0	0	0	5	5
745-845	0	0	0	5	5
800-900	0	0	0	5	5

WILTEC

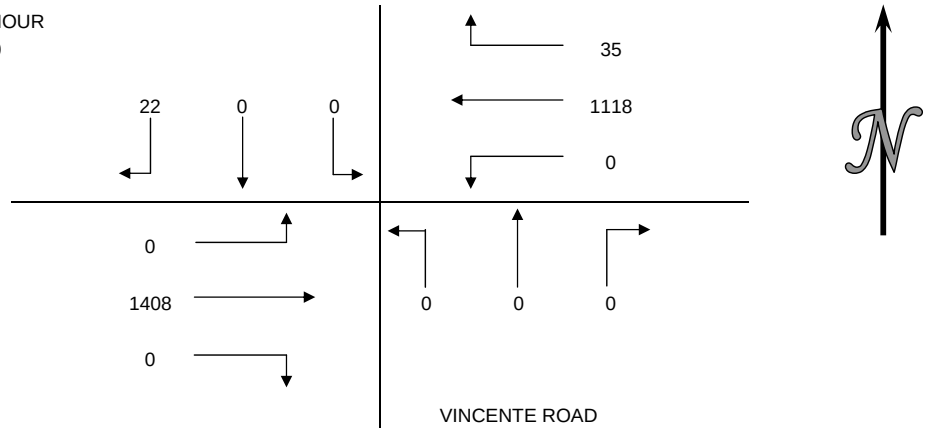
Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: DOWLING ASSOCIATES
PROJECT: OAKLAND BENTLEY SCHOOL PROJECT
DATE: WEDNESDAY OCTOBER 24TH 2007
PERIOD: 3;00 PM TO 6:00 PM
INTERSECTION: N/S VINCENTE ROAD
E/W TUNNEL ROAD

15 MIN COUNTS													
	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-315	4	0	0	7	223	0	0	0	0	0	330	0	564
315-330	2	0	0	5	262	0	0	0	0	0	335	0	604
330-345	8	0	0	6	242	0	0	0	0	0	337	0	593
345-400	5	0	0	4	230	0	0	0	0	0	341	0	580
400-415	5	0	0	15	237	0	0	0	0	0	343	0	600
415-430	5	0	0	12	238	0	0	0	0	0	338	0	593
430-445	14	0	0	4	246	0	0	0	0	0	363	0	627
445-500	10	0	0	5	265	0	0	0	0	0	387	0	667
500-515	8	0	0	11	281	0	0	0	0	0	354	0	654
515-530	4	0	0	4	252	0	0	0	0	0	341	0	601
530-545	4	0	0	8	281	0	0	0	0	0	358	0	651
545-600	6	0	0	12	304	0	0	0	0	0	355	0	677
HOUR TOTALS													
	1	2	3	4	5	6	7	8	9	10	11	12	
TIME	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-400	19	0	0	22	957	0	0	0	0	0	1343	0	2341
315-415	20	0	0	30	971	0	0	0	0	0	1356	0	2377
330-430	23	0	0	37	947	0	0	0	0	0	1359	0	2366
345-445	29	0	0	35	951	0	0	0	0	0	1385	0	2400
400-500	34	0	0	36	986	0	0	0	0	0	1431	0	2487
415-515	37	0	0	32	1030	0	0	0	0	0	1442	0	2541
430-530	36	0	0	24	1044	0	0	0	0	0	1445	0	2549
445-545	26	0	0	28	1079	0	0	0	0	0	1440	0	2573
500-600	22	0	0	35	1118	0	0	0	0	0	1408	0	2583

P.M. PEAK HOUR
500-600



WILTEC

6) 564-1944 Fax: (626) 564-0969

INTERSECTION PEDESTRIAN AND BICYCLE COUNT SUMMARY

CLIENT: DOWLING ASSOCIATES
PROJECT: OAKLAND BENTLEY SCHOOL PROJECT
DATE: WEDNESDAY OCTOBER 24TH 2007
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: N/S HILL COURT
E/W HILLER DRIVE

15 MIN COUNTS

	PEDESTRIANS					BICYCLES			
PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG		NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
300-315	1	0	3	1		0	0	0	0
315-330	1	0	3	0		0	0	0	0
330-345	3	5	0	0		0	0	0	0
345-400	3	0	0	1		0	0	0	0
400-415	2	0	0	1		0	0	0	0
415-430	0	0	0	0		0	0	0	0
430-445	0	0	0	0		0	0	0	0
445-500	4	0	0	4		1	0	0	0
500-515	0	0	0	0		0	0	0	0
515-530	0	0	0	0		0	0	0	0
530-545	2	0	0	1		0	0	0	0
545-600	3	3	0	0		0	0	0	0

HOUR TOTALS

	PEDESTRIANS					BICYCLES			
TIME	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG		NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
300-400	8	5	6	2		0	0	0	0
315-415	9	5	3	2		0	0	0	0
330-430	8	5	0	2		0	0	0	0
345-445	5	0	0	2		0	0	0	0
400-500	6	0	0	5		1	0	0	0
415-515	4	0	0	4		1	0	0	0
430-530	4	0	0	4		1	0	0	0
445-545	6	0	0	5		1	0	0	0
500-600	5	3	0	1		0	0	0	0

WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

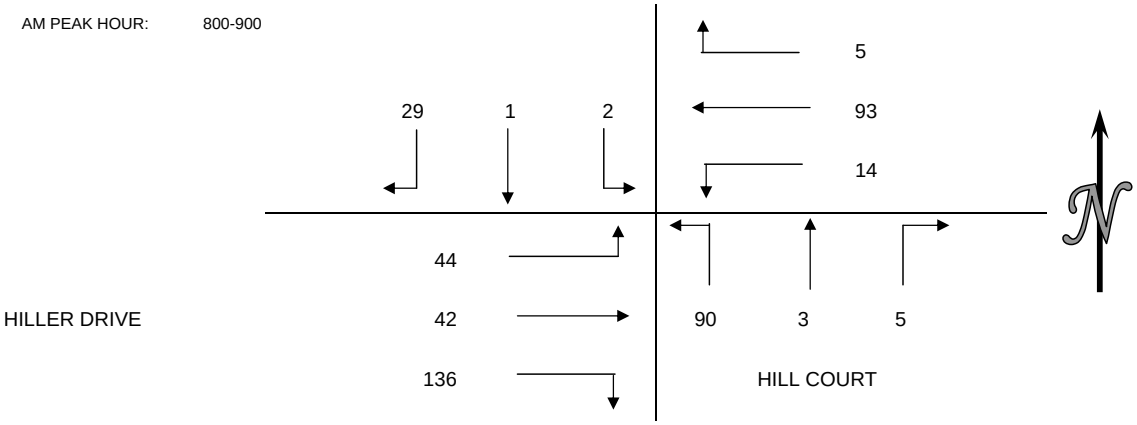
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: DOWLING ASSOCIATES
PROJECT: OAKLAND BENTLEY SCHOOL PROJECT
DATE: WEDNESDAY OCTOBER 24TH 2007
PERIOD" 7:00 AM TO 9:00 AM
INTERSECTION: N/S HILL COURT
E/W HILLER DRIVE

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-715	0	0	0	0	15	0	0	0	1	3	6	4	29
715-730	1	0	1	0	14	0	0	0	2	9	18	3	48
730-745	2	0	0	1	23	0	0	0	4	4	10	1	45
745-800	2	0	0	0	30	0	0	0	8	15	11	3	69
800-815	4	0	0	0	23	0	0	0	17	23	2	10	79
815-830	5	1	1	3	31	10	0	0	25	28	8	11	123
830-845	9	0	0	2	18	3	4	2	31	47	21	16	153
845-900	11	0	1	0	21	1	1	1	17	38	11	7	109
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-800	5	0	1	1	82	0	0	0	15	31	45	11	191
715-815	9	0	1	1	90	0	0	0	31	51	41	17	241
730-830	13	1	1	4	107	10	0	0	54	70	31	25	316
745-845	20	1	1	5	102	13	4	2	81	113	42	40	424
800-900	29	1	2	5	93	14	5	3	90	136	42	44	464

AM PEAK HOUR: 800-900



PEDESTRIAN COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-715	0	1	1	0	2
715-730	0	0	0	0	0
730-745	0	0	0	0	0
745-800	0	0	0	0	0
800-815	0	3	1	0	4
815-830	0	20	28	0	48
830-845	0	48	18	0	66
845-900	0	34	2	0	36
HOUR TOTALS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-800	0	1	1	0	2
715-815	0	3	1	0	4
730-830	0	23	29	0	52
745-845	0	71	47	0	118
800-900	0	105	49	0	154

BICYCLE COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-715	0	0	0	0	0
715-730	0	0	0	0	0
730-745	0	0	1	0	1
745-800	5	0	0	0	5
800-815	2	0	1	1	4
815-830	14	0	12	-1	25
830-845	3	0	6	0	9
845-900	5	0	5	0	10
HOUR TOTALS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-800	5	0	1	0	6
715-815	7	0	2	1	10
730-830	21	0	14	0	35
745-845	24	0	19	0	43
800-900	24	0	24	0	48

WILTEC

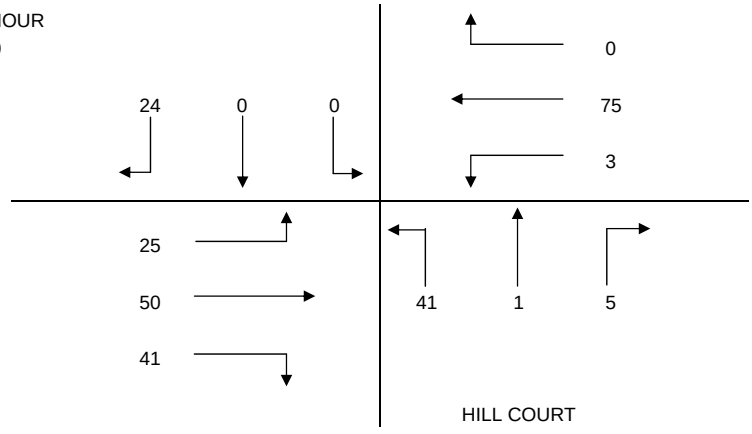
Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: DOWLING ASSOCIATES
PROJECT: OAKLAND BENTLEY SCHOOL PROJECT
DATE: WEDNESDAY OCTOBER 24TH 2007
PERIOD: 3;00 PM TO 6:00 PM
INTERSECTION: N/S HILL COURT
E/W HILLER DRIVE

15 MIN COUNTS													
	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-315	6	0	0	0	16	1	2	1	11	8	11	11	67
315-330	3	0	0	0	23	2	0	0	6	6	11	5	56
330-345	8	0	0	0	22	0	2	0	11	16	16	6	81
345-400	7	0	0	0	14	0	1	0	13	11	12	3	61
400-415	8	0	0	0	7	0	1	0	6	5	17	1	45
415-430	4	0	1	1	17	0	0	0	5	6	18	11	63
430-445	2	0	0	0	7	0	0	0	5	4	19	3	40
445-500	3	0	0	0	19	0	0	0	9	9	15	2	57
500-515	3	0	0	0	14	0	1	0	7	7	22	1	55
515-530	6	0	0	0	14	0	1	0	4	9	15	2	51
530-545	6	0	1	0	6	0	0	0	10	7	25	2	57
545-600	3	0	0	0	9	0	0	0	7	2	22	3	46
HOUR TOTALS													
	1	2	3	4	5	6	7	8	9	10	11	12	
TIME	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-400	24	0	0	0	75	3	5	1	41	41	50	25	265
315-415	26	0	0	0	66	2	4	0	36	38	56	15	243
330-430	27	0	1	1	60	0	4	0	35	38	63	21	250
345-445	21	0	1	1	45	0	2	0	29	26	66	18	209
400-500	17	0	1	1	50	0	1	0	25	24	69	17	205
415-515	12	0	1	1	57	0	1	0	26	26	74	17	215
430-530	14	0	0	0	54	0	2	0	25	29	71	8	203
445-545	18	0	1	0	53	0	2	0	30	32	77	7	220
500-600	18	0	1	0	43	0	2	0	28	25	84	8	209

P.M. PEAK HOUR
300-400



WILTEC

6) 564-1944 Fax: (626) 564-0969

INTERSECTION PEDESTRIAN AND BICYCLE COUNT SUMMARY

CLIENT: DOWLING ASSOCIATES
PROJECT: OAKLAND BENTLEY SCHOOL PROJECT
DATE: WEDNESDAY OCTOBER 24TH 2007
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: N/S HILLER DRIVE/WARREN FREEWAY
E/W TUNNEL ROAD/CALDECOTT LANE

15 MIN COUNTS

	PEDESTRIANS					BICYCLES			
PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG		NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
300-315	0	0	0	0		0	0	0	0
315-330	0	0	0	0		0	0	0	0
330-345	1	0	0	0		1	0	0	0
345-400	0	0	0	0		0	0	0	0
400-415	2	0	0	0		1	0	0	0
415-430	2	0	0	0		0	0	0	0
430-445	1	0	0	0		0	0	0	0
445-500	3	0	0	0		1	0	0	0
500-515	2	0	0	0		1	0	0	0
515-530	4	0	0	0		0	0	0	0
530-545	4	0	0	0		0	0	0	0
545-600	2	0	0	0		0	0	0	0

HOUR TOTALS

	PEDESTRIANS					BICYCLES			
TIME	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG		NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
300-400	1	0	0	0		1	0	0	0
315-415	3	0	0	0		2	0	0	0
330-430	5	0	0	0		2	0	0	0
345-445	5	0	0	0		1	0	0	0
400-500	8	0	0	0		2	0	0	0
415-515	8	0	0	0		2	0	0	0
430-530	10	0	0	0		2	0	0	0
445-545	13	0	0	0		2	0	0	0
500-600	12	0	0	0		1	0	0	0

WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

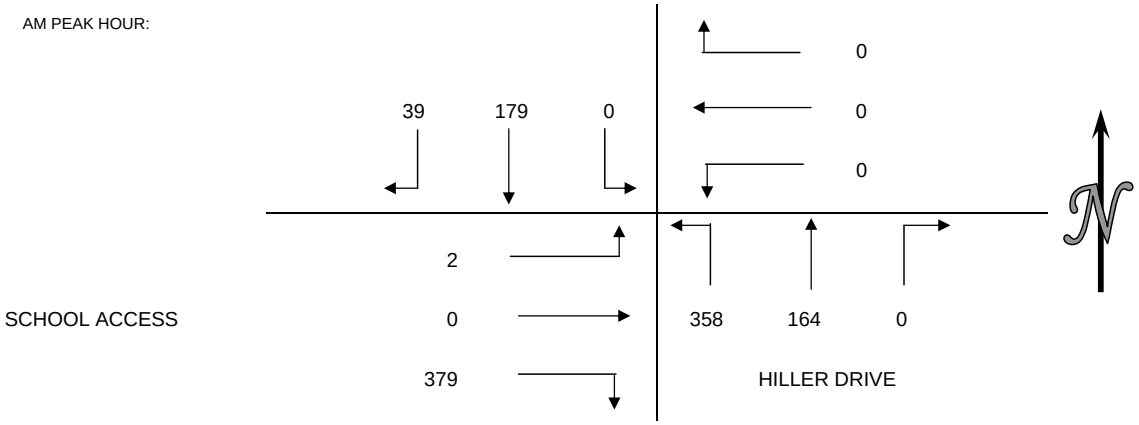
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: DOWLING ASSOCIATES
PROJECT: OAKLAND BENTLEY SCHOOL PROJECT
DATE: WEDNESDAY DECEMBER 5TH 2007
PERIOD" 7:00 AM TO 9:00 AM
INTERSECTION: N/S HILLER DRIVE
E/W SCHOOL ACCESS

