MASTER SPECIAL PERMIT (MSP)
TRAFFIC IMPACT AND ACCESS STUDY

WAYLAND TOWN CENTER
WAYLAND, MASSACHUSETTS

APPENDIX (Volume II of II)

Prepared for:

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APPENDIX

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TRAVEL TIME RUNS DATA

Travel Time Runs

Date: 11/29
Time Period: 7-9 AM

RT 20EB backs up near temple

Route 1

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Site Driveway at Route 27 - Run Time Start (Time of Day)	7:05	7:31	8:02	8:29			
Time for right turn to Route 27 southbound	7:05	0:05	6"	8:29			
Time passing center of Route 126 intersection	29"	39"	46"	32"			
Time entering queue to turn left onto Route 20 eastbound		52"	1' 04"	49"			
Time passing center of Route 20 intersection	51"	1' 50"	1' 27"	1' 25"			
Time passing center of Plain Road intersection	8' 19"	12' 7"	9' 45"	10' 42"			
Time passing center of School Street intersection (signal on Route 20 in Weston)	14' 16"	17' 16"	14' 43"	17' 19"			
	856"	1036"	883"	1039"			

29:03
46:77
51:31
8:19:71
14:16:69

Travel Time Runs

Date: 11/30
Time Period: 7-9AM

Route 1

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Site Driveway at Route 27 - Run Time Start (Time of Day)	7:30	7:57	8:26				
Time for right turn to Route 27 southbound	0	0	6'				
		School bus					
Time passing center of Route 126 intersection	28"	1'11"	39"				
Time entering queue to turn left onto Route 20 eastbound	44"	1'25"	57"				
Time passing center of Route 20 intersection	1'20"	1'42"	1'26"				
Time passing center of Plain Road intersection	7'59"	10'19"	11'26"				
Time passing center of School Street intersection (signal on Route 20 in Weston)	14'18"	16'59"	17'23"				
	858"	1019"	1043"				

Travel Time Runs

Date: 11/30
Time Period: 7-9AM

Route 1A

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Time passing center of School Street intersection (signal on Route 20 in Weston) - Run Time Start (Time of Day)	7:47	8:15	8:46				
Time passing center of Plain Road intersection	2'36"	2'39"	3'13"				
Time passing center of Route 20 intersection	5'55"	5'58"	6'04"				
Time passing center of Route 126 intersection	6'10"	6'17"	6'19"				
Site Driveway at Route 27	6'37" 2'56"	6'43"	6'45"				
	397"	403"	405"				

Travel Time Runs

Date: 11/29
Time Period: 7-9AM

Route 1A

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Time passing center of School Street intersection (signal on Route 20 in Weston) - Run Time Start (Time of Day)	7:21	7:53	8:19	8:51			
Time passing center of Plain Road intersection	2 57 43	3'18"	3' 25"	2'58"			
Time passing center of Route 20 intersection	6:1312	6'13"	[illegible] 6'15"	6'20"			
Time passing center of Route 126 intersection	6:2725 ~~7:1462~~	6'36"	6:35 [illegible]	6'34"			
Site Driveway at Route 27	6:52:17	7'02	[illegible] 7:05	7'02"			
	412"	422"	425"	422"			

Travel Time Runs

Date: 11/29
Time Period: 7-9am

Route 2

		Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
1	Site Driveway at Route 27 - Run Time Start (Time of Day)	7:00	7:31	8:00 HRSE	8:18	8:34 sec 50		
2	Time for left turn to Route 27 northbound	7:00 105ec	7:39 15	8:01 sec 20	8:19	8:35 sec 20		
3	Time passing center of Bow Road intersection (turning right into Bow Road)	7:01	7:40 41	8:02	8:19 HH	8:36		
4	Time departing Bow Road to Route 126 northbound	7:01 45ec	7:41 sec	8:02 sec 47	8:20	8:37		
5	Time passing center of Plain Road intersection (turn right on Plain Road)	7:08 7:08 38ec	7:42 22sec	8:03	8:21	8:37 58 sec		
6	Time at STOP sign at Glen Road	7:12	7:44 18sec	8:04	8:22	8:39		
7	Time at STOP sign at Claypit Hill Road	7:14	7:45 21sec	8:05	8:23	8:40		
8	Time at STOP sign at Route 20	7:16	7:48 sec 10	8:07	8:25	8:42		
9	Time to pass though center of intersection (Plain Road at Route 20)	7:19	7:49	8:07 sec 57	8:25 sec 44	8:42 sec 40		

19' 101 7'19" 7'25" 7'50"
1140" 429" 445" 470"
600"

School St. 5'57" 5'9" 4'58" 6'37" 5'57"
357" 309" 298" 397" 357"

AM

Travel Time Runs

Date: 12/7/06
Time Period: 7-9Am

Route 2

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Site Driveway at Route 27 - Run Time Start (Time of Day)	8:00	8:17	8:32				
Time for left turn to Route 27 northbound	0	0	0				
Time passing center of Bow Road intersection (turning right into Bow Road)	20"	22"	21"				
Time departing Bow Road to Route 126 northbound	1'23"	1'31"	1'26"				
Time passing center of Plain Road intersection (turn right on Plain Road)	1'43"	1'50"	1'45"				
Time at STOP sign at Glen Road	2'42"	2'48"	2'44"				
Time at STOP sign at Claypit Hill Road	3'45	3'51"	3'50"				
Time at STOP sign at Route 20	5'33	5'47"	5'31"				
Time to pass though center of intersection (Plain Road at Route 20)	6'19"	6'13"	6'15"				
	379"	373"	375"				
School St	6'19"	6'40"	5'57"				
	379"	400"	357"				

Travel Time Runs

Date: 12/7/06
Time Period: 7-9 AM

Route 2A

		Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
1	Time to pass though center of intersection (Plain Road at Route 20) Right turn to Plain Road - Run Time Start (Time of Day)	7:30	7:50	7:09 8	8:26	8:43		
2	Time passing center of Claypit Hill Road intersection (turning left into Plain Road)	7:32	7:52	7:11	8:28	8:45		
3	Time arriving at Route 126	7:36	7:55	8:13	8:30	8:47		
4	Time departing Plain Road to turn left onto Rt 126 southbound	7:36 30sec	7:54 1 1/2 min	8:14 sec 57	8:31	8:47 sec 40		
5	Time passing center of Bow Road intersection (turn right on Bow Road)	7:37 10sec	7:56	8:15	8:32	8:48		
6	Time at STOP sign at Bow Road	7:38 Stop	7:57	8:16	8:33	8:49		
7	Time to turn ~~right~~ Left to Route 27 ~~northbound~~ South bound	7:39 55sec	7:58	8:17	8:33 sec 31	8:50		
8	Time at center of Route 27 and Site driveway intersection	7:39 50sec	7:59 sec 56	8:17 sec 43	8:34	8:50 51 sec		
		9'50"	9'56"	8'43"	8'	7'51"		
		590"	596"	523"	480"	471"		

School St.

5'37" 5'9" 4'58" 6'37" 5'57"
337" 309" 298" 397" 357"

2'36" 2'39" 3'39" 3'25" 2'58"
156" 159" 219" 205" 178"

AM

Travel Time Runs

Date: 12/7/06
Time Period: 7-9Am

Route 2A

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Time to pass though center of intersection (Plain Road at Route 20) Right turn to Plain Road - Run Time Start (Time of Day)	8:10	8:25					
Time passing center of Claypit Hill Road intersection (turning left into Plain Road)	1'42"	1'46					
Time arriving at Route 126	3'40"	3'45"					
Time departing Plain Road to turn left onto Rt 126 southbound	3'44"	3'48"					
Time passing center of Bow Road intersection (turn right on Bow Road)	4'03"	4'07"					
Time at STOP sign at Bow Road	5'37"	5'07					
Time to turn right to Route 27 northbound (school bus)	5'52"	5'17"					
Time at center of Route 27 and Site driveway intersection	6'19"	5'33"					
	379"	333"					

School St

Travel Time Runs

Date: 11-29-06
Time Period: 7-9 AM

Route 3

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7	Run No. 8
Site Driveway at Route 27 - Run Time Start (Time of Day)	7:00	7:11 11	721 25	7:34 46	750 45	804 16	8:18	8 30 15
Time for right turn to Route 27 southbound	7:00 20	21 22	722 07	7:35 06	751	804 25	818 200	830 50
Time arriving at STOP sign on Library Lane at Route 126	7:01 05	7:12	7:22 35	735 53	751 51	845 20	819 25	831 33
Time departing Library Lne to Route 126 northbound (**LEFT TURN**)	7:01 22	7:12 15	7:23	736 06	752 20	8 05 45	819 35	831 50
Time passing center of Bow Road intersection	7:02 01	7:12 45	723 30	736 37	752 50	8 06 26	820 08	832 21
Time passing center of Training Field Road/Claypit Hill Road intersection	7:03 07	7:13 50	724 45	737 41	753 55	8 07 15	821 15	833 25
Time passing center of Glezen Lane intersection	7:03 55	7:14 49	725 53	738 34	754 45	808 03	822 03	834 09
	3'55"	3'38"	4'28"	3'48"	4'0"	3'48"	4'08"	3'56"
	235"	218"	268"	228"	240"	228"	243"	236"

AM

Travel Time Runs

Date: 11-29-06
Time Period: 7-9AM

Route 3

	Run No. 8	Run No. 9	Run No. 10	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Site Driveway at Route 27 - Run Time Start (Time of Day)	8:30:15	8:42:08	8:51				
Time for right turn to Route 27 southbound	8:30:50	8:47:10	8:51:27				
Time arriving at STOP sign on Library Lane at Route 126	8:31:33	8:48:58	8:52:07				
Time departing Library Lne to Route 126 northbound (**LEFT TURN**)	8:31:50	8:43:11	8:52:28				
Time passing center of Bow Road intersection	8:32:21	8:43:39	8:52:49				
Time passing center of Training Field Road/Claypit Hill Road intersection	8:33:25	8:44:41	8:53:54				
Time passing center of Glezen Lane intersection	8:34:04	8:48:20	8:54:37				
	3'49"	6'20"	3'37"				
	229"	380"	217"				

PM

Travel Time Runs

Date: 11-29-06
Time Period: 7-9AM

Route 3A

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Time to pass through center of intersection (Route 126 at Glezen Lane) - Run Time Start (Time of Day)	7:05 06	7:26	7:26 39	7:46 43	7:56	8:10	8:24 55
Time passing center of Training Field Road/Claypit Hill Road	7:05 55	7:27 43	7:27 52	7:46 40	7:57 42	8:10 47	8:25 47
Time passing center of Bow Road	7:07 58	7:28 58	7:28 52	7:47 50	7:59	8:11 52	8:26 52
@ 27+126 Time arriving at STOP sign on Library Lane 1S4onrWAY	7:09 04	7:29 19	7:29 23	7:48 21	7:59 32	8:12 16	8:27 20
@ 27+126 Time at STOP sign at Library Lane (turn right onto Route 27)	7:09 43	7:29 35	7:29 31	7:48 35	7:59 40	8:12 53	8:27 36
Time passing center of Route 27 at Site Driveway intersection	7:10 25	7:30 10	7:30 04	7:49 08	8:06 17	8:13 27	8:28 09
	5'19"	3'40"	3'35"	3'25"	3'17"	3'27"	3'14"
	319"	220"	215"	205"	197"	207"	194"

126
27 → ONE WAY
Library Lane
NO STOP SIGNS

PM

Travel Time Runs

Date: 11-29-06
Time Period: 7-9 PM

Route 3A

	Run No. 8	Run No. 9	Run No. 10	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Time to pass through center of intersection (Route 126 at Glezen Lane) - Run Time Start (Time of Day)	836	846 36	855 45				
Time passing center of Training Field Road/Claypit Hill Road	837	847 27	856 33				
Time passing center of Bow Road	838 03	848 32	857 37				
Time arriving at STOP sign on Library Lane	838 32	849 01	858 25				
Time at STOP sign at Library Lane (turn right onto Route 27)	839 38	849 09	858 38				
Time passing center of Route 27 at Site Driveway intersection	840 11	849 40	859 09				
	4'11"	3'4"	3'25"				
	251"	184"	205"				

PM

AM Phil

Travel Time Runs

Date: 11-29-06
Time Period: 7-9 AM

Route 4

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Site Driveway at Route 27 - Run Time Start (Time of Day)	7:17 :42	7:55 :29	8:31 :35				
Time for left turn to Route 27 northbound	[redacted]	7:54 :33	8:32 :30				
Time passing center of Glezen Lane (turning right into Glezen Lane)	7:18.39						
Time passing center of Training Field Road **(BEAR LEFT)**	7:19 43	7:58 :03	8:34 :07				
Time passing center of Route 126	7.22.13	59:00 :05	8:35 :40				
Time passing center of School Street at Route 20	7:33.15	8:10 :03	8:46 :04				
	15'33"	14'34"	14'29"				
	933"	874"	869"				

Gate to site closed started at

same

Travel Time Runs

AM

Date: 11/29/06
Time Period: 7-9 AM

Route 4

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Site Driveway at Route 27 - Run Time Start (Time of Day)							
Time for left turn to Route 27 northbound	7:06	740	809	840			
Time passing center of Glezen Lane (turning right into Glezen Lane)	7:07	741	8 12	842			
Time passing center of Training Field Road (BEAR LEFT)	7:08	743	813	844			
Time passing center of Route 126	7:12	744	815	845			
Time passing center of School Street at Route 20	7:23	752	826	855			
	19' 1020"	12' 720"	17' 1020"	15' 900"			

They never opened the gate so I skipped the first blocks

Travel Time Runs

Started At?

Date: 11-29-06

Time Period: 7-9 AM

Route 4A

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Route 20 at School Street - Run Time Start (Time of Day)	7:00	[illegible] 7:38	8:15	8:51			
		38	:51	:02			
		31					
Time passing center of Concord Road (turning right into Concord Road)	7:01	7:38	8:17	8:52			
	:46	:55	:48	:12			
Time passing center of Glezen Lane (turning right into Glezen Lane)							
Time passing center of Route 126	7:10	7:48	8:24	8:59			
	:31	:58	:51	:40			
Time passing center of Training Field Road	7:11	7:50	8:26	9:00			
	:22	:21	:10	:41			
Time passing center of Route 27 at Site Driveway	7:14	7:53	8:29	9:03			
	:52	:30	:04	:16			
	14'52"	14'59"	~~13'13"~~	12'14"			
	892"	899"	793"	734"			

Phil

Travel Time Runs

Date: 11/29/06
Time Period: 7-9 AM

Route 4A

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Route 20 at School Street - Run Time Start (Time of Day)	725	753	826	855			
Time passing center of Concord Road (turning right into Concord Road)	732	802	835	903			
X Time passing center of Glezen Lane (turning right into Glezen Lane)	734	403	836	904			
Time passing center of Route 126	736	807	839	906			
Time passing center of Training Field Road	737	808	840	907			
Time passing center of Route 27 at Site Driveway							
	14' 640"	15' 900"	14' 840"	12' 720"			

gate still not open

Travel Time Runs

Date: 11/29/06
Time Period: 4-6pm

Route 1

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Site Driveway at Route 27 - Run Time Start (Time of Day)	3:45	4:03	4:31	5:00	5:25		
Time for right turn to Route 27 southbound ↓	0 23"	1"	0	5"	0		
Time passing center of Route 126 intersection	35"	30"	29"	36"	33		
Time entering queue to turn left onto Route 20 eastbound	1'16"	51"	49"	51"	49		
Time passing center of Route 20 intersection	4'10"	3'45"	1'24"	1'20"	2'22"		
Time passing center of Plain Road intersection	7'6"	7'27"	4'4"	3'59"	5'30"		
Time passing center of School Street intersection (signal on Route 20 in Weston)		10'2"	7'31"	7'33"	9'05"		
	7'6"	10'2"	7'31"	7'33"	9'05"		
	426"	602"	451"	453"	545"		

Travel Time Runs

Date: 11/30/04
Time Period: 4-6pm

Route 1

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Site Driveway at Route 27 - Run Time Start (Time of Day)	4:00						
Time for right turn to Route 27 southbound	0	0					
Time passing center of Route 126 intersection	28"	29"					
Time entering queue to turn left onto Route 20 eastbound	42"	45"					
Time passing center of Route 20 intersection	1'13"	1'18"					
Time passing center of Plain Road intersection	3'54	3'40"					
Time passing center of School Street intersection (signal on Route 20 in Weston)	7'23"	7'15"					
	7:23"	7:15"					
	443"	435"					

Travel Time Runs

Date: 11/29/00
Time Period: 4-6PM

Route 1A

#8

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Time passing center of School Street intersection (signal on Route 20 in Weston) - Run Time Start (Time of Day)	3:13	3:52	4:18	4:43	5:09	5:36	
Time passing center of Plain Road intersection	3'17"	3'18"	3'45"	3 58	3:34	6:58	
Time passing center of Route 20 intersection	7'15"	10'11"	11'16"	13 40	13:25"	1309	
Time passing center of Route 126 intersection	7'30"	10'26"	11'32"	13:58	13'39"	1330	
Site Driveway at Route 27	7'57"	10'51"	11'59"	14'27	14'05"	1358	
	↑ too early	10'51" 651"	11'59" 719"	14'27" 807"	14'05" 845"	13'58" 838"	

Travel Time Runs

Date: 11/30/av
Time Period: 4-6 AM

Route 1A

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Time passing center of School Street intersection (signal on Route 20 in Weston) - Run Time Start (Time of Day)	4:00	4:18					
Time passing center of Plain Road intersection	3'07"	3'40"					
Time passing center of Route 20 intersection	10:24"	14:17					
Time passing center of Route 126 intersection	10'38	1434					
Site Driveway at Route 27	11'06"	15'01"					
	11'6" 666"	15'01" 901"					

Travel Time Runs

Date: 11/29/06
Time Period: 4-6

Route 2

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Site Driveway at Route 27 - Run Time Start (Time of Day)	4:00	4:21	4:37	4:54	5:11 sec 25	5:29	5:44
Time for left turn to Route 27 northbound	4:02	4:21 sec 55	4:38	4:54 sec 12	5:12	5:29 sec 16	5:44 sec 48
Time passing center of Bow Road intersection (turning right into Bow Road)	4:03	4:22	4:38 sec 19	4:55	5:12 59	5:29 sec 40	5:45
Time departing Bow Road to Route 126 northbound	4:04	4:23	4:39	4:56	5:13	5:30	5:46
Time passing center of Plain Road intersection (turn right on Plain Road)	4:00 sec 43	4:24	4:39 sec 18	4:57	5:14	5:30 sec 55	5:46 30
Time at STOP sign at Glen Road	4:05	4:25	4:41	4:58	5:15	5:32	5:47
Time at STOP sign at Claypit Hill Road	4:06	4:26	4:42	4:59	5:17	5:33	5:48
Time at STOP sign at Route 20	4:08	4:29	4:44	5:01	5:19	5:35	5:50
Time to pass though center of intersection (Plain Road at Route 20)	4:10	4:28 sec 28	4:44 HB	5:02 5	5:20	5:36	5:51
	10'0"	7'28"	7'43"	8'6"	8'58"	9'0"	7'0"
	600"	448"	420"	480"	538"	540"	420"
School St	2'56"	3'42"	3'27"	3'34"	3'35"	3'30"	3'35"
	176"	222"	207"	214"	215"	210"	215"

Travel Time Runs

Date: 11/29/06
Time Period: 4-6

Route 2A

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Time to pass though center of intersection (Plain Road at Route 20) Right turn to Plain Road - Run Time Start (Time of Day)	4:11	4:29	4:47	4:05	5:21	5:37	5:52
Time passing center of Claypit Hill Road intersection (turning left into Plain Road)	4:13	4:31	4:48	4:05	5:23	5:39	5:54
Time arriving at Route 126	4:15	4:33	4:51	5:07	5:26	5:41	5:56
Time departing Plain Road to turn left onto Rt 126 southbound	4:15 sec55	4:34	4:51 sec 86	4:08 sec53	5:26 sec39	5:41 35	5:56 sec11
Time passing center of Bow Road intersection (turn right on Bow Road)	4:16	4:34 sec31	4:51 sec 43	4:08	5:27	5:41 sec55	5:56 sec43
Time at STOP sign at Bow Road	4:17	4:35	4:52	4:09	5:28	5:42	5:57
Time to turn right to Route 27 northbound	4:18	4:35 sec40	4:52 sec 59	4:10	5:28 sec07	5:43	5:57 28
Time at center of Route 27 and Site driveway intersection	4:19	4:36	4:53	4:11	5:28 sec34	5:43 sec56	5:58
	8'	7'	6'	6'	7'34"	6'56"	6'
	480"	420"	360"	360"	454"	416"	360"

School St 3'18" 3'45" 3'58" 3'34" 6'58" 3'07" 3'40"
198" 225" 238' 214" 418" 187" 220"

Travel Time Runs

Date: 11-29-06
Time Period: 4-6pm

Route 3

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Site Driveway at Route 27 - Run Time Start (Time of Day)	4:00	4:13 37	4:22 50	4:30 50	4:39 20	4:49	4:58 15
Time for right turn to Route 27 southbound	4:00 11sec.	4:13 47	4:23 05	4:31 17	4:39 40	4:49 50	4:58 45
Time arriving at STOP sign on Library Lane at Route 126	4:00 59	4:14 30	4:24 09	4:32	4:40 31	4:50 35	4:59 30
Time departing Library Lne to Route 126 northbound (**LEFT TURN**)	4:01 11	4:15 26	4:24 16	4:32 16	4:40 55	4:50 57	4:59 46
Time passing center of Bow Road intersection	4:01 38	4:15 52	4:24 42	4:32 43	4:41 23	4:51 24	5:00 07
Time passing center of Training Field Road/Claypit Hill Road intersection	4:02 44	4:16 50	4:25 43	4:33 49	4:42 31	4:52 31	5:01 15
Time passing center of Glezen Lane Intersection	4:03 32	4:17 35	4:26 30	4:34 34	4:43 20	4:53 18	5:02 02
	3'32"	3'58"	3'40"	3'44"	4'0"	4'18"	3'47"
	212"	238"	220"	224"	240"	258"	227"

RT 27 ~~~ RT 126 Library Lane one way

Instead came to stop sign @ 126 & 27 on return trip. pm

Travel Time Runs

Date: 11-29-06
Time Period: 4-6pm

Route 3

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Site Driveway at Route 27 - Run Time Start (Time of Day)	5:09	5:19	5:28 40	5:39 43	5:51 28		
Time for right turn to Route 27 southbound	5:09 29	5:19 49	5:29 30	5:40 30	5:52 59		
Time arriving at STOP sign on Library Lane at Route 126	5:10 35	5:20 45	5:30 16	5:41 37	5:53 45		
Time departing Library Lne to Route 126 northbound (**LEFT TURN**)	5:10 50	5:20 55	5:30 47	5:42 05	5:53 59		
Time passing center of Bow Road intersection	5:11 14	5:21 24	5:31 15	5:42 38	5:54 21		
Time passing center of Training Field Road/Claypit Hill Road intersection	5:12 21	5:22 30	5:32 20	5:43 41	5:55 23		
Time passing center of Glezen Lane Intersection	5:13 10	5:23 20	5:33 10	5:44 20	5:56 10		
	4'10"	4'20"	4'30"	4'37"	4'42"		
	250"	260"	270"	277"	282"		

Travel Time Runs

Date: 11-29-06
Time Period: 4-6pm

Route 3A

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Time to pass through center of intersection (Route 126 at Glezen Lane) - Run Time Start (Time of Day)	4:04 15	4:18 5 TR 4:18 30	4:26 52 TR 4:27 04	4:35 TR 4:35 23	4:43 49 TR 4:44 12	4:53 53 TR 4:54 15	5:02 25 TR 5:02 53
Time passing center of Training Field Road/Claypit Hill Road	4:05 31	4:19 15	4:27 57	4:36 14	4:45 08	4:55 09	5:03 42
Time passing center of Bow Road	4:05 22	4:20 17	4:29 04	4:37 24	4:46 12	4:56 16	5:04 55
Time arriving at STOP sign on Library Lane 126/27 (oneway)	4:11 15	4:21 21	4:29 33	4:37 54	4:46 42	4:56 47	5:05 25
Time at STOP sign at Library Lane (turn right onto Route 27) 126/27 (oneway)	4:11 27	4:22 04	4:29 43	4:38 06	4:48 16	4:57 16	5:05 34
Time passing center of Route 27 at Site Driveway intersection	4:11 158	4:22 37	4:30 15	4:38 41	4:48 50	4:58	5:06 07
	7'43"	4'32"	3'23"	3'41"	5'01"	4'05"	3'42"
	463"	272"	203"	221"	301"	245"	222"

PM

Travel Time Runs

Date: 11-29-06
Time Period: 4-6pm

Route 3A

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Time to pass through center of Intersection (Route 126 at Glezen Lane) - Run Time Start (Time of Day)	5:13 45 TR 5:14 15	5:23 48 TR 5:24 05	5:33 45 TR 5:34 15	5:45 05 TR 5:45 31	5:57 TR 5:57 30	TR	TR
Time passing center of Training Field Road/Claypit Hill Road	5:15 03	5:25	5:35 08	5:46 25	5:58 13		
Time passing center of Bow Road	5:16 10	5:26 08	5:36 23	5:47 03	5:59 22		
Time arriving at STOP sign on Library Lane	5:16 42	5:26 40	5:37 20	5:48 09	5:59 50		
Time at STOP sign at Library Lane (turn right onto Route 27)	5:17 05	5:26 54	5:37 51	5:48 52			
Time passing center of Route 27 at Site Driveway Intersection	5:17 40	5:27 27	5:38 27	5:49 25			
	5'55"	3'39"	4'42"	4'20"			
	355"	219"	282"	260"			

PM

PM

Travel Time Runs

Date: 11/29/00
Time Period: 4-6 PM

Route 4

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Site Driveway at Route 27 - Run Time Start (Time of Day)	4:00	425	451	5:23			
Time for left turn to Route 27 northbound	4:01	426	452	5:24			
Time passing center of Glezen Lane (turning right into Glezen Lane)	4:04	428	455	5:27			
Time passing center of Training Field Road **(BEAR LEFT)**	405	428	456	5:27			
Time passing center of Route 126	412	438	506	5:38			
Time passing center of School Street at Route 20							

12' 13' 15' 15'

720" 780" 900" 900"

PM

PM

Travel Time Runs

Date: 11-29-06
Time Period: 4-6 PM

Route 4

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Site Driveway at Route 27 - Run Time Start (Time of Day)	4:16 41	4:55 25	5:29 27				
Time for left turn to Route 27 northbound	4:17 33		5:30 41				
Time passing center of Glezen Lane (turning right into Glezen Lane)	↓	4:53 29	↓				
Time passing center of Training Field Road **(BEAR LEFT)**	4:19 :22	4 55 22	5:32 24				
Time passing center of Route 126	4:20 :23	4:57 :09	5:33 :07				
Time passing center of School Street at Route 20	4:31 :40	5:08 :53	5:47 :09				
	14'53" 893"	15'28" 928"	17'18" 1038"				

Travel Time Runs

Date: 11-29-06
Time Period: 4-6pm

Route 4A

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Route 20 at School Street - Run Time Start (Time of Day)	4:01 :10	4:35 :50	5:13 29	5:49 :27			
Time passing center of Concord Road (turning right into Concord Road)	4:02 :40	4:37 32	15 01	51 09			
Time passing center of Glezen Lane (turning right into Glezen Lane)							
Time passing center of Route 126	4:10 :51	4:45 :40	5:23 :06	59 15			
Time passing center of Training Field Road	4:12 :08	4:46 :01	5:24 :16	~~6:00~~ 6:00 26			
Time passing center of Route 27 at Site Driveway	4:15 :09	4:50 :11	5:27 :27	6:02 43			
	13'59" 839"	14'21" 861"	13'58" 838"	13'16" 796"			

Travel Time Runs

Date: 11/29/06
Time Period: 4-6PM

Route 4A

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Route 20 at School Street - Run Time Start (Time of Day)	412	438	5:07	5:39			
Time passing center of Concord Road (turning right into Concord Road)	420	447	5:17	5:48			
Time passing center of Glezen Lane (turning right into Glezen Lane)	421	448	5:19	5:49			
Time passing center of Route 126	423	450	5:22	5:51			
Time passing center of Training Field Road	425	451	5:23	5:53			
Time passing center of Route 27 at Site Driveway							
	13'	13'	16'	13'			
	780"	780"	960"	780"			

Travel Time Runs

Date: 11/18/06
Time Period: 10:30 - 1:30

Route 1	10:40AM Run No. 1	11:00 Run No. 2	11:23 Run No. 3	11:45 Run No. 4	12:07 Run No. 5	12:31 Run No. 6	12:40 Run No. 7
Site Driveway at Route 27 - Run Time Start (Time of Day)	0s	0s	0s	0s	0s	0s	0s
Time for right turn to Route 27 southbound	3s	3s	3s	2s	3s	4s	9s
Time passing center of Route 126 intersection	34s	32s	32s	28s	31s	34s	1:11
Time entering queue to turn left onto Route 20 eastbound	46s	45s	48s	42s	47s	45s	1:28
Time passing center of Route 20 intersection	1:06	49s	1:10	43s	1:43	1:05	2:16
Time passing center of Plain Road intersection	3:39	3:12	3:36	3:15	4:27	3:23	4:55
Time passing center of School Street intersection (signal on Route 20 in Weston)	7:00	6:35	6:13	6:38	7:16	6:36	8:06
	420"	395"	373"	398"	436"	396"	486"

Travel Time Runs

Date: 11/18/06
Time Period: 10:30 - 1:30

Route 1A

	10:30AM Run No. 1	10:50 Run No. 2	11:12 Run No. 3	11:33 Run No. 4	11:55 Run No. 5	12:18 Run No. 6	12:38 Run No. 7
Time passing center of School Street intersection (signal on Route 20 in Weston) - Run Time Start (Time of Day)	0	0	8s	20s	10s	52s	1:06
Time passing center of Plain Road intersection	2:31	2:40	2:56	2:55	3:08	3:48	3:49
Time passing center of Route 20 intersection	5:00	4:46	5:37	5:19	5:49	6:18	6:20
Time passing center of Route 126 intersection	5:35	5:22	6:18	7:28	6:59	6:34	6:44
Site Driveway at Route 27	6:08	5:49	6:52	8:02	7:31	7:05	7:17
	368"	349"	412"	482"	451"	425"	437"

Travel Time Runs

Date: 11/18/06
Time Period: 10:30 - 1:30

Route 1 1:05

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Site Driveway at Route 27 - Run Time Start (Time of Day)	0s						
Time for right turn to Route 27 southbound	2s				4:		
Time passing center of Route 126 intersection	35s			6:			
Time entering queue to turn left onto Route 20 eastbound	48s						1:
Time passing center of Route 20 intersection	55s				1:		
Time passing center of Plain Road intersection	3:08						
Time passing center of School Street intersection (signal on Route 20 in Weston)	5:53						

Travel Time Runs

Date: 11/18/06
Time Period: 10:30 - 1:30

Route 1A

1:16

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Time passing center of School Street intersection (signal on Route 20 in Weston) - Run Time Start (Time of Day)	7:30						
Time passing center of Plain Road intersection	7:05						
Time passing center of Route 20 intersection	6:51						
Time passing center of Route 126 intersection	3:45						
Site Driveway at Route 27	53s						

7.