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-715	2	23	0	0	0	0	0	19	7	4	0	1	56
715-730	4	30	0	0	0	0	0	16	8	6	0	0	64
730-745	7	35	0	0	0	0	0	19	21	28	0	0	110
745-800	17	34	0	0	0	0	0	34	79	73	0	0	237
800-815	9	43	0	0	0	0	0	35	196	217	0	2	502
815-830	7	53	0	0	0	0	0	55	64	53	0	0	232
830-845	6	49	0	0	0	0	0	40	19	36	0	0	150
845-900	9	26	0	0	0	0	0	25	14	18	0	0	92
HOUR TOTALS	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
700-800	30	122	0	0	0	0	0	88	115	111	0	1	467
715-815	37	142	0	0	0	0	0	104	304	324	0	2	913
730-830	40	165	0	0	0	0	0	143	360	371	0	2	1081
745-845	39	179	0	0	0	0	0	164	358	379	0	2	1121
800-900	31	171	0	0	0	0	0	155	293	324	0	2	976

AM PEAK HOUR:



PEDESTRIAN COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-715	0	0	2	6	8
715-730	2	0	0	10	12
730-745	2	0	0	17	19
745-800	6	0	0	150	156
800-815	3	0	1	46	50
815-830	1	0	0	19	20
830-845	2	0	2	4	8
845-900	1	0	0	7	8
HOUR TOTALS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-800	10	0	2	183	195
715-815	13	0	1	223	237
730-830	12	0	1	232	245
745-845	12	0	3	219	234
800-900	7	0	3	76	86

BICYCLE COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-715	0	0	0	0	0
715-730	0	0	0	0	0
730-745	0	0	1	0	1
745-800	0	0	1	0	1
800-815	0	0	0	0	0
815-830	0	0	0	0	0
830-845	0	0	1	0	1
845-900	0	0	0	0	0
HOUR TOTALS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-800	0	0	2	0	2
715-815	0	0	2	0	2
730-830	0	0	2	0	2
745-845	0	0	2	0	2
800-900	0	0	1	0	1

WILTEC

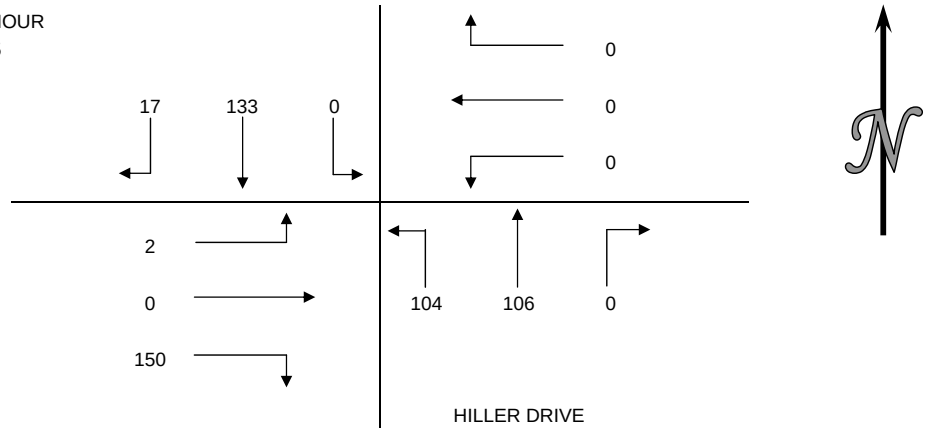
Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: DOWLING ASSOCIATES
PROJECT: OAKLAND BENTLEY SCHOOL PROJECT
DATE: WEDNESDAY DECEMBER 5TH 2007
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: N/S HILLER DRIVE
E/W SCHOOL ACCESS

15 MIN COUNTS													
	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-315	2	26	0	0	0	0	0	21	17	20	0	3	89
315-330	7	32	0	0	0	0	0	33	39	44	0	2	157
330-345	6	33	0	0	0	0	0	29	35	48	0	0	151
345-400	3	35	0	0	0	0	0	25	11	26	0	0	100
400-415	1	33	0	0	0	0	0	19	19	32	0	0	104
415-430	1	23	0	0	0	0	0	29	13	18	0	0	84
430-445	2	13	0	0	0	0	0	31	10	13	0	1	70
445-500	0	33	0	0	0	0	0	27	19	17	0	5	101
500-515	0	37	0	0	0	0	0	31	29	20	0	5	122
515-530	2	28	0	0	0	0	0	23	10	14	0	1	78
530-545	4	26	0	0	0	0	0	21	13	8	0	2	74
545-600	1	39	0	0	0	0	0	34	9	14	0	4	101
HOUR TOTALS													
	1	2	3	4	5	6	7	8	9	10	11	12	
TIME	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
300-400	18	126	0	0	0	0	0	108	102	138	0	5	497
315-415	17	133	0	0	0	0	0	106	104	150	0	2	512
330-430	11	124	0	0	0	0	0	102	78	124	0	0	439
345-445	7	104	0	0	0	0	0	104	53	89	0	1	358
400-500	4	102	0	0	0	0	0	106	61	80	0	6	359
415-515	3	106	0	0	0	0	0	118	71	68	0	11	377
430-530	4	111	0	0	0	0	0	112	68	64	0	12	371
445-545	6	124	0	0	0	0	0	102	71	59	0	13	375
500-600	7	130	0	0	0	0	0	109	61	56	0	12	375

P.M. PEAK HOUR
315-415



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION PEDESTRIAN AND BICYCLE COUNT SUMMARY

CLIENT: DOWLING ASSOCIATES
PROJECT: OAKLAND BENTLEY SCHOOL PROJECT
DATE: WEDNESDAY DECEMBER 5TH 2007
PERIOD: 3:00 PM TO 6:00 PM
INTERSECTION: N/S HILLER DRIVE
E/W SCHOOL ACCESS

15 MIN COUNTS

	PEDESTRIANS					BICYCLES			
PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG		NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
300-315	2	0	4	74		0	0	0	0
315-330	4	0	20	64		0	0	0	0
330-345	0	0	3	57		0	0	0	0
345-400	0	0	5	13		0	0	0	0
400-415	1	0	2	4		0	0	0	0
415-430	4	0	2	16		0	0	0	0
430-445	5	0	2	4		0	0	0	0
445-500	3	0	5	5		0	0	0	0
500-515	4	0	4	25		0	0	0	0
515-530	2	0	5	11		0	0	0	0
530-545	0	0	6	8		0	0	0	0
545-600	0	0	5	29		0	0	0	0

HOUR TOTALS

	PEDESTRIANS					BICYCLES			
TIME	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG		NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
300-400	6	0	32	208		0	0	0	0
315-415	5	0	30	138		0	0	0	0
330-430	5	0	12	90		0	0	0	0
345-445	10	0	11	37		0	0	0	0
400-500	13	0	11	29		0	0	0	0
415-515	16	0	13	50		0	0	0	0
430-530	14	0	16	45		0	0	0	0
445-545	9	0	20	49		0	0	0	0
500-600	6	0	20	73		0	0	0	0

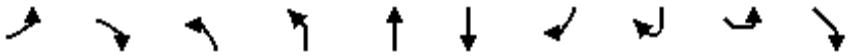
Traffic Counts at: Bentley School Driveway on Hiller Drive
Counted: Tuesday, January 8, 2008
N-S Street: Hiller Drive
E-W Street: School Driveway

VEHICLE COUNTS			
15 MIN COUNTS			
MOVEMENT	SBRT	NBLT	EBRT
700-715	0	2	0
715-730	0	3	1
730-745	0	6	4
745-800	0	20	15
800-815	6	71	70
815-830	11	95	103
830-845	0	17	20
845-900	1	6	3
HOUR TOTALS	1	9	10
PERIOD	SBRT	NBLT	EBRT
700-800	0	31	20
715-815	6	100	90
730-830	17	192	192
745-845	17	203	208
800-900	18	189	196

Counts collected by Dowling Associates staff.

C-2

Existing No Project Conditions Synchro Level of Service Worksheets

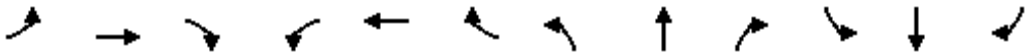


Movement	EBL	EBR	NBL2	NBL	NBT	SBT	SBR	SBR2	SEL	SER
Lane Configurations										
Volume (vph)	258	0	47	140	102	79	110	139	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.6	3.6	3.0		3.0		
Lane Util. Factor	1.00			0.97	1.00	1.00		1.00		
Frt	1.00			1.00	1.00	0.91		0.85		
Flt Protected	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (prot)	1770			3433	1863	1700		1583		
Flt Permitted	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (perm)	1770			3433	1863	1700		1583		
Peak-hour factor, PHF	0.89	0.89	0.84	0.84	0.96	0.80	0.80	0.80	0.92	0.92
Adj. Flow (vph)	290	0	56	167	106	99	138	174	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	129	0	0
Lane Group Flow (vph)	290	0	0	223	106	237	0	45	0	0
Turn Type			Split	Split				Perm		
Protected Phases	6		8	8	8	5				
Permitted Phases								5		
Actuated Green, G (s)	45.2			10.5	10.5	23.1		23.1		
Effective Green, g (s)	45.2			10.5	10.5	23.1		23.1		
Actuated g/C Ratio	0.51			0.12	0.12	0.26		0.26		
Clearance Time (s)	3.0			3.6	3.6	3.0		3.0		
Vehicle Extension (s)	8.0			2.5	2.5	3.0		3.0		
Lane Grp Cap (vph)	905			408	221	444		414		
v/s Ratio Prot	c0.16			c0.06	0.06	c0.14				
v/s Ratio Perm								0.03		
v/c Ratio	0.32			0.55	0.48	0.53		0.11		
Uniform Delay, d1	12.6			36.7	36.4	28.0		24.8		
Progression Factor	1.26			1.00	1.00	1.00		1.00		
Incremental Delay, d2	0.7			1.2	1.2	1.2		0.1		
Delay (s)	16.6			37.9	37.6	29.3		24.9		
Level of Service	B			D	D	C		C		
Approach Delay (s)	16.6				37.8	27.4			0.0	
Approach LOS	B				D	C			A	

Intersection Summary			
HCM Average Control Delay	27.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	88.4	Sum of lost time (s)	9.6
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	NBR2	SBL2	SBL	SBT	NWL	NWR
Lane Configurations										
Volume (vph)	157	0	955	146	394	111	343	573	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		4.0		4.0		4.5	4.5		
Lane Util. Factor	1.00		0.95		1.00		0.97	1.00		
Frt	1.00		0.98		0.85		1.00	1.00		
Flt Protected	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (prot)	1770		3469		1583		3433	1863		
Flt Permitted	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (perm)	1770		3469		1583		3433	1863		
Peak-hour factor, PHF	0.80	0.80	0.96	0.96	0.96	0.89	0.89	0.89	0.92	0.92
Adj. Flow (vph)	196	0	995	152	410	125	385	644	0	0
RTOR Reduction (vph)	0	0	0	0	183	0	0	0	0	0
Lane Group Flow (vph)	196	0	1147	0	227	0	510	644	0	0
Turn Type					Perm	Prot	Prot			
Protected Phases	4		2			3	3	3 2		
Permitted Phases					2			4		
Actuated Green, G (s)	17.7		40.2		40.2		19.0	80.9		
Effective Green, g (s)	17.7		40.2		40.2		19.0	76.9		
Actuated g/C Ratio	0.20		0.45		0.45		0.21	0.87		
Clearance Time (s)	3.0		4.0		4.0		4.5			
Vehicle Extension (s)	6.0		3.5		3.5		3.2			
Lane Grp Cap (vph)	354		1578		720		738	1715		
v/s Ratio Prot	c0.11		c0.33				c0.15	0.25		
v/s Ratio Perm					0.14			0.09		
v/c Ratio	0.55		0.73		0.31		0.69	0.38		
Uniform Delay, d1	31.8		19.6		15.3		32.0	1.1		
Progression Factor	0.26		1.00		1.00		1.00	1.00		
Incremental Delay, d2	3.7		3.0		1.1		2.8	0.1		
Delay (s)	12.0		22.6		16.5		34.8	1.3		
Level of Service	B		C		B		C	A		
Approach Delay (s)	12.0		21.0					16.1	0.0	
Approach LOS	B		C					B	A	

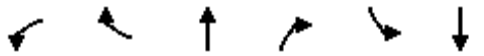
Intersection Summary			
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	88.4	Sum of lost time (s)	11.5
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	1	27	85	3	5	44	34	136	14	82	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.67	0.67	0.67	0.66	0.66	0.66	0.66	0.66	0.66	0.64	0.64	0.64
Hourly flow rate (vph)	3	1	40	129	5	8	67	52	206	22	128	8
Pedestrians					49						105	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					4						9	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1122				
pX, platoon unblocked												
vC, conflicting volume	579	616	132	554	517	309	136			307		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	579	616	132	554	517	309	136			307		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	96	66	99	99	95			98		
cM capacity (veh/h)	352	365	917	374	416	640	1448			1203		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	45	141	324	158
Volume Left	3	129	67	22
Volume Right	40	8	206	8
cSH	792	384	1448	1203
Volume to Capacity	0.06	0.37	0.05	0.02
Queue Length 95th (ft)	4	41	4	1
Control Delay (s)	9.8	19.7	1.9	1.3
Lane LOS	A	C	A	A
Approach Delay (s)	9.8	19.7	1.9	1.3
Approach LOS	A	C		

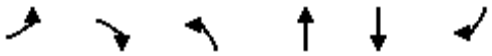
Intersection Summary				
Average Delay	6.0			
Intersection Capacity Utilization	41.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	27	1192	27	0	1016
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.84	0.84	0.93	0.93	0.97	0.97
Hourly flow rate (vph)	0	32	1282	29	0	1047
Pedestrians	11					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1291			
pX, platoon unblocked	0.57	0.57			0.57	
vC, conflicting volume	2355	1307			1322	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3009	1160			1185	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	76			100	
cM capacity (veh/h)	8	134			331	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	32	1311	1047
Volume Left	0	0	0
Volume Right	32	29	0
cSH	134	1700	1700
Volume to Capacity	0.24	0.77	0.62
Queue Length 95th (ft)	22	0	0
Control Delay (s)	40.3	0.0	0.0
Lane LOS	E		
Approach Delay (s)	40.3	0.0	0.0
Approach LOS	E		

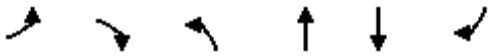
Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	153	207	165	17
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.53	0.81	0.91	0.91
Hourly flow rate (vph)	0	0	289	256	181	19
Pedestrians	219					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				614		
pX, platoon unblocked						
vC, conflicting volume	1233	400	419			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1233	400	419			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	75			
cM capacity (veh/h)	146	650	1140			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	289	256	181	19
Volume Left	289	0	0	0
Volume Right	0	0	0	19
cSH	1140	1700	1700	1700
Volume to Capacity	0.25	0.15	0.11	0.01
Queue Length 95th (ft)	25	0	0	0
Control Delay (s)	9.2	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	4.9		0.0	
Approach LOS				

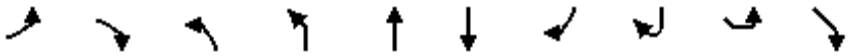
Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	28.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	163	0	360	165	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.50	0.50	0.56	0.56	0.91	0.91
Hourly flow rate (vph)	0	326	0	643	181	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				532		
pX, platoon unblocked						
vC, conflicting volume	503	181	181			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	503	181	181			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	61	100			
cM capacity (veh/h)	498	830	1391			

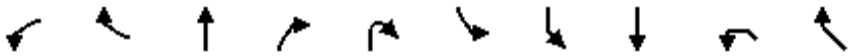
Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	326	321	321	181
Volume Left	0	0	0	0
Volume Right	326	0	0	0
cSH	830	1700	1700	1700
Volume to Capacity	0.39	0.19	0.19	0.11
Queue Length 95th (ft)	47	0	0	0
Control Delay (s)	12.1	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	12.1	0.0		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	28.5%	ICU Level of Service	A
Analysis Period (min)	15		



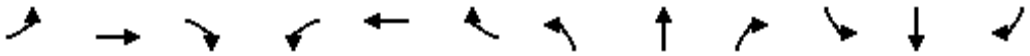
Movement	EBL	EBR	NBL2	NBL	NBT	SBT	SBR	SBR2	SEL	SER
Lane Configurations										
Volume (vph)	106	0	25	64	51	88	45	63	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.6	3.6	3.0		3.0		
Lane Util. Factor	1.00			0.97	1.00	1.00		1.00		
Frt	1.00			1.00	1.00	0.95		0.85		
Flt Protected	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (prot)	1770			3433	1863	1769		1583		
Flt Permitted	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (perm)	1770			3433	1863	1769		1583		
Peak-hour factor, PHF	0.97	0.97	0.76	0.76	0.76	0.64	0.64	0.64	0.92	0.92
Adj. Flow (vph)	109	0	33	84	67	138	70	98	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	54	0	0
Lane Group Flow (vph)	109	0	0	117	67	208	0	44	0	0
Turn Type			Split	Split				Perm		
Protected Phases	6		8	8	8	5				
Permitted Phases								5		
Actuated Green, G (s)	12.1			20.6	20.6	34.9		34.9		
Effective Green, g (s)	12.1			20.6	20.6	34.9		34.9		
Actuated g/C Ratio	0.16			0.27	0.27	0.45		0.45		
Clearance Time (s)	3.0			3.6	3.6	3.0		3.0		
Vehicle Extension (s)	8.0			2.5	2.5	3.0		3.0		
Lane Grp Cap (vph)	277			916	497	800		716		
v/s Ratio Prot	c0.06			0.03	c0.04	c0.12				
v/s Ratio Perm								0.03		
v/c Ratio	0.39			0.13	0.13	0.26		0.06		
Uniform Delay, d1	29.3			21.5	21.5	13.1		11.9		
Progression Factor	1.06			1.00	1.00	1.00		1.00		
Incremental Delay, d2	3.4			0.0	0.1	0.2		0.0		
Delay (s)	34.3			21.5	21.6	13.3		12.0		
Level of Service	C			C	C	B		B		
Approach Delay (s)	34.3				21.6	12.9			0.0	
Approach LOS	C				C	B			A	

Intersection Summary			
HCM Average Control Delay	19.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	77.2	Sum of lost time (s)	6.6
Intersection Capacity Utilization	29.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	NBR2	SBL2	SBL	SBT	NWL	NWR
Lane Configurations										
Volume (vph)	70	0	852	57	27	48	489	762	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		4.0		4.0		4.5	4.5		
Lane Util. Factor	1.00		0.95		1.00		0.97	1.00		
Frt	1.00		0.99		0.85		1.00	1.00		
Flt Protected	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (prot)	1770		3506		1583		3433	1863		
Flt Permitted	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (perm)	1770		3506		1583		3433	1863		
Peak-hour factor, PHF	0.95	0.95	0.98	0.98	0.98	0.96	0.96	0.96	0.92	0.92
Adj. Flow (vph)	74	0	869	58	28	50	509	794	0	0
RTOR Reduction (vph)	0	0	0	0	15	0	0	0	0	0
Lane Group Flow (vph)	74	0	927	0	13	0	559	794	0	0
Turn Type					Perm	Prot	Prot			
Protected Phases	4		2			3	3	3 2		
Permitted Phases					2			4		
Actuated Green, G (s)	10.2		35.6		35.6		19.9	69.7		
Effective Green, g (s)	10.2		35.6		35.6		19.9	65.7		
Actuated g/C Ratio	0.13		0.46		0.46		0.26	0.85		
Clearance Time (s)	3.0		4.0		4.0		4.5			
Vehicle Extension (s)	6.0		3.5		3.5		3.2			
Lane Grp Cap (vph)	234		1617		730		885	1694		
v/s Ratio Prot	0.04		c0.26				c0.16	c0.34		
v/s Ratio Perm					0.01			0.09		
v/c Ratio	0.32		0.57		0.02		0.63	0.47		
Uniform Delay, d1	30.3		15.2		11.3		25.4	1.4		
Progression Factor	0.92		1.00		1.00		1.00	1.00		
Incremental Delay, d2	2.2		1.5		0.0		1.5	0.2		
Delay (s)	30.2		16.7		11.4		26.9	1.6		
Level of Service	C		B		B		C	A		
Approach Delay (s)	30.2		16.6					12.1	0.0	
Approach LOS	C		B					B	A	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	77.2	Sum of lost time (s)	8.5
Intersection Capacity Utilization	59.4%	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												
Volume (veh/h)	0	0	24	41	1	5	23	27	38	0	57	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.76	0.76	0.76	0.78	0.78	0.78
Hourly flow rate (vph)	0	0	32	49	1	6	30	36	50	0	73	4
Pedestrians		6			8			2			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			1			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1122				
pX, platoon unblocked												
vC, conflicting volume	214	235	83	238	212	74	83			94		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	214	235	83	238	212	74	83			94		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	97	93	100	99	98			100		
cM capacity (veh/h)	713	645	970	670	664	978	1507			1491		

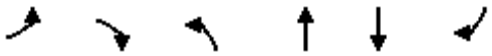
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	32	56	116	77
Volume Left	0	49	30	0
Volume Right	32	6	50	4
cSH	970	693	1507	1491
Volume to Capacity	0.03	0.08	0.02	0.00
Queue Length 95th (ft)	3	7	2	0
Control Delay (s)	8.8	10.6	2.1	0.0
Lane LOS	A	B	A	
Approach Delay (s)	8.8	10.6	2.1	0.0
Approach LOS	A	B		

Intersection Summary				
Average Delay	4.0			
Intersection Capacity Utilization	29.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	19	933	22	0	1321
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.59	0.59	0.92	0.92	0.98	0.98
Hourly flow rate (vph)	0	32	1014	24	0	1348
Pedestrians	7					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1291			
pX, platoon unblocked	0.60	0.60			0.60	
vC, conflicting volume	2381	1033			1045	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2972	720			740	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	87			100	
cM capacity (veh/h)	9	255			516	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	32	1038	1348
Volume Left	0	0	0
Volume Right	32	24	0
cSH	255	1700	1700
Volume to Capacity	0.13	0.61	0.79
Queue Length 95th (ft)	11	0	0
Control Delay (s)	21.2	0.0	0.0
Lane LOS	C		
Approach Delay (s)	21.2	0.0	0.0
Approach LOS	C		

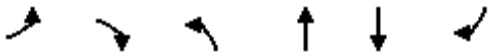
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	79	78	109	9
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.73	0.73	0.92	0.92
Hourly flow rate (vph)	0	0	108	107	118	10
Pedestrians	208					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				614		
pX, platoon unblocked						
vC, conflicting volume	650	326	336			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	650	326	336			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	91			
cM capacity (veh/h)	395	715	1223			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	108	107	118	10
Volume Left	108	0	0	0
Volume Right	0	0	0	10
cSH	1223	1700	1700	1700
Volume to Capacity	0.09	0.06	0.07	0.01
Queue Length 95th (ft)	7	0	0	0
Control Delay (s)	8.2	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	4.1		0.0	
Approach LOS				

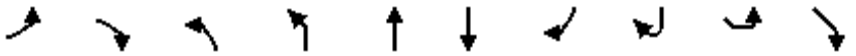
Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	24.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	94	0	157	109	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.74	0.74	0.73	0.73	0.92	0.92
Hourly flow rate (vph)	0	127	0	215	118	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				532		
pX, platoon unblocked						
vC, conflicting volume	226	118	118			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	226	118	118			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	86	100			
cM capacity (veh/h)	742	911	1467			

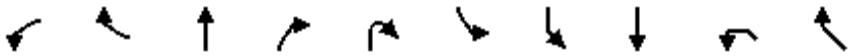
Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	127	108	108	118
Volume Left	0	0	0	0
Volume Right	127	0	0	0
cSH	911	1700	1700	1700
Volume to Capacity	0.14	0.06	0.06	0.07
Queue Length 95th (ft)	12	0	0	0
Control Delay (s)	9.6	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	9.6	0.0		0.0
Approach LOS	A			

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	24.4%	ICU Level of Service	A
Analysis Period (min)	15		



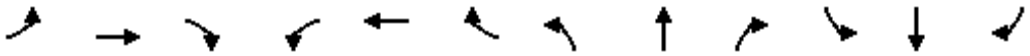
Movement	EBL	EBR	NBL2	NBL	NBT	SBT	SBR	SBR2	SEL	SER
Lane Configurations										
Volume (vph)	111	0	52	84	48	59	35	45	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.6	3.6	3.0		3.0		
Lane Util. Factor	1.00			0.97	1.00	1.00		1.00		
Frt	1.00			1.00	1.00	0.94		0.85		
Flt Protected	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (prot)	1770			3433	1863	1758		1583		
Flt Permitted	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (perm)	1770			3433	1863	1758		1583		
Peak-hour factor, PHF	0.97	0.97	0.95	0.95	0.95	0.82	0.82	0.82	0.92	0.92
Adj. Flow (vph)	114	0	55	88	51	72	43	55	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	30	0	0
Lane Group Flow (vph)	114	0	0	143	51	115	0	25	0	0
Turn Type			Split	Split				Perm		
Protected Phases	6		8	8	8	5				
Permitted Phases								5		
Actuated Green, G (s)	12.3			21.1	21.1	35.5		35.5		
Effective Green, g (s)	12.3			21.1	21.1	35.5		35.5		
Actuated g/C Ratio	0.16			0.27	0.27	0.45		0.45		
Clearance Time (s)	3.0			3.6	3.6	3.0		3.0		
Vehicle Extension (s)	8.0			2.5	2.5	3.0		3.0		
Lane Grp Cap (vph)	277			923	501	795		716		
v/s Ratio Prot	c0.06			c0.04	0.03	c0.07				
v/s Ratio Perm								0.02		
v/c Ratio	0.41			0.15	0.10	0.14		0.03		
Uniform Delay, d1	29.8			21.9	21.6	12.6		12.0		
Progression Factor	1.18			1.00	1.00	1.00		1.00		
Incremental Delay, d2	3.5			0.1	0.1	0.1		0.0		
Delay (s)	38.7			22.0	21.6	12.7		12.0		
Level of Service	D			C	C	B		B		
Approach Delay (s)	38.7				21.9	12.5			0.0	
Approach LOS	D				C	B			A	

Intersection Summary			
HCM Average Control Delay	22.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.20		
Actuated Cycle Length (s)	78.5	Sum of lost time (s)	9.6
Intersection Capacity Utilization	25.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	NBR2	SBL2	SBL	SBT	NWL	NWR
Lane Configurations										
Volume (vph)	87	0	992	39	130	72	485	895	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		4.0		4.0		4.5	4.5		
Lane Util. Factor	1.00		0.95		1.00		0.97	1.00		
Frt	1.00		0.99		0.85		1.00	1.00		
Flt Protected	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (prot)	1770		3519		1583		3433	1863		
Flt Permitted	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (perm)	1770		3519		1583		3433	1863		
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.97	0.97	0.97	0.92	0.92
Adj. Flow (vph)	92	0	1044	41	137	74	500	923	0	0
RTOR Reduction (vph)	0	0	0	0	61	0	0	0	0	0
Lane Group Flow (vph)	92	0	1085	0	76	0	574	923	0	0
Turn Type					Perm	Prot	Prot			
Protected Phases	4		2			3	3	3 2		
Permitted Phases					2			4		
Actuated Green, G (s)	10.8		35.7		35.7		20.5	71.0		
Effective Green, g (s)	10.8		35.7		35.7		20.5	67.0		
Actuated g/C Ratio	0.14		0.45		0.45		0.26	0.85		
Clearance Time (s)	3.0		4.0		4.0		4.5			
Vehicle Extension (s)	6.0		3.5		3.5		3.2			
Lane Grp Cap (vph)	244		1600		720		897	1697		
v/s Ratio Prot	0.05		c0.31				c0.17	c0.39		
v/s Ratio Perm					0.05			0.11		
v/c Ratio	0.38		0.68		0.11		0.64	0.54		
Uniform Delay, d1	30.8		16.9		12.3		25.7	1.6		
Progression Factor	1.10		1.00		1.00		1.00	1.00		
Incremental Delay, d2	2.7		2.3		0.3		1.5	0.4		
Delay (s)	36.6		19.2		12.6		27.3	1.9		
Level of Service	D		B		B		C	A		
Approach Delay (s)	36.6		18.5					11.7	0.0	
Approach LOS	D		B					B	A	

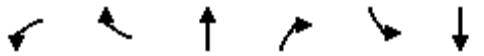
Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	78.5	Sum of lost time (s)	4.0
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	0	18	30	0	2	7	77	32	0	50	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.68	0.68	0.68	0.80	0.80	0.80	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	1	0	26	38	0	2	8	91	38	0	71	0
Pedestrians					5						3	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1122				
pX, platoon unblocked												
vC, conflicting volume	203	221	71	229	202	117	71			133		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	203	221	71	229	202	117	71			133		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	97	95	100	100	99			100		
cM capacity (veh/h)	746	671	991	699	687	928	1529			1445		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	28	40	136	71
Volume Left	1	38	8	0
Volume Right	26	2	38	0
cSH	974	710	1529	1445
Volume to Capacity	0.03	0.06	0.01	0.00
Queue Length 95th (ft)	2	4	0	0
Control Delay (s)	8.8	10.4	0.5	0.0
Lane LOS	A	B	A	
Approach Delay (s)	8.8	10.4	0.5	0.0
Approach LOS	A	B		