Travel Time Runs

Date: 11/18/06

Time Period: 10:30 - 1:30

Route 2

	Run No. 1	Run No. 2 (Drive Start)	Run No. 3	Run No. 4 (Drive Start)	Run No. 5	Run No. 6 (Drive Start)	Run No. 7
Site Driveway at Route 27 - Run Time Start (Time of Day)		10:41	6:20	11:05	X	11:21	6:25
Time for left turn to Route 27 northbound	6:20	:05	6:20	:10	6:16	:10	6:05
Time passing center of Bow Road intersection (turning right into Bow Road)	5:55	:30	5:50	:35	5:40	:35	5:50
Time departing Bow Road to Route 126 northbound	4:45	1:45	4:40	1:55	4:25	1:50	4:40
Time passing center of Plain Road intersection (turn right on Plain Road)	4:20	2:05	4:15	2:15	3:50	2:20	4:15
Time at STOP sign at Glen Road	3:09	3:20	3:05	3:30	2:45	~~3:30~~ 3:20	3:00
Time at STOP sign at Claypit Hill Road	1:58	4:30	2:05	4:40	1:45	4:30	1:55
Time at STOP sign at Route 20	:20	6:15 ~~6:30~~	:05	6:30	:05	6:20	:05
Time to pass though center of intersection (Plain Road at Route 20)	:06	7:30	Start 10:55	7:00	11:13 Start	7:15	11:30 Start
	10:30 (Plain Start) 2:24	~~0~~ 3'21"	(Plain Start) 2:40	3'23"	(Plain Start) 2:56	2'37"	(Plain Start) 2:55

Travel Time Runs

Date: 11/18/06
Time Period: 10:30 - 1:30

Route 2

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Site Driveway at Route 27 - Run Time Start (Time of Day)	11:40	11:58	12:18	12:33			
Time for left turn to Route 27 northbound	:25	:05	:12	:10			
Time passing center of Bow Road intersection (turning right into Bow Road)	:50	:30	:40	:40			
Time departing Bow Road to Route 126 northbound	2:00	1:40	1:55	1:50			
Time passing center of Plain Road intersection (turn right on Plain Road)	2:25	2:00	2:15	2:20			
Time at STOP sign at Glen Road	3:30	3:20	3:30	3:30			
Time at STOP sign at Claypit Hill Road	4:45	4:30	4:40	4:45			
Time at STOP sign at Route 20	6:35	6:15	6:25	6:15			
Time to pass though center of intersection (Plain Road at Route 20)	7:20	7:45	6:45	7:30			
	3'23"	2'59"	3'13"	3'11"			

Travel Time Runs

Date: 11/18/06
Time Period: 10:30 - 1:30

Route 2A

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Time to pass though center of intersection (Plain Road at Route 20) Right turn to Plain Road - Run Time Start (Time of Day)	11:49	12:09	12:26	12:41			
Time passing center of Claypit Hill Road intersection (turning left into Plain Road)	1:55	1:50	1:50	1:45			
Time arriving at Route 126	2:55	2:50	2:45	2:50			
Time departing Plain Road to turn left onto Rt 126 southbound	4:10	4:05	3:50	3:45			
Time passing center of Bow Road intersection (turn right on Bow Road)	4:30	4:25	4:15	4:20			
Time at STOP sign at Bow Road	5:35	5:45	5:25	5:30			
Time to turn right to Route 27 northbound	5:50	5:55	5:30	5:45			
Time at center of Route 27 and Site driveway intersection	6:15	6:20	6:00	6:15			
	3:08	3:48	3:49				

Travel Time Runs

Date: 11-18
Time Period: 1030-130

Route 3

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Site Driveway at Route 27 - Run Time Start (Time of Day)	10:45 :01	1053 10:53 / 1116 11:16	1123 1123 / 1130	1128 / 1146	1154 / 1200	1208 / 12:15	1228 / 1235
Time for right turn to ~~Route 27 southbound~~ Library Lane	:29	:26 :28 / :29	:32 / :32	:31 / :35	:34 / :39	:37 / :31	:28 / :31
Time arriving at STOP sign on Library Lane at Route 126	:42	:40 :42 / :42	:51 / :47	:51 / :49	:52 / :53	:51 / :45	:45 / :49
Time departing Library Lne to Route 126 northbound **(LEFT TURN)**	:44	:45 / :46	:56 / :51	:55 / :59	1:01 / :57	:55 / :55	:53 / :53
Time passing center of Bow Road intersection	1:09	1:06 / 1:08	1:17 / 1:10	1:13 / 1:18	1:19 / 1:15	1:12 / 1:13	1:12 / 1:10
Time passing center of Training Field Road/Claypit Hill Road intersection	2:07	2:05 / 2:04	2:11 / 2:08	2:13 / 2:15	2:14 / 2:12	2:03 / 2:10	2:21 / 1:58
Time passing center of Glezen Lane intersection	2:48	2:45 / 2:46	2:52 / 2:46	2:55 / 2:56	2:53 / 2:51	2:39 / 2:50	3:04 / 2:36
	168	165 / 166	172 / 166	~~177~~ 175 / 176	173 / 171	159 / 170	184 / 156

1 of 1

Travel Time Runs

Date: 11/18
Time Period: 1046 –

Route 3A

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Time to pass through center of intersection (Route 126 at Glezen Lane) - Run Time Start (Time of Day)	10:36	10:50	10:58	11:20	11:28	11:35	11:42
Time passing center of Training Field Road/Claypit Hill Road	:49	:47	:41	:42	:45	:46	:55
Time passing center of Bow Road	1:55	1:47	1:38	1:42	1:47	1:44	1:55
Time ~~arriving at~~ PASSING STOP sign on Library Lane	2:19	2:08	1:56	2:00	2:11	2:05	2:14
Time at STOP sign at ~~Library Lane~~ (turn right onto Route 27)	2:24	2:26	2:13	2:10	2:23	2:14	2:24
Time passing center of Route 27 at Site Driveway intersection	3:05	2:53	2:45	2:44	2:56	2:45	2:57

Travel Time Runs

Date: 11/8/06
Time Period: 10:30 - 1:30

Route 3A

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
Time to pass through center of intersection (Route 126 at Glezen Lane) - Run Time Start (Time of Day)	11:50	11:58	12:04	12:11	1224	12:32	12:49
Time passing center of Training Field Road/Claypit Hill Road	:53	:46	:52	:47	:47	:43	:54 Behind slow truck no other traffic
Time passing center of Bow Road	1:48	1:43	1:51	1:39	1:42	1:45	1:58
Time ~~arriving at~~ passing STOP sign on Library Lane	2:07	2:02	2:11	2:00	1:59	2:04	2:16
Time at STOP sign at ~~Library Lane~~ (turn right onto Route 27)	2:24	2:11	2:45	2:46	2:08	2:12	2:41
Time passing center of Route 27 at Site Driveway intersection	3:05	2:43	3:20	3:18	2:38	2:42	3:09

Travel Time Runs

Date: 11/18/06

Time Period: 10:30 - 1:30

Route 4

	Run No. 1	Run No. 2	Run No. 3	Run No. 4	Run No. 5	Run No. 6	Run No. 7
	(Start Drive)	663"	(Start Drive)	604"	(Start Drive)	591"	(Start Drive)
Site Driveway at Route 27 - Run Time Start (Time of Day)	Start Reg. time 10:32	11:03	Start Reg. time 11:24	10:04	Start Reg. time 11:48	9:51	Start Reg. time 12:12
Time for left turn to Route 27 northbound	:04	11:00	:05	9:55	:03	9:49	:04
Time passing center of Glezen Lane (turning right into Glezen Lane)	:54	10:20	:52	8:40	:43	9:02	:48
Time passing center of Training Field Road **(BEAR LEFT)**	3:28	9:05	2:30	8:14	2:24	8:32	2:40
Time passing center of Route 126	4:14	8:15	3:25	7:25	3:18	7:41	3:24
Time passing center of School Street at Route 20	12:32	11:00 Reg time Start	12:40	11:36 start	11:39	12:01 start	11:57
	10:45	(Start School)	11:36	(Start School)	12:00	(Start School)	12:24
	752"		760"		699"		717"

Travel Time Runs

Date: 11/18/06

Time Period: 10:30 - 1:30

Route 4A

(School Drive) 709" (Start School) 726" (Start School) 12

	Run No. 8	Run No. 9	Run No. 10	Run No. 11	Run No. 8	Run No. 6	Run No. 7
Route 20 at School Street - Run Time Start (Time of Day)	Start 12:25	11:49	Start 12:49	12:06	Start time 1:13		
Time passing center of Concord Road (turning right into Concord Road)	7:32	3:39	7:38	3:44	7:47		
Time passing center of Glezen Lane (turning right into Glezen Lane)	8:44	2:45	8:29	2:53	8:53		
Time passing center of Route 126	9:07	:52	8:58	:57	9:21		
Time passing center of Training Field Road	10:01	:05	9:54	:03	10:03		
Time passing center of Route 27 at Site Driveway	10:04	12:36 start	9:59	1:00 start	10:08		

(Start School) (start School)

604" Start Drive 599" Start Drive 608"

SEASONAL ADJUSTMENT DATA

Proposed Wayland Town Center
Route 20
Wayland, MA

STATION 4172 - ACTON - RTE.2 - 1.6 km WEST OF RTE.27

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
00	33,043	35,686	37,023	36,712	39,406	40,185	36,201	39,187	39,598	40,734	38,352	36,706	37,736
	8%	1%	-1%	7%	2%	0%	3%	0%	-3%	0%	0%	-5%	1%
01	35,825	35,879	36,778	39,307	40,075	40,155	37,289	39,122	38,321	40,775	38,257	34,936	38,060
	1%	3%	4%	0%	1%	-1%	-1%	2%	-3%	0%	-3%	6%	1%
02	36,353	37,058	38,281	39,159	40,388	39,770	36,773	39,939	37,226	40,848	37,179	37,000	38,331
	-6%	-4%	-5%	-1%	-2%	1%	5%	-4%	7%	2%	2%	-3%	-1%
03	34,042	35,512	36,375	38,809	39,678	40,000	38,757	38,417	39,804	41,741	38,098	35,900	38,094
	5%	5%	7%	3%	1%	5%	0%	3%	9%	4%	3%	4%	4%
04	35,765	37,276	38,911	40,010	40,194	42,010	38,646	39,710	43,483	43,584	39,252	37,476	39,693
Average	**35,006**	**36,282**	**37,474**	**38,799**	**39,948**	**40,424**	**37,533**	**39,275**	**39,686**	**41,536**	**38,228**	**36,404**	**38,383**

Adjustment from May to Average Year: -4.078
Adjustment from June to Average Year: -5.318
Adjustment from September to Average Yea -3.396
Adjustment from October to Average Year: -8.216

STATION 403 - CONCORD - RTE.2 - 0.2 km EAST OF CONCORD ROTARY

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
00	*44,000*	45,274	47,179	*48,000*	48,353	51,165	45,347	47,844	47,927	49,307	46,057	43,679	47,011
	2%	-1%	-6%	-1%	1%	-2%	12%	2%	-2%	0%	4%	-1%	1%
01	*44,791*	44,928	44,228	*47,605*	48,756	*50,000*	50,710	48,651	47,013	49,474	47,683	43,363	47,267
	0%	2%	6%	1%	1%	3%	-6%	-1%	3%	1%	-4%	4%	1%
02	*44,954*	45,810	46,721	48,169	49,311	51,680	47,639	48,050	48,219	49,947	45,640	45,000	47,595
	0%	-5%	-1%	-2%	-2%	0%	-7%	-3%	-2%	-2%	7%	7%	-1%
03	44,737	43,740	46,023	47,402	48,225	51,537	44,070	46,781	47,154	49,000	48,980	*48,000*	47,137
	1%	5%	2%	2%	0%	4%	5%	0%	1%	0%	-6%	-4%	1%
04	45,000	46,000	46,867	48,260	48,136	53,710	46,206	46,905	47,793	49,000	46,023	*45,983*	47,490
Average	**44,696**	**45,150**	**46,204**	**47,887**	**48,556**	**51,618**	**46,794**	**47,646**	**47,621**	**49,346**	**46,877**	**45,205**	**47,300**

Adjustment from May to Average Year: -2.656
Adjustment from June to Average Year: -9.130
Adjustment from September to Average Yea -0.679
Adjustment from October to Average Year: -4.325

MASSHIGHWAY CRASH RATE WORKSHEETS

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Wayland COUNT DATE : Jun-06

DISTRICT : 3 UNSIGNALIZED : X SIGNALIZED :

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Route 27 ST #

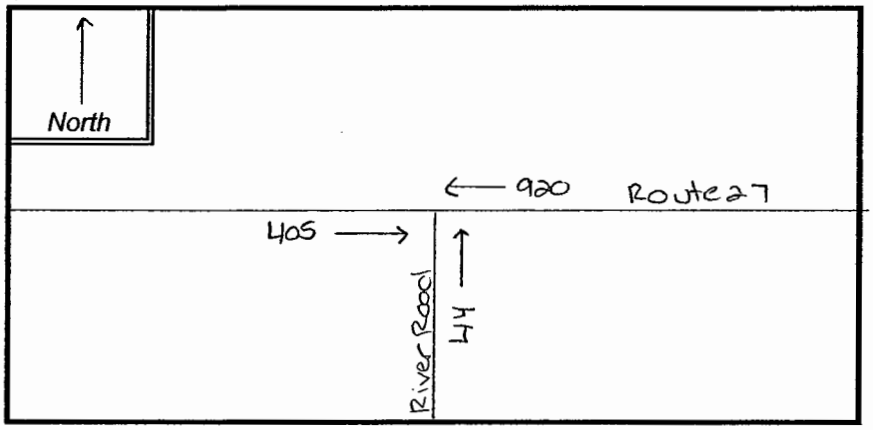
MINOR STREET(S) : River Road ST #

ST #

ST #

ST #

INTERSECTION DIAGRAM (Label Approaches)



INTERSECTION REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	EB	WB	NB			
VOLUMES (PM) :	405	920	44			1,369

" K " FACTOR : 0.090 APPROACH ADT : 15,211 **ADT** = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 6 # OF YEARS : 3 AVERAGE # OF ACCIDENTS (**A**) : 2.00

CRASH RATE CALCULATION : 0.36 RATE = $\frac{(A * 1{,}000{,}000)}{(ADT * 365)}$

Comments :

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Wayland COUNT DATE : Jun-06

DISTRICT : 3 UNSIGNALIZED : X SIGNALIZED :

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Route 27 ST #

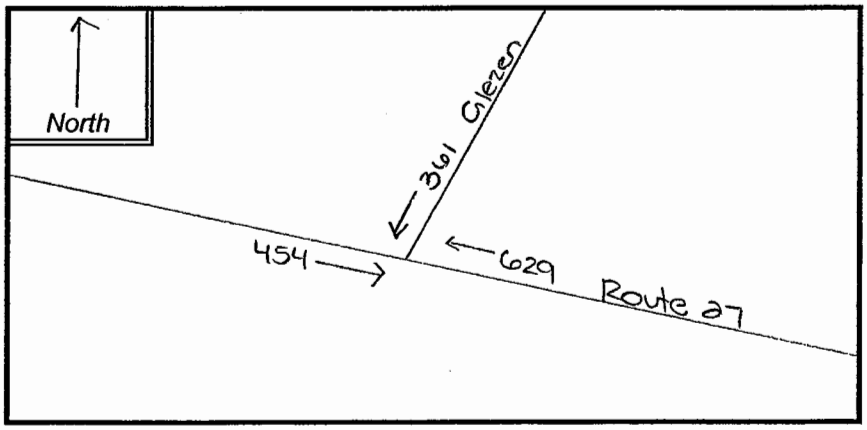
MINOR STREET(S) : Glezen Lane ST #

ST #

ST #

ST #

INTERSECTION DIAGRAM (Label Approaches)



INTERSECTION REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	EB	WB	SB			
VOLUMES (PM) :	454	629	361			1,444

" K " FACTOR : 0.090 APPROACH ADT : 16,044 **ADT** = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 3 # OF YEARS : 3 AVERAGE # OF ACCIDENTS (**A**) : 1.00

CRASH RATE CALCULATION : 0.17 RATE = $\frac{(A * 1{,}000{,}000)}{(ADT * 365)}$

Comments :

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Wayland COUNT DATE : Jun-06

DISTRICT : 3 UNSIGNALIZED : X SIGNALIZED :

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Route 27 ST #

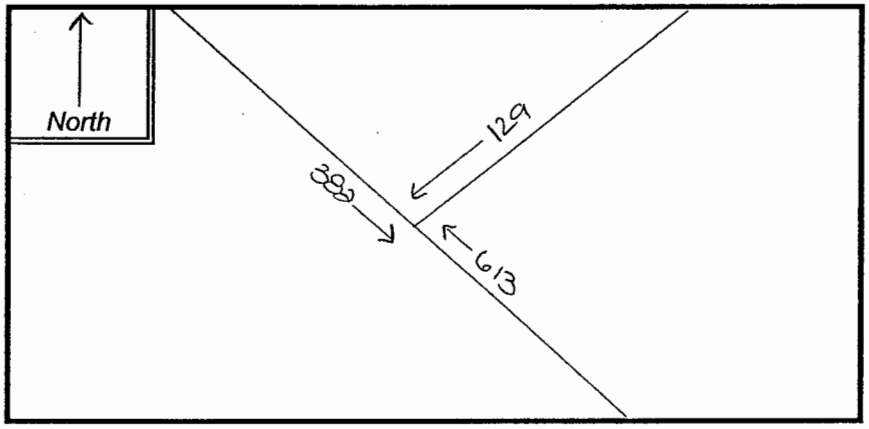
MINOR STREET(S) : Bow Road ST #

ST #

ST #

ST #

INTERSECTION DIAGRAM (Label Approaches)



INTERSECTION REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	NB	SB	WB			
VOLUMES (PM) :	613	382	129			1,124

" K " FACTOR : 0.090 APPROACH ADT : 12,489 **ADT** = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS :	2	# OF YEARS :	3	AVERAGE # OF ACCIDENTS (**A**) :	0.67

CRASH RATE CALCULATION : 0.15 RATE = $\frac{(A * 1{,}000{,}000)}{(ADT * 365)}$

Comments :

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Wayland COUNT DATE : Jun-06

DISTRICT : 3 UNSIGNALIZED : X SIGNALIZED :

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Route 126 ST #

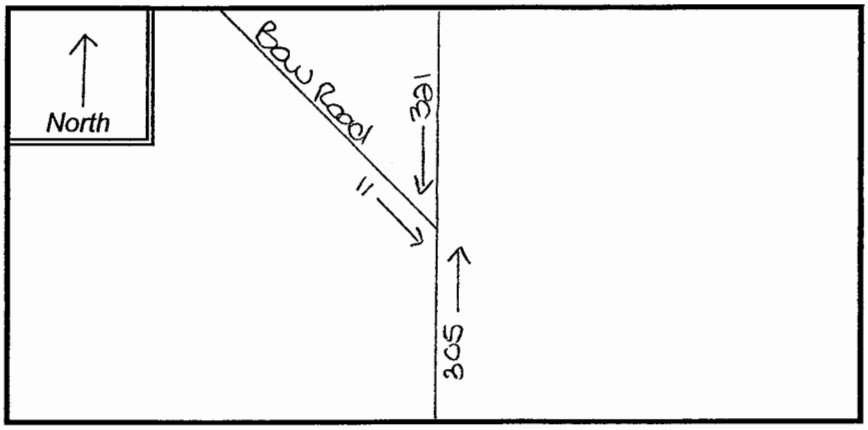
MINOR STREET(S) : Bow Road ST #

ST #

ST #

ST #

INTERSECTION DIAGRAM (Label Approaches)



INTERSECTION REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	NB	SB	WB			
VOLUMES (PM) :	305	321	11			637

" K " FACTOR : 0.090 APPROACH ADT : 7,078 **ADT** = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 1 # OF YEARS : 3 AVERAGE # OF ACCIDENTS (**A**) : 0.33

CRASH RATE CALCULATION : 0.13 RATE = $\frac{(A * 1{,}000{,}000)}{(ADT * 365)}$

Comments :

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Wayland COUNT DATE : Jun-06

DISTRICT : 3 UNSIGNALIZED : X SIGNALIZED :

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Route 126 ST #

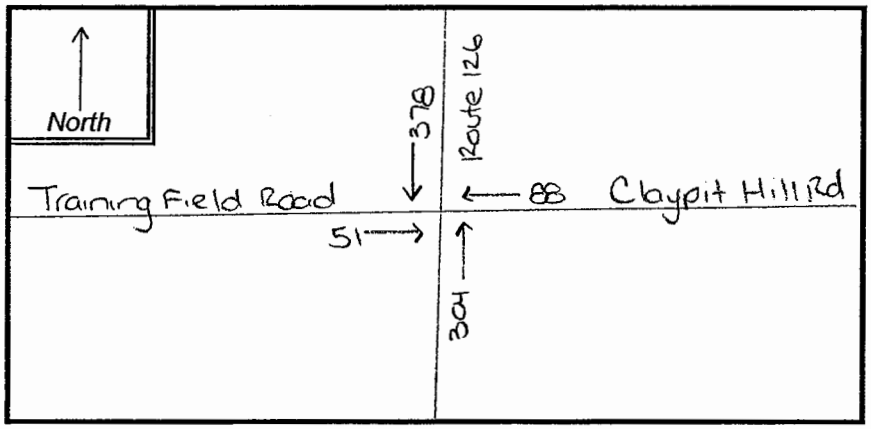
MINOR STREET(S) : Claypit Hill Road ST #

Training Field Road ST #

ST #

ST #

INTERSECTION DIAGRAM (Label Approaches)



INTERSECTION REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	NB	SB	EB	WB		
VOLUMES (PM) :	304	378	51	88		821

" K " FACTOR : 0.090 APPROACH ADT : 9,122 **ADT** = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 1 # OF YEARS : 3 AVERAGE # OF ACCIDENTS (**A**) : 0.33

CRASH RATE CALCULATION : 0.10 RATE = $\frac{(A * 1{,}000{,}000)}{(ADT * 365)}$

Comments :

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Wayland COUNT DATE : Jun-06

DISTRICT : 3 UNSIGNALIZED : X SIGNALIZED :

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Route 126 ST #

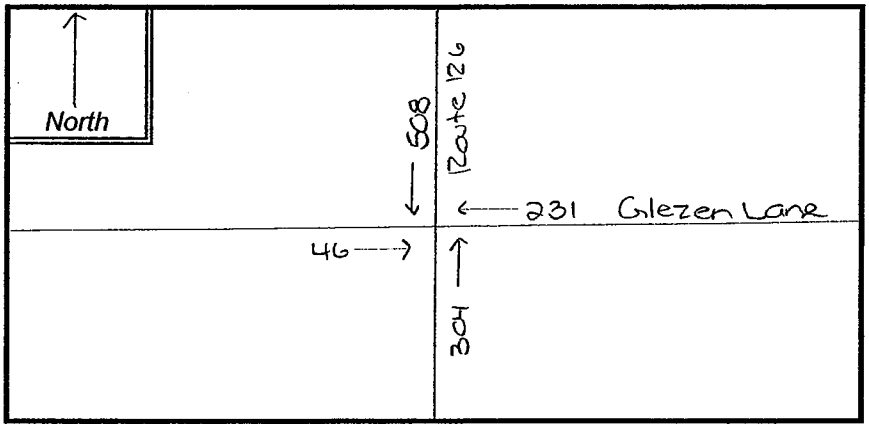
MINOR STREET(S) : Glezen Lane ST #

ST #

ST #

ST #

INTERSECTION DIAGRAM (Label Approaches)



INTERSECTION REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	NB	SB	EB	WB		
VOLUMES (PM) :	304	508	46	231		1,089

"K" FACTOR : 0.090 APPROACH ADT : 12,100 ADT = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 12 # OF YEARS : 3 AVERAGE # OF ACCIDENTS (A) : 4.00

CRASH RATE CALCULATION : 0.91 RATE = $\frac{(A * 1{,}000{,}000)}{(ADT * 365)}$

Comments :

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Wayland COUNT DATE : Jun-06

DISTRICT : 3 UNSIGNALIZED : X SIGNALIZED :

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Route 20

MINOR STREET(S) : Winthrop

ST #

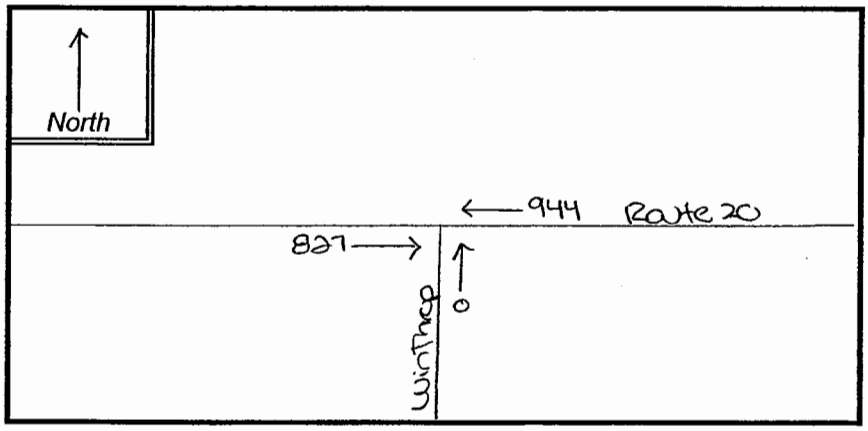
ST #

ST #

ST #

ST #

INTERSECTION DIAGRAM (Label Approaches)