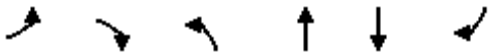
Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	27.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	22	1107	35	0	1396
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.69	0.69	0.91	0.91	0.98	0.98
Hourly flow rate (vph)	0	32	1216	38	0	1424
Pedestrians	4					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1291			
pX, platoon unblocked	0.56	0.56			0.56	
vC, conflicting volume	2664	1240			1259	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3594	1032			1066	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	80			100	
cM capacity (veh/h)	3	157			362	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	32	1255	1424
Volume Left	0	0	0
Volume Right	32	38	0
cSH	157	1700	1700
Volume to Capacity	0.20	0.74	0.84
Queue Length 95th (ft)	18	0	0
Control Delay (s)	33.7	0.0	0.0
Lane LOS	D		
Approach Delay (s)	33.7	0.0	0.0
Approach LOS	D		

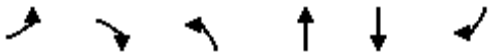
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	41	118	106	1
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.79	0.79	0.74	0.74
Hourly flow rate (vph)	0	0	52	149	143	1
Pedestrians	50					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				614		
pX, platoon unblocked						
vC, conflicting volume	446	193	195			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	446	193	195			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	96			
cM capacity (veh/h)	548	848	1378			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	52	149	143	1
Volume Left	52	0	0	0
Volume Right	0	0	0	1
cSH	1378	1700	1700	1700
Volume to Capacity	0.04	0.09	0.08	0.00
Queue Length 95th (ft)	3	0	0	0
Control Delay (s)	7.7	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	2.0		0.0	
Approach LOS				

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	21.9%	ICU Level of Service	A
Analysis Period (min)	15		



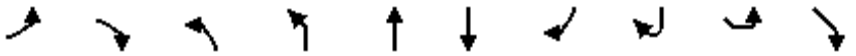
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	39	0	159	106	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.74	0.74
Hourly flow rate (vph)	0	49	0	201	143	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				532		
pX, platoon unblocked						
vC, conflicting volume	244	143	143			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	244	143	143			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	94	100			
cM capacity (veh/h)	723	878	1437			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	49	101	101	143
Volume Left	0	0	0	0
Volume Right	49	0	0	0
cSH	878	1700	1700	1700
Volume to Capacity	0.06	0.06	0.06	0.08
Queue Length 95th (ft)	4	0	0	0
Control Delay (s)	9.3	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	9.3	0.0		0.0
Approach LOS	A			

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	21.9%	ICU Level of Service	A
Analysis Period (min)	15		

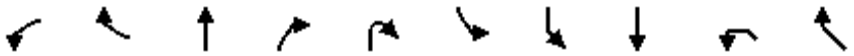
C-3

Cumulative No Project Conditions Synchro Level of Service Worksheets



Movement	EBL	EBR	NBL2	NBL	NBT	SBT	SBR	SBR2	SEL	SER
Lane Configurations										
Volume (vph)	266	0	49	147	105	81	113	143	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.6	3.6	3.0		3.0		
Lane Util. Factor	1.00			0.97	1.00	1.00		1.00		
Frt	1.00			1.00	1.00	0.91		0.85		
Flt Protected	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (prot)	1770			3433	1863	1700		1583		
Flt Permitted	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (perm)	1770			3433	1863	1700		1583		
Peak-hour factor, PHF	0.89	0.89	0.84	0.84	0.96	0.80	0.80	0.80	0.92	0.92
Adj. Flow (vph)	299	0	58	175	109	101	141	179	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	130	0	0
Lane Group Flow (vph)	299	0	0	233	109	242	0	49	0	0
Turn Type			Split	Split				Perm		
Protected Phases	6		8	8	8	5				
Permitted Phases								5		
Actuated Green, G (s)	45.1			10.9	10.9	24.7		24.7		
Effective Green, g (s)	45.1			10.9	10.9	24.7		24.7		
Actuated g/C Ratio	0.50			0.12	0.12	0.27		0.27		
Clearance Time (s)	3.0			3.6	3.6	3.0		3.0		
Vehicle Extension (s)	8.0			2.5	2.5	3.0		3.0		
Lane Grp Cap (vph)	884			414	225	465		433		
v/s Ratio Prot	c0.17			c0.07	0.06	c0.14				
v/s Ratio Perm								0.03		
v/c Ratio	0.34			0.56	0.48	0.52		0.11		
Uniform Delay, d1	13.6			37.5	37.1	27.8		24.6		
Progression Factor	1.20			1.00	1.00	1.00		1.00		
Incremental Delay, d2	0.4			1.4	1.2	1.1		0.1		
Delay (s)	16.8			38.9	38.3	28.8		24.7		
Level of Service	B			D	D	C		C		
Approach Delay (s)	16.8				38.7	27.1			0.0	
Approach LOS	B				D	C			A	

Intersection Summary			
HCM Average Control Delay	27.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.3	Sum of lost time (s)	9.6
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	NBR2	SBL2	SBL	SBT	NWL	NWR
Lane Configurations										
Volume (vph)	162	0	1360	150	414	115	489	816	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		4.0		4.0		4.5	4.5		
Lane Util. Factor	1.00		0.95		1.00		0.97	1.00		
Frt	1.00		0.99		0.85		1.00	1.00		
Flt Protected	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (prot)	1770		3487		1583		3433	1863		
Flt Permitted	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (perm)	1770		3487		1583		3433	1863		
Peak-hour factor, PHF	0.80	0.80	0.96	0.96	0.96	0.89	0.89	0.89	0.92	0.92
Adj. Flow (vph)	202	0	1417	156	431	129	549	917	0	0
RTOR Reduction (vph)	0	0	0	0	143	0	0	0	0	0
Lane Group Flow (vph)	202	0	1573	0	288	0	678	917	0	0
Turn Type					Perm	Prot	Prot			
Protected Phases	4		2			3	3	3 2		
Permitted Phases					2			4		
Actuated Green, G (s)	18.2		40.1		40.1		20.5	82.8		
Effective Green, g (s)	18.2		40.1		40.1		20.5	78.8		
Actuated g/C Ratio	0.20		0.44		0.44		0.23	0.87		
Clearance Time (s)	3.0		4.0		4.0		4.5			
Vehicle Extension (s)	6.0		3.5		3.5		3.2			
Lane Grp Cap (vph)	357		1548		703		779	1719		
v/s Ratio Prot	0.11		c0.45				c0.20	c0.36		
v/s Ratio Perm					0.18			0.13		
v/c Ratio	0.57		1.02		0.41		0.87	0.53		
Uniform Delay, d1	32.5		25.1		17.1		33.6	1.4		
Progression Factor	0.28		1.00		1.00		1.00	1.00		
Incremental Delay, d2	3.9		27.0		1.8		10.5	0.3		
Delay (s)	12.8		52.1		18.8		44.1	1.7		
Level of Service	B		D		B		D	A		
Approach Delay (s)	12.8		44.9					19.7	0.0	
Approach LOS	B		D					B	A	

Intersection Summary			
HCM Average Control Delay	32.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.3	Sum of lost time (s)	8.5
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	1	28	89	3	5	46	36	143	15	84	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.67	0.67	0.67	0.66	0.66	0.66	0.66	0.66	0.66	0.64	0.64	0.64
Hourly flow rate (vph)	3	1	42	135	5	8	70	55	217	23	131	8
Pedestrians					49						105	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					4						9	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1122				
pX, platoon unblocked												
vC, conflicting volume	599	642	135	576	537	317	139			320		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	599	642	135	576	537	317	139			320		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	95	62	99	99	95			98		
cM capacity (veh/h)	340	351	914	359	403	633	1444			1189		

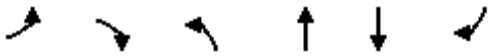
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	46	147	341	162
Volume Left	3	135	70	23
Volume Right	42	8	217	8
cSH	787	369	1444	1189
Volume to Capacity	0.06	0.40	0.05	0.02
Queue Length 95th (ft)	5	47	4	2
Control Delay (s)	9.9	21.1	1.9	1.3
Lane LOS	A	C	A	A
Approach Delay (s)	9.9	21.1	1.9	1.3
Approach LOS	A	C		

Intersection Summary				
Average Delay	6.3			
Intersection Capacity Utilization	42.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	28	1709	28	0	1459
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.84	0.84	0.93	0.93	0.97	0.97
Hourly flow rate (vph)	0	33	1838	30	0	1504
Pedestrians	11					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1291			
pX, platoon unblocked	0.49	0.49			0.49	
vC, conflicting volume	3368	1864			1879	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	5297	2239			2270	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	0			100	
cM capacity (veh/h)	0	26			109	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	33	1868	1504
Volume Left	0	0	0
Volume Right	33	30	0
cSH	26	1700	1700
Volume to Capacity	1.28	1.10	0.88
Queue Length 95th (ft)	100	0	0
Control Delay (s)	493.5	0.0	0.0
Lane LOS	F		
Approach Delay (s)	493.5	0.0	0.0
Approach LOS	F		

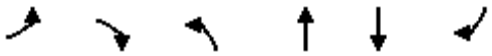
Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	101.7%	ICU Level of Service	G
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	153	218	174	17
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.53	0.81	0.91	0.91
Hourly flow rate (vph)	0	0	289	269	191	19
Pedestrians	219					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				614		
pX, platoon unblocked						
vC, conflicting volume	1257	410	429			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1257	410	429			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	74			
cM capacity (veh/h)	141	641	1131			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	289	269	191	19
Volume Left	289	0	0	0
Volume Right	0	0	0	19
cSH	1131	1700	1700	1700
Volume to Capacity	0.26	0.16	0.11	0.01
Queue Length 95th (ft)	25	0	0	0
Control Delay (s)	9.3	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	4.8		0.0	
Approach LOS				

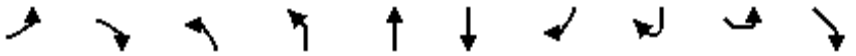
Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	28.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	163	0	371	174	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.50	0.50	0.56	0.56	0.91	0.91
Hourly flow rate (vph)	0	326	0	662	191	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				532		
pX, platoon unblocked						
vC, conflicting volume	522	191	191			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	522	191	191			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	60	100			
cM capacity (veh/h)	484	818	1380			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	326	331	331	191
Volume Left	0	0	0	0
Volume Right	326	0	0	0
cSH	818	1700	1700	1700
Volume to Capacity	0.40	0.19	0.19	0.11
Queue Length 95th (ft)	48	0	0	0
Control Delay (s)	12.3	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	12.3	0.0		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	28.5%	ICU Level of Service	A
Analysis Period (min)	15		

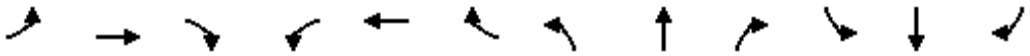


Movement	EBL	EBR	NBL2	NBL	NBT	SBT	SBR	SBR2	SEL	SER
Lane Configurations										
Volume (vph)	110	0	26	67	52	91	46	65	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.6	3.6	3.0		3.0		
Lane Util. Factor	1.00			0.97	1.00	1.00		1.00		
Frt	1.00			1.00	1.00	0.95		0.85		
Flt Protected	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (prot)	1770			3433	1863	1769		1583		
Flt Permitted	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (perm)	1770			3433	1863	1769		1583		
Peak-hour factor, PHF	0.97	0.97	0.76	0.76	0.76	0.64	0.64	0.64	0.92	0.92
Adj. Flow (vph)	113	0	34	88	68	142	72	102	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	54	0	0
Lane Group Flow (vph)	113	0	0	122	68	214	0	48	0	0
Turn Type			Split	Split				Perm		
Protected Phases	6		8	8	8	5				
Permitted Phases								5		
Actuated Green, G (s)	12.5			22.0	22.0	38.6		38.6		
Effective Green, g (s)	12.5			22.0	22.0	38.6		38.6		
Actuated g/C Ratio	0.15			0.27	0.27	0.47		0.47		
Clearance Time (s)	3.0			3.6	3.6	3.0		3.0		
Vehicle Extension (s)	8.0			2.5	2.5	3.0		3.0		
Lane Grp Cap (vph)	268			913	496	826		739		
v/s Ratio Prot	c0.06			0.04	c0.04	c0.12				
v/s Ratio Perm								0.03		
v/c Ratio	0.42			0.13	0.14	0.26		0.06		
Uniform Delay, d1	31.8			23.1	23.1	13.4		12.1		
Progression Factor	1.18			1.00	1.00	1.00		1.00		
Incremental Delay, d2	2.6			0.0	0.1	0.2		0.0		
Delay (s)	40.2			23.1	23.2	13.5		12.2		
Level of Service	D			C	C	B		B		
Approach Delay (s)	40.2				23.2	13.1			0.0	
Approach LOS	D				C	B			A	

Intersection Summary			
HCM Average Control Delay	21.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	82.7	Sum of lost time (s)	9.6
Intersection Capacity Utilization	29.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	NBR2	SBL2	SBL	SBT	NWL	NWR
Lane Configurations										
Volume (vph)	72	0	1214	59	28	51	697	1085	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		4.0		4.0		4.5	4.5		
Lane Util. Factor	1.00		0.95		1.00		0.97	1.00		
Frt	1.00		0.99		0.85		1.00	1.00		
Flt Protected	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (prot)	1770		3515		1583		3433	1863		
Flt Permitted	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (perm)	1770		3515		1583		3433	1863		
Peak-hour factor, PHF	0.95	0.95	0.98	0.98	0.98	0.96	0.96	0.96	0.92	0.92
Adj. Flow (vph)	76	0	1239	60	29	53	726	1130	0	0
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	0	0
Lane Group Flow (vph)	76	0	1299	0	18	0	779	1130	0	0
Turn Type					Perm	Prot	Prot			
Protected Phases	4		2			3	3	3 2		
Permitted Phases					2			4		
Actuated Green, G (s)	10.3		35.2		35.2		25.7	75.2		
Effective Green, g (s)	10.3		35.2		35.2		25.7	71.2		
Actuated g/C Ratio	0.12		0.43		0.43		0.31	0.86		
Clearance Time (s)	3.0		4.0		4.0		4.5			
Vehicle Extension (s)	6.0		3.5		3.5		3.2			
Lane Grp Cap (vph)	220		1496		674		1067	1705		
v/s Ratio Prot	0.04		c0.37				c0.23	c0.49		
v/s Ratio Perm					0.01			0.12		
v/c Ratio	0.35		0.87		0.03		0.73	0.66		
Uniform Delay, d1	33.1		21.6		13.8		25.4	1.9		
Progression Factor	0.95		1.00		1.00		1.00	1.00		
Incremental Delay, d2	2.6		7.1		0.1		2.6	1.0		
Delay (s)	34.0		28.7		13.9		28.0	2.9		
Level of Service	C		C		B		C	A		
Approach Delay (s)	34.0		28.4					13.1	0.0	
Approach LOS	C		C					B	A	