INTERSECTION REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	EB	WB	NB			
VOLUMES (PM) :	827	944	0			1,771

"K" FACTOR : 0.090 APPROACH ADT : 19,678 **ADT** = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 1 # OF YEARS : 3 AVERAGE # OF ACCIDENTS (**A**) : 0.33

CRASH RATE CALCULATION : 0.05 RATE = $\frac{(A * 1{,}000{,}000)}{(ADT * 365)}$

Comments :

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Wayland COUNT DATE : Jun-06

DISTRICT : 3 UNSIGNALIZED : X SIGNALIZED :

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Route 20 ST #

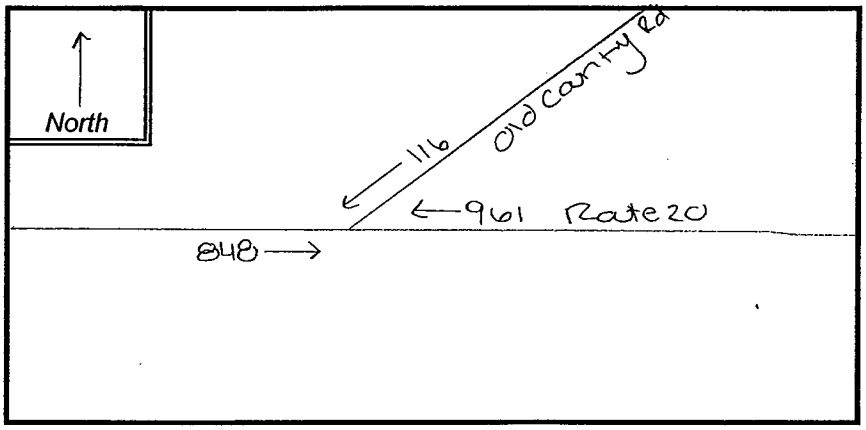
MINOR STREET(S) : Old Country Road ST #

ST #

ST #

ST #

INTERSECTION DIAGRAM (Label Approaches)



INTERSECTION REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	EB	WB	SB			
VOLUMES (PM) :	848	961	116			1,925

" K " FACTOR : 0.090 APPROACH ADT : 21,389 **ADT** = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS :	6	# OF YEARS :	3	AVERAGE # OF ACCIDENTS (**A**) :	2.00

CRASH RATE CALCULATION : 0.26 RATE = $\frac{(A * 1{,}000{,}000)}{(ADT * 365)}$

Comments :

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Wayland COUNT DATE : Jun-06

DISTRICT : 3 UNSIGNALIZED : [ ] SIGNALIZED : [X]

MHD USE ONLY

Source # [ ]

~ INTERSECTION DATA ~

MAJOR STREET : Route 20 ST # [ ]

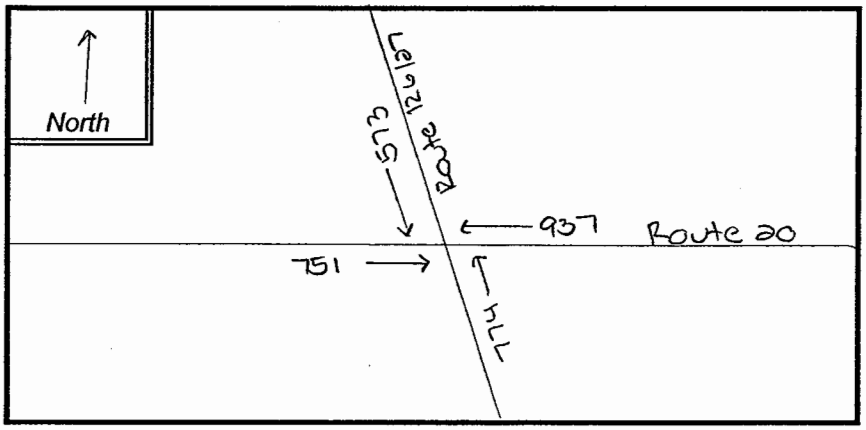
MINOR STREET(S) : Route 126/27 ST # [ ]

ST # [ ]

ST # [ ]

ST # [ ]

INTERSECTION DIAGRAM (Label Approaches)



INTERSECTION REF # [ ]

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	EB	WB	NB	SB		
VOLUMES (PM) :	751	937	774	573		3,035

" K " FACTOR : 0.090 APPROACH ADT : 33,722 **ADT** = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 42 # OF YEARS : 3 AVERAGE # OF ACCIDENTS (**A**) : 14.00

CRASH RATE CALCULATION : 1.14 RATE = $\frac{(A * 1{,}000{,}000)}{(ADT * 365)}$

Comments : _____

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Wayland COUNT DATE : Jun-06

DISTRICT : 3 UNSIGNALIZED : X SIGNALIZED :

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Route 27

MINOR STREET(S) : Route 126

ST #

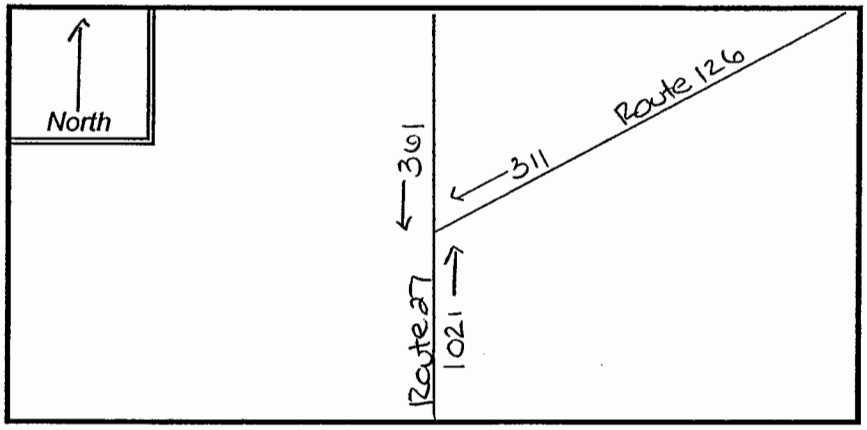
ST #

ST #

ST #

ST #

INTERSECTION DIAGRAM (Label Approaches)



INTERSECTION REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	NB	SB	WB			
VOLUMES (PM) :	1,021	361	311			1,693

"K" FACTOR : 0.090 APPROACH ADT : 18,811 ADT = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 14 # OF YEARS : 3 AVERAGE # OF ACCIDENTS (A) : 4.67

CRASH RATE CALCULATION : 0.68 RATE = $\frac{(A * 1{,}000{,}000)}{(ADT * 365)}$

Comments :

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Wayland COUNT DATE : Jun-06

DISTRICT : 3 UNSIGNALIZED : X SIGNALIZED :

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Route 27/126

MINOR STREET(S) : Pelham Island Road

ST #

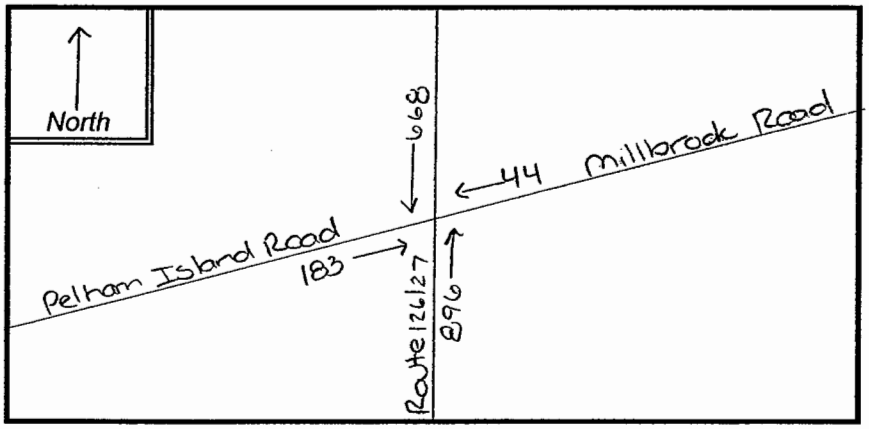
ST #

ST #

ST #

ST #

INTERSECTION DIAGRAM (Label Approaches)



INTERSECTION REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	NB	SB	EB	WB		
VOLUMES (PM) :	896	668	183	44		1,791

" K " FACTOR : 0.090 APPROACH ADT : 19,900 ADT = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 18 # OF YEARS : 3 AVERAGE # OF ACCIDENTS (A) : 6.00

CRASH RATE CALCULATION : 0.83 RATE = $\frac{(A * 1{,}000{,}000)}{(ADT * 365)}$

Comments :

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Wayland COUNT DATE : Jun-06

DISTRICT : 3 UNSIGNALIZED : X SIGNALIZED :

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Route 20 ST #

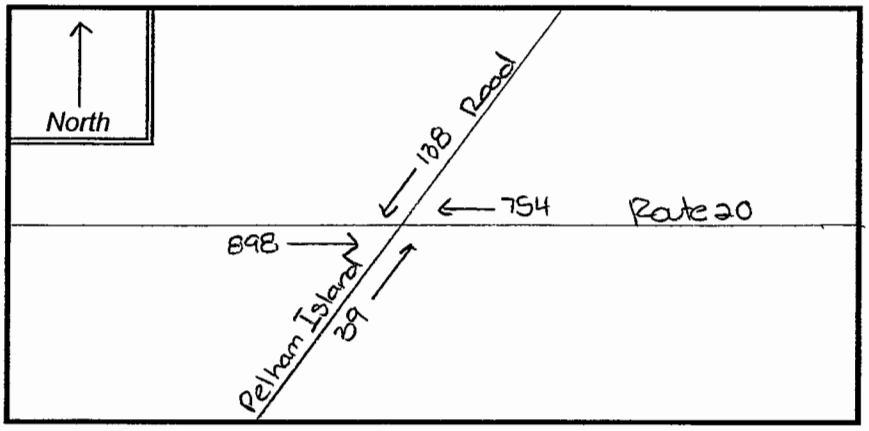
MINOR STREET(S) : Pelham Island Road ST #

ST #

ST #

ST #

INTERSECTION DIAGRAM (Label Approaches)



INTERSECTION REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	EB	WB	NB	WB		
VOLUMES (PM) :	898	754	39	138		1,829

" K " FACTOR : 0.090 APPROACH ADT : 20,322 ADT = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 12 # OF YEARS : 3 AVERAGE # OF ACCIDENTS (A) : 4.00

CRASH RATE CALCULATION : 0.54 RATE = $\frac{(A * 1{,}000{,}000)}{(ADT * 365)}$

Comments :

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Wayland COUNT DATE : Sep-06

DISTRICT : 3 UNSIGNALIZED : [ ] SIGNALIZED : [X]

MHD USE ONLY

Source # [ ]

~ INTERSECTION DATA ~

MAJOR STREET : Route 20 ST # [ ]

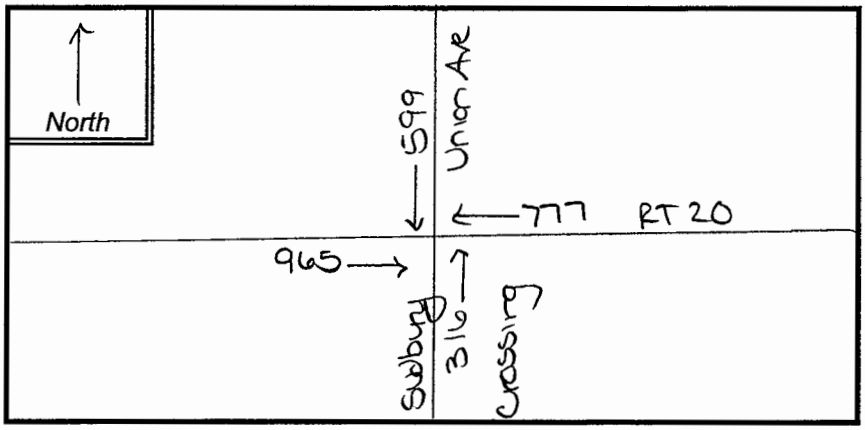
MINOR STREET(S) : Union Avenue ST # [ ]

Sudbury Crossing Driveway ST # [ ]

ST # [ ]

ST # [ ]

INTERSECTION DIAGRAM (Label Approaches)



INTERSECTION REF # [ ]

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	EB	WB	NB	SB		
VOLUMES (PM) :	965	777	316	599		2,657

" K " FACTOR : **0.090** APPROACH ADT : **29,522** ADT = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 24 # OF YEARS : 3 AVERAGE # OF ACCIDENTS (**A**) : **8.00**

CRASH RATE CALCULATION : **0.74** RATE = $\frac{(A * 1{,}000{,}000)}{(ADT * 365)}$

Comments :

MassHighway

CRASH RATE WORKSHEET

CITY/TOWN : Wayland COUNT DATE : Sep-06

DISTRICT : 3 UNSIGNALIZED : SIGNALIZED : X

MHD USE ONLY

Source #

~ INTERSECTION DATA ~

MAJOR STREET : Route 20 ST #

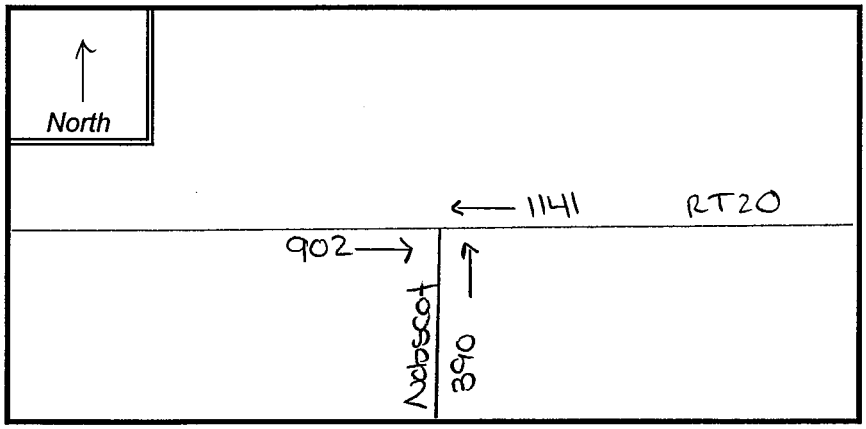
MINOR STREET(S) : Nobscot Road ST #

ST #

ST #

ST #

INTERSECTION DIAGRAM (Label Approaches)



INTERSECTION REF #

Peak Hour Volumes

APPROACH :	1	2	3	4	5	Total Entering Vehicles
DIRECTION :	EB	WB	NB			
VOLUMES (PM) :	902	1,141	390			2,433

" K " FACTOR : 0.090 APPROACH ADT : 27,033 **ADT** = TOTAL VOL/"K" FACT.

TOTAL # OF ACCIDENTS : 13 # OF YEARS : 3 AVERAGE # OF ACCIDENTS (**A**) : 4.33

CRASH RATE CALCULATION : 0.44 RATE = $\frac{(A * 1{,}000{,}000)}{(ADT * 365)}$

Comments :

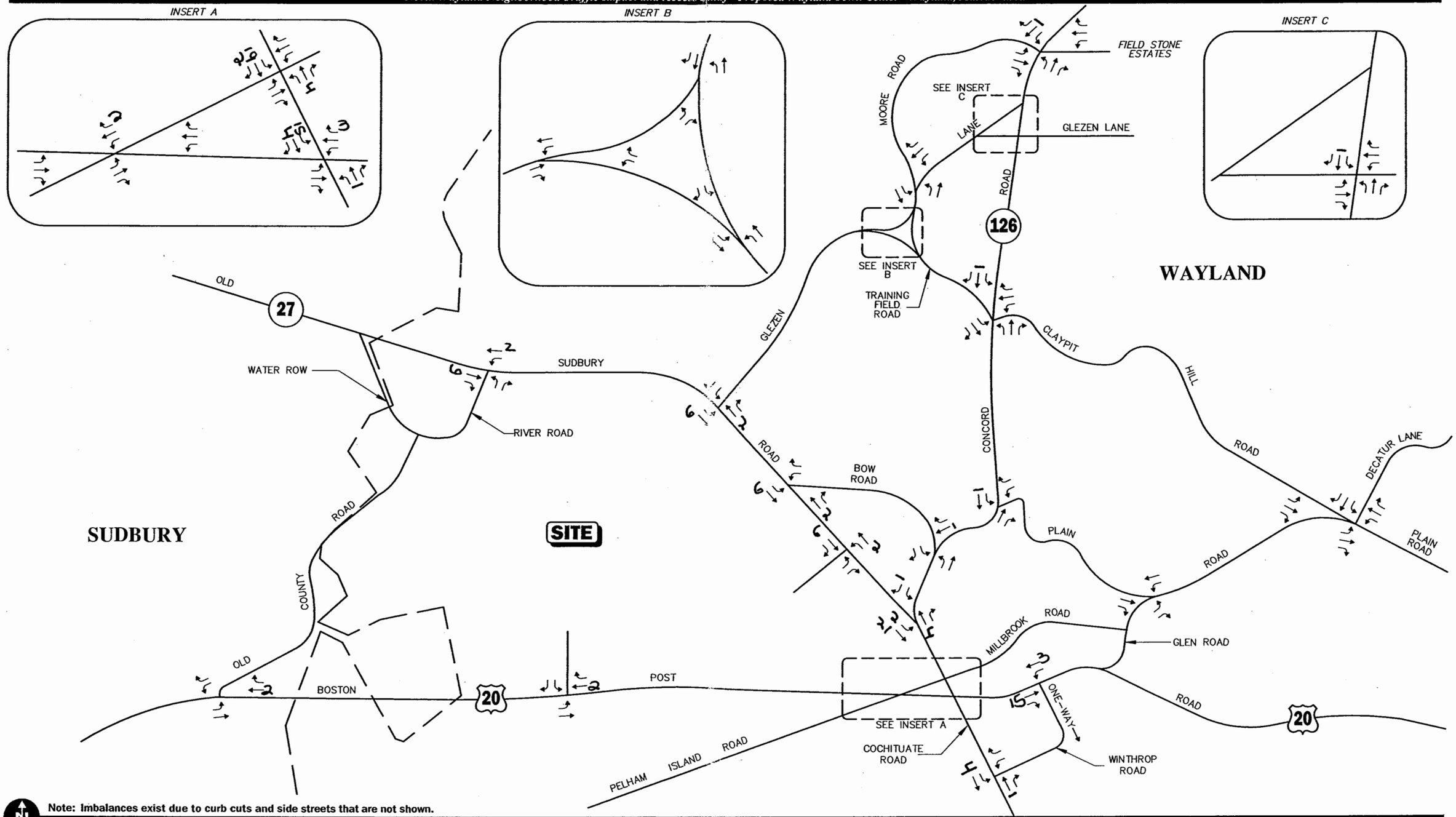
GENERAL BACKGROUND GROWTH

Proposed Wayland Town Center
Route 20
Wayland, MA

AVERAGE DAILY TRAFFIC

STA.	CITY/TOWN	ROUTE/STREET	LOCATION	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Average Annual Growth Rate
4157	FRAMINGHAM	BEACON ST.	NORTH OF RTE.9		9,700			8,100			7,600			-3.97%
4018	FRAMINGHAM	FOUNTAIN ST.	EAST OF WINTER ST.	11,000			12,000			11,700			11,800	0.65%
4017	FRAMINGHAM	GROVE ST.	NORTH OF MASSACHUSETTS TURNPIKE		3,100			3,000			3,600			2.57%
4924	FRAMINGHAM	RTE.135	EAST OF RTE.126							15,400			17,100	3.55%
4019	FRAMINGHAM	UNION AVE.	SOUTH OF WAYTE AVE.	17,000			21,000						25,400	5.02%
4016	FRAMINGHAM	WATER ST.	WEST OF NICKOLAS RD.		12,300			12,400			11,900			-0.55%
4156	FRAMINGHAM	WINCH ST.	WEST OF GROVE ST.		940			1,100			1,300			5.55%
PK15	FRAMINGHAM - NATICK	RTE.I- 90	BETWEEN EXITS 12-13	81,223	84,538	88,347	92,207		99,097		103,324	103,391	105,135	3.97%
PK16	FRAMINGHAM - WESTON	RTE.I- 90	BETWEEN EXITS 13-14	99,459	103,355	107,225	110,731		119,006		120,729	120,448	122,735	3.49%
4013	LINCOLN	RTE. 2	AT LEXINGTON T.L.			47,600			50,100			47,600		0.01%
4023	NATICK	BACON ST.	WEST OF PARK AVE.	5,100			3,200			4,300			3,700	-2.13%
4026	NATICK	DOVER RD.	AT DOVER T.L.	3,400			3,700			3,050			3,400	0.52%
4025	NATICK	PLEASANT ST.	AT DOVER T.L.			2,700						4,100		7.21%
4024	NATICK	POND ST.	WEST OF PEARL ST.		6,700			7,200			6,700			0.02%
4923	NATICK	RTE.135	EAST OF NEWFIELD DR.							20,200			19,100	-1.85%
4009	SUDBURY	PEAKHAM RD.	NORTH OF AUSTIN RD.	1,800			2,100			1,500			2,100	0.88%
4015	WESTON	PARK RD.	SOUTH OF MASSACHUSETTS TURNPIKE			9,900			7,900			7,800		-3.85%
PK17	WESTON	RTE.I- 90	BETWEEN EXITS 14-15	50,914	52,877	55,105	57,236		61,511		61,547	61,252	62,297	3.76%
PK18	WESTON	RTE.I- 90	BETWEEN EXITS 15-16	92,541	94,764	96,313	97,606		102,079					1.88%
4166	CONCORD	CAMBRIDGE TURNPIKE	EAST OF RTE.24	6,300			6,300			7,200			6,200	0.03%
0403 L	CONCORD	RTE. 2	0.2 km EAST OF CONCORD ROTARY			46,879	47,407	47,161	47,011	46,354	47,595	47,137		0.04%
4003	CONCORD	RTE. 62	AT ACTON T.L.			12,000			13,900			11,100		0.39%
														1.24%

BACKGROUND DEVELOPMENT NETWORKS



Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

Vanasse & Associates, Inc.
Transportation Engineers & Planners

- Background Development
- 48 Unit Condominiums
- weekday morning
- Peak Hour Traffic Volumes
-
-

R:\4886\4886nt0.dwg 7/20/2006 9:37:27 AM EDT
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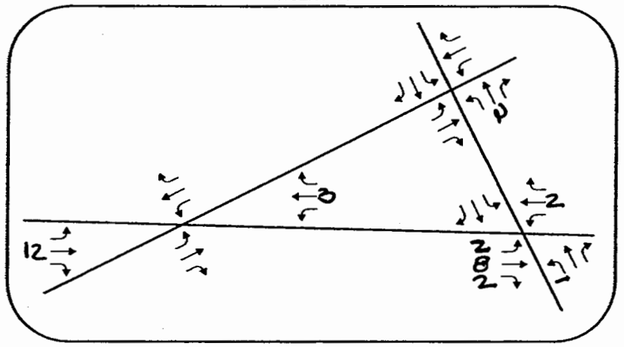
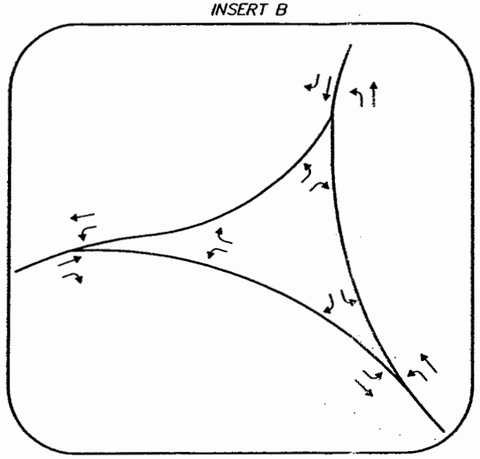
INSERT A



INSERT B



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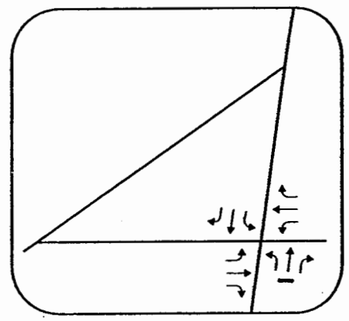


OLD 27

WATER ROW

SUDBURY

RIVER ROAD

ROAD

COUNTY

OLD

BOSTON 20

POST

GLEZEN

ROAD

BOW ROAD

SUDBURY

SITE

MOORE ROAD

FIELD STONE ESTATES

SEE INSERT C

LANE

GLEZEN LANE

ROAD

126

SEE INSERT B

TRAINING FIELD ROAD

CLAYPIT

HILL

CONCORD

ROAD

DECATUR LANE

PLAIN

ROAD

PLAIN ROAD

WAYLAND

MILLBROOK ROAD

GLEN ROAD

ROAD

20

ONE-WAY

SEE INSERT A

COCHITUATE ROAD

WINTHROP ROAD

PELHAM ISLAND ROAD

Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

- Background Development
- 23 unit Age-Restricted Condo.
- Weekday morning
- Peak Hour Traffic Volumes
-
-

Vanasse & Associates, Inc.
Transportation Engineers & Planners

R:\4886\4886nt0.dwg 7/20/2006 9:37:27 AM EDT

INSERT A

INSERT B

INSERT C

WAYLAND

SUDBURY

SITE

OLD 27

WATER ROW

SUDBURY

RIVER ROAD

GLEZEN

ROAD

BOW ROAD

MOORE ROAD

FIELD STONE ESTATES

SEE INSERT C

LANE

GLEZEN LANE

ROAD

126

SEE INSERT B

TRAINING FIELD ROAD

CLAYPIT

HILL

ROAD

DECATUR LANE

PLAIN ROAD

CONCORD

PLAIN ROAD

MILLBROOK ROAD

GLEN ROAD

COUNTY ROAD

OLD BOSTON POST 20

ROAD 20

ONE-WAY

SEE INSERT A

COCHITUATE ROAD

WINTHROP ROAD

PELHAM ISLAND ROAD

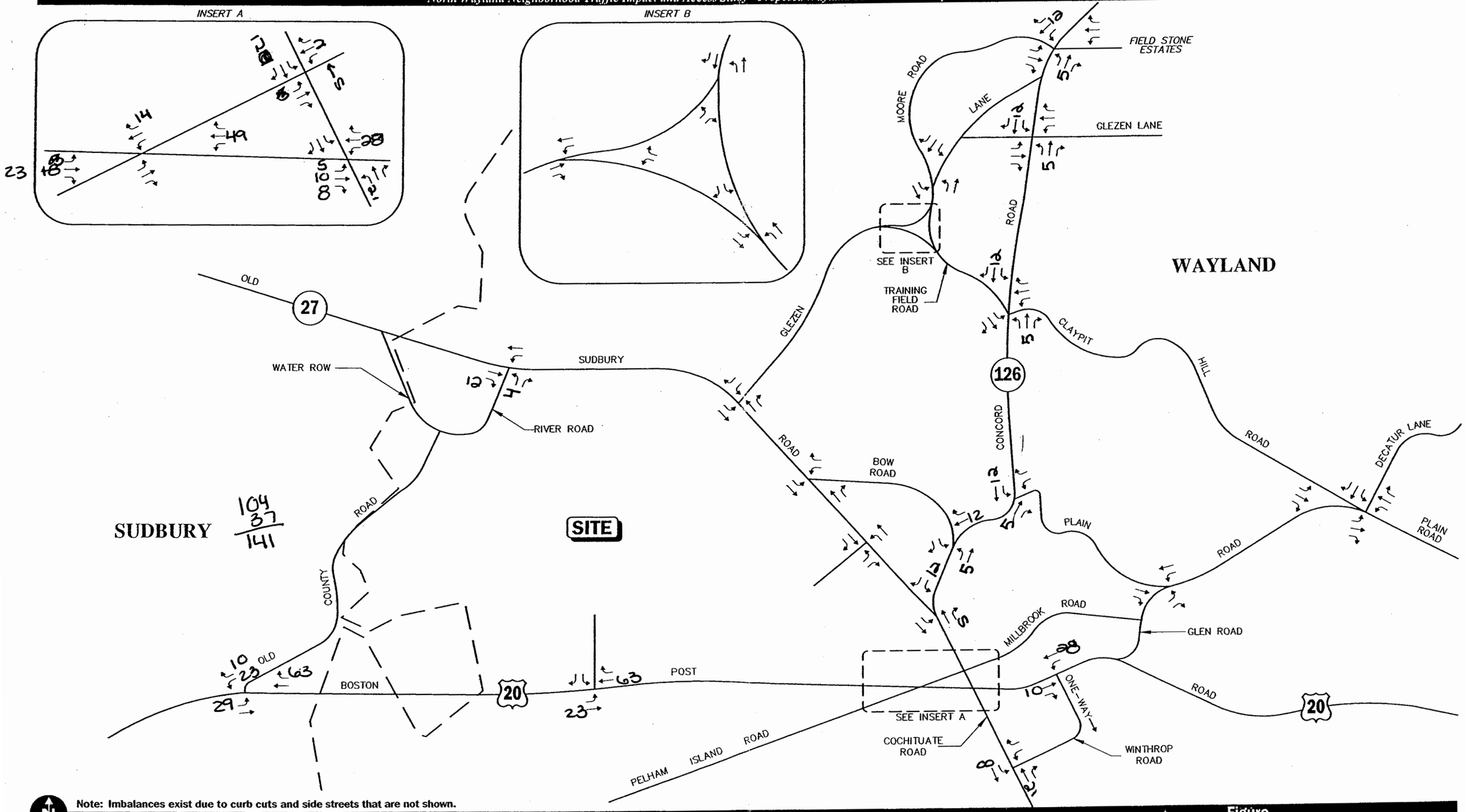
Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Vanasse & Associates, Inc.
Transportation Engineers & Planners