Intersection Summary			
HCM Average Control Delay	19.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	82.7	Sum of lost time (s)	4.0
Intersection Capacity Utilization	75.5%	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												
Volume (veh/h)	0	0	25	43	1	5	24	29	40	0	60	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.76	0.76	0.76	0.78	0.78	0.78
Hourly flow rate (vph)	0	0	33	51	1	6	32	38	53	0	77	4
Pedestrians		6			8			2			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			1			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1122				
pX, platoon unblocked												
vC, conflicting volume	224	247	87	250	222	77	87			99		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	224	247	87	250	222	77	87			99		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	97	92	100	99	98			100		
cM capacity (veh/h)	702	634	965	657	654	973	1502			1484		

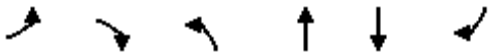
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	33	58	122	81
Volume Left	0	51	32	0
Volume Right	33	6	53	4
cSH	965	679	1502	1484
Volume to Capacity	0.03	0.09	0.02	0.00
Queue Length 95th (ft)	3	7	2	0
Control Delay (s)	8.9	10.8	2.0	0.0
Lane LOS	A	B	A	
Approach Delay (s)	8.9	10.8	2.0	0.0
Approach LOS	A	B		

Intersection Summary				
Average Delay	4.0			
Intersection Capacity Utilization	29.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	20	1340	23	0	1891
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.59	0.59	0.92	0.92	0.98	0.98
Hourly flow rate (vph)	0	34	1457	25	0	1930
Pedestrians	7					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1291			
pX, platoon unblocked	0.54	0.54			0.54	
vC, conflicting volume	3406	1476			1489	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	5001	1456			1479	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	61			100	
cM capacity (veh/h)	0	86			246	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	34	1482	1930
Volume Left	0	0	0
Volume Right	34	25	0
cSH	86	1700	1700
Volume to Capacity	0.39	0.87	1.14
Queue Length 95th (ft)	39	0	0
Control Delay (s)	71.6	0.0	0.0
Lane LOS	F		
Approach Delay (s)	71.6	0.0	0.0
Approach LOS	F		

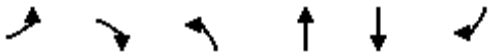
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	102.9%	ICU Level of Service	G
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	79	83	115	9
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.73	0.73	0.92	0.92
Hourly flow rate (vph)	0	0	108	114	125	10
Pedestrians	208					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				614		
pX, platoon unblocked						
vC, conflicting volume	663	333	343			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	663	333	343			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	91			
cM capacity (veh/h)	388	709	1216			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	108	114	125	10
Volume Left	108	0	0	0
Volume Right	0	0	0	10
cSH	1216	1700	1700	1700
Volume to Capacity	0.09	0.07	0.07	0.01
Queue Length 95th (ft)	7	0	0	0
Control Delay (s)	8.2	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	4.0		0.0	
Approach LOS				

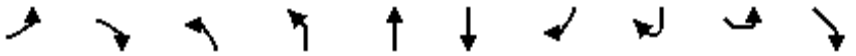
Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	24.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	94	0	162	115	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.74	0.74	0.73	0.73	0.92	0.92
Hourly flow rate (vph)	0	127	0	222	125	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				532		
pX, platoon unblocked						
vC, conflicting volume	236	125	125			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	236	125	125			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	86	100			
cM capacity (veh/h)	731	902	1459			

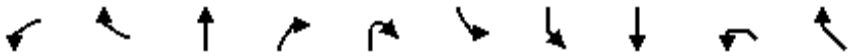
Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	127	111	111	125
Volume Left	0	0	0	0
Volume Right	127	0	0	0
cSH	902	1700	1700	1700
Volume to Capacity	0.14	0.07	0.07	0.07
Queue Length 95th (ft)	12	0	0	0
Control Delay (s)	9.6	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	9.6	0.0		0.0
Approach LOS	A			

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	24.4%	ICU Level of Service	A
Analysis Period (min)	15		



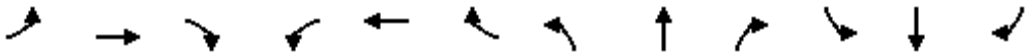
Movement	EBL	EBR	NBL2	NBL	NBT	SBT	SBR	SBR2	SEL	SER
Lane Configurations										
Volume (vph)	117	0	55	88	50	61	36	47	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.6	3.6	3.0		3.0		
Lane Util. Factor	1.00			0.97	1.00	1.00		1.00		
Frt	1.00			1.00	1.00	0.94		0.85		
Flt Protected	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (prot)	1770			3433	1863	1759		1583		
Flt Permitted	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (perm)	1770			3433	1863	1759		1583		
Peak-hour factor, PHF	0.97	0.97	0.95	0.95	0.95	0.82	0.82	0.82	0.92	0.92
Adj. Flow (vph)	121	0	58	93	53	74	44	57	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	30	0	0
Lane Group Flow (vph)	121	0	0	151	53	118	0	27	0	0
Turn Type			Split	Split				Perm		
Protected Phases	6		8	8	8	5				
Permitted Phases								5		
Actuated Green, G (s)	15.7			19.0	19.0	38.6		38.6		
Effective Green, g (s)	15.7			19.0	19.0	38.6		38.6		
Actuated g/C Ratio	0.19			0.23	0.23	0.47		0.47		
Clearance Time (s)	3.0			3.6	3.6	3.0		3.0		
Vehicle Extension (s)	8.0			2.5	2.5	3.0		3.0		
Lane Grp Cap (vph)	335			787	427	819		737		
v/s Ratio Prot	c0.07			c0.04	0.03	c0.07				
v/s Ratio Perm								0.02		
v/c Ratio	0.36			0.19	0.12	0.14		0.04		
Uniform Delay, d1	29.2			25.8	25.3	12.7		12.0		
Progression Factor	1.20			1.00	1.00	1.00		1.00		
Incremental Delay, d2	1.5			0.1	0.1	0.1		0.0		
Delay (s)	36.5			25.8	25.4	12.8		12.1		
Level of Service	D			C	C	B		B		
Approach Delay (s)	36.5				25.7	12.5			0.0	
Approach LOS	D				C	B			A	

Intersection Summary			
HCM Average Control Delay	23.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.20		
Actuated Cycle Length (s)	82.9	Sum of lost time (s)	9.6
Intersection Capacity Utilization	25.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	NBR2	SBL2	SBL	SBT	NWL	NWR
Lane Configurations										
Volume (vph)	91	0	1413	41	137	76	691	1275	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		4.0		4.0		4.5	4.5		
Lane Util. Factor	1.00		0.95		1.00		0.97	1.00		
Frt	1.00		1.00		0.85		1.00	1.00		
Flt Protected	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (prot)	1770		3524		1583		3433	1863		
Flt Permitted	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (perm)	1770		3524		1583		3433	1863		
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.97	0.97	0.97	0.92	0.92
Adj. Flow (vph)	96	0	1487	43	144	78	712	1314	0	0
RTOR Reduction (vph)	0	0	0	0	48	0	0	0	0	0
Lane Group Flow (vph)	96	0	1530	0	96	0	790	1314	0	0
Turn Type					Perm	Prot	Prot			
Protected Phases	4		2			3	3	3 2		
Permitted Phases					2			4		
Actuated Green, G (s)	10.4		35.3		35.3		25.7	75.4		
Effective Green, g (s)	10.4		35.3		35.3		25.7	71.4		
Actuated g/C Ratio	0.13		0.43		0.43		0.31	0.86		
Clearance Time (s)	3.0		4.0		4.0		4.5			
Vehicle Extension (s)	6.0		3.5		3.5		3.2			
Lane Grp Cap (vph)	222		1501		674		1064	1706		
v/s Ratio Prot	0.05		c0.43				0.23	c0.57		
v/s Ratio Perm					0.06			0.14		
v/c Ratio	0.43		1.02		0.14		0.74	0.77		
Uniform Delay, d1	33.5		23.8		14.6		25.6	2.4		
Progression Factor	1.12		1.00		1.00		1.00	1.00		
Incremental Delay, d2	3.8		28.2		0.4		2.9	2.2		
Delay (s)	41.3		52.0		15.0		28.5	4.6		
Level of Service	D		D		B		C	A		
Approach Delay (s)	41.3		48.8					13.6	0.0	
Approach LOS	D		D					B	A	

Intersection Summary			
HCM Average Control Delay	29.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	82.9	Sum of lost time (s)	4.0
Intersection Capacity Utilization	82.5%	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												
Volume (veh/h)	1	0	19	31	0	2	7	81	34	0	54	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.68	0.68	0.68	0.80	0.80	0.80	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	1	0	28	39	0	2	8	95	40	0	77	0
Pedestrians					5						3	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1122				
pX, platoon unblocked												
vC, conflicting volume	214	234	77	242	214	123	77			140		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	214	234	77	242	214	123	77			140		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	97	94	100	100	99			100		
cM capacity (veh/h)	733	660	984	684	677	921	1522			1437		

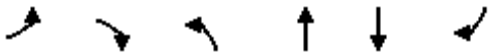
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	29	41	144	77
Volume Left	1	39	8	0
Volume Right	28	2	40	0
cSH	967	695	1522	1437
Volume to Capacity	0.03	0.06	0.01	0.00
Queue Length 95th (ft)	2	5	0	0
Control Delay (s)	8.8	10.5	0.5	0.0
Lane LOS	A	B	A	
Approach Delay (s)	8.8	10.5	0.5	0.0
Approach LOS	A	B		

Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	28.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	23	1582	37	0	1994
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.69	0.69	0.91	0.91	0.98	0.98
Hourly flow rate (vph)	0	33	1738	41	0	2035
Pedestrians	4					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1291			
pX, platoon unblocked	0.49	0.49			0.49	
vC, conflicting volume	3797	1763			1783	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	6157	2033			2074	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	5			100	
cM capacity (veh/h)	0	35			132	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	33	1779	2035
Volume Left	0	0	0
Volume Right	33	41	0
cSH	35	1700	1700
Volume to Capacity	0.95	1.05	1.20
Queue Length 95th (ft)	85	0	0
Control Delay (s)	304.0	0.0	0.0
Lane LOS	F		
Approach Delay (s)	304.0	0.0	0.0
Approach LOS	F		

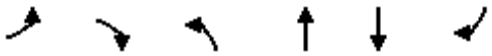
Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	108.3%	ICU Level of Service	G
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	41	124	111	1
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.79	0.79	0.74	0.74
Hourly flow rate (vph)	0	0	52	157	150	1
Pedestrians	50					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				614		
pX, platoon unblocked						
vC, conflicting volume	461	200	201			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	461	200	201			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	96			
cM capacity (veh/h)	538	841	1371			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	52	157	150	1
Volume Left	52	0	0	0
Volume Right	0	0	0	1
cSH	1371	1700	1700	1700
Volume to Capacity	0.04	0.09	0.09	0.00
Queue Length 95th (ft)	3	0	0	0
Control Delay (s)	7.7	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	1.9		0.0	
Approach LOS				

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	21.9%	ICU Level of Service	A
Analysis Period (min)	15		



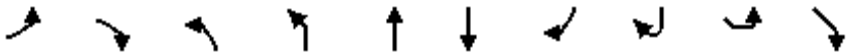
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	39	0	165	111	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.74	0.74
Hourly flow rate (vph)	0	49	0	209	150	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				532		
pX, platoon unblocked						
vC, conflicting volume	254	150	150			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	254	150	150			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	94	100			
cM capacity (veh/h)	712	870	1429			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	49	104	104	150
Volume Left	0	0	0	0
Volume Right	49	0	0	0
cSH	870	1700	1700	1700
Volume to Capacity	0.06	0.06	0.06	0.09
Queue Length 95th (ft)	5	0	0	0
Control Delay (s)	9.4	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	9.4	0.0		0.0
Approach LOS	A			

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	21.9%	ICU Level of Service	A
Analysis Period (min)	15		

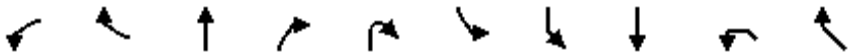
C-4

Existing Plus Project Conditions Synchro Level of Service Worksheets



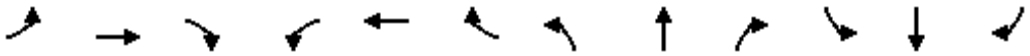
Movement	EBL	EBR	NBL2	NBL	NBT	SBT	SBR	SBR2	SEL	SER
Lane Configurations										
Volume (vph)	311	0	47	140	112	101	128	164	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.6	3.6	3.0		3.0		
Lane Util. Factor	1.00			0.97	1.00	1.00		1.00		
Frt	1.00			1.00	1.00	0.92		0.85		
Flt Protected	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (prot)	1770			3433	1863	1706		1583		
Flt Permitted	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (perm)	1770			3433	1863	1706		1583		
Peak-hour factor, PHF	0.89	0.89	0.84	0.84	0.96	0.80	0.80	0.80	0.92	0.92
Adj. Flow (vph)	349	0	56	167	117	126	160	205	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	149	0	0
Lane Group Flow (vph)	349	0	0	223	117	286	0	56	0	0
Turn Type			Split	Split				Perm		
Protected Phases	6		8	8	8	5				
Permitted Phases								5		
Actuated Green, G (s)	45.2			10.8	10.8	24.7		24.7		
Effective Green, g (s)	45.2			10.8	10.8	24.7		24.7		
Actuated g/C Ratio	0.50			0.12	0.12	0.27		0.27		
Clearance Time (s)	3.0			3.6	3.6	3.0		3.0		
Vehicle Extension (s)	8.0			2.5	2.5	3.0		3.0		
Lane Grp Cap (vph)	886			411	223	467		433		
v/s Ratio Prot	c0.20			c0.06	0.06	c0.17				
v/s Ratio Perm								0.04		
v/c Ratio	0.39			0.54	0.52	0.61		0.13		
Uniform Delay, d1	14.0			37.4	37.3	28.6		24.7		
Progression Factor	1.25			1.00	1.00	1.00		1.00		
Incremental Delay, d2	0.9			1.2	1.7	2.4		0.1		
Delay (s)	18.4			38.6	39.0	31.0		24.8		
Level of Service	B			D	D	C		C		
Approach Delay (s)	18.4				38.7	28.4			0.0	
Approach LOS	B				D	C			A	

Intersection Summary			
HCM Average Control Delay	28.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.3	Sum of lost time (s)	9.6
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	NBR2	SBL2	SBL	SBT	NWL	NWR
Lane Configurations										
Volume (vph)	175	0	955	173	394	138	343	573	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		4.0		4.0		4.5	4.5		
Lane Util. Factor	1.00		0.95		1.00		0.97	1.00		
Frt	1.00		0.98		0.85		1.00	1.00		
Flt Protected	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (prot)	1770		3458		1583		3433	1863		
Flt Permitted	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (perm)	1770		3458		1583		3433	1863		
Peak-hour factor, PHF	0.80	0.80	0.96	0.96	0.96	0.89	0.89	0.89	0.92	0.92
Adj. Flow (vph)	219	0	995	180	410	155	385	644	0	0
RTOR Reduction (vph)	0	0	0	0	182	0	0	0	0	0
Lane Group Flow (vph)	219	0	1175	0	228	0	540	644	0	0
Turn Type					Perm	Prot	Prot			
Protected Phases	4		2			3	3	3 2		
Permitted Phases					2			4		
Actuated Green, G (s)	19.1		40.1		40.1		19.6	82.8		
Effective Green, g (s)	19.1		40.1		40.1		19.6	78.8		
Actuated g/C Ratio	0.21		0.44		0.44		0.22	0.87		
Clearance Time (s)	3.0		4.0		4.0		4.5			
Vehicle Extension (s)	6.0		3.5		3.5		3.2			
Lane Grp Cap (vph)	374		1536		703		745	1719		
v/s Ratio Prot	c0.12		c0.34				c0.16	0.25		
v/s Ratio Perm					0.14			0.10		
v/c Ratio	0.59		0.76		0.32		0.72	0.37		
Uniform Delay, d1	32.0		21.1		16.3		32.8	1.1		
Progression Factor	0.25		1.00		1.00		1.00	1.00		
Incremental Delay, d2	3.9		3.7		1.2		3.6	0.1		
Delay (s)	11.8		24.8		17.5		36.4	1.2		
Level of Service	B		C		B		D	A		
Approach Delay (s)	11.8		22.9					17.3	0.0	
Approach LOS	B		C					B	A	

Intersection Summary			
HCM Average Control Delay	19.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.3	Sum of lost time (s)	11.5
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	1	27	85	3	5	44	42	136	14	90	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.67	0.67	0.67	0.66	0.66	0.66	0.66	0.66	0.66	0.64	0.64	0.64
Hourly flow rate (vph)	3	1	40	129	5	8	67	64	206	22	141	8
Pedestrians					49						105	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					4						9	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1122				
pX, platoon unblocked												
vC, conflicting volume	603	640	145	578	541	321	148			319		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	603	640	145	578	541	321	148			319		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	96	64	99	99	95			98		
cM capacity (veh/h)	338	353	903	359	402	630	1433			1191		

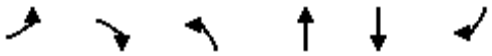
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	45	141	336	170
Volume Left	3	129	67	22
Volume Right	40	8	206	8
cSH	776	369	1433	1191
Volume to Capacity	0.06	0.38	0.05	0.02
Queue Length 95th (ft)	5	44	4	1
Control Delay (s)	9.9	20.6	1.9	1.2
Lane LOS	A	C	A	A
Approach Delay (s)	9.9	20.6	1.9	1.2
Approach LOS	A	C		

Intersection Summary				
Average Delay	6.0			
Intersection Capacity Utilization	42.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	27	1217	27	0	1043
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.84	0.84	0.93	0.93	0.97	0.97
Hourly flow rate (vph)	0	32	1309	29	0	1075
Pedestrians	11					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1291			
pX, platoon unblocked	0.57	0.57			0.57	
vC, conflicting volume	2409	1334			1349	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3085	1211			1236	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	75			100	
cM capacity (veh/h)	8	126			320	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	32	1338	1075
Volume Left	0	0	0
Volume Right	32	29	0
cSH	126	1700	1700
Volume to Capacity	0.25	0.79	0.63
Queue Length 95th (ft)	24	0	0
Control Delay (s)	42.9	0.0	0.0
Lane LOS	E		
Approach Delay (s)	42.9	0.0	0.0
Approach LOS	E		

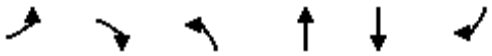
Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	208	215	179	18
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.53	0.81	0.91	0.91
Hourly flow rate (vph)	0	0	392	265	197	20
Pedestrians	219					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				614		
pX, platoon unblocked						
vC, conflicting volume	1466	416	435			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1466	416	435			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	65			
cM capacity (veh/h)	92	637	1124			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	392	265	197	20
Volume Left	392	0	0	0
Volume Right	0	0	0	20
cSH	1124	1700	1700	1700
Volume to Capacity	0.35	0.16	0.12	0.01
Queue Length 95th (ft)	40	0	0	0
Control Delay (s)	9.9	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	5.9		0.0	
Approach LOS				

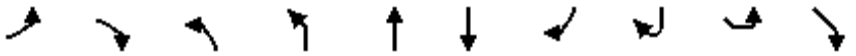
Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	213	0	423	179	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.50	0.50	0.56	0.56	0.91	0.91
Hourly flow rate (vph)	0	426	0	755	197	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				532		
pX, platoon unblocked						
vC, conflicting volume	574	197	197			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	574	197	197			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	48	100			
cM capacity (veh/h)	449	811	1373			

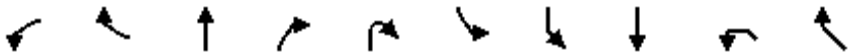
Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	426	378	378	197
Volume Left	0	0	0	0
Volume Right	426	0	0	0
cSH	811	1700	1700	1700
Volume to Capacity	0.52	0.22	0.22	0.12
Queue Length 95th (ft)	78	0	0	0
Control Delay (s)	14.2	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	14.2	0.0		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		



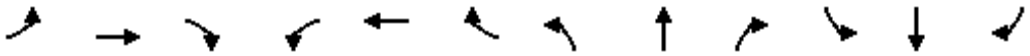
Movement	EBL	EBR	NBL2	NBL	NBT	SBT	SBR	SBR2	SEL	SER
Lane Configurations										
Volume (vph)	152	0	25	64	60	110	63	88	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.6	3.6	3.0		3.0		
Lane Util. Factor	1.00			0.97	1.00	1.00		1.00		
Frt	1.00			1.00	1.00	0.95		0.85		
Flt Protected	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (prot)	1770			3433	1863	1761		1583		
Flt Permitted	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (perm)	1770			3433	1863	1761		1583		
Peak-hour factor, PHF	0.97	0.97	0.76	0.76	0.76	0.64	0.64	0.64	0.92	0.92
Adj. Flow (vph)	157	0	33	84	79	172	98	138	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	62	0	0
Lane Group Flow (vph)	157	0	0	117	79	270	0	76	0	0
Turn Type			Split	Split				Perm		
Protected Phases	6		8	8	8	5				
Permitted Phases								5		
Actuated Green, G (s)	17.2			8.3	8.3	42.6		42.6		
Effective Green, g (s)	17.2			8.3	8.3	42.6		42.6		
Actuated g/C Ratio	0.22			0.11	0.11	0.55		0.55		
Clearance Time (s)	3.0			3.6	3.6	3.0		3.0		
Vehicle Extension (s)	8.0			2.5	2.5	3.0		3.0		
Lane Grp Cap (vph)	392			367	199	965		868		
v/s Ratio Prot	c0.09			0.03	c0.04	c0.15				
v/s Ratio Perm								0.05		
v/c Ratio	0.40			0.32	0.40	0.28		0.09		
Uniform Delay, d1	25.8			32.1	32.4	9.4		8.3		
Progression Factor	1.02			1.00	1.00	1.00		1.00		
Incremental Delay, d2	2.4			0.4	0.9	0.2		0.0		
Delay (s)	28.8			32.5	33.3	9.5		8.4		
Level of Service	C			C	C	A		A		
Approach Delay (s)	28.8				32.8	9.1			0.0	
Approach LOS	C				C	A			A	

Intersection Summary			
HCM Average Control Delay	19.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	77.7	Sum of lost time (s)	9.6
Intersection Capacity Utilization	31.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	NBR2	SBL2	SBL	SBT	NWL	NWR
Lane Configurations										
Volume (vph)	88	0	852	80	27	72	489	762	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		4.0		4.0		4.5	4.5		
Lane Util. Factor	1.00		0.95		1.00		0.97	1.00		
Frt	1.00		0.99		0.85		1.00	1.00		
Flt Protected	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (prot)	1770		3493		1583		3433	1863		
Flt Permitted	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (perm)	1770		3493		1583		3433	1863		
Peak-hour factor, PHF	0.95	0.95	0.98	0.98	0.98	0.96	0.96	0.96	0.92	0.92
Adj. Flow (vph)	93	0	869	82	28	75	509	794	0	0
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	0	0
Lane Group Flow (vph)	93	0	951	0	14	0	584	794	0	0
Turn Type					Perm	Prot	Prot			
Protected Phases	4		2			3	3	3 2		
Permitted Phases					2			4		
Actuated Green, G (s)	10.1		35.7		35.7		20.4	70.2		
Effective Green, g (s)	10.1		35.7		35.7		20.4	66.2		
Actuated g/C Ratio	0.13		0.46		0.46		0.26	0.85		
Clearance Time (s)	3.0		4.0		4.0		4.5			
Vehicle Extension (s)	6.0		3.5		3.5		3.2			
Lane Grp Cap (vph)	230		1605		727		901	1695		
v/s Ratio Prot	0.05		c0.27				c0.17	c0.34		
v/s Ratio Perm					0.01			0.09		
v/c Ratio	0.40		0.59		0.02		0.65	0.47		
Uniform Delay, d1	31.0		15.6		11.5		25.5	1.4		
Progression Factor	0.81		1.00		1.00		1.00	1.00		
Incremental Delay, d2	3.2		1.6		0.0		1.6	0.2		
Delay (s)	28.5		17.2		11.5		27.1	1.6		
Level of Service	C		B		B		C	A		
Approach Delay (s)	28.5		17.1					12.4	0.0	
Approach LOS	C		B					B	A	

Intersection Summary			
HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	77.7	Sum of lost time (s)	8.5
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	24	41	1	5	23	46	38	0	75	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.76	0.76	0.76	0.78	0.78	0.78
Hourly flow rate (vph)	0	0	32	49	1	6	30	61	50	0	96	4
Pedestrians		6			8			2			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			1			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1122				
pX, platoon unblocked												
vC, conflicting volume	262	283	106	286	260	99	106			119		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	262	283	106	286	260	99	106			119		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	97	92	100	99	98			100		
cM capacity (veh/h)	663	606	942	623	624	947	1478			1460		

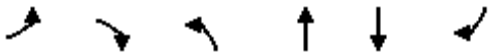
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	32	56	141	100
Volume Left	0	49	30	0
Volume Right	32	6	50	4
cSH	942	646	1478	1460
Volume to Capacity	0.03	0.09	0.02	0.00
Queue Length 95th (ft)	3	7	2	0
Control Delay (s)	9.0	11.1	1.7	0.0
Lane LOS	A	B	A	
Approach Delay (s)	9.0	11.1	1.7	0.0
Approach LOS	A	B		

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	29.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	19	958	22	0	1344
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.59	0.59	0.92	0.92	0.98	0.98
Hourly flow rate (vph)	0	32	1041	24	0	1371
Pedestrians	7					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1291			
pX, platoon unblocked	0.59	0.59			0.59	
vC, conflicting volume	2432	1060			1072	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3069	760			780	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	87			100	
cM capacity (veh/h)	8	240			494	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	32	1065	1371
Volume Left	0	0	0
Volume Right	32	24	0
cSH	240	1700	1700
Volume to Capacity	0.13	0.63	0.81
Queue Length 95th (ft)	11	0	0
Control Delay (s)	22.3	0.0	0.0
Lane LOS	C		
Approach Delay (s)	22.3	0.0	0.0
Approach LOS	C		

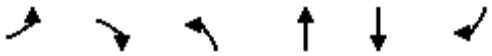
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	111	102	126	18
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.73	0.73	0.92	0.92
Hourly flow rate (vph)	0	0	152	140	137	20
Pedestrians	208					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				614		
pX, platoon unblocked						
vC, conflicting volume	789	345	365			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	789	345	365			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	87			
cM capacity (veh/h)	314	698	1194			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	152	140	137	20
Volume Left	152	0	0	0
Volume Right	0	0	0	20
cSH	1194	1700	1700	1700
Volume to Capacity	0.13	0.08	0.08	0.01
Queue Length 95th (ft)	11	0	0	0
Control Delay (s)	8.5	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	4.4		0.0	
Approach LOS				

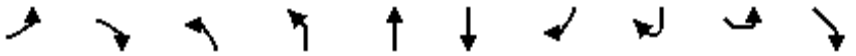
Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	26.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	141	0	213	126	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.74	0.74	0.73	0.73	0.92	0.92
Hourly flow rate (vph)	0	191	0	292	137	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				532		
pX, platoon unblocked						
vC, conflicting volume	283	137	137			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	283	137	137			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	79	100			
cM capacity (veh/h)	684	886	1445			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	191	146	146	137
Volume Left	0	0	0	0
Volume Right	191	0	0	0
cSH	886	1700	1700	1700
Volume to Capacity	0.21	0.09	0.09	0.08
Queue Length 95th (ft)	20	0	0	0
Control Delay (s)	10.2	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	10.2	0.0		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	26.1%	ICU Level of Service	A
Analysis Period (min)	15		

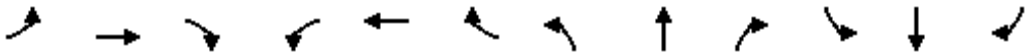


Movement	EBL	EBR	NBL2	NBL	NBT	SBT	SBR	SBR2	SEL	SER
Lane Configurations										
Volume (vph)	137	0	52	84	53	70	44	57	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.6	3.6	3.0		3.0		
Lane Util. Factor	1.00			0.97	1.00	1.00		1.00		
Frt	1.00			1.00	1.00	0.94		0.85		
Flt Protected	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (prot)	1770			3433	1863	1754		1583		
Flt Permitted	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (perm)	1770			3433	1863	1754		1583		
Peak-hour factor, PHF	0.97	0.97	0.95	0.95	0.95	0.82	0.82	0.82	0.92	0.92
Adj. Flow (vph)	141	0	55	88	56	85	54	70	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	39	0	0
Lane Group Flow (vph)	141	0	0	143	56	139	0	31	0	0
Turn Type			Split	Split				Perm		
Protected Phases	6		8	8	8	5				
Permitted Phases								5		
Actuated Green, G (s)	16.6			17.4	17.4	35.1		35.1		
Effective Green, g (s)	16.6			17.4	17.4	35.1		35.1		
Actuated g/C Ratio	0.21			0.22	0.22	0.45		0.45		
Clearance Time (s)	3.0			3.6	3.6	3.0		3.0		
Vehicle Extension (s)	8.0			2.5	2.5	3.0		3.0		
Lane Grp Cap (vph)	373			759	412	782		706		
v/s Ratio Prot	c0.08			c0.04	0.03	c0.08				
v/s Ratio Perm								0.02		
v/c Ratio	0.38			0.19	0.14	0.18		0.04		
Uniform Delay, d1	26.6			24.9	24.6	13.1		12.3		
Progression Factor	1.18			1.00	1.00	1.00		1.00		
Incremental Delay, d2	2.2			0.1	0.1	0.1		0.0		
Delay (s)	33.6			25.0	24.7	13.2		12.3		
Level of Service	C			C	C	B		B		
Approach Delay (s)	33.6				24.9	12.9			0.0	
Approach LOS	C				C	B			A	