Figure -

- Background Development
- 37 unit 40b
- Weekday morning
- Peak Hour Traffic Volumes
-



Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

- Background Development
- Proposed BMW Dealership
- Weekday Morning
- Peak Hour Traffic Volumes

Vanasse & Associates, Inc.
Transportation Engineers & Planners

INSERT A

INSERT B

INSERT C

FIELD STONE ESTATES

MOORE ROAD

SEE INSERT C

GLEZEN LANE

LANE

ROAD

126

WAYLAND

SEE INSERT B

TRAINING FIELD ROAD

OLD

27

GLEZEN

CLAYPIT

HILL

WATER ROW

SUDBURY

RIVER ROAD

ROAD

CONCORD

ROAD

BOW ROAD

DECATUR LANE

ROAD

PLAIN

PLAIN ROAD

ROAD

SUDBURY

SITE

COUNTY

ROAD

MILLBROOK ROAD

GLEN ROAD

OLD

BOSTON

20

POST

ONE-WAY

ROAD

20

SEE INSERT A

COCHITUATE ROAD

WINTHROP ROAD

PELHAM ISLAND ROAD

Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

- Background Development
- 66 unit 40B condo.
- Weekday morning
- Peak Hour Traffic Volumes

Vanasse & Associates, Inc.
Transportation Engineers & Planners

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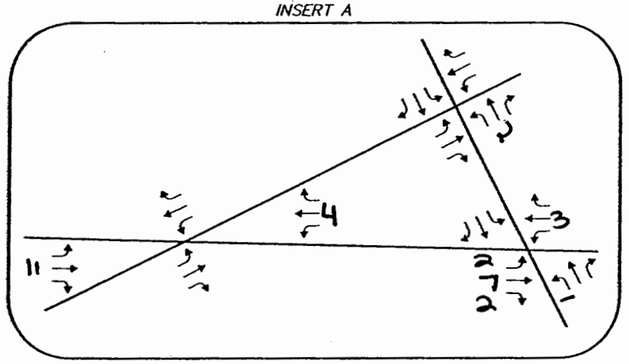
INSERT A



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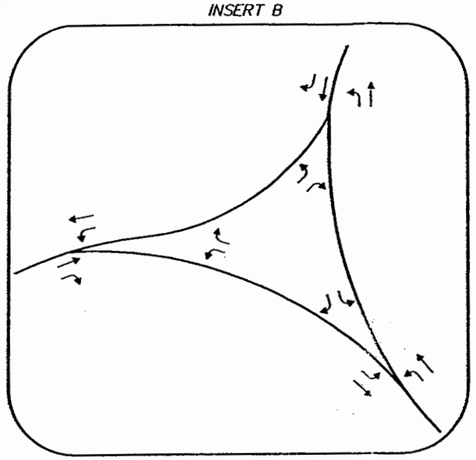

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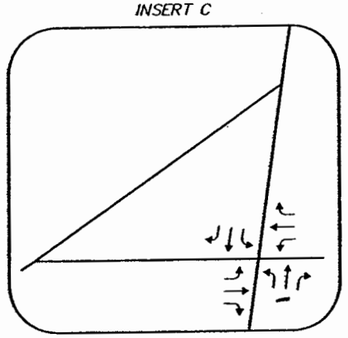


WAYLAND

SUDBURY

SITE

OLD

27

WATER ROW

SUDBURY

RIVER ROAD

ROAD

COUNTY

ROAD

OLD

BOSTON

20

POST

PELHAM ISLAND ROAD

GLEZEN

SEE INSERT B

TRAINING FIELD ROAD

MOORE ROAD

SEE INSERT C

LANE

GLEZEN LANE

FIELD STONE ESTATES

ROAD

126

CONCORD

CLAYPIT

HILL

ROAD

DECATUR LANE

PLAIN ROAD

BOW ROAD

PLAIN

ROAD

MILLBROOK ROAD

GLEN ROAD

ROAD

20

ONE-WAY

SEE INSERT A

COCHITUATE ROAD

WINTHROP ROAD

4 2 1 1 6

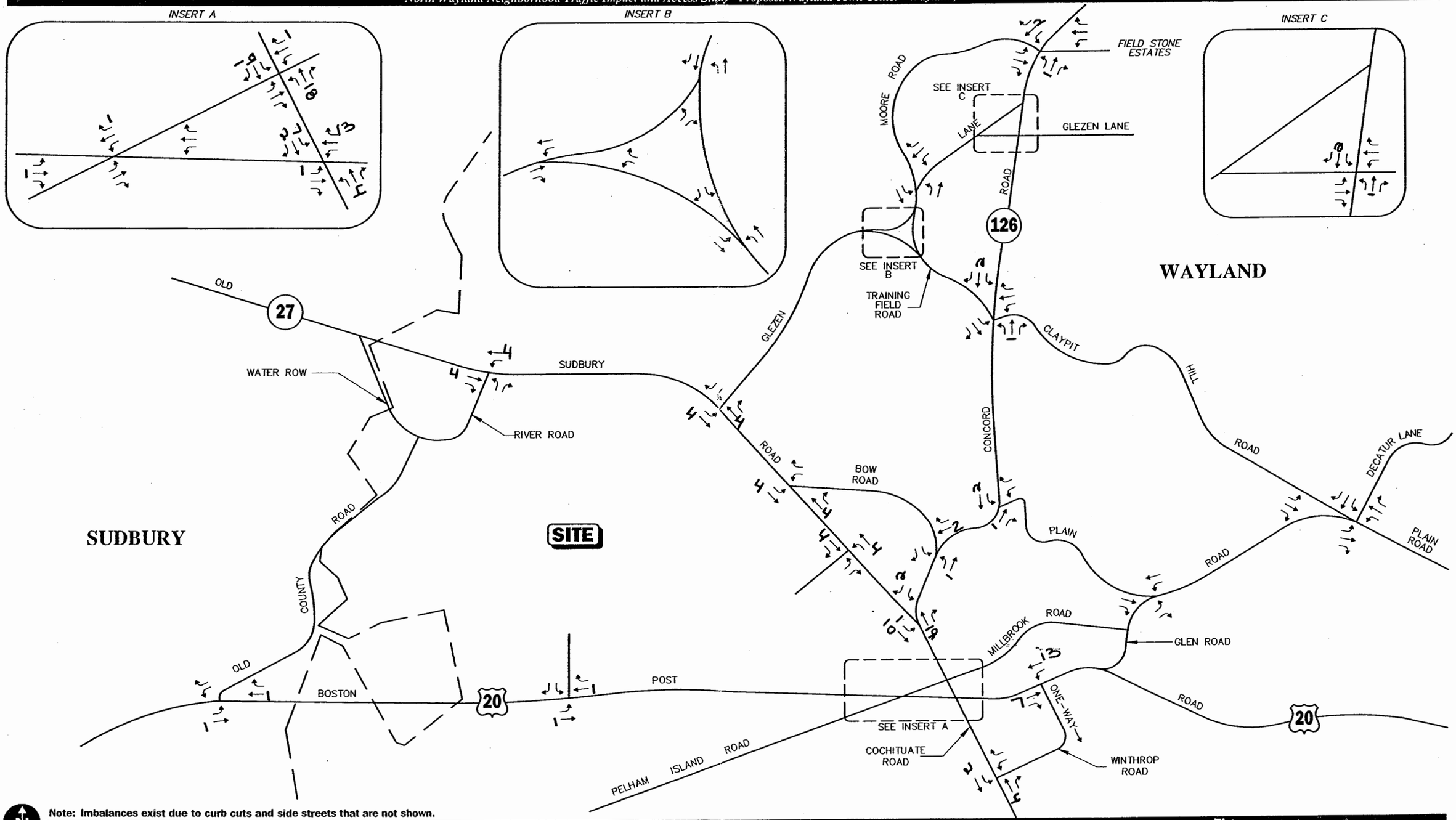
Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

- Background Development
- Proposed Subdivision
- Weekday Morning
- Peak Hour Traffic Volumes

Vanasse & Associates, Inc.
Transportation Engineers & Planners



Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

- Background Development
- 48 unit Condominiums
- Weekday Evening
- Peak Hour Traffic Volumes
-

Vanasse & Associates, Inc.
Transportation Engineers & Planners

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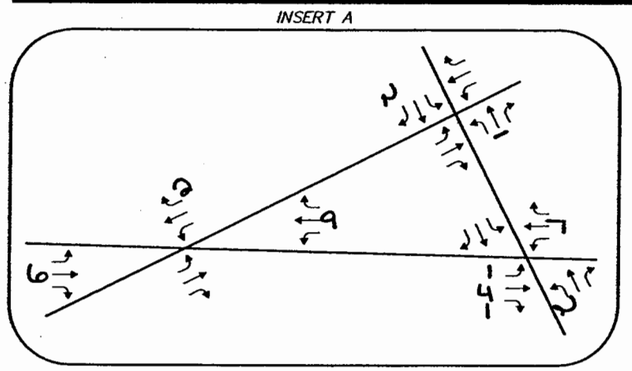
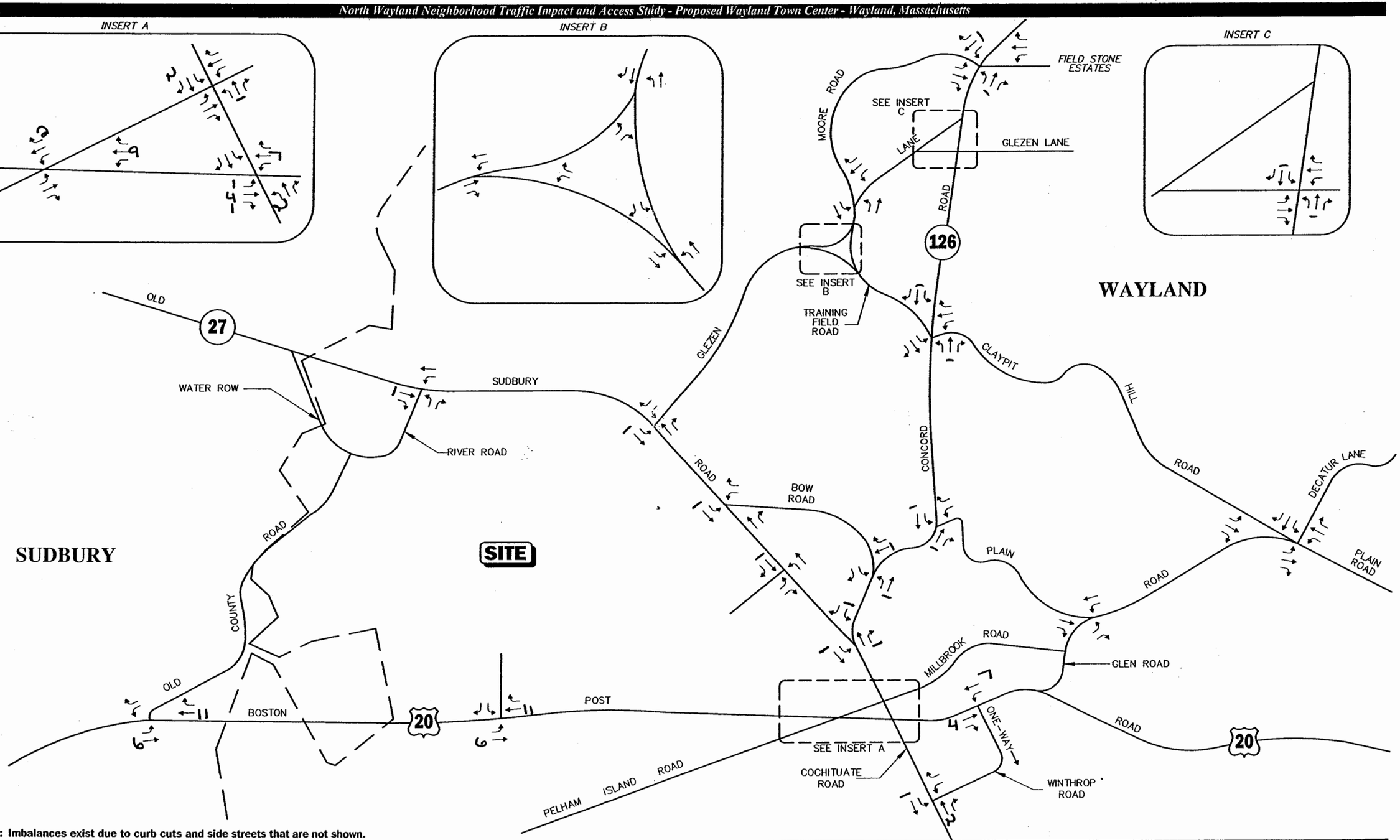




Note: Imbalances exist due to curb cuts and side streets that are not shown.

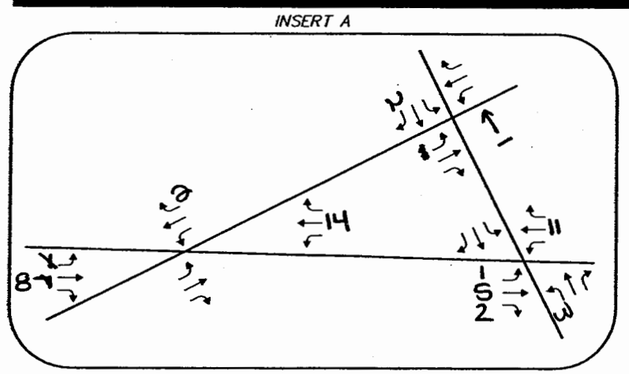
Not To Scale

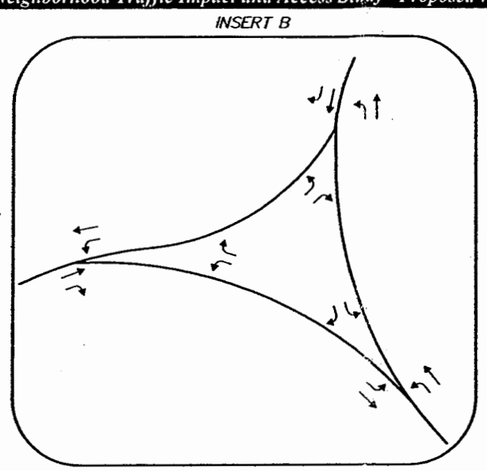
Figure -

- Background Development
- 23 unit Age-Restricted Condo
- Weekday Evening
- Peak Hour Traffic Volumes
-
-

Vanasse & Associates, Inc.
Transportation Engineers & Planners

R:\4886\4886nt0.dwg 7/20/2006 9:37:27 AM EDT





Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

- Background Development
- 37 unit 40B
- Weekday Evening
- Peak Hour Traffic Volumes
-
-

Vanasse & Associates, Inc.
Transportation Engineers & Planners

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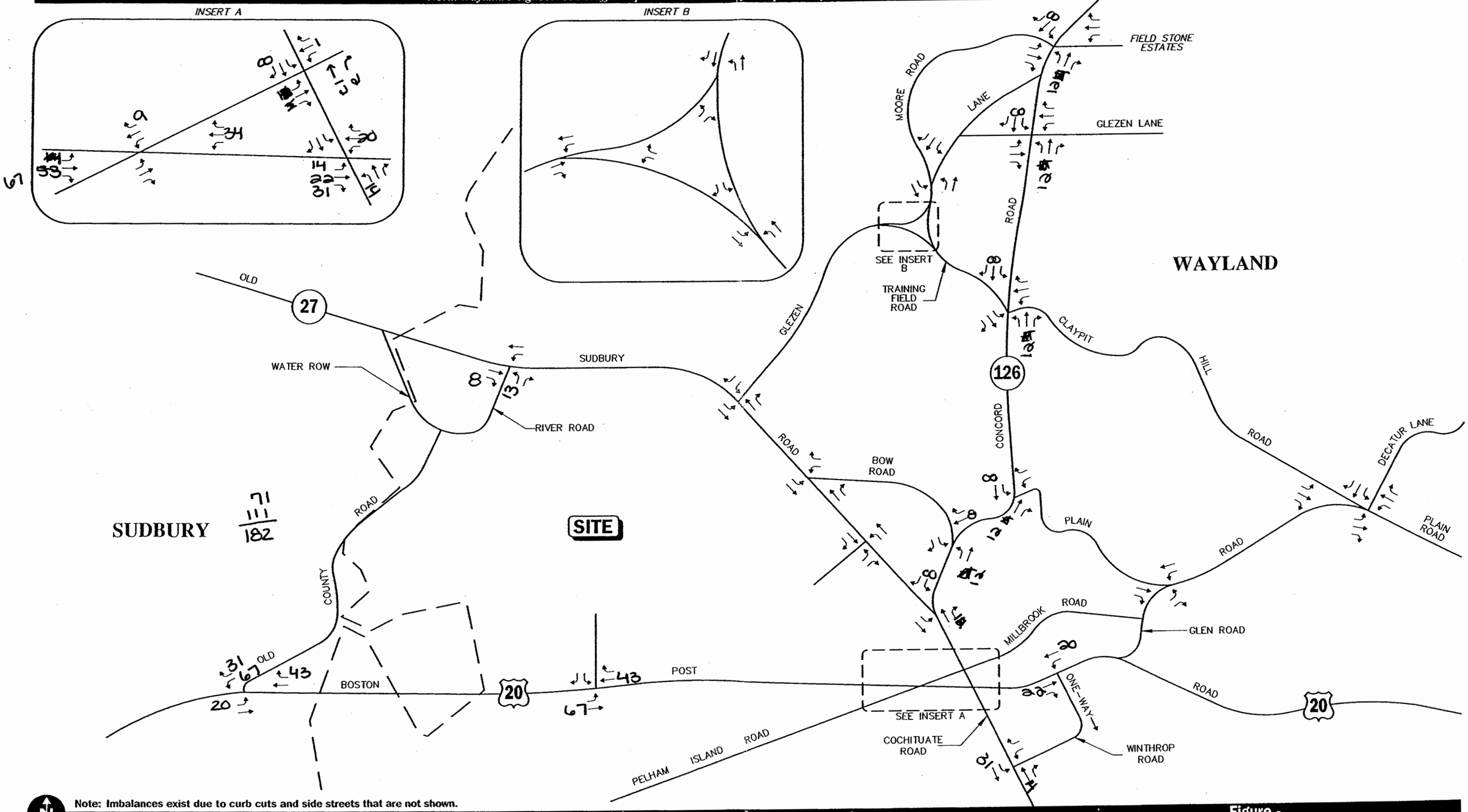


Note: Imbalances exist due to curb cuts and side streets that are not shown.

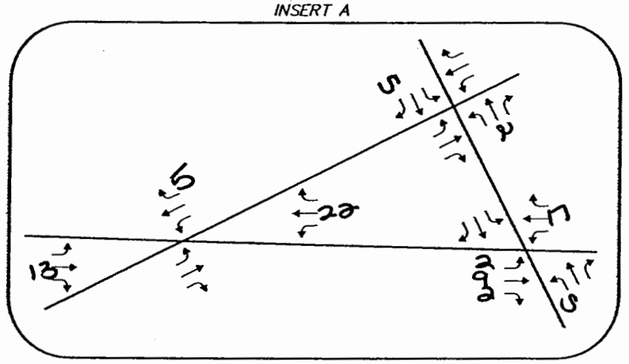
Not To Scale

Figure -

- Background Development
- Proposed BMW Dealership
- Weekday Evening
- Peak Hour Traffic Volumes
-

Vanasse & Associates, Inc.
Transportation Engineers & Planners

INSERT A



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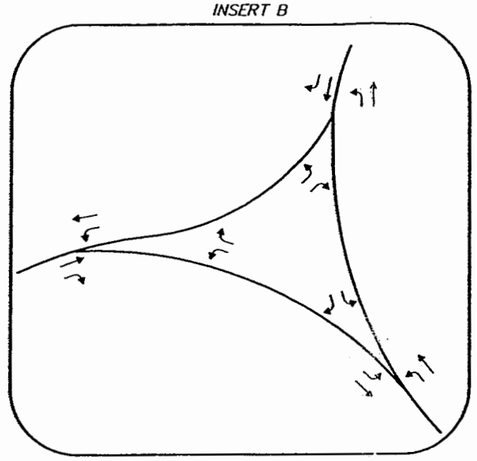
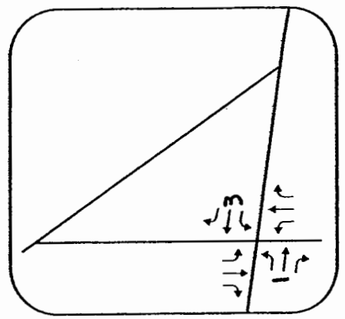


INSERT C



OLD 27

WATER ROW

RIVER ROAD

SUDBURY ROAD

COUNTY ROAD

SUDBURY

SITE

OLD 27 BOSTON 20 POST

PELHAM ISLAND ROAD

SUDBURY ROAD

GLEZEN LANE

BOW ROAD

CONCORD ROAD

MOORE ROAD

FIELD STONE ESTATES

SEE INSERT C

GLEZEN LANE

SEE INSERT B

TRAINING FIELD ROAD

126

WAYLAND

CLAYPIT HILL ROAD

DECATUR LANE

PLAIN ROAD

MILLBROOK ROAD

GLEN ROAD

ONE-WAY

WINTHROP ROAD

SEE INSERT A

COCHITUATE ROAD

20

29
14
43

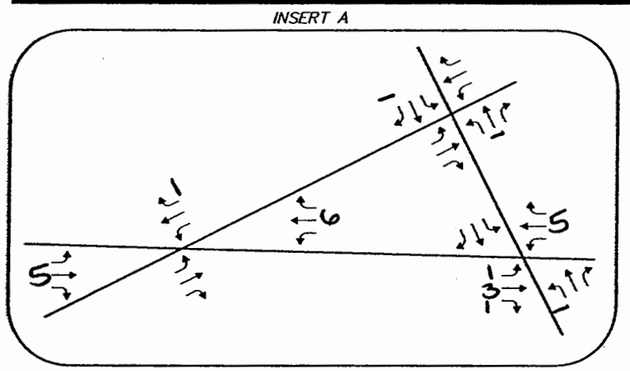
Note: Imbalances exist due to curb cuts and side streets that are not shown.

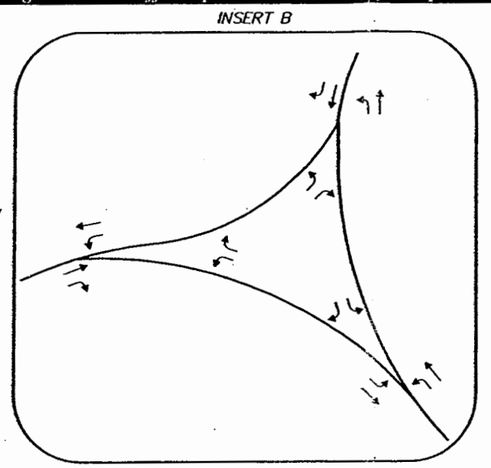
Not To Scale

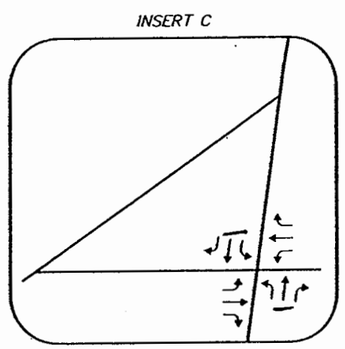
Figure -

- Background Development
- 66 Unit 40B condo
- Weekday Evening
- Peak Hour Traffic Volumes
-

Vanasse & Associates, Inc.
Transportation Engineers & Planners







OLD
27
WATER ROW
RIVER ROAD
ROAD
COUNTY
SUDBURY
SUDBURY
SITE
SUDBURY
ROAD
GLEZEN
ROAD
BOW
ROAD
FIELD STONE
ESTATES
MOORE
ROAD
SEE INSERT
C
LANE
GLEZEN LANE
ROAD
126
SEE INSERT
B
TRAINING
FIELD
ROAD
WAYLAND
CLAYPIT
HILL
CONCORD
ROAD
DECATUR LANE
ROAD
PLAIN
PLAIN
ROAD
ROAD
MILLBROOK
ROAD
GLEN ROAD
ROAD
20
OLD
BOSTON
20
POST
SEE INSERT A
COCHITUATE
ROAD
ONE-WAY
WINTHROP
ROAD
PELHAM
ISLAND
ROAD

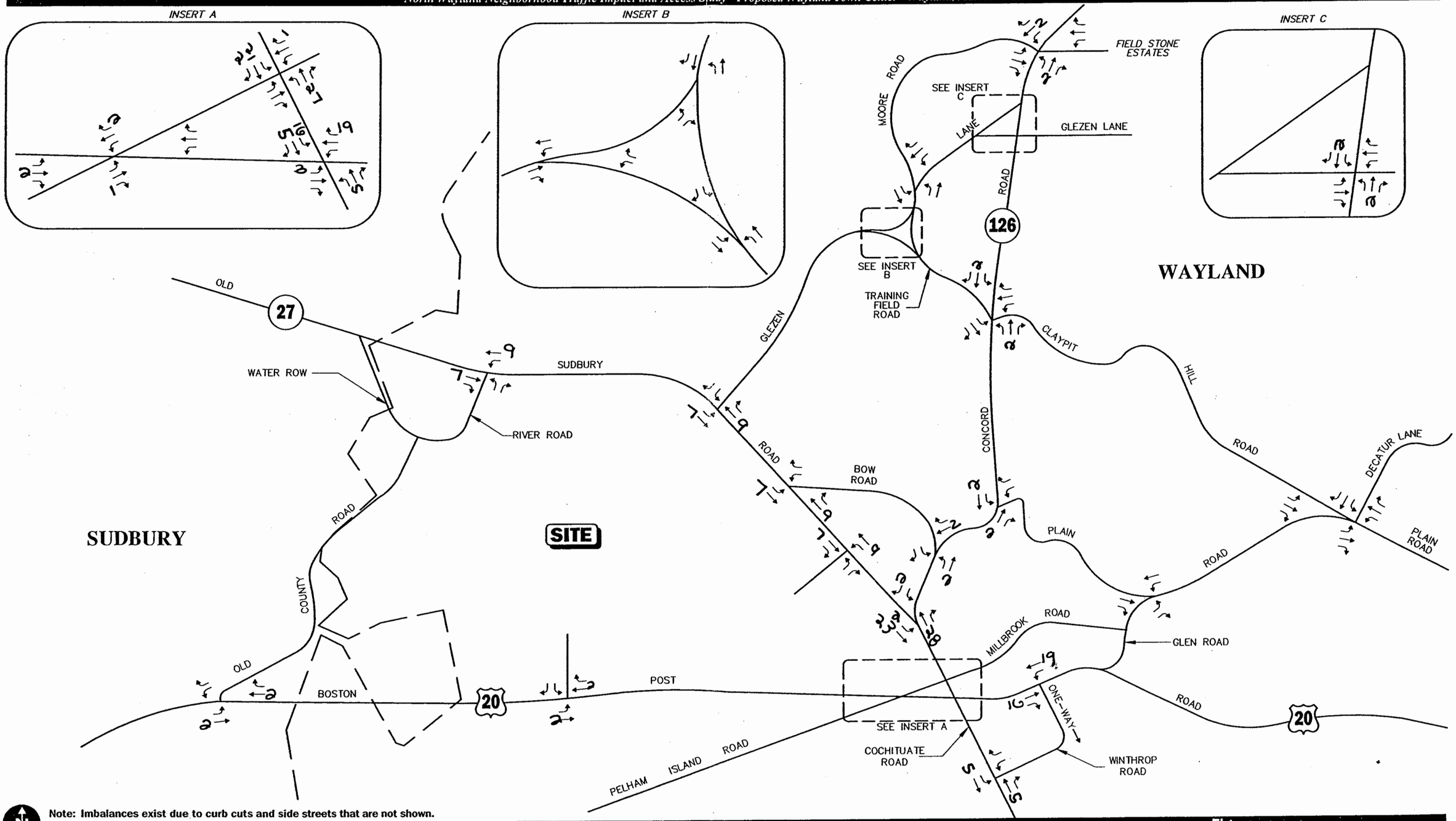
Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

- Background Development
- Proposed Subdivision
- Weekday Evening
- Peak Hour Traffic Volumes
-

Vanasse & Associates, Inc.
Transportation Engineers & Planners



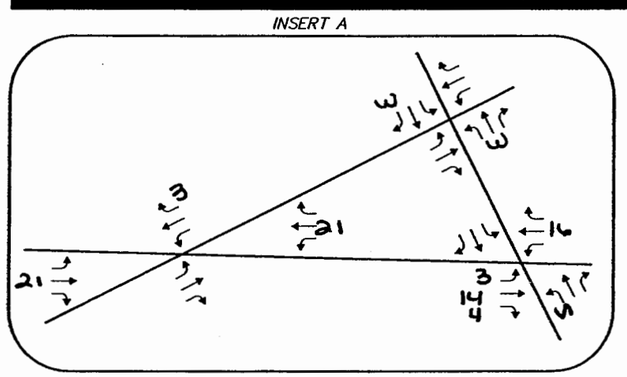
Note: Imbalances exist due to curb cuts and side streets that are not shown.

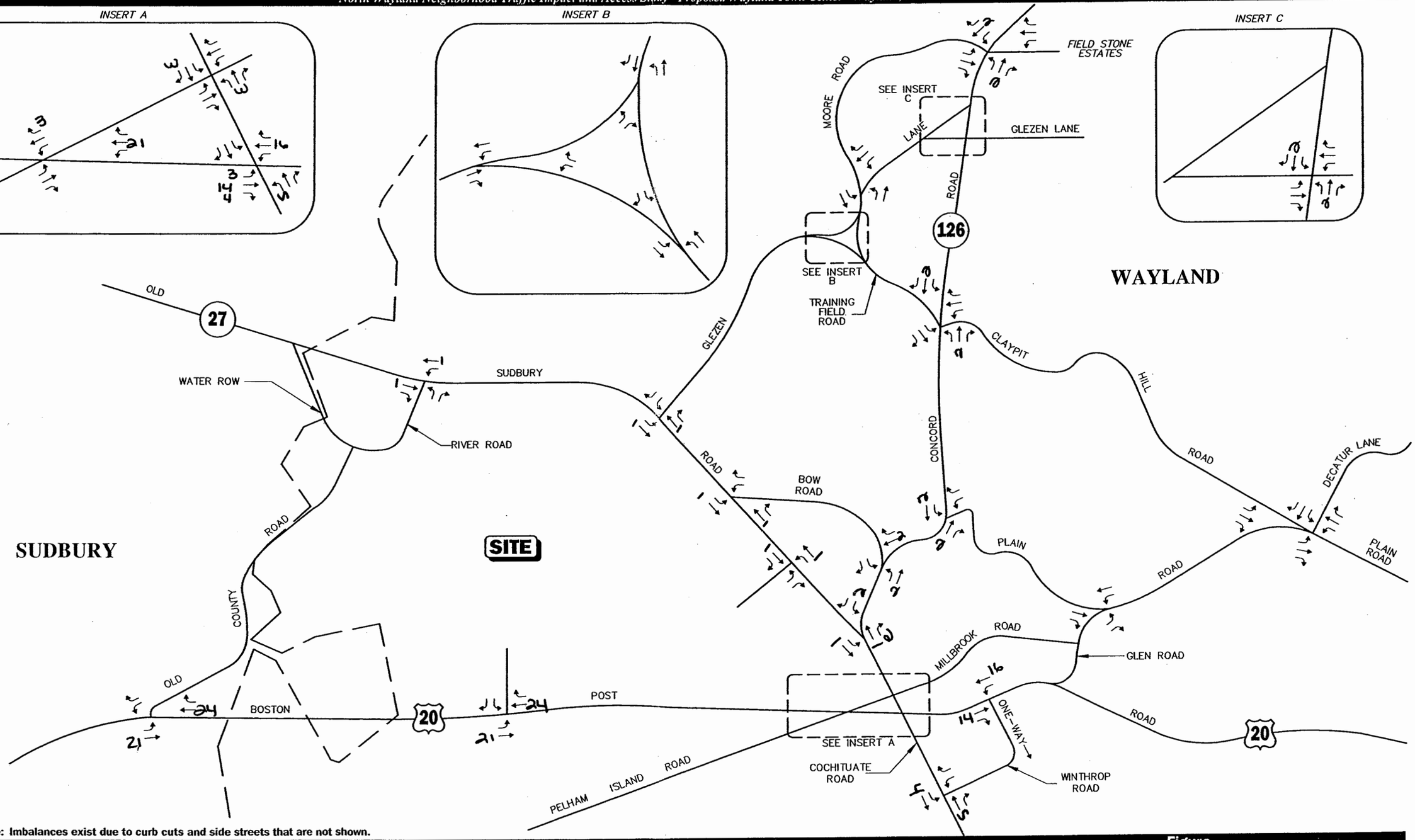
Not To Scale

Figure -

- Background Development
- 48 unit Condominiums
- Saturday Midday Peak Hour Traffic Volumes
-
-

Vanasse & Associates, Inc.
Transportation Engineers & Planners





Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Vanasse & Associates, Inc.
Transportation Engineers & Planners

Figure -

- Background Development
- 23 unit Age-Restricted Condo.
- Saturday midday
- Peak Hour Traffic Volumes
-
-

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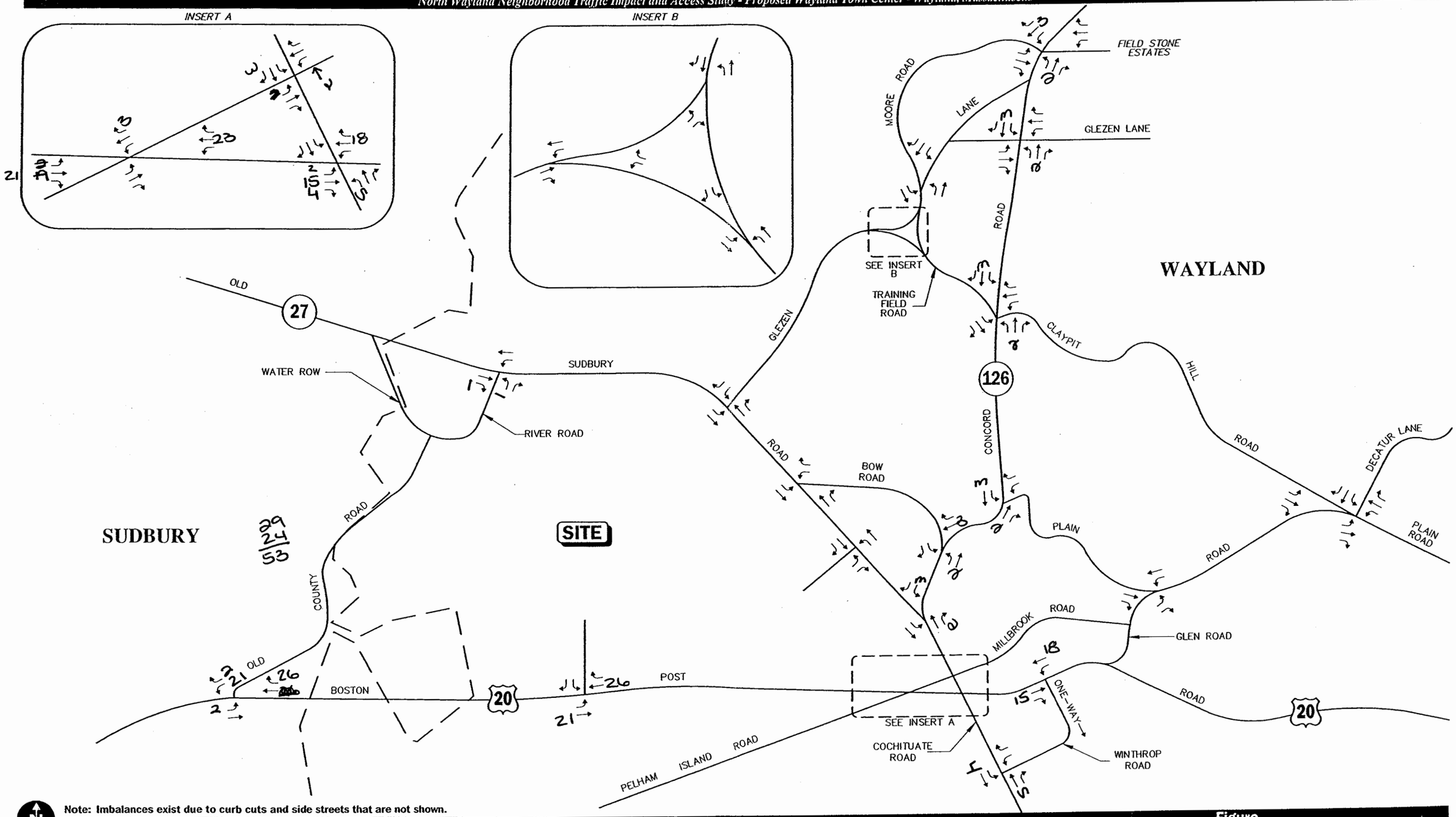


Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

- Background Development
- Saturday Midday
- 37 Unit 400
- Peak Hour Traffic Volumes
-

Vanasse & Associates, Inc.
Transportation Engineers & Planners

INSERT A

INSERT B

WAYLAND

SUDBURY

105
100
205

SITE

SEE INSERT A

SEE INSERT B

TRAINING FIELD ROAD

OLD 27

WATER ROW

RIVER ROAD

SUDBURY ROAD

COUNTY ROAD

BOSTON POST 20

PELHAM ISLAND ROAD

COCHITUATE ROAD

GLEZEN LANE

MOORE ROAD

FIELD STONE ESTATES

LANE

ROAD

126

CONCORD ROAD

BOW ROAD

CLAYPIT HILL ROAD

DECATUR LANE

PLAIN ROAD

MILLBROOK ROAD

GLEN ROAD

ONE-WAY

WINTHROP ROAD

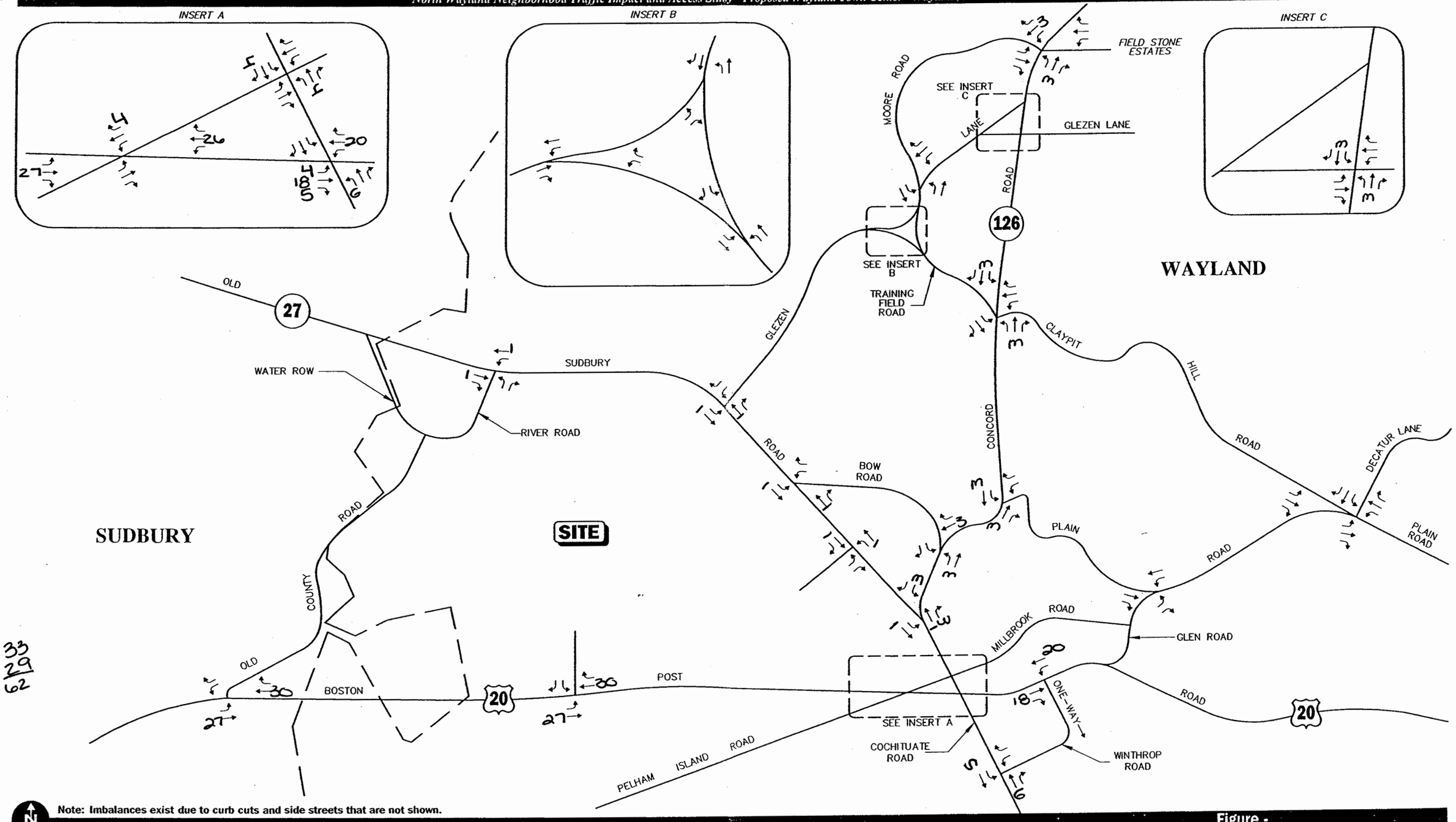
Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

- Background Development
- Proposed Bmw Dealership
- Saturday Midday
- Peak Hour Traffic Volumes

Vanasse & Associates, Inc.
Transportation Engineers & Planners

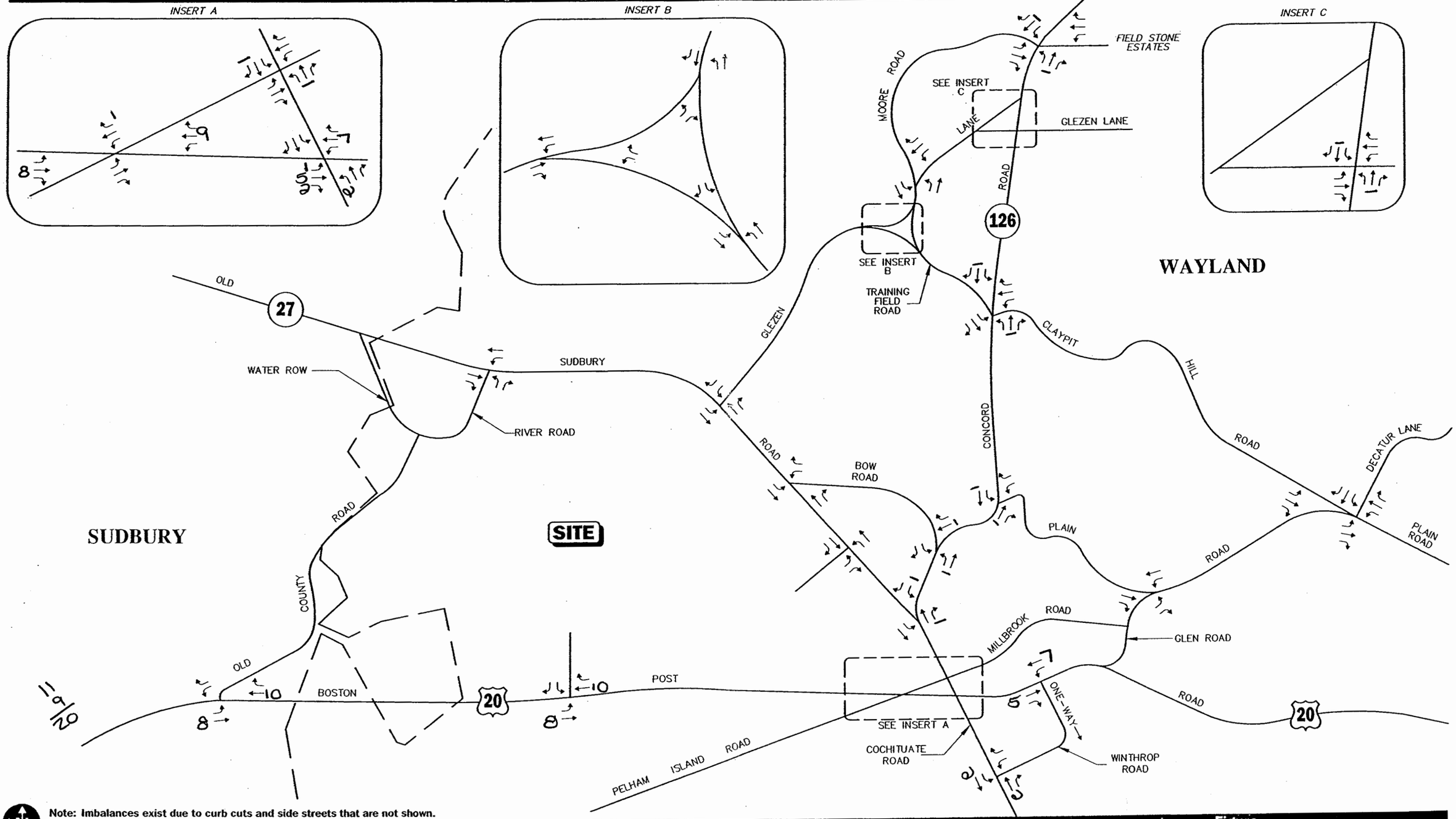


Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

- Background Development
- 66 unit 40B condo
- Saturday midday
- Peak Hour Traffic Volumes
-



Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

- Background Development
- Proposed Subdivision
- Saturday Midday Peak Hour Traffic Volumes
-

Vanasse & Associates, Inc.
Transportation Engineers & Planners

INSERT A

INSERT B

INSERT C

FIELD STONE ESTATES

MOORE ROAD

SEE INSERT C

GLEZEN LANE

LANE

ROAD

126

SEE INSERT B

TRAINING FIELD ROAD

WAYLAND

30
31
61

OLD

27

WATER ROW

SUDBURY

GLEZEN

CLAYPIT

HILL

ROAD

DECATUR LANE

RIVER ROAD

ROAD

BOW ROAD

CONCORD

PLAIN

ROAD

PLAIN ROAD

SUDBURY

SITE

COUNTY

ROAD

MILLBROOK ROAD

GLEN ROAD

OLD

BOSTON

20

POST

ROAD

20

SEE INSERT A

ONE-WAY

COCHITUATE ROAD

WINTHROP ROAD

PELHAM ISLAND ROAD

Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

- Background Development
- 48 unit Condominiums
- Sunday midday
- Peak Hour Traffic Volumes
-
-

Vanasse & Associates, Inc.
Transportation Engineers & Planners

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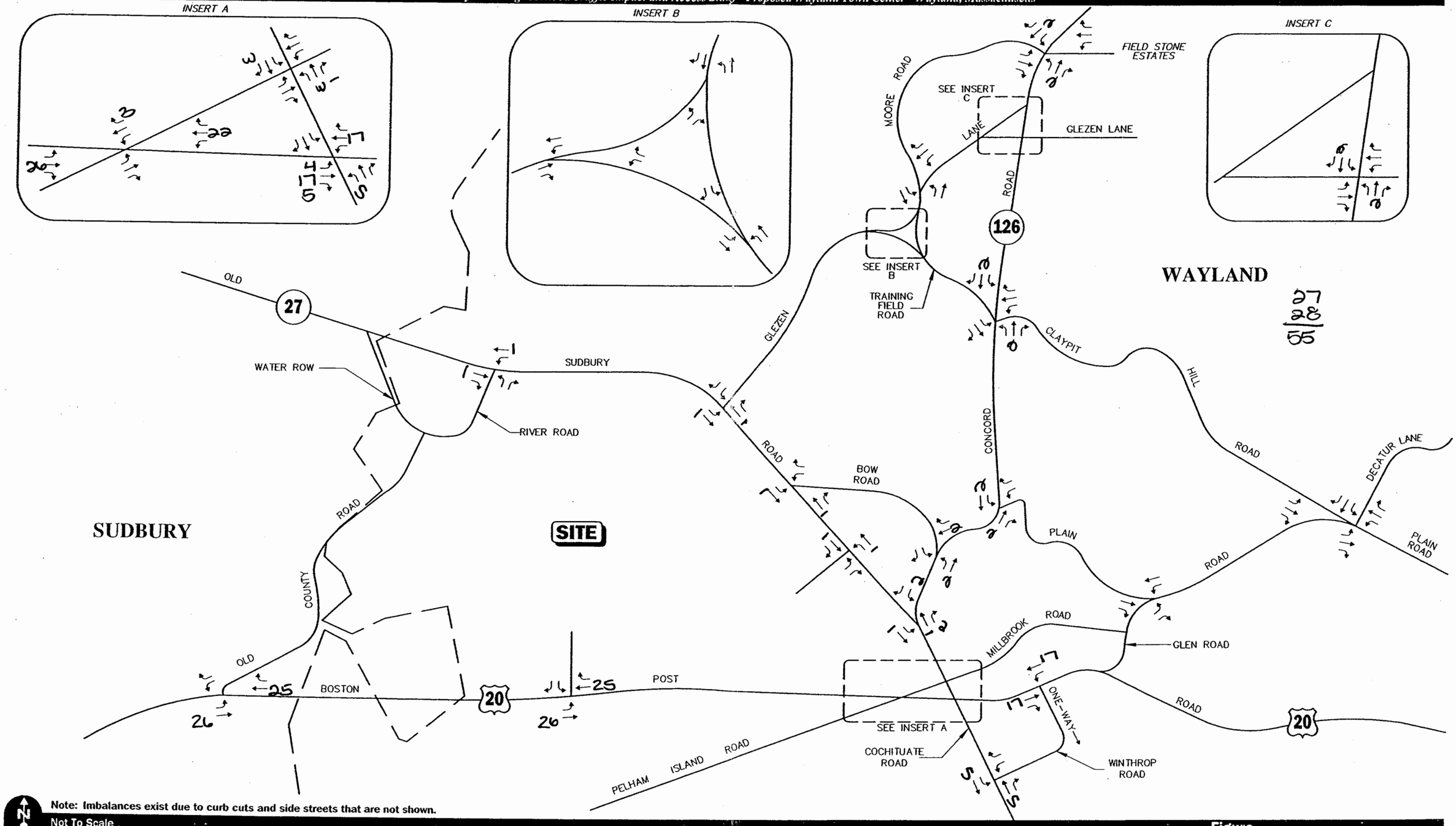

Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Vanasse & Associates, Inc.
Transportation Engineers & Planners

Figure -

- Background Development
- 23 unit Age-Restricted Condo.
- Sunday Midday
- Peak Hour Traffic Volumes
-

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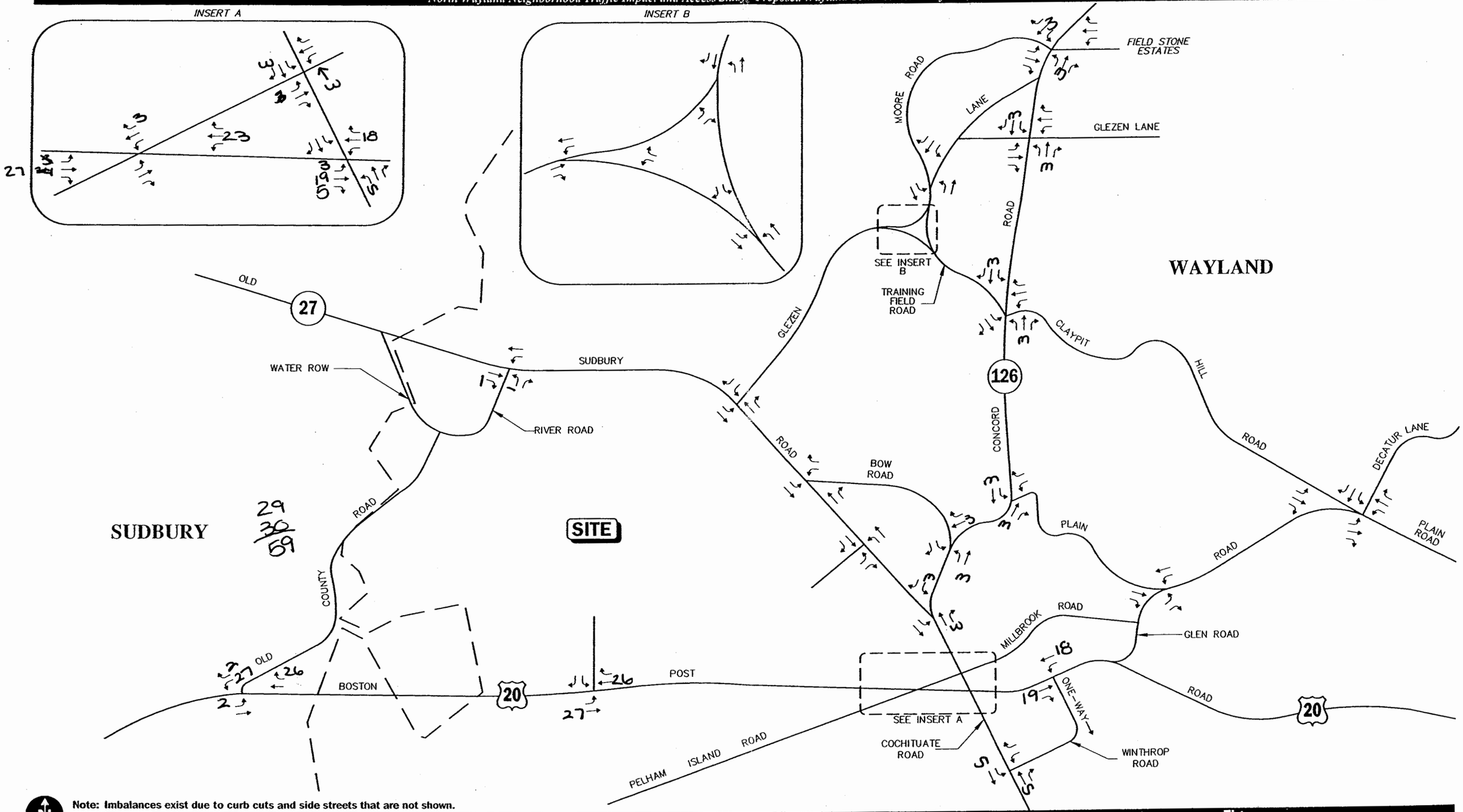

Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

- Background Development
- 37 unit 40b
- Sunday Midday
- Peak Hour Traffic Volumes
-