Intersection Summary			
HCM Average Control Delay	22.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	78.7	Sum of lost time (s)	9.6
Intersection Capacity Utilization	25.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	NBR2	SBL2	SBL	SBT	NWL	NWR
Lane Configurations										
Volume (vph)	96	0	992	52	130	86	485	895	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		4.0		4.0		4.5	4.5		
Lane Util. Factor	1.00		0.95		1.00		0.97	1.00		
Frt	1.00		0.99		0.85		1.00	1.00		
Flt Protected	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (prot)	1770		3513		1583		3433	1863		
Flt Permitted	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (perm)	1770		3513		1583		3433	1863		
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.97	0.97	0.97	0.92	0.92
Adj. Flow (vph)	101	0	1044	55	137	89	500	923	0	0
RTOR Reduction (vph)	0	0	0	0	60	0	0	0	0	0
Lane Group Flow (vph)	101	0	1099	0	77	0	589	923	0	0
Turn Type					Perm	Prot	Prot			
Protected Phases	4		2			3	3	3 2		
Permitted Phases					2			4		
Actuated Green, G (s)	10.5		35.7		35.7		21.0	71.2		
Effective Green, g (s)	10.5		35.7		35.7		21.0	67.2		
Actuated g/C Ratio	0.13		0.45		0.45		0.27	0.85		
Clearance Time (s)	3.0		4.0		4.0		4.5			
Vehicle Extension (s)	6.0		3.5		3.5		3.2			
Lane Grp Cap (vph)	236		1594		718		916	1697		
v/s Ratio Prot	0.06		c0.31				c0.17	c0.39		
v/s Ratio Perm					0.05			0.10		
v/c Ratio	0.43		0.69		0.11		0.64	0.54		
Uniform Delay, d1	31.3		17.1		12.3		25.5	1.6		
Progression Factor	1.03		1.00		1.00		1.00	1.00		
Incremental Delay, d2	3.5		2.5		0.3		1.6	0.4		
Delay (s)	35.9		19.6		12.6		27.1	1.9		
Level of Service	D		B		B		C	A		
Approach Delay (s)	35.9		18.8					11.7	0.0	
Approach LOS	D		B					B	A	

Intersection Summary			
HCM Average Control Delay	15.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	78.7	Sum of lost time (s)	4.0
Intersection Capacity Utilization	64.1%	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												
Volume (veh/h)	1	0	18	30	0	2	7	77	32	0	53	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.68	0.68	0.68	0.80	0.80	0.80	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	1	0	26	38	0	2	8	91	38	0	76	0
Pedestrians					5						3	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1122				
pX, platoon unblocked												
vC, conflicting volume	207	225	76	233	207	117	76			133		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	207	225	76	233	207	117	76			133		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	97	95	100	100	99			100		
cM capacity (veh/h)	741	667	986	694	683	928	1523			1445		

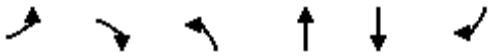
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	28	40	136	76
Volume Left	1	38	8	0
Volume Right	26	2	38	0
cSH	969	705	1523	1445
Volume to Capacity	0.03	0.06	0.01	0.00
Queue Length 95th (ft)	2	4	0	0
Control Delay (s)	8.8	10.4	0.5	0.0
Lane LOS	A	B	A	
Approach Delay (s)	8.8	10.4	0.5	0.0
Approach LOS	A	B		

Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	27.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	22	1119	35	0	1409
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.69	0.69	0.91	0.91	0.98	0.98
Hourly flow rate (vph)	0	32	1230	38	0	1438
Pedestrians	4					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1291			
pX, platoon unblocked	0.56	0.56			0.56	
vC, conflicting volume	2691	1253			1272	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3638	1056			1091	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	79			100	
cM capacity (veh/h)	3	152			355	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	32	1268	1438
Volume Left	0	0	0
Volume Right	32	38	0
cSH	152	1700	1700
Volume to Capacity	0.21	0.75	0.85
Queue Length 95th (ft)	19	0	0
Control Delay (s)	34.9	0.0	0.0
Lane LOS	D		
Approach Delay (s)	34.9	0.0	0.0
Approach LOS	D		

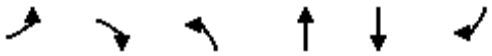
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	73	118	106	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.79	0.79	0.74	0.74
Hourly flow rate (vph)	0	0	92	149	143	4
Pedestrians	50					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				614		
pX, platoon unblocked						
vC, conflicting volume	527	193	197			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	527	193	197			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	93			
cM capacity (veh/h)	477	848	1375			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	92	149	143	4
Volume Left	92	0	0	0
Volume Right	0	0	0	4
cSH	1375	1700	1700	1700
Volume to Capacity	0.07	0.09	0.08	0.00
Queue Length 95th (ft)	5	0	0	0
Control Delay (s)	7.8	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	3.0		0.0	
Approach LOS				

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	22.6%	ICU Level of Service	A
Analysis Period (min)	15		



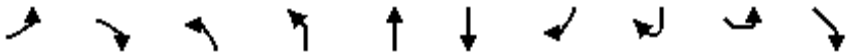
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	70	0	191	106	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.74	0.74
Hourly flow rate (vph)	0	89	0	242	143	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				532		
pX, platoon unblocked						
vC, conflicting volume	264	143	143			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	264	143	143			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	90	100			
cM capacity (veh/h)	703	878	1437			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	89	121	121	143
Volume Left	0	0	0	0
Volume Right	89	0	0	0
cSH	878	1700	1700	1700
Volume to Capacity	0.10	0.07	0.07	0.08
Queue Length 95th (ft)	8	0	0	0
Control Delay (s)	9.6	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	9.6	0.0		0.0
Approach LOS	A			

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	22.6%	ICU Level of Service	A
Analysis Period (min)	15		

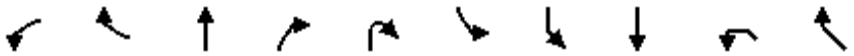
C-5

Cumulative Plus Project Conditions Synchro Level of Service Worksheets



Movement	EBL	EBR	NBL2	NBL	NBT	SBT	SBR	SBR2	SEL	SER
Lane Configurations										
Volume (vph)	319	0	49	147	115	103	131	168	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.6	3.6	3.0		3.0		
Lane Util. Factor	1.00			0.97	1.00	1.00		1.00		
Frt	1.00			1.00	1.00	0.92		0.85		
Flt Protected	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (prot)	1770			3433	1863	1706		1583		
Flt Permitted	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (perm)	1770			3433	1863	1706		1583		
Peak-hour factor, PHF	0.89	0.89	0.84	0.84	0.96	0.80	0.80	0.80	0.92	0.92
Adj. Flow (vph)	358	0	58	175	120	129	164	210	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	151	0	0
Lane Group Flow (vph)	358	0	0	233	120	293	0	59	0	0
Turn Type			Split	Split				Perm		
Protected Phases	6		8	8	8	5				
Permitted Phases								5		
Actuated Green, G (s)	45.1			11.1	11.1	25.7		25.7		
Effective Green, g (s)	45.1			11.1	11.1	25.7		25.7		
Actuated g/C Ratio	0.49			0.12	0.12	0.28		0.28		
Clearance Time (s)	3.0			3.6	3.6	3.0		3.0		
Vehicle Extension (s)	8.0			2.5	2.5	3.0		3.0		
Lane Grp Cap (vph)	872			416	226	479		445		
v/s Ratio Prot	c0.20			c0.07	0.06	c0.17				
v/s Ratio Perm								0.04		
v/c Ratio	0.41			0.56	0.53	0.61		0.13		
Uniform Delay, d1	14.7			37.9	37.8	28.6		24.6		
Progression Factor	1.21			1.00	1.00	1.00		1.00		
Incremental Delay, d2	0.4			1.4	1.9	2.3		0.1		
Delay (s)	18.3			39.3	39.6	30.9		24.7		
Level of Service	B			D	D	C		C		
Approach Delay (s)	18.3				39.4	28.3			0.0	
Approach LOS	B				D	C			A	

Intersection Summary			
HCM Average Control Delay	28.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	91.5	Sum of lost time (s)	9.6
Intersection Capacity Utilization	66.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	NBR2	SBL2	SBL	SBT	NWL	NWR
Lane Configurations										
Volume (vph)	180	0	1360	177	414	142	489	816	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		4.0		4.0		4.5	4.5		
Lane Util. Factor	1.00		0.95		1.00		0.97	1.00		
Frt	1.00		0.98		0.85		1.00	1.00		
Flt Protected	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (prot)	1770		3478		1583		3433	1863		
Flt Permitted	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (perm)	1770		3478		1583		3433	1863		
Peak-hour factor, PHF	0.80	0.80	0.96	0.96	0.96	0.89	0.89	0.89	0.92	0.92
Adj. Flow (vph)	225	0	1417	184	431	160	549	917	0	0
RTOR Reduction (vph)	0	0	0	0	142	0	0	0	0	0
Lane Group Flow (vph)	225	0	1601	0	289	0	709	917	0	0
Turn Type					Perm	Prot	Prot			
Protected Phases	4		2			3	3	3 2		
Permitted Phases					2			4		
Actuated Green, G (s)	19.4		40.1		40.1		20.5	84.0		
Effective Green, g (s)	19.4		40.1		40.1		20.5	80.0		
Actuated g/C Ratio	0.21		0.44		0.44		0.22	0.87		
Clearance Time (s)	3.0		4.0		4.0		4.5			
Vehicle Extension (s)	6.0		3.5		3.5		3.2			
Lane Grp Cap (vph)	375		1524		694		769	1720		
v/s Ratio Prot	0.13		c0.46				c0.21	c0.35		
v/s Ratio Perm					0.18			0.14		
v/c Ratio	0.60		1.05		0.42		0.92	0.53		
Uniform Delay, d1	32.5		25.7		17.7		34.7	1.4		
Progression Factor	0.25		1.00		1.00		1.00	1.00		
Incremental Delay, d2	4.1		37.6		1.8		16.5	0.3		
Delay (s)	12.3		63.3		19.5		51.2	1.7		
Level of Service	B		E		B		D	A		
Approach Delay (s)	12.3		54.0					23.3	0.0	
Approach LOS	B		D					C	A	

Intersection Summary			
HCM Average Control Delay	38.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	91.5	Sum of lost time (s)	8.5
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												
Volume (veh/h)	2	1	28	89	3	5	46	44	143	15	92	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.67	0.67	0.67	0.66	0.66	0.66	0.66	0.66	0.66	0.64	0.64	0.64
Hourly flow rate (vph)	3	1	42	135	5	8	70	67	217	23	144	8
Pedestrians					49						105	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					4						9	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1122				
pX, platoon unblocked												
vC, conflicting volume	624	666	148	600	562	329	152			332		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	624	666	148	600	562	329	152			332		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	95	61	99	99	95			98		
cM capacity (veh/h)	327	340	899	346	390	624	1429			1177		

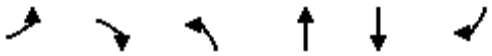
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	46	147	353	175
Volume Left	3	135	70	23
Volume Right	42	8	217	8
cSH	771	355	1429	1177
Volume to Capacity	0.06	0.41	0.05	0.02
Queue Length 95th (ft)	5	49	4	2
Control Delay (s)	10.0	22.1	1.9	1.2
Lane LOS	A	C	A	A
Approach Delay (s)	10.0	22.1	1.9	1.2
Approach LOS	A	C		

Intersection Summary				
Average Delay	6.4			
Intersection Capacity Utilization	42.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	28	1734	28	0	1486
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.84	0.84	0.93	0.93	0.97	0.97
Hourly flow rate (vph)	0	33	1865	30	0	1532
Pedestrians	11					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1291			
pX, platoon unblocked	0.50	0.50			0.50	
vC, conflicting volume	3423	1891			1906	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	5368	2286			2316	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	0			100	
cM capacity (veh/h)	0	25			106	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	33	1895	1532
Volume Left	0	0	0
Volume Right	33	30	0
cSH	25	1700	1700
Volume to Capacity	1.35	1.11	0.90
Queue Length 95th (ft)	103	0	0
Control Delay (s)	537.3	0.0	0.0
Lane LOS	F		
Approach Delay (s)	537.3	0.0	0.0
Approach LOS	F		

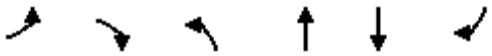
Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	103.0%	ICU Level of Service	G
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	208	226	188	18
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.53	0.81	0.91	0.91
Hourly flow rate (vph)	0	0	392	279	207	20
Pedestrians	219					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				614		
pX, platoon unblocked						
vC, conflicting volume	1490	426	445			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1490	426	445			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	65			
cM capacity (veh/h)	88	629	1115			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	392	279	207	20
Volume Left	392	0	0	0
Volume Right	0	0	0	20
cSH	1115	1700	1700	1700
Volume to Capacity	0.35	0.16	0.12	0.01
Queue Length 95th (ft)	40	0	0	0
Control Delay (s)	10.0	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	5.8		0.0	
Approach LOS				

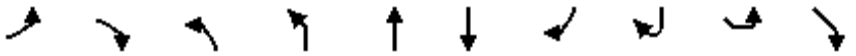
Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	213	0	434	188	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.50	0.50	0.56	0.56	0.91	0.91
Hourly flow rate (vph)	0	426	0	775	207	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				532		
pX, platoon unblocked						
vC, conflicting volume	594	207	207			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	594	207	207			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	47	100			
cM capacity (veh/h)	436	800	1362			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	426	388	388	207
Volume Left	0	0	0	0
Volume Right	426	0	0	0
cSH	800	1700	1700	1700
Volume to Capacity	0.53	0.23	0.23	0.12
Queue Length 95th (ft)	80	0	0	0
Control Delay (s)	14.5	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	14.5	0.0		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		