INSERT A

INSERT B

WAYLAND

SUDBURY

SITE

OLD 27

WATER ROW

SUDBURY

RIVER ROAD

ROAD

COUNTY

OLD

BOSTON

20

POST

GLEZEN

SEE INSERT B

TRAINING FIELD ROAD

MOORE ROAD

LANE

FIELD STONE ESTATES

GLEZEN LANE

ROAD

126

CLAYPIT

HILL

ROAD

DECATUR LANE

PLAIN ROAD

CONCORD

ROAD

BOW ROAD

PLAIN

ROAD

MILLBROOK ROAD

GLEN ROAD

ROAD

20

ONE-WAY

SEE INSERT A

COCHITUATE ROAD

WINTHROP ROAD

PELHAM ISLAND ROAD

Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

- Background Development
- Proposed BMW Dealership
- Sunday Midday
- Peak Hour Traffic Volumes

Vanasse & Associates, Inc.
Transportation Engineers & Planners

INSERT A

INSERT B

INSERT C

WAYLAND

SUDBURY

SITE

OLD 27

WATER ROW

SUDBURY

RIVER ROAD

GLEZEN

ROAD

BOW ROAD

FIELD STONE ESTATES

MOORE ROAD

SEE INSERT C

GLEZEN LANE

LANE

ROAD

126

SEE INSERT B

TRAINING FIELD ROAD

CLAYPIT

HILL

ROAD

DECATUR LANE

CONCORD

PLAIN

ROAD

PLAIN ROAD

COUNTY

ROAD

OLD

BOSTON

20

POST

MILLBROOK ROAD

GLEN ROAD

ROAD

20

ONE-WAY

SEE INSERT A

COCHITUATE ROAD

WINTHROP ROAD

PELHAM ISLAND ROAD

32
33
65

Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

- Background Development
- 66 unit HOB condo.
- Sunday Midday
- Peak Hour Traffic Volumes
-

Vanasse & Associates, Inc.
Transportation Engineers & Planners

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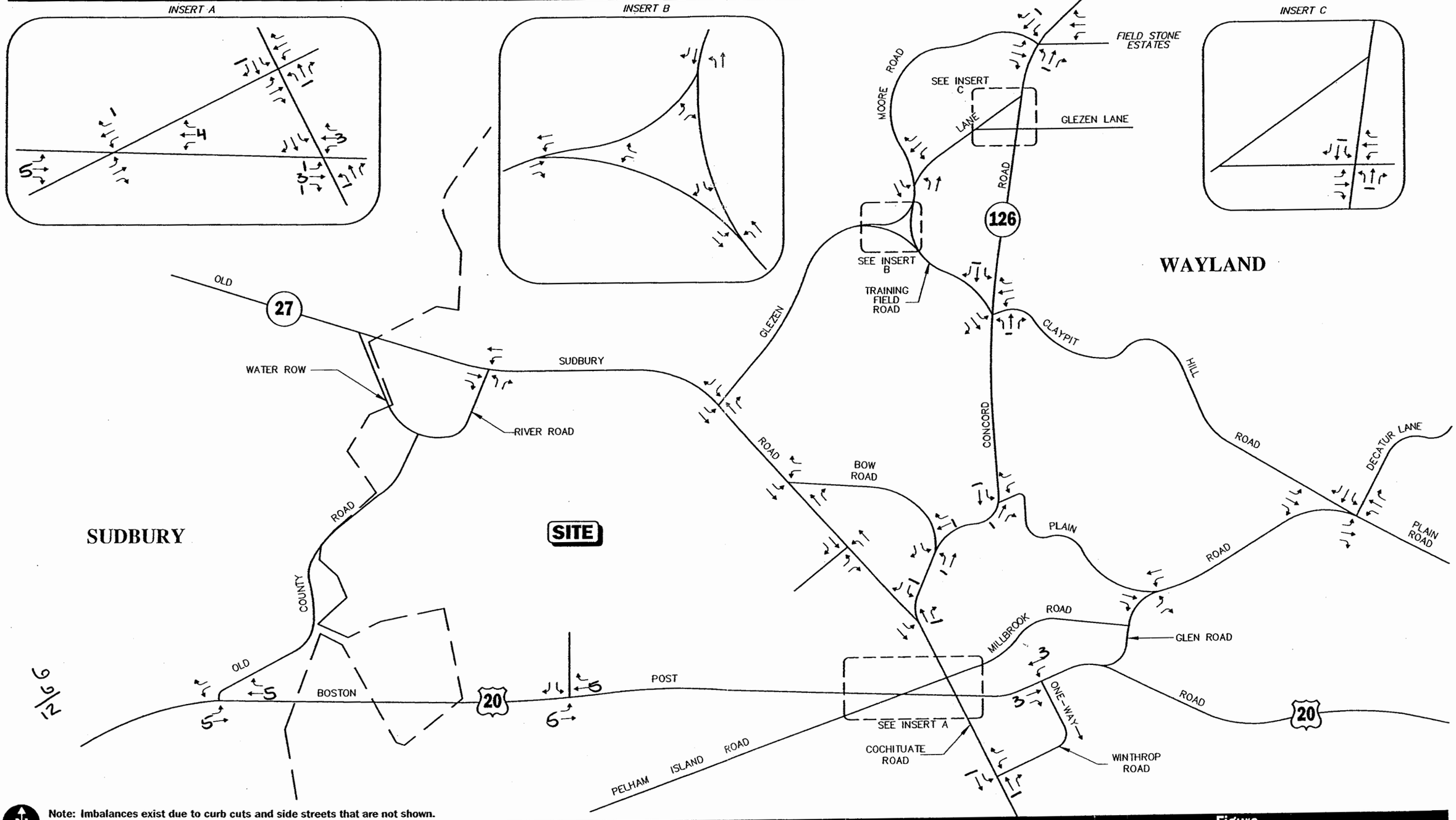


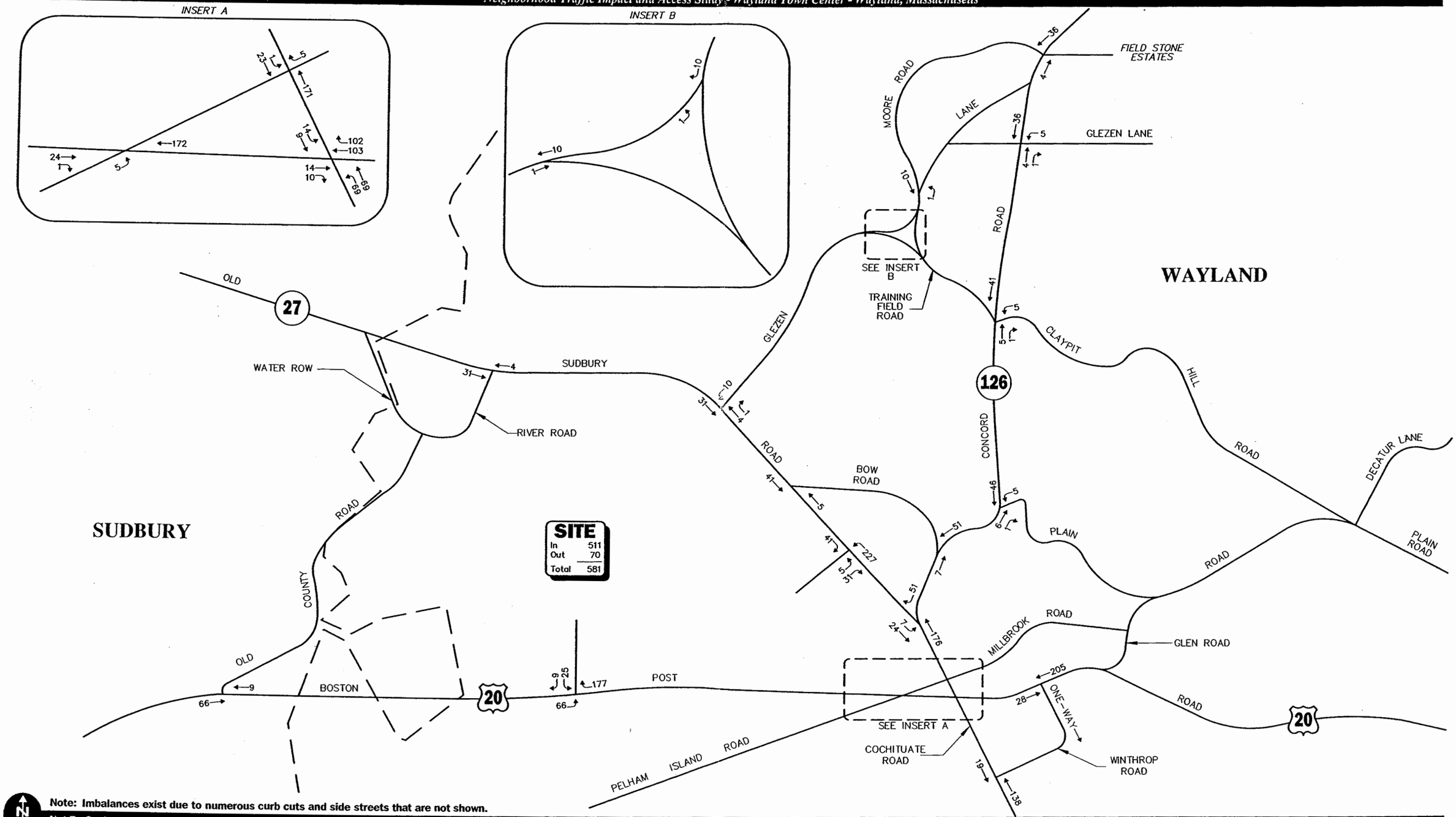
Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

- Background Development
- Proposed Subdivision
- Sunday midday
- Peak Hour Traffic Volumes
-

Vanasse & Associates, Inc.
Transportation Engineers & Planners



Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

Not To Scale

Figure A-5

As-of-Right Re-Occupancy
410,500 sf Office
Weekday Morning
Peak Hour Traffic Volumes

Vanasse & Associates, Inc.
Transportation Engineers & Planners

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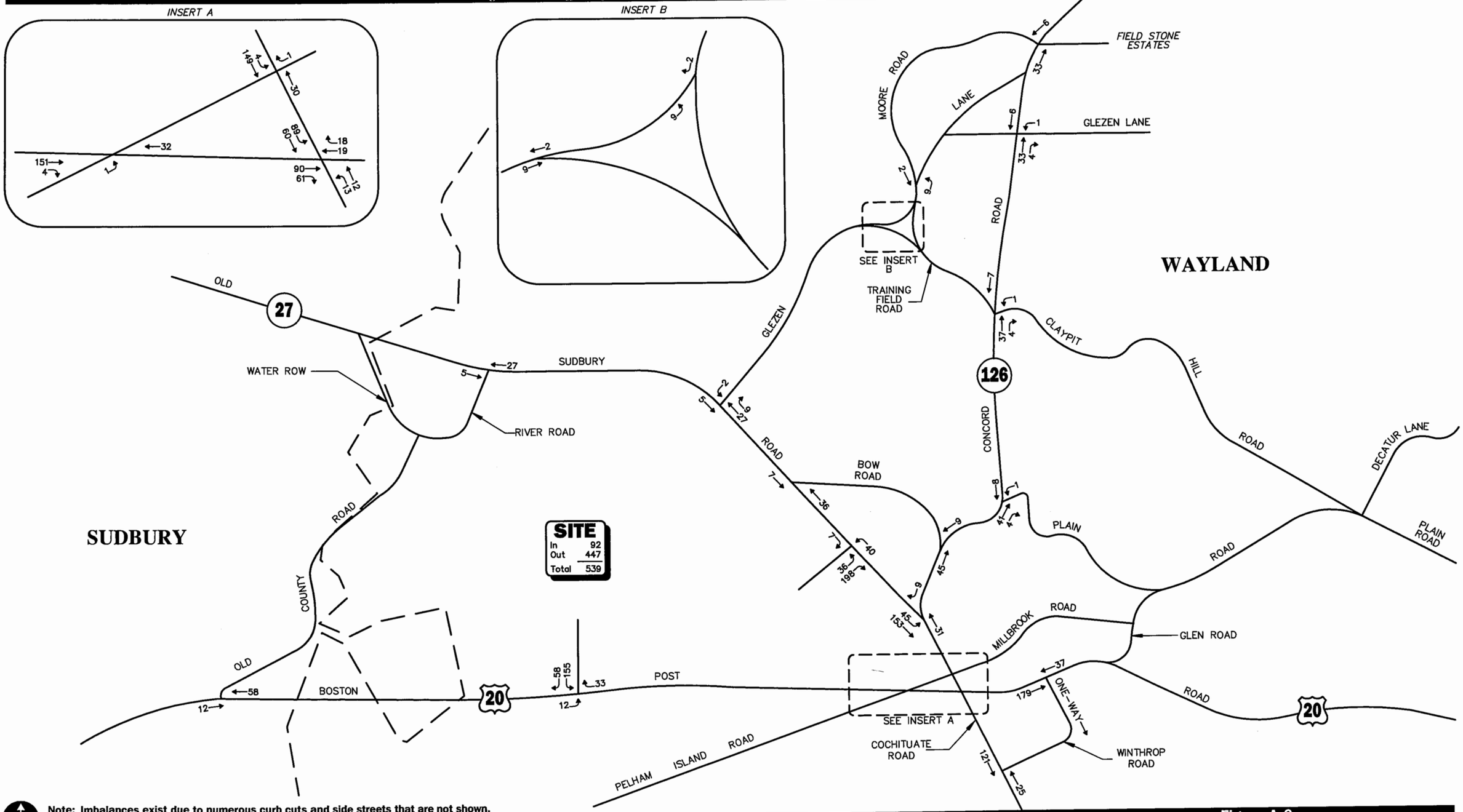

Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

Not To Scale

Figure A-6

As-of-Right Re-Occupancy
410,500 sf Office
Weekday Evening
Peak Hour Traffic Volumes

Vanasse & Associates, Inc.
Transportation Engineers & Planners

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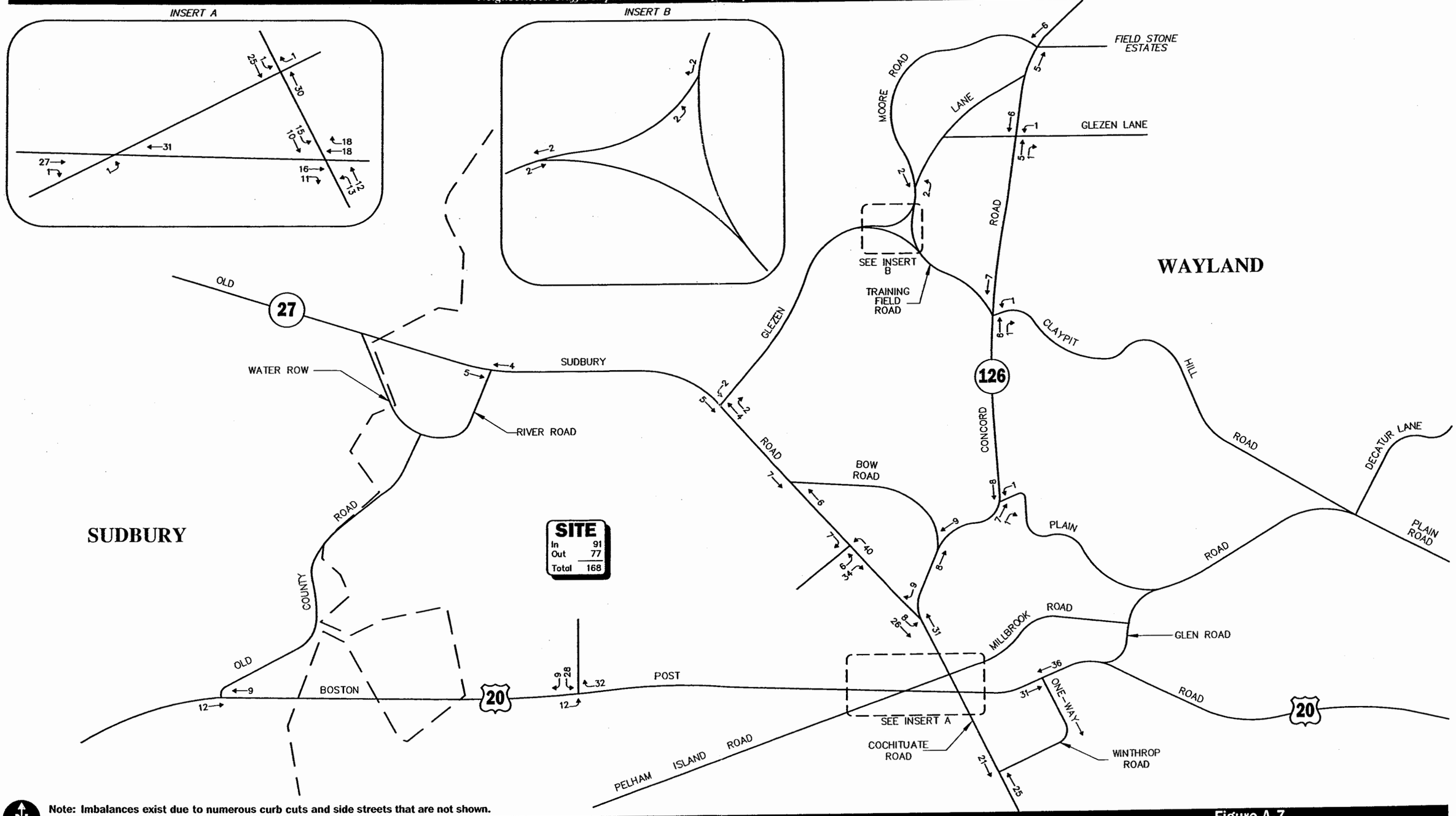

Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

Not To Scale

Figure A-7

As-of-Right Re-Occupancy
410,500 sf Office
Saturday Midday
Peak Hour Traffic Volumes

Vanasse & Associates, Inc.
Transportation Engineers & Planners

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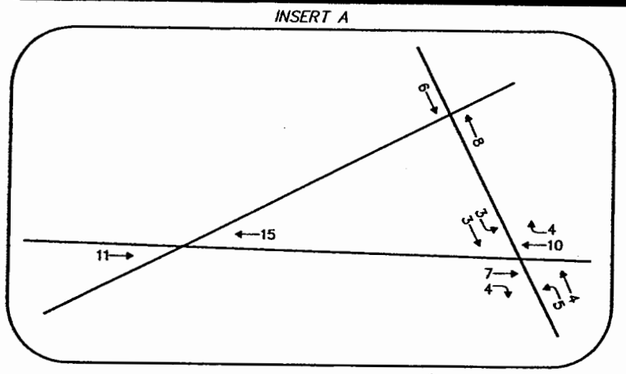

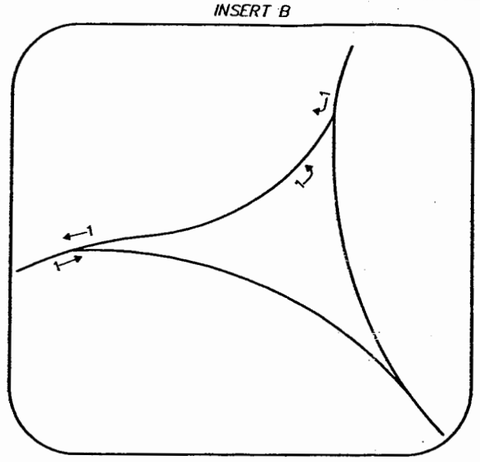

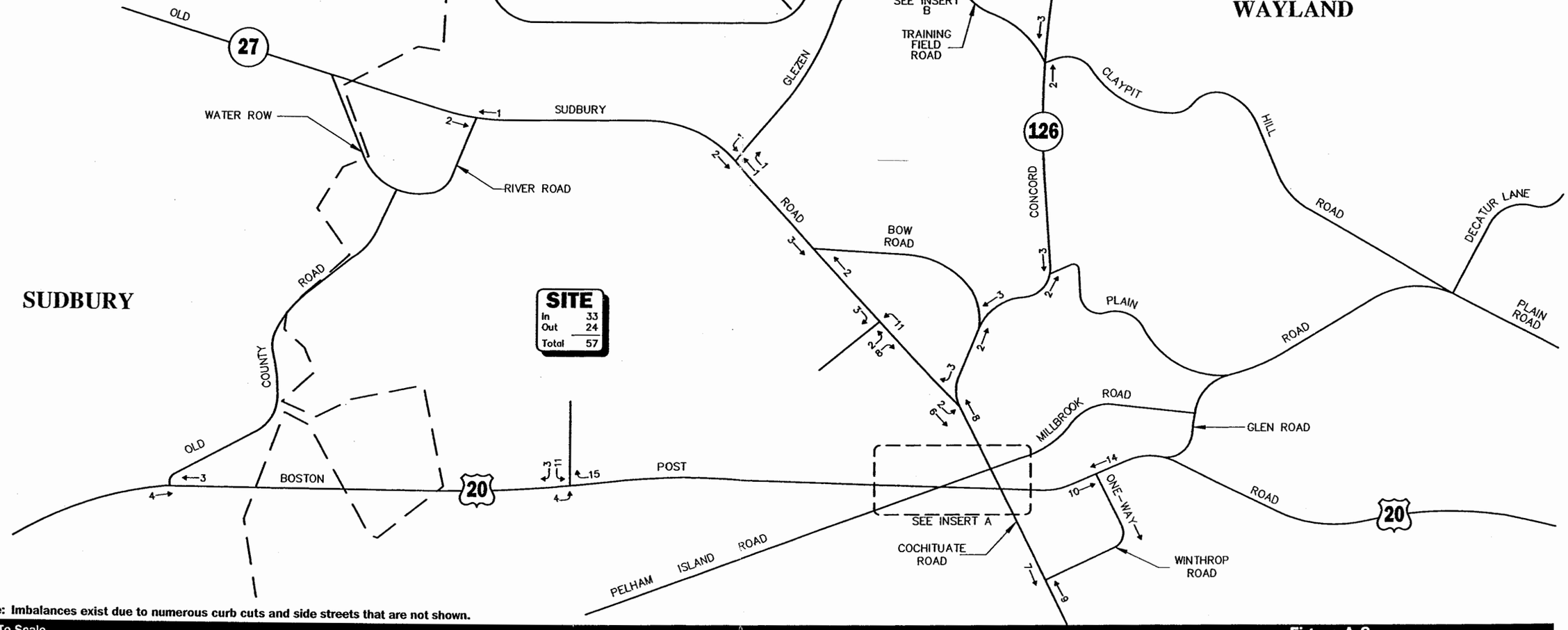

Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

Not To Scale

Figure A-8

As-of-Right Re-Occupancy
410,500 sf Office
Sunday Midday
Peak Hour Traffic Volumes

Vanasse & Associates, Inc.
Transportation Engineers & Planners

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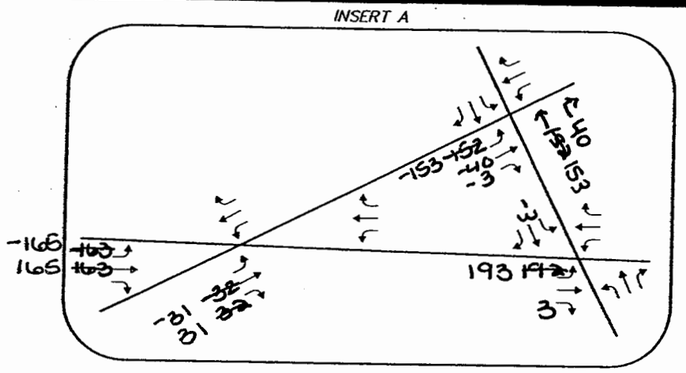
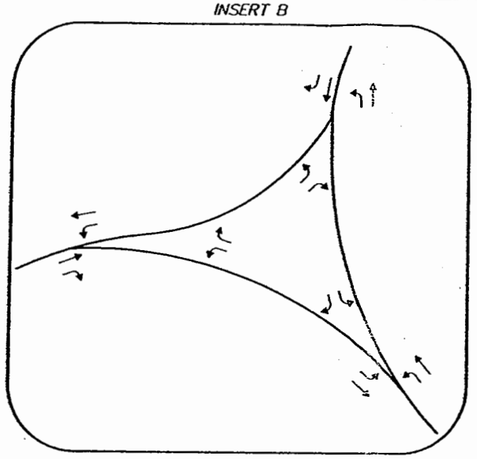
REDISTRIBUTION OF TRAFFIC ASSOCIATED WITH ROUTE 20 AND ROUTE 27/126 IMPROVEMENTS





Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

Vanasse & Associates, Inc.
Transportation Engineers & Planners

- Redistribution of Traffic
- Association with The Route 20
- and Rate 27/126 Improvement Plan
- Weekday Morning
- Peak Hour Traffic Volumes

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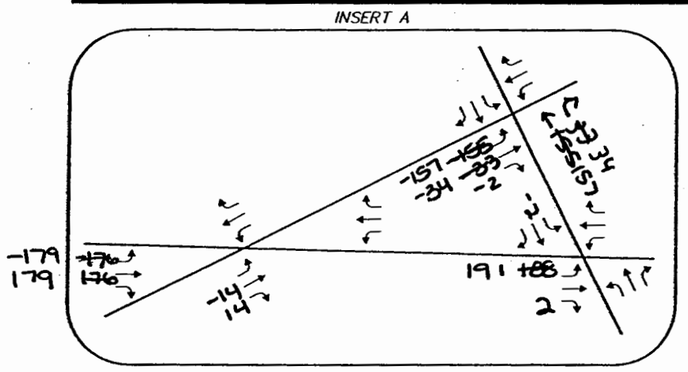
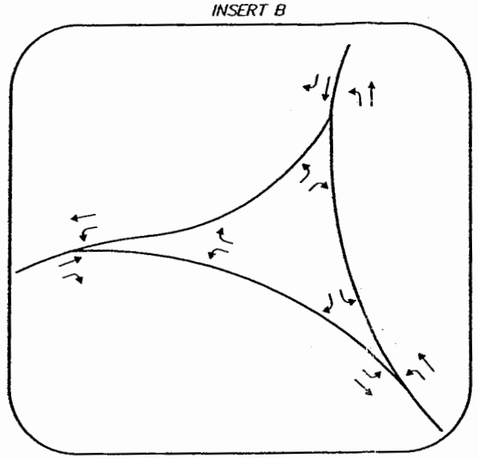




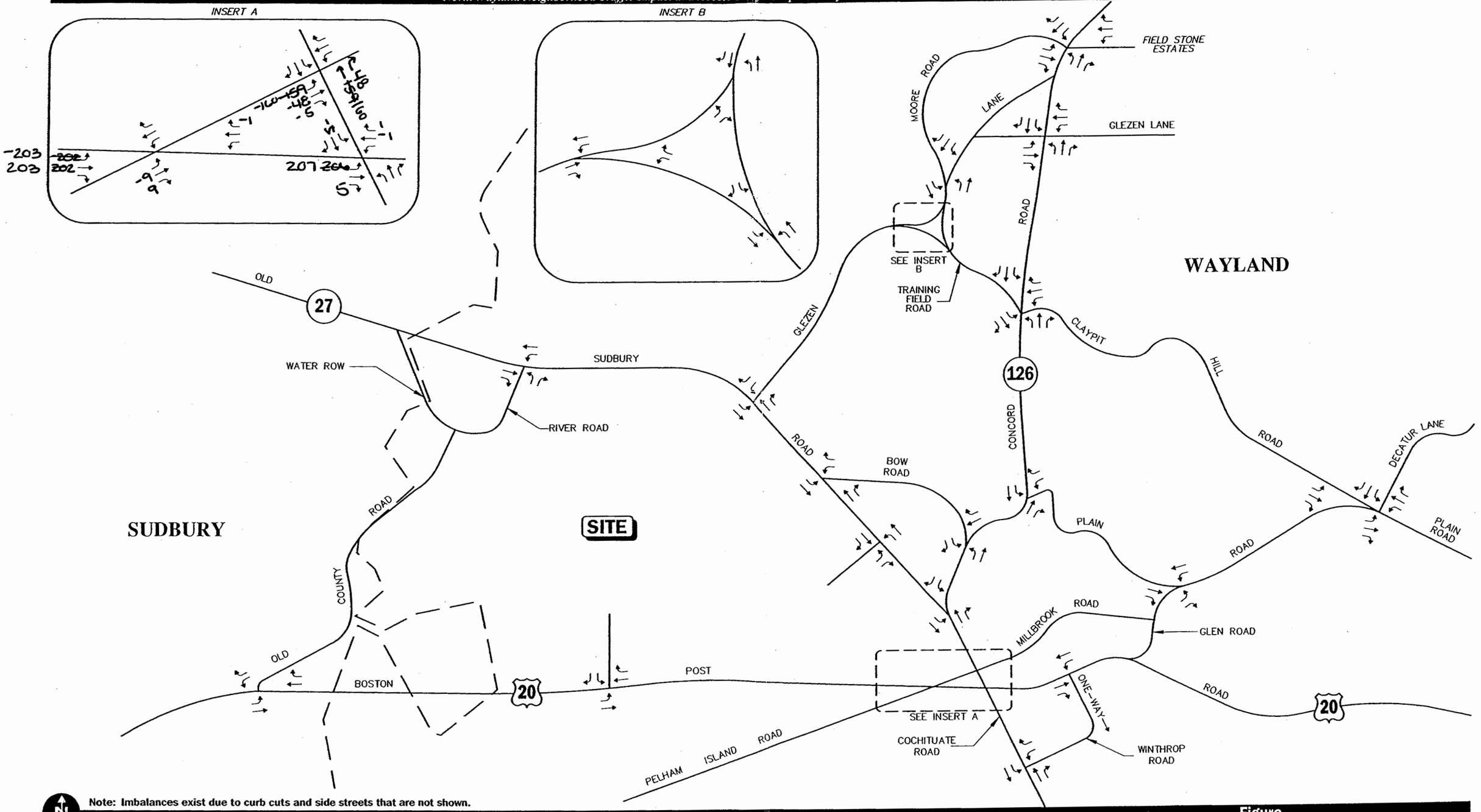
Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

- Redistribution of Traffic
- Associated with the Route 20
- and Route 27/126 Improvement Plan
- Weekday Evening
- Peak Hour Traffic Volumes

Vanasse & Associates, Inc.
Transportation Engineers & Planners



Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

- Redistribution of Traffic
- Associated with Rate 20
- and Rate 27/126 Improvements
- Saturday Midday
-

Vanasse & Associates, Inc.
Transportation Engineers & Planners

TRIP GENERATION CALCULATIONS

Institute of Transportation Engineers (ITE)
***Trip Generation,* 7th Edition**
Land Use Code (LUC) 230 - Residential Condominium/Townhouse

Average Vehicle Trips Ends vs: Dwelling Units
Independent Variable (X): 100

AVERAGE WEEKDAY DAILY
Ln T = 0.85 Ln (X) + 2.55
Ln T = 0.85 Ln 100 + (2.55)
Ln T = 6.46
T = 641.88
T = 642 vehicle trips
with 50% (321 vpd) entering and 50% (321 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC
Ln T = 0.80 Ln (X) + 0.26
Ln T = 0.80 Ln 100 + (0.26)
Ln T = 3.94
T = 51.63
T = 52 vehicle trips
with 17% (9 vph) entering and 83% (43 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC
Ln T = 0.82 Ln (X) + 0.32
Ln T = 0.82 Ln 100 + (0.32)
Ln T = 4.10
T = 60.11
T = 60 vehicle trips
with 67% (40 vph) entering and 33% (20 vph) exiting.

SATURDAY DAILY
T = 3.62 * (X) + 427.93
T = 3.62 * 100 + (427.93)
T = 789.93
T = 790 vehicle trips
with 50% (395 vpd) entering and 50% (395 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR
T = 0.29 * (X) + 42.63
T = 0.29 * 100 + (42.63)
T = 71.63
T = 72 vehicle trips
with 54% (39 vph) entering and 46% (33 vph) exiting.

SUNDAY
T = 3.13 * (X) + 357.26
T = 3.13 * 100 + (357.26)
T = 670.26
T = 670 vehicle trips
with 50% (335 vpd) entering and 50% (335 vpd) exiting.

Sunday Peak Hour of Generator
T = 0.23 * (X) + 50.01
T = 0.23 * 100 + (50.01)
T = 73.01
T = 73 vehicle trips
with 49% (36 vph) entering and 46% (37 vph) exiting.

Institute of Transportation Engineers - Trip Generation Manual, 7th Edition

ITE LUC 710 General Office — Scenario:
Size = **10** ksf — Date:
as (ksf) 47 General Office — Analyst:

Vehicle Trip Generation Calculations

Average Weekday		Dir. Dist., %	Rate = 11.01 trips/ksf Trips	Eqn. = LnT=0.77Ln(X)+3.65, R^2=0.80 Trips
	In	50%	56	114
	Out	50%	56	114
	Total	100%	112	228

Weekday Morning Peak Hour of Generator		Dir. Dist., %	Rate = 1.55 trips/ksf Trips	Eqn. = LnT=0.80Ln(X)+1.55, R^2=0.83 Trips
	In	88%	14	26
	Out	12%	2	4
	Total	100%	16	30

Weekday Morning Peak Hour of Adj Street Traffic		Dir. Dist., %	Rate = Not Given trips/ksf Trips	Eqn. = Not Given Trips
	In	-		
	Out	-		
	Total	-	-	-

Weekday Evening Peak Hour of Generator		Dir. Dist., %	Rate = 1.49 trips/ksf Trips	Eqn. = T=1.12(X)+78.81, R^2=0.82 Trips
	In	17%	3	15
	Out	83%	12	75
	Total	100%	15	90

Weekday Evening Peak Hour of Adj Street Traffic		Dir. Dist., %	Rate = Not Given trips/ksf Trips	Eqn. = Not Given Trips
	In	-		
	Out	-		
	Total	-	-	-

Average Saturday		Dir. Dist., %	Rate = 2.37 trips/ksf Trips	Eqn. = T=2.14(X)+18.47, R^2=0.66 Trips
	In	50%	12	20
	Out	50%	12	20
	Total	100%	24	40

Saturday Midday Peak Hour of Generator		Dir. Dist., %	Rate = 0.41 trips/ksf Trips	Eqn. = Ln(T)=0.81Ln(X)-0.12, R^2=0.59 Trips
	In	54%	2	3
	Out	46%	2	3

Institute of Transportation Engineers - Trip Generation Manual, 7th Edition

ITE LUC 710 General Office — Scenario:
Size = **10** ksf — Date:
as (ksf) 47 General Office — Analyst:

Vehicle Trip Generation Calculations

	Total	100%	4	6

Average Sunday		Dir. Dist., %	Rate = 0.98 trips/ksf Trips	Eqn. = Ln(T)=0.86Ln(X)+0.31, R^2=0.50 Trips
	In	50%	5	5
	Out	50%	5	5
	Total	100%	10	10

Saturday Midday Peak Hour of Generator		Dir. Dist., %	Rate = 0.14 trips/ksf Trips	Eqn. = Ln(T)=0.61Ln(X)-0.23, R^2=0.56 Trips
	In	58%	1	2
	Out	42%	0	1
	Total	100%	1	3

Institute of Transportation Engineers - Trip Generation Manual, 7th Edition

ITE LUC 590 Library
Size = **40** ksf

Vehicle Trip Generation Calculations

Average Weekday		Dir. Dist., %	Rate = 54 trips/ksf		Eqn. = LnT=0.68Ln(X)+5.04, R^2=0.83
			Trips		Trips
	In	50%	1080		949
	Out	50%	1080		949
	Total	100%	2160		1898
Weekday Morning Peak Hour of Adj Street Traffic		Dir. Dist., %	Rate = 1.06 trips/ksf		Eqn. = T = 1.32* (x) - 5.34, R2=0.83
			Trips		Trips
	In	72%	30		34
	Out	28%	12		13
	Total	100%	42		47
Weekday Morning Peak Hour of Generator		Dir. Dist., %	Rate = 4.32 trips/ksf		Eqn. = LnT=0.61Ln(X)+2.69, R^2=0.74
			Trips		Trips
	In	48%	83		67
	Out	52%	90		73
	Total	100%	173		140
Weekday Evening Peak Hour of Adj Street Traffic		Dir. Dist., %	Rate = 7.09 trips/ksf		Eqn. = LnT=0.87Ln(X)+2.27, R^2=0.67
			Trips		Trips
	In	48%	136		115
	Out	52%	148		125
	Total	100%	284		240
Weekday Evening Peak Hour of Generator		Dir. Dist., %	Rate = 7.02 trips/ksf		Eqn. = LnT=0.70Ln(X)+2.90, R^2=0.80
			Trips		Trips
	In	52%	146		126
	Out	48%	135		116
	Total	100%	281		242
Average Saturday		Dir. Dist., %	Rate = 46.55 trips/ksf		Eqn. = None
			Trips		
	In	50%	931		
	Out	50%	931		
	Total	100%	1862		
Saturday Midday Peak Hour of Generator		Dir. Dist., %	Rate = 6.75 trips/ksf		Eqn. = None
			Trips		
	In	53%	143		
	Out	47%	127		
	Total	100%	270		

Institute of Transportation Engineers - Trip Generation Manual, 7th Edition

ITE LUC 590 Library
Size = **40** ksf

Vehicle Trip Generation Calculations

Average Sunday		Dir. Dist., %	Rate =	25.49 trips/ksf Trips	Eqn. = None
	In	50%		510	
	Out	50%		510	
	Total	100%		1020	
Average Sunday Peak Hour of Generator		Dir. Dist., %	Rate =	5.14 trips/ksf Trips	Eqn. = None
	In	53%		109	
	Out	47%		97	
	Total	100%		206	

Institute of Transportation Engineers - Trip Generation Manual, 7th Edition

ITE LUC 820 Shopping Center — Scenario:
Size = **155** ksf — Date:
as (ksf) — Analyst:

Vehicle Trip Generation Calculations

Average Weekday	Dir.	Dist., %	Rate = 42.94 trips/ksf Trips	Eqn. = LnT=0.65Ln(X)+5.83, R^2=0.78 Trips
	In	50%	3328	4515
	Out	50%	3328	4515
	Total	100%	6656	9030

Weekday Morning Peak Hour of Adj Street Traffic	Dir.	Dist., %	Rate = 1.03 trips/ksf Trips	Eqn. = LnT=0.600Ln(X)+2.29, R^2=0.52 Trips
	In	61%	98	124
	Out	39%	62	80
	Total	100%	160	204

Weekday Morning Peak Hour of Generator	Dir.	Dist., %	Rate = Not Given trips/ksf Trips	Eqn. = Not Given Trips
	In	-		
	Out	-		
	Total	-	-	-

Weekday Evening Peak Hour of Adj Street Traffic	Dir.	Dist., %	Rate = 3.75 trips/ksf Trips	Eqn. = Ln(T)=0.660Ln(X)+3.40, R^2=0.81 Trips
	In	48%	279	401
	Out	52%	302	435
	Total	100%	581	836

Weekday Evening Peak Hour of Generator	Dir.	Dist., %	Rate = Not Given trips/ksf Trips	Eqn. = Not Given Trips
	In	-		
	Out	-		
	Total	-	-	-

Average Saturday	Dir.	Dist., %	Rate = 49.97 trips/ksf Trips	Eqn. = Ln(T)=0.63Ln(X)+6.23, R^2=0.82 Trips
	In	50%	3873	6089
	Out	50%	3873	6089
	Total	100%	7746	12178

Saturday Midday Peak Hour of Generator	Dir.	Dist., %	Rate = 4.97 trips/ksf Trips	Eqn. = Ln(T)=0.65Ln(X)+3.77, R^2=0.84 Trips
	In	52%	400	599
	Out	48%	370	552

Institute of Transportation Engineers - Trip Generation Manual, 7th Edition

ITE LUC 820 Shopping Center — Scenario:
Size = 155 ksf — Date:
as (ksf) — Analyst:

Vehicle Trip Generation Calculations

	Total	100%	770	1151

Average Sunday		Dir. Dist., %	Rate = 25.24 trips/ksf Trips	Eqn. = T = 15.63 * X +4214.46 R^2 = 0.52 Trips
	In	50%	1957	3319
	Out	50%	1957	3319
	Total	100%	3914	6638

Sunday Midday Peak Hour of Generator		Dir. Dist., %	Rate = 3.12 trips/ksf Trips	Eqn. = None
	In	49%	237	
	Out	51%	247	
	Total	100%	484	

Institute of Transportation Engineers (ITE)
Trip Generation, 7th Edition
Land Use Code (LUC) 730 - Government Office Building

Average Vehicle Trips Ends vs: 1,000 Square Feet Gross Floor Area
Independent Variable (X): 40.000

AVERAGE WEEKDAY DAILY

T = 68.93 * (X)
T = 68.93 * 40.00
T = 2757.20
T = 2,758 vehicle trips
with 50% (1,379 vpd) entering and 16% (1,379 vpd) exiting.

WEEKDAY MORNING PEAK HOUR

T = 5.88 * (X)
T = 5.88 * 40.00
T = 235.20
T = 235 vehicle trips
with 84% (197 vph) entering and 16% (38 vph) exiting.

WEEKDAY EVENING PEAK HOUR

T = 1.21 * (X)
T = 1.21 * 40
T = 48.40
T = 48 vehicle trips
with 31% (15 vph) entering and 69% (33 vph) exiting.

Institute of Transportation Engineers - Trip Generation Manual, 7th Edition

ITE LUC 733 Government Office Complex

Size = **40** ksf

Vehicle Trip Generation Calculations

Average Weekday		Dir. Dist., %	Rate =	27.92 trips/ksf Trips	Eqn. =	Trips
	In	50%		559		0
	Out	50%		559		0
	Total	100%		1118		0
Weekday Morning Peak Hour of Adj Street Traffic		Dir. Dist., %	Rate =	2.21 trips/ksf Trips	Eqn. =	Trips
	In	89%		78		0
	Out	11%		10		0
	Total	100%		88		0
Weekday Morning Peak Hour of Generator		Dir. Dist., %	Rate =	0 trips/ksf Trips	Eqn. =	Trips
	In	49%		0		0
	Out	51%		0		0
	Total	100%		0		0
Weekday Evening Peak Hour of Adj Street Traffic		Dir. Dist., %	Rate =	2.85 trips/ksf Trips	Eqn. =	Trips
	In	31%		35		0
	Out	69%		79		0
	Total	100%		114		0
Weekday Evening Peak Hour of Generator		Dir. Dist., %	Rate =	0 trips/ksf Trips	Eqn. =	Trips
	In	51%		0		0
	Out	49%		0		0
	Total	100%		0		0
Average Saturday		Dir. Dist., %	Rate =	0 trips/ksf Trips	Eqn. =	Trips
	In	50%		0		0
	Out	50%		0		0
	Total	100%		0		0
Saturday Midday Peak Hour of Generator		Dir. Dist., %	Rate =	0 trips/ksf Trips	Eqn. =	Trips
	In	55%		0		0
	Out	45%		0		0
	Total	100%		0		0

PARKING ANALYSIS

Wayland Town Center
Weekday Parking Demand
(December Conditions)
ITE Formula

Land Use	Parking Demand[a]	Size		Parking Spaces	
Retail	5.07	92.900	ksf	471	Based on ITE Parking 3rd Edition Friday (December) LUC 820
Supermarket	4.66	45.000	ksf	210	Based on ITE Parking 3rd Edition Weekday, Suburban Location, LUC 850
Restaurant	13.30	17.100	ksf	227	Based on ITE Parking 3rd Edition Weekday, Suburban Location, LUC 932
Residential	2.00	100	units	200	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 221
Office	5.21	10	ksf	52	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 701
Municipal	2.61	40	ksf	104	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 590
			TOTAL	**1265**	

[a]Parking demand per 1,000 sf for retail and supermarket uses and per unit for residential use.

ksf = 1,000 sf of gross floor area for office uses and grossleasable area for retail use.

	Parking Rates						Parking Demand						Total	
Time of Day	**Retail**	**Supermarket**	**Restaurant**	**Office**	**Residential**	**Municipal**	**Retail**	**Supermarket**	**Restaurant**	**Office**	**Residential**	**Municipal**		
6:00 AM	0.00	0.00	0.00	0.06	1.00	0.00	0	0	0	3	200	0	203	
7:00 AM	0.05	0.08	0.00	0.56	1.00	0.00	24	17	0	29	200	0	270	
8:00 AM	0.55	0.18	0.00	0.86	1.00	0.15	259	38	0	45	200	16	557	
9:00 AM	0.76	0.42	0.06	0.97	1.00	0.42	358	88	14	51	200	44	754	
10:00 AM	0.77	0.58	0.08	1.00	1.00	0.65	363	122	18	52	200	68	823	
11:00 AM	0.92	0.66	0.26	0.98	1.00	0.76	433	139	59	51	200	79	961	
12:00 PM	1.00	0.93	0.50	0.87	1.00	0.51	471	195	114	45	200	53	1,078	**Peak Parking**
1:00 PM	1.00	1.00	0.35	0.75	1.00	0.72	471	210	80	39	200	75	1,075	
2:00 PM	0.90	0.90	0.31	0.84	1.00	0.75	424	189	71	44	200	78	1,005	
3:00 PM	0.88	0.94	0.22	0.87	1.00	1.00	414	197	50	45	200	104	1,012	
4:00 PM	0.87	0.97	0.25	0.75	1.00	0.85	410	204	57	39	200	89	998	
5:00 PM	0.87	0.82	0.73	0.43	1.00	0.79	410	172	166	22	200	82	1,053	
6:00 PM	0.85	0.62	1.00	0.23	1.00	0.46	400	130	227	12	200	48	1,018	
7:00 PM	0.84	0.47	1.00	0.07	1.00	0.98	396	99	227	4	200	102	1,028	
8:00 PM	0.87	0.42	0.80	0.07	1.00	0.83	410	88	182	4	200	87	970	
9:00 PM	0.42	0.37	0.58	0.03	1.00	0.00	198	78	132	2	200	0	609	
10:00 PM	0.10	0.32	0.30	0.03	1.00	0.00	47	67	68	2	200	0	384	

Total Provided **1,200**
Total Required **1,078**

Wayland Town Center
Weekday Parking Demand
(December Conditions)
ITE Average Rate

Land Use	Parking Demand[a]	Size		Parking Spaces	
Retail	4.01	92.900	ksf	373	Based on ITE Parking 3rd Edition Friday (December) LUC 820
Supermarket	4.36	45.000	ksf	196	Based on ITE Parking 3rd Edition Weekday, Suburban Location, LUC 850
Restaurant	13.30	17.100	ksf	227	Based on ITE Parking 3rd Edition Weekday, Suburban Location, LUC 932
Residential	2.00	100	units	200	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 221
Office	2.84	10	ksf	28	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 701
Municipal	2.61	40	ksf	104	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 590
			TOTAL	**1129**	

[a]Parking demand per 1,000 sf for retail and supermarket uses and per unit for residential use.
ksf = 1,000 sf of gross floor area for office uses and grossleasable area for retail use.

	Parking Rates						Parking Demand						Total	
Time of Day	Retail	Supermarket	Restaurant	Office	Residential	Municipal	Retail	Supermarket	Restaurant	Office	Residential	Municipal		
6:00 AM	0.00	0.00	0.00	0.06	1.00	0.00	0	0	0	2	200	0	202	
7:00 AM	0.05	0.08	0.00	0.56	1.00	0.00	19	16	0	16	200	0	250	
8:00 AM	0.55	0.18	0.00	0.86	1.00	0.15	205	35	0	24	200	16	481	
9:00 AM	0.76	0.42	0.06	0.97	1.00	0.42	283	82	14	28	200	44	651	
10:00 AM	0.77	0.58	0.08	1.00	1.00	0.65	287	114	18	28	200	68	715	
11:00 AM	0.92	0.66	0.26	0.98	1.00	0.76	343	129	59	28	200	79	839	
12:00 PM	1.00	0.93	0.50	0.87	1.00	0.51	373	182	114	25	200	53	947	
1:00 PM	1.00	1.00	0.35	0.75	1.00	0.72	373	196	80	21	200	75	945	
2:00 PM	0.90	0.90	0.31	0.84	1.00	0.75	336	177	71	24	200	78	885	
3:00 PM	0.88	0.94	0.22	0.87	1.00	1.00	328	184	50	25	200	104	892	
4:00 PM	0.87	0.97	0.25	0.75	1.00	0.85	325	190	57	21	200	89	882	
5:00 PM	0.87	0.82	0.73	0.43	1.00	0.79	325	161	166	12	200	82	946	
6:00 PM	0.85	0.62	1.00	0.23	1.00	0.46	317	122	227	7	200	48	921	
7:00 PM	0.84	0.47	1.00	0.07	1.00	0.98	313	92	227	2	200	102	937	**Peak Parking**
8:00 PM	0.87	0.42	0.80	0.07	1.00	0.83	325	82	182	2	200	87	877	
9:00 PM	0.42	0.37	0.58	0.03	1.00	0.00	157	73	132	1	200	0	562	
10:00 PM	0.10	0.32	0.30	0.03	1.00	0.00	37	63	68	1	200	0	369	

Total Provided **1,200**
Total Required **937**

Wayland Town Center
Saturday Parking Demand
(December Conditions)
ITE Formula

Land Use	Parking Demand[a]	Size		Parking Spaces	
Retail	6.10	92.900	ksf	566	Based on ITE Parking 3rd Edition Saturday (Non-December) LUC 820
Supermarket	5.25	45.000	ksf	236	Based on ITE Parking 3rd Edition Saturday Suburban Location, LUC 850
Restaurant	16.30	17.100	ksf	279	Based on ITE Parking 3rd Edition Saturday Suburban Location, LUC 932
Residential	2.00	100	units	200	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 221 (No Sat Suburban data)
Office	5.21	10	ksf	52	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 701 (No Sat data)
Municipal	2.61	40	ksf	104	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 590 (No Sat data)
			TOTAL	**1437**	

[a]Parking demand per 1,000 sf for retail and supermarket uses and per unit for residential use.
ksf = 1,000 sf of gross floor area for office uses and grossleasable area for retail use.

	Parking Rates						Parking Demand						Total	
Time of Day	Retail	Supermarket	Restaurant	Office	Residential	Municipal	Retail	Supermarket	Restaurant	Office	Residential	Municipal		
6:00 AM	0.00	0.00	0.00	0.06	1.00	0.00	0	0	0	3	200	0	203	
7:00 AM	0.13	0.08	0.00	0.56	1.00	0.00	74	19	0	29	200	0	322	
8:00 AM	0.27	0.18	0.00	0.86	1.00	0.15	153	43	0	45	200	16	456	
9:00 AM	0.61	0.42	0.04	0.97	1.00	0.42	345	99	11	51	200	44	750	
10:00 AM	0.78	0.58	0.06	1.00	1.00	0.65	441	137	17	52	200	68	915	
11:00 AM	0.94	0.66	0.17	0.98	1.00	0.76	532	156	47	51	200	79	1,066	
12:00 PM	1.00	0.91	0.36	0.87	1.00	0.51	566	215	100	45	200	53	1,180	
1:00 PM	0.93	1.00	0.46	0.75	1.00	0.72	526	236	128	39	200	75	1,205	
2:00 PM	0.95	0.95	0.41	0.84	1.00	0.75	538	224	114	44	200	78	1,198	
3:00 PM	0.94	0.98	0.34	0.87	1.00	1.00	532	232	95	45	200	104	1,208	**Peak Parking**
4:00 PM	0.87	0.89	0.55	0.75	1.00	0.85	492	210	153	39	200	89	1,184	
5:00 PM	0.81	0.72	0.67	0.43	1.00	0.79	458	170	187	22	200	82	1,120	
6:00 PM	0.69	0.72	1.00	0.23	1.00	0.46	391	170	279	12	200	48	1,099	
7:00 PM	0.52	0.47	1.00	0.07	1.00	0.98	294	111	279	4	200	102	990	
8:00 PM	0.53	0.42	1.00	0.07	1.00	0.83	300	99	279	4	200	87	968	
9:00 PM	0.44	0.37	0.29	0.03	1.00	0.00	249	87	81	2	200	0	619	
10:00 PM	0.29	0.32	0.08	0.03	1.00	0.00	164	76	22	2	200	0	464	

Total Provided **1,200**
Total Required **1,208**

Wayland Town Center
Saturday Parking Demand
(December Conditions)
Average Rate

Land Use	Parking Demand[a]	Size		Parking Spaces	
Retail	4.74	92.900	ksf	440	Based on ITE Parking 3rd Edition Saturday (Non-December) LUC 820
Supermarket	4.75	45.000	ksf	214	Based on ITE Parking 3rd Edition Saturday Suburban Location, LUC 850
Restaurant	16.30	17.100	ksf	279	Based on ITE Parking 3rd Edition Saturday Suburban Location, LUC 932
Residential	2.00	100	units	200	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 221 (No Sat Suburban data)
Office	2.84	10	ksf	28	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 701 (No Sat data)
Municipal	2.61	40	ksf	104	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 590 (No Sat data)
			TOTAL	**1265**	

[a]Parking demand per 1,000 sf for retail and supermarket uses and per unit for residential use.

ksf = 1,000 sf of gross floor area for office uses and grossleasable area for retail use.

	Parking Rates						Parking Demand						Total	
Time of Day	Retail	Supermarket	Restaurant	Office	Residential	Municipal	Retail	Supermarket	Restaurant	Office	Residential	Municipal		
6:00 AM	0.00	0.00	0.00	0.06	1.00	0.00	0	0	0	2	200	0	202	
7:00 AM	0.13	0.08	0.00	0.56	1.00	0.00	57	17	0	16	200	0	290	
8:00 AM	0.27	0.18	0.00	0.86	1.00	0.15	119	38	0	24	200	16	397	
9:00 AM	0.61	0.42	0.04	0.97	1.00	0.42	268	90	11	28	200	44	641	
10:00 AM	0.78	0.58	0.06	1.00	1.00	0.65	343	124	17	28	200	68	780	
11:00 AM	0.94	0.66	0.17	0.98	1.00	0.76	414	141	47	28	200	79	909	
12:00 PM	1.00	0.91	0.36	0.87	1.00	0.51	440	195	100	25	200	53	1,013	
1:00 PM	0.93	1.00	0.46	0.75	1.00	0.72	409	214	128	21	200	75	1,048	**Peak Parking**
2:00 PM	0.95	0.95	0.41	0.84	1.00	0.75	418	203	114	24	200	78	1,037	
3:00 PM	0.94	0.98	0.34	0.87	1.00	1.00	414	209	95	25	200	104	1,047	
4:00 PM	0.87	0.89	0.55	0.75	1.00	0.85	383	190	153	21	200	89	1,036	
5:00 PM	0.81	0.72	0.67	0.43	1.00	0.79	356	154	187	12	200	82	992	
6:00 PM	0.69	0.72	1.00	0.23	1.00	0.46	304	154	279	7	200	48	991	
7:00 PM	0.52	0.47	1.00	0.07	1.00	0.98	229	100	279	2	200	102	912	
8:00 PM	0.53	0.42	1.00	0.07	1.00	0.83	233	90	279	2	200	87	890	
9:00 PM	0.44	0.37	0.29	0.03	1.00	0.00	194	79	81	1	200	0	554	
10:00 PM	0.29	0.32	0.08	0.03	1.00	0.00	128	68	22	1	200	0	419	

Total Provided **1,200**
Total Required **1,048**

Wayland Town Center
Weekday Parking Demand
(Non-December Conditions)
ITE Formula

Land Use	Parking Demand[a]	Size		Parking Spaces	
Retail	2.36	92.900	ksf	219	Based on ITE Parking 3rd Edition Friday (Non-December) LUC 820
Supermarket	4.66	45.000	ksf	210	Based on ITE Parking 3rd Edition Weekday, Suburban Location, LUC 850
Restaurant	13.30	17.100	ksf	227	Based on ITE Parking 3rd Edition Weekday, Suburban Location, LUC 932
Residential	2.00	100	units	200	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 221
Office	5.21	10	ksf	52	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 701
Municipal	2.61	40	ksf	104	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 590
			TOTAL	**1013**	

[a]Parking demand per 1,000 sf for retail and supermarket uses and per unit for residential use.
ksf = 1,000 sf of gross floor area for office uses and grossleasable area for retail use.