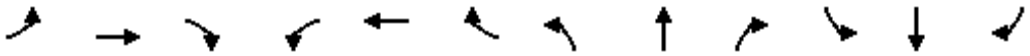


Movement	EBL	EBR	NBL2	NBL	NBT	SBT	SBR	SBR2	SEL	SER
Lane Configurations										
Volume (vph)	156	0	26	67	61	113	64	90	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.6	3.6	3.0		3.0		
Lane Util. Factor	1.00			0.97	1.00	1.00		1.00		
Frt	1.00			1.00	1.00	0.95		0.85		
Flt Protected	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (prot)	1770			3433	1863	1762		1583		
Flt Permitted	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (perm)	1770			3433	1863	1762		1583		
Peak-hour factor, PHF	0.97	0.97	0.76	0.76	0.76	0.64	0.64	0.64	0.92	0.92
Adj. Flow (vph)	161	0	34	88	80	177	100	141	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	60	0	0
Lane Group Flow (vph)	161	0	0	122	80	277	0	81	0	0
Turn Type			Split	Split				Perm		
Protected Phases	6		8	8	8	5				
Permitted Phases								5		
Actuated Green, G (s)	17.4			8.4	8.4	47.5		47.5		
Effective Green, g (s)	17.4			8.4	8.4	47.5		47.5		
Actuated g/C Ratio	0.21			0.10	0.10	0.57		0.57		
Clearance Time (s)	3.0			3.6	3.6	3.0		3.0		
Vehicle Extension (s)	8.0			2.5	2.5	3.0		3.0		
Lane Grp Cap (vph)	372			348	189	1010		907		
v/s Ratio Prot	c0.09			0.04	c0.04	c0.16				
v/s Ratio Perm								0.05		
v/c Ratio	0.43			0.35	0.42	0.27		0.09		
Uniform Delay, d1	28.5			34.7	35.0	9.0		8.0		
Progression Factor	1.16			1.00	1.00	1.00		1.00		
Incremental Delay, d2	1.9			0.4	1.1	0.1		0.0		
Delay (s)	34.9			35.2	36.1	9.1		8.0		
Level of Service	C			D	D	A		A		
Approach Delay (s)	34.9				35.5	8.7			0.0	
Approach LOS	C				D	A			A	

Intersection Summary			
HCM Average Control Delay	21.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	82.9	Sum of lost time (s)	9.6
Intersection Capacity Utilization	31.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	NBR2	SBL2	SBL	SBT	NWL	NWR
Lane Configurations										
Volume (vph)	90	0	1214	82	28	74	697	1085	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		4.0		4.0		4.5	4.5		
Lane Util. Factor	1.00		0.95		1.00		0.97	1.00		
Frt	1.00		0.99		0.85		1.00	1.00		
Flt Protected	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (prot)	1770		3506		1583		3433	1863		
Flt Permitted	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (perm)	1770		3506		1583		3433	1863		
Peak-hour factor, PHF	0.95	0.95	0.98	0.98	0.98	0.96	0.96	0.96	0.92	0.92
Adj. Flow (vph)	95	0	1239	84	29	77	726	1130	0	0
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	0	0
Lane Group Flow (vph)	95	0	1323	0	18	0	803	1130	0	0
Turn Type					Perm	Prot	Prot			
Protected Phases	4		2			3	3	3 2		
Permitted Phases					2			4		
Actuated Green, G (s)	10.4		35.3		35.3		25.7	75.4		
Effective Green, g (s)	10.4		35.3		35.3		25.7	71.4		
Actuated g/C Ratio	0.13		0.43		0.43		0.31	0.86		
Clearance Time (s)	3.0		4.0		4.0		4.5			
Vehicle Extension (s)	6.0		3.5		3.5		3.2			
Lane Grp Cap (vph)	222		1493		674		1064	1706		
v/s Ratio Prot	0.05		c0.38				c0.23	c0.49		
v/s Ratio Perm					0.01			0.12		
v/c Ratio	0.43		0.89		0.03		0.75	0.66		
Uniform Delay, d1	33.5		21.9		13.8		25.8	1.9		
Progression Factor	0.84		1.00		1.00		1.00	1.00		
Incremental Delay, d2	3.6		8.1		0.1		3.1	1.0		
Delay (s)	31.8		30.0		13.9		28.9	2.9		
Level of Service	C		C		B		C	A		
Approach Delay (s)	31.8		29.7					13.7	0.0	
Approach LOS	C		C					B	A	

Intersection Summary			
HCM Average Control Delay	20.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	82.9	Sum of lost time (s)	8.5
Intersection Capacity Utilization	76.9%	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												
Volume (veh/h)	0	0	25	43	1	5	24	48	40	0	77	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.76	0.76	0.76	0.78	0.78	0.78
Hourly flow rate (vph)	0	0	33	51	1	6	32	63	53	0	99	4
Pedestrians		6			8			2			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			1			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1122				
pX, platoon unblocked												
vC, conflicting volume	271	294	109	297	269	102	109			124		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	271	294	109	297	269	102	109			124		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	96	92	100	99	98			100		
cM capacity (veh/h)	653	597	939	611	616	942	1475			1453		

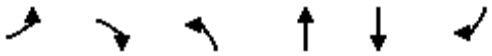
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	33	58	147	103
Volume Left	0	51	32	0
Volume Right	33	6	53	4
cSH	939	634	1475	1453
Volume to Capacity	0.04	0.09	0.02	0.00
Queue Length 95th (ft)	3	8	2	0
Control Delay (s)	9.0	11.3	1.7	0.0
Lane LOS	A	B	A	
Approach Delay (s)	9.0	11.3	1.7	0.0
Approach LOS	A	B		

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	30.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	20	1365	23	0	1914
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.59	0.59	0.92	0.92	0.98	0.98
Hourly flow rate (vph)	0	34	1484	25	0	1953
Pedestrians	7					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1291			
pX, platoon unblocked	0.54	0.54			0.54	
vC, conflicting volume	3456	1503			1516	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	5111	1506			1529	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	58			100	
cM capacity (veh/h)	0	80			235	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	34	1509	1953
Volume Left	0	0	0
Volume Right	34	25	0
cSH	80	1700	1700
Volume to Capacity	0.42	0.89	1.15
Queue Length 95th (ft)	43	0	0
Control Delay (s)	79.5	0.0	0.0
Lane LOS	F		
Approach Delay (s)	79.5	0.0	0.0
Approach LOS	F		

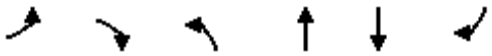
Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	104.1%	ICU Level of Service	G
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	111	107	132	18
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.73	0.73	0.92	0.92
Hourly flow rate (vph)	0	0	152	147	143	20
Pedestrians	208					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				614		
pX, platoon unblocked						
vC, conflicting volume	802	351	371			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	802	351	371			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	87			
cM capacity (veh/h)	308	692	1187			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	152	147	143	20
Volume Left	152	0	0	0
Volume Right	0	0	0	20
cSH	1187	1700	1700	1700
Volume to Capacity	0.13	0.09	0.08	0.01
Queue Length 95th (ft)	11	0	0	0
Control Delay (s)	8.5	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	4.3		0.0	
Approach LOS				

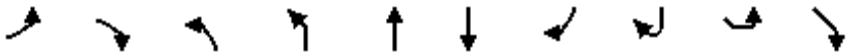
Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	26.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	141	0	218	132	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.74	0.74	0.73	0.73	0.92	0.92
Hourly flow rate (vph)	0	191	0	299	143	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				532		
pX, platoon unblocked						
vC, conflicting volume	293	143	143			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	293	143	143			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	78	100			
cM capacity (veh/h)	674	878	1437			

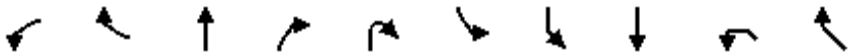
Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	191	149	149	143
Volume Left	0	0	0	0
Volume Right	191	0	0	0
cSH	878	1700	1700	1700
Volume to Capacity	0.22	0.09	0.09	0.08
Queue Length 95th (ft)	21	0	0	0
Control Delay (s)	10.2	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	10.2	0.0		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	26.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL2	NBL	NBT	SBT	SBR	SBR2	SEL	SER
Lane Configurations										
Volume (vph)	143	0	55	88	55	72	45	59	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.6	3.6	3.0		3.0		
Lane Util. Factor	1.00			0.97	1.00	1.00		1.00		
Frt	1.00			1.00	1.00	0.94		0.85		
Flt Protected	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (prot)	1770			3433	1863	1755		1583		
Flt Permitted	0.95			0.95	1.00	1.00		1.00		
Satd. Flow (perm)	1770			3433	1863	1755		1583		
Peak-hour factor, PHF	0.97	0.97	0.95	0.95	0.95	0.82	0.82	0.82	0.92	0.92
Adj. Flow (vph)	147	0	58	93	58	88	55	72	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	39	0	0
Lane Group Flow (vph)	147	0	0	151	58	143	0	33	0	0
Turn Type			Split	Split				Perm		
Protected Phases	6		8	8	8	5				
Permitted Phases								5		
Actuated Green, G (s)	16.9			18.9	18.9	37.9		37.9		
Effective Green, g (s)	16.9			18.9	18.9	37.9		37.9		
Actuated g/C Ratio	0.20			0.23	0.23	0.45		0.45		
Clearance Time (s)	3.0			3.6	3.6	3.0		3.0		
Vehicle Extension (s)	8.0			2.5	2.5	3.0		3.0		
Lane Grp Cap (vph)	359			779	423	798		720		
v/s Ratio Prot	c0.08			c0.04	0.03	c0.08				
v/s Ratio Perm								0.02		
v/c Ratio	0.41			0.19	0.14	0.18		0.05		
Uniform Delay, d1	28.9			26.0	25.7	13.5		12.6		
Progression Factor	1.20			1.00	1.00	1.00		1.00		
Incremental Delay, d2	1.5			0.1	0.1	0.1		0.0		
Delay (s)	36.3			26.1	25.8	13.6		12.7		
Level of Service	D			C	C	B		B		
Approach Delay (s)	36.3				26.0	13.3			0.0	
Approach LOS	D				C	B			A	

Intersection Summary			
HCM Average Control Delay	23.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	83.3	Sum of lost time (s)	9.6
Intersection Capacity Utilization	25.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	NBR2	SBL2	SBL	SBT	NWL	NWR
Lane Configurations										
Volume (vph)	100	0	1413	54	137	89	691	1275	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		4.0		4.0		4.5	4.5		
Lane Util. Factor	1.00		0.95		1.00		0.97	1.00		
Frt	1.00		0.99		0.85		1.00	1.00		
Flt Protected	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (prot)	1770		3520		1583		3433	1863		
Flt Permitted	0.95		1.00		1.00		0.95	1.00		
Satd. Flow (perm)	1770		3520		1583		3433	1863		
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.97	0.97	0.97	0.92	0.92
Adj. Flow (vph)	105	0	1487	57	144	92	712	1314	0	0
RTOR Reduction (vph)	0	0	0	0	48	0	0	0	0	0
Lane Group Flow (vph)	105	0	1544	0	96	0	804	1314	0	0
Turn Type					Perm	Prot	Prot			
Protected Phases	4		2			3	3	3 2		
Permitted Phases					2			4		
Actuated Green, G (s)	10.8		35.3		35.3		25.7	75.8		
Effective Green, g (s)	10.8		35.3		35.3		25.7	71.8		
Actuated g/C Ratio	0.13		0.42		0.42		0.31	0.86		
Clearance Time (s)	3.0		4.0		4.0		4.5			
Vehicle Extension (s)	6.0		3.5		3.5		3.2			
Lane Grp Cap (vph)	229		1492		671		1059	1706		
v/s Ratio Prot	0.06		c0.44				0.23	c0.56		
v/s Ratio Perm					0.06			0.14		
v/c Ratio	0.46		1.03		0.14		0.76	0.77		
Uniform Delay, d1	33.5		24.0		14.7		26.0	2.4		
Progression Factor	1.06		1.00		1.00		1.00	1.00		
Incremental Delay, d2	4.0		32.8		0.4		3.2	2.2		
Delay (s)	39.5		56.8		15.2		29.2	4.6		
Level of Service	D		E		B		C	A		
Approach Delay (s)	39.5		53.3					13.9	0.0	
Approach LOS	D		D					B	A	

Intersection Summary			
HCM Average Control Delay	31.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	83.3	Sum of lost time (s)	8.5
Intersection Capacity Utilization	82.5%	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												
Volume (veh/h)	1	0	19	31	0	2	7	81	34	0	57	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.68	0.68	0.68	0.80	0.80	0.80	0.85	0.85	0.85	0.70	0.70	0.70
Hourly flow rate (vph)	1	0	28	39	0	2	8	95	40	0	81	0
Pedestrians					5						3	
Lane Width (ft)					12.0						12.0	
Walking Speed (ft/s)					4.0						4.0	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1122				
pX, platoon unblocked												
vC, conflicting volume	219	238	81	246	218	123	81			140		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	219	238	81	246	218	123	81			140		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	97	94	100	100	99			100		
cM capacity (veh/h)	728	656	978	680	673	921	1516			1437		

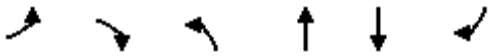
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	29	41	144	81
Volume Left	1	39	8	0
Volume Right	28	2	40	0
cSH	962	690	1516	1437
Volume to Capacity	0.03	0.06	0.01	0.00
Queue Length 95th (ft)	2	5	0	0
Control Delay (s)	8.9	10.5	0.5	0.0
Lane LOS	A	B	A	
Approach Delay (s)	8.9	10.5	0.5	0.0
Approach LOS	A	B		

Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	28.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	23	1594	37	0	2007
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.69	0.69	0.91	0.91	0.98	0.98
Hourly flow rate (vph)	0	33	1752	41	0	2048
Pedestrians	4					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			1291			
pX, platoon unblocked	0.50	0.50			0.50	
vC, conflicting volume	3824	1776			1796	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	6193	2057			2098	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	2			100	
cM capacity (veh/h)	0	34			129	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	33	1792	2048
Volume Left	0	0	0
Volume Right	33	41	0
cSH	34	1700	1700
Volume to Capacity	0.98	1.05	1.20
Queue Length 95th (ft)	87	0	0
Control Delay (s)	320.1	0.0	0.0
Lane LOS	F		
Approach Delay (s)	320.1	0.0	0.0
Approach LOS	F		

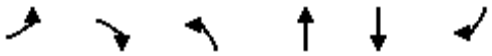
Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	109.0%	ICU Level of Service	G
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	73	124	111	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.79	0.79	0.74	0.74
Hourly flow rate (vph)	0	0	92	157	150	4
Pedestrians	50					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				614		
pX, platoon unblocked						
vC, conflicting volume	542	200	204			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	542	200	204			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	93			
cM capacity (veh/h)	468	841	1368			

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	92	157	150	4
Volume Left	92	0	0	0
Volume Right	0	0	0	4
cSH	1368	1700	1700	1700
Volume to Capacity	0.07	0.09	0.09	0.00
Queue Length 95th (ft)	5	0	0	0
Control Delay (s)	7.8	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	2.9		0.0	
Approach LOS				

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	22.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	70	0	197	111	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.74	0.74
Hourly flow rate (vph)	0	89	0	249	150	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				532		
pX, platoon unblocked						
vC, conflicting volume	275	150	150			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	275	150	150			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	90	100			
cM capacity (veh/h)	692	870	1429			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	89	125	125	150
Volume Left	0	0	0	0
Volume Right	89	0	0	0
cSH	870	1700	1700	1700
Volume to Capacity	0.10	0.07	0.07	0.09
Queue Length 95th (ft)	8	0	0	0
Control Delay (s)	9.6	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	9.6	0.0		0.0
Approach LOS	A			

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	22.6%	ICU Level of Service	A
Analysis Period (min)	15		