	Parking Rates						Parking Demand						Total	
Time of Day	Retail	Supermarket	Restaurant	Office	Residential	Municipal	Retail	Supermarket	Restaurant	Office	Residential	Municipal		
6:00 AM	0.00	0.00	0.00	0.06	1.00	0.00	0	0	0	3	200	0	203	
7:00 AM	0.05	0.08	0.00	0.56	1.00	0.00	11	17	0	29	200	0	257	
8:00 AM	0.18	0.18	0.00	0.86	1.00	0.15	39	38	0	45	200	16	338	
9:00 AM	0.38	0.42	0.06	0.97	1.00	0.42	83	88	14	51	200	44	479	
10:00 AM	0.53	0.58	0.08	1.00	1.00	0.65	116	122	18	52	200	68	576	
11:00 AM	0.86	0.66	0.26	0.98	1.00	0.76	188	139	59	51	200	79	716	
12:00 PM	1.00	0.93	0.50	0.87	1.00	0.51	219	195	114	45	200	53	826	**Peak Parking**
1:00 PM	0.98	1.00	0.35	0.75	1.00	0.72	215	210	80	39	200	75	818	
2:00 PM	0.91	0.90	0.31	0.84	1.00	0.75	199	189	71	44	200	78	781	
3:00 PM	0.86	0.94	0.22	0.87	1.00	1.00	188	197	50	45	200	104	785	
4:00 PM	0.81	0.97	0.25	0.75	1.00	0.85	177	204	57	39	200	89	766	
5:00 PM	0.57	0.82	0.73	0.43	1.00	0.79	125	172	166	22	200	82	768	
6:00 PM	0.69	0.62	1.00	0.23	1.00	0.46	151	130	227	12	200	48	769	
7:00 PM	0.82	0.47	1.00	0.07	1.00	0.98	180	99	227	4	200	102	812	
8:00 PM	0.70	0.42	0.80	0.07	1.00	0.83	153	88	182	4	200	87	714	
9:00 PM	0.42	0.37	0.58	0.03	1.00	0.00	92	78	132	2	200	0	503	
10:00 PM	0.10	0.32	0.30	0.03	1.00	0.00	22	67	68	2	200	0	359	

Total Provided **1,200**
Total Required **826**

Wayland Town Center
Weekday Parking Demand
(Non-December Conditions)
ITE Average Rate

Land Use	Parking Demand[a]	Size		Parking Spaces	
Retail	3.02	92.900	ksf	281	Based on ITE Parking 3rd Edition Friday (Non-December) LUC 820
Supermarket	4.36	45.000	ksf	196	Based on ITE Parking 3rd Edition Weekday, Suburban Location, LUC 850
Restaurant	13.30	17.100	ksf	227	Based on ITE Parking 3rd Edition Weekday, Suburban Location, LUC 932
Residential	2.00	100	units	200	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 221
Office	2.84	10	ksf	28	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 701
Municipal	2.61	40	ksf	104	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 590
			TOTAL	**1037**	

[a]Parking demand per 1,000 sf for retail and supermarket uses and per unit for residential use.
ksf = 1,000 sf of gross floor area for office uses and grossleasable area for retail use.

	Parking Rates						Parking Demand						Total	
Time of Day	Retail	Supermarket	Restaurant	Office	Residential	Municipal	Retail	Supermarket	Restaurant	Office	Residential	Municipal		
6:00 AM	0.00	0.00	0.00	0.06	1.00	0.00	0	0	0	2	200	0	202	
7:00 AM	0.05	0.08	0.00	0.56	1.00	0.00	14	16	0	16	200	0	246	
8:00 AM	0.18	0.18	0.00	0.86	1.00	0.15	51	35	0	24	200	16	326	
9:00 AM	0.38	0.42	0.06	0.97	1.00	0.42	107	82	14	28	200	44	474	
10:00 AM	0.53	0.58	0.08	1.00	1.00	0.65	149	114	18	28	200	68	577	
11:00 AM	0.86	0.66	0.26	0.98	1.00	0.76	242	129	59	28	200	79	737	
12:00 PM	1.00	0.93	0.50	0.87	1.00	0.51	281	182	114	25	200	53	855	**Peak Parking**
1:00 PM	0.98	1.00	0.35	0.75	1.00	0.72	275	196	80	21	200	75	848	
2:00 PM	0.91	0.90	0.31	0.84	1.00	0.75	256	177	71	24	200	78	805	
3:00 PM	0.86	0.94	0.22	0.87	1.00	1.00	242	184	50	25	200	104	805	
4:00 PM	0.81	0.97	0.25	0.75	1.00	0.85	228	190	57	21	200	89	785	
5:00 PM	0.57	0.82	0.73	0.43	1.00	0.79	160	161	166	12	200	82	782	
6:00 PM	0.69	0.62	1.00	0.23	1.00	0.46	194	122	227	7	200	48	798	
7:00 PM	0.82	0.47	1.00	0.07	1.00	0.98	230	92	227	2	200	102	854	
8:00 PM	0.70	0.42	0.80	0.07	1.00	0.83	197	82	182	2	200	87	750	
9:00 PM	0.42	0.37	0.58	0.03	1.00	0.00	118	73	132	1	200	0	523	
10:00 PM	0.10	0.32	0.30	0.03	1.00	0.00	28	63	68	1	200	0	360	

Total Provided **1,200**
Total Required **855**

Wayland Town Center
Saturday Parking Demand
(Non-December Conditions)
ITE Formula

Land Use	Parking Demand[a]	Size		Parking Spaces	
Retail	2.36	92.900	ksf	219	Based on ITE Parking 3rd Edition Saturday (Non-December) LUC 820
Supermarket	5.25	45.000	ksf	236	Based on ITE Parking 3rd Edition Saturday Suburban Location, LUC 850
Restaurant	16.30	17.100	ksf	279	Based on ITE Parking 3rd Edition Saturday Suburban Location, LUC 932
Residential	2.00	100	units	200	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 221 (No Sat Suburban data)
Office	5.21	10	ksf	52	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 701 (No Sat data)
Municipal	2.61	40	ksf	104	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 590 (No Sat data)
			TOTAL	**1090**	

[a]Parking demand per 1,000 sf for retail and supermarket uses and per unit for residential use.
ksf = 1,000 sf of gross floor area for office uses and grossleasable area for retail use.

	Parking Rates						Parking Demand						Total	
Time of Day	Retail	Supermarket	Restaurant	Office	Residential	Municipal	Retail	Supermarket	Restaurant	Office	Residential	Municipal		
6:00 AM	0.00	0.00	0.00	0.06	1.00	0.00	0	0	0	3	200	0	203	
7:00 AM	0.13	0.08	0.00	0.56	1.00	0.00	28	19	0	29	200	0	277	
8:00 AM	0.27	0.18	0.00	0.86	1.00	0.15	59	43	0	45	200	16	362	
9:00 AM	0.61	0.42	0.04	0.97	1.00	0.42	134	99	11	51	200	44	538	
10:00 AM	0.75	0.58	0.06	1.00	1.00	0.65	164	137	17	52	200	68	638	
11:00 AM	0.90	0.66	0.17	0.98	1.00	0.76	197	156	47	51	200	79	731	
12:00 PM	1.00	0.91	0.36	0.87	1.00	0.51	219	215	100	45	200	53	833	
1:00 PM	0.99	1.00	0.46	0.75	1.00	0.72	217	236	128	39	200	75	896	**Peak Parking**
2:00 PM	0.98	0.95	0.41	0.84	1.00	0.75	215	224	114	44	200	78	875	
3:00 PM	0.88	0.98	0.34	0.87	1.00	1.00	193	232	95	45	200	104	869	
4:00 PM	0.68	0.89	0.55	0.75	1.00	0.85	149	210	153	39	200	89	840	
5:00 PM	0.56	0.72	0.67	0.43	1.00	0.79	123	170	187	22	200	82	784	
6:00 PM	0.73	0.72	1.00	0.23	1.00	0.46	160	170	279	12	200	48	869	
7:00 PM	0.52	0.47	1.00	0.07	1.00	0.98	114	111	279	4	200	102	810	
8:00 PM	0.53	0.42	1.00	0.07	1.00	0.83	116	99	279	4	200	87	784	
9:00 PM	0.44	0.37	0.29	0.03	1.00	0.00	96	87	81	2	200	0	466	
10:00 PM	0.29	0.32	0.08	0.03	1.00	0.00	64	76	22	2	200	0	363	

Total Provided **1,200**
Total Required **896**

Wayland Town Center
Saturday Parking Demand
(Non-December Conditions)
ITE Average Rate

Land Use	Parking Demand[a]	Size		Parking Spaces	
Retail	2.97	92.900	ksf	276	Based on ITE Parking 3rd Edition Saturday (Non-December) LUC 820
Supermarket	4.75	45.000	ksf	214	Based on ITE Parking 3rd Edition Saturday Suburban Location, LUC 850
Restaurant	16.30	17.100	ksf	279	Based on ITE Parking 3rd Edition Saturday Suburban Location, LUC 932
Residential	2.00	100	units	200	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 221 (No Sat Suburban data)
Office	2.84	10	ksf	28	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 701 (No Sat data)
Municipal	2.61	40	ksf	104	Based on ITE Parking 3rd Edition Weekday, Suburban LUC 590 (No Sat data)
			TOTAL	**1101**	

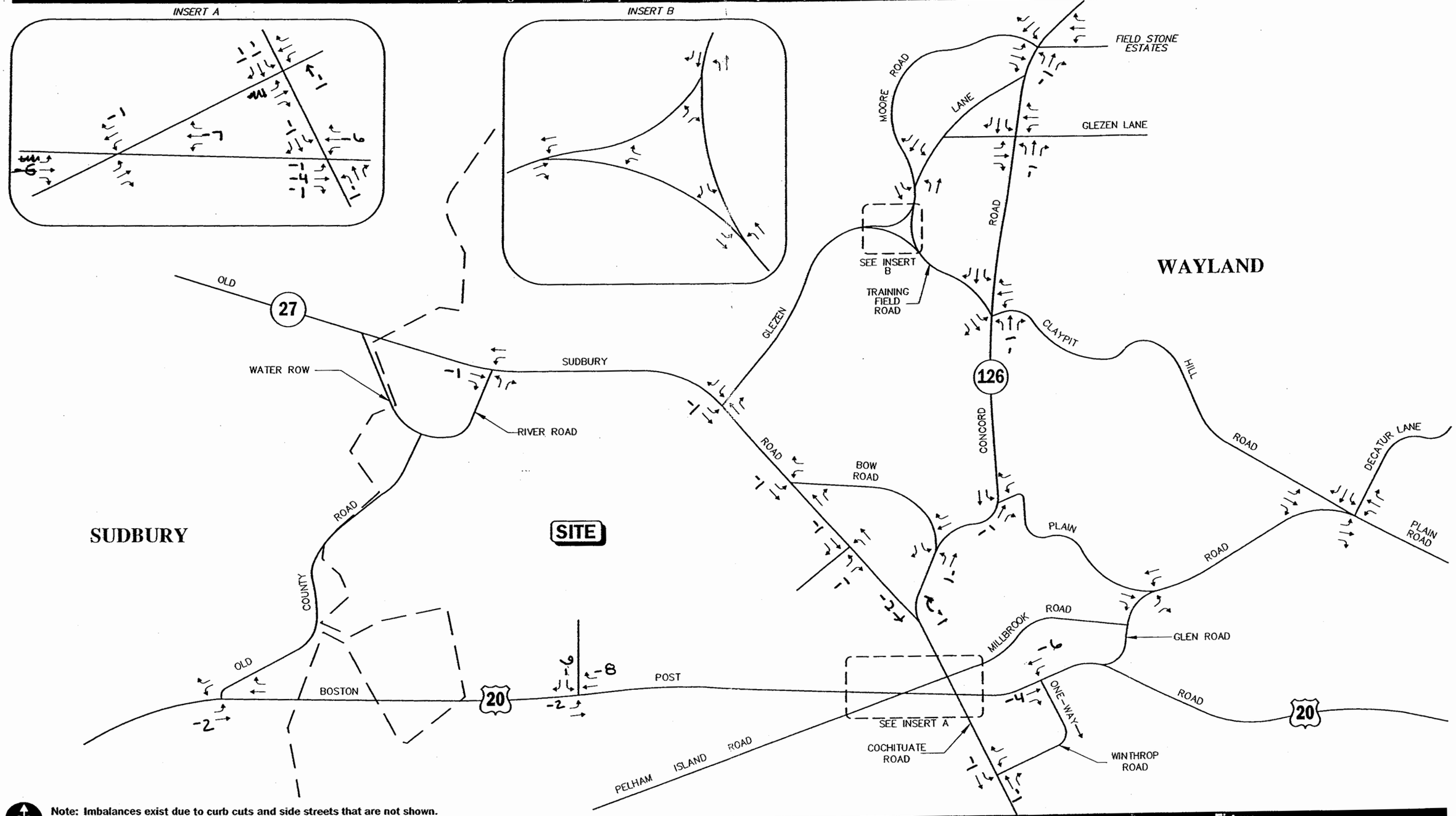
[a]Parking demand per 1,000 sf for retail and supermarket uses and per unit for residential use.

ksf = 1,000 sf of gross floor area for office uses and grossleasable area for retail use.

	Parking Rates						Parking Demand						Total	
Time of Day	Retail	Supermarket	Restaurant	Office	Residential	Municipal	Retail	Supermarket	Restaurant	Office	Residential	Municipal		
6:00 AM	0.00	0.00	0.00	0.06	1.00	0.00	0	0	0	2	200	0	202	
7:00 AM	0.13	0.08	0.00	0.56	1.00	0.00	36	17	0	16	200	0	269	
8:00 AM	0.27	0.18	0.00	0.86	1.00	0.15	75	38	0	24	200	16	353	
9:00 AM	0.61	0.42	0.04	0.97	1.00	0.42	168	90	11	28	200	44	541	
10:00 AM	0.75	0.58	0.06	1.00	1.00	0.65	207	124	17	28	200	68	644	
11:00 AM	0.90	0.66	0.17	0.98	1.00	0.76	248	141	47	28	200	79	744	
12:00 PM	1.00	0.91	0.36	0.87	1.00	0.51	276	195	100	25	200	53	849	
1:00 PM	0.99	1.00	0.46	0.75	1.00	0.72	273	214	128	21	200	75	912	**Peak Parking**
2:00 PM	0.98	0.95	0.41	0.84	1.00	0.75	270	203	114	24	200	78	890	
3:00 PM	0.88	0.98	0.34	0.87	1.00	1.00	243	209	95	25	200	104	876	
4:00 PM	0.68	0.89	0.55	0.75	1.00	0.85	188	190	153	21	200	89	841	
5:00 PM	0.56	0.72	0.67	0.43	1.00	0.79	155	154	187	12	200	82	790	
6:00 PM	0.73	0.72	1.00	0.23	1.00	0.46	201	154	279	7	200	48	889	
7:00 PM	0.52	0.47	1.00	0.07	1.00	0.98	144	100	279	2	200	102	827	
8:00 PM	0.53	0.42	1.00	0.07	1.00	0.83	146	90	279	2	200	87	803	
9:00 PM	0.44	0.37	0.29	0.03	1.00	0.00	121	79	81	1	200	0	482	
10:00 PM	0.29	0.32	0.08	0.03	1.00	0.00	80	68	22	1	200	0	372	

Total Provided **1,200**
Total Required **912**

EXISTING SITE TRAFFIC



Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

- Redistributon of Existing
- Site Traffic
- Weekday Morning
- Peak Hour Traffic Volumes
-

Vanasse & Associates, Inc.
Transportation Engineers & Planners

INSERT A

INSERT B

WAYLAND

SUDBURY

SITE

OLD 27

WATER ROW

SUDBURY

RIVER ROAD

ROAD

COUNTY

ROAD

OLD

BOSTON

20

POST

GLEZEN

ROAD

BOW ROAD

SEE INSERT B

TRAINING FIELD ROAD

MOORE ROAD

LANE

FIELD STONE ESTATES

GLEZEN LANE

ROAD

126

CONCORD

CLAYPIT

HILL

ROAD

DECATUR LANE

PLAIN

ROAD

PLAIN ROAD

MILLBROOK

ROAD

GLEN ROAD

ROAD

20

ONE-WAY

SEE INSERT A

COCHITUATE ROAD

WINTHROP ROAD

PELHAM ISLAND ROAD

Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Vanasse & Associates, Inc.
Transportation Engineers & Planners

Figure -
- Redistribution
-
- Weekday Evening
-
-

R:\4886\4886nt0.dwg 7/21/2006 2:26:36 PM EDT

INSERT A

INSERT B

WAYLAND

SUDBURY

SITE

OLD 27

WATER ROW

SUDBURY

RIVER ROAD

ROAD

COUNTY

OLD

BOSTON

20

POST

GLEZEN

SEE INSERT B

TRAINING FIELD ROAD

MOORE ROAD

LANE

FIELD STONE ESTATES

GLEZEN LANE

ROAD

CLAYPIT

HILL

126

CONCORD

ROAD

BOW ROAD

PLAIN

ROAD

DECATUR LANE

PLAIN ROAD

MILLBROOK

ROAD

GLEN ROAD

ROAD

20

ONE-WAY

SEE INSERT A

COCHITUATE ROAD

WINTHROP ROAD

PELHAM ISLAND ROAD

Note: Imbalances exist due to curb cuts and side streets that are not shown.

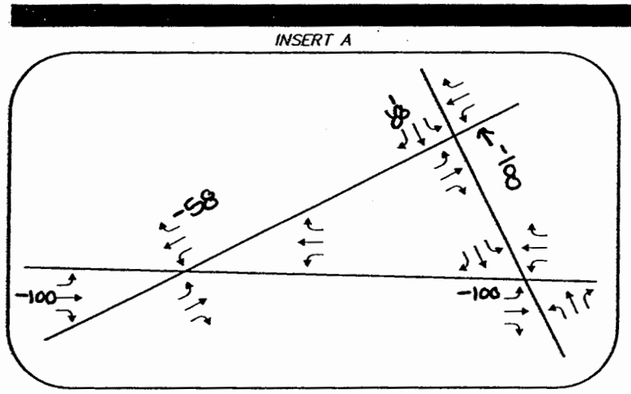
Not To Scale

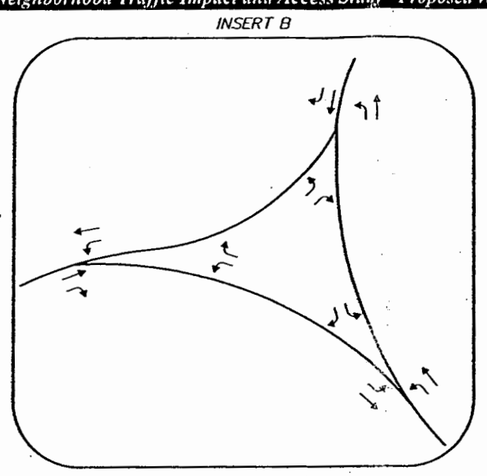
Vanasse & Associates, Inc.
Transportation Engineers & Planners

Figure -

- Redistribution
-
- Saturday Midday
-
-

CUT-THROUGH TRAFFIC





WAYLAND

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OLD

27

WATER ROW

SUDBURY

RIVER ROAD

ROAD

COUNTY

OLD

BOSTON

20

POST

58

-58

100

-100

GLEZEN

ROAD

BOW

ROAD

58

-58

100

-100

-58

-100

SEE INSERT B

TRAINING FIELD ROAD

SEE INSERT A

COCHITUATE ROAD

PELHAM ISLAND ROAD

MOORE ROAD

LANE

FIELD STONE ESTATES

GLEZEN LANE

ROAD

126

CONCORD

CLAYPIT

HILL

ROAD

DECATUR LANE

PLAIN

ROAD

PLAIN ROAD

ROAD

MILLBROOK

ROAD

GLEN ROAD

ONE-WAY

ROAD

20

WINTHROP ROAD

Note: Imbalances exist due to curb cuts and side streets that are not shown.

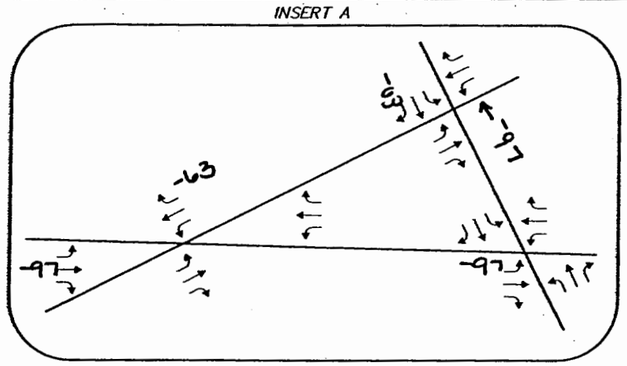
Not To Scale

Figure -

- Cut-Through Traffic
- Weekday Morning
- Peak Hour Traffic Volumes
-
-

Vanasse & Associates, Inc.
Transportation Engineers & Planners

INSERT A



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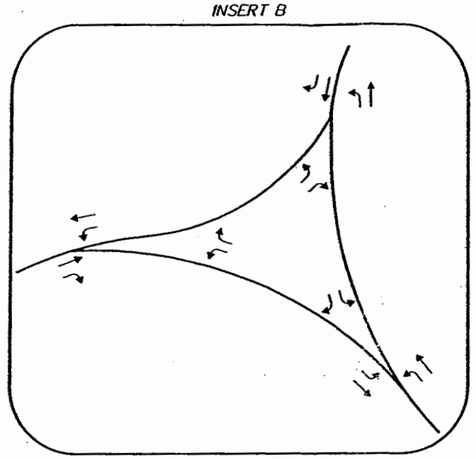

WAYLAND

FIELD STONE ESTATES
MOORE ROAD
LANE
GLEZEN LANE
ROAD
SEE INSERT B
TRAINING FIELD ROAD
CLAYPIT
HILL
126
CONCORD
ROAD
DECATUR LANE
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PLAIN ROAD
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SUDBURY
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MILLBROOK
ROAD
GLEN ROAD
ROAD
20
ONE-WAY
SEE INSERT A
COCHITUATE ROAD
WINTHROP ROAD
PELHAM ISLAND ROAD

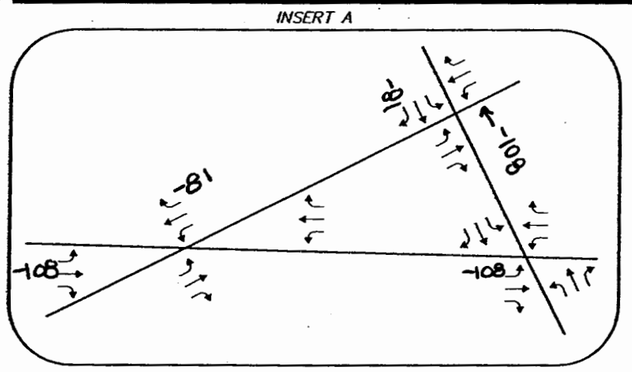
Note: Imbalances exist due to curb cuts and side streets that are not shown.

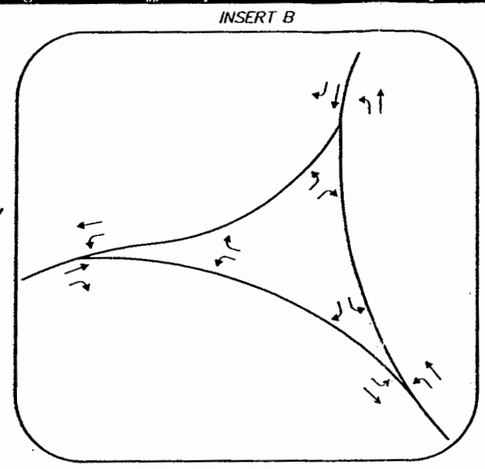
Not To Scale

Figure -

- Cut-Through Traffic
- Weekday Evening
- Peak Hour Traffic Volumes
-
-

Vanasse & Associates, Inc.
Transportation Engineers & Planners





WAYLAND

SUDBURY

SITE

OLD 27

WATER ROW

SUDBURY

RIVER ROAD

ROAD

COUNTY

OLD

BOSTON

20

POST

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GLEZEN

ROAD

BOW ROAD

81

108

81

108

SEE INSERT B

TRAINING FIELD ROAD

MOORE ROAD

LANE

FIELD STONE ESTATES

GLEZEN LANE

ROAD

126

CONCORD

CLAYPIT

HILL

ROAD

DECATUR LANE

PLAIN ROAD

PLAIN

ROAD

ROAD

MILLBROOK

GLEN ROAD

ROAD

20

ONE-WAY

SEE INSERT A

COCHITUATE ROAD

WINTHROP ROAD

PELHAM ISLAND ROAD

Note: Imbalances exist due to curb cuts and side streets that are not shown.

Not To Scale

Figure -

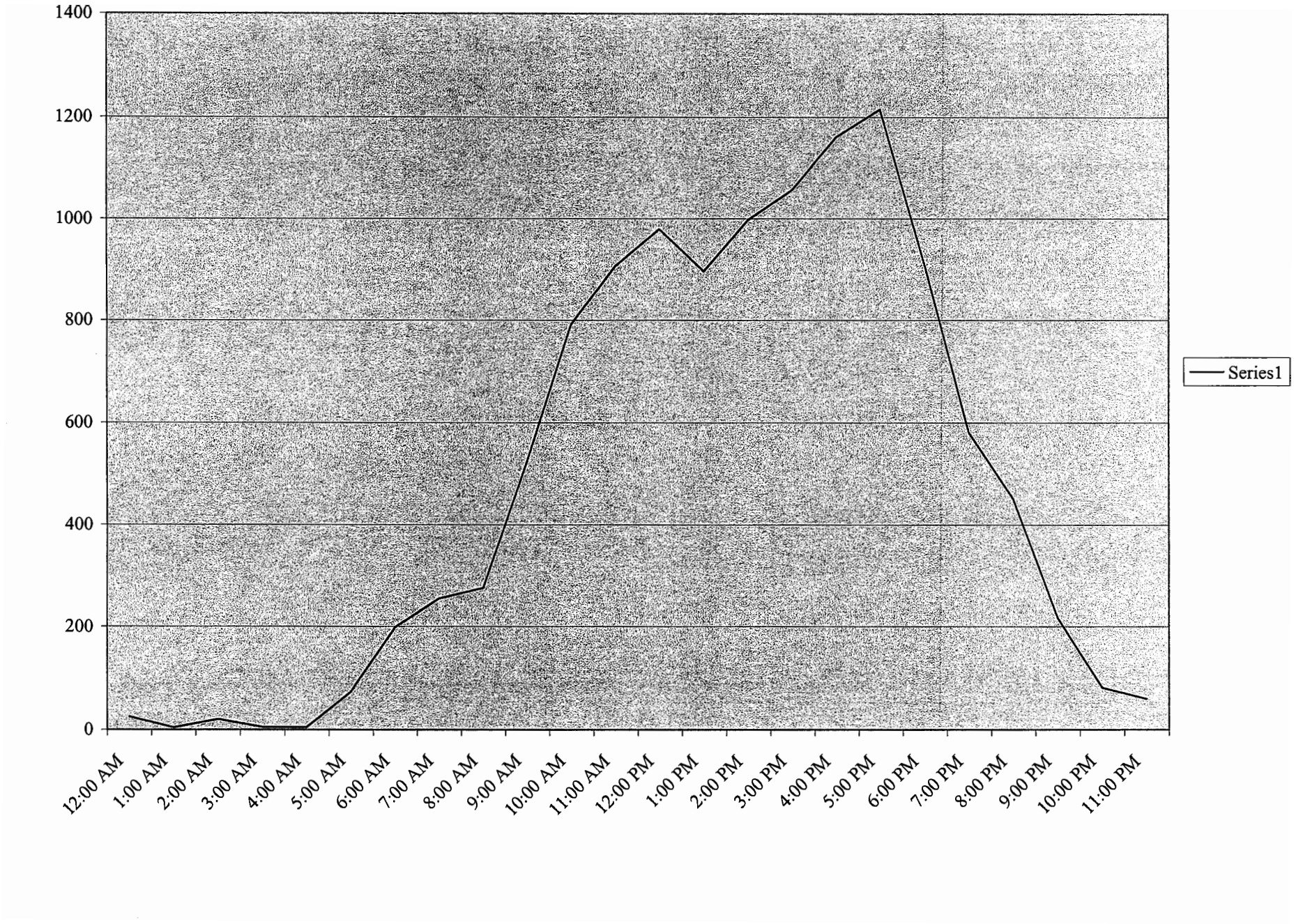
- Cut-Through Traffic
- Saturday Midday Peak Hour Traffic Volumes
-
-

Vanasse & Associates, Inc.
Transportation Engineers & Planners

DAILY DISTRIBUTION DATA

DAILY DISTRIBUTION OF PROPOSED DEVELOPMENT

	Residential		Office/Library		Retail		Driveway Volumes Total		Route 20 Volumes		
	Entering	Exiting	Entering	Exiting	Entering	Exiting	Entering	Exiting	Total		
12:00 AM	4	1	1	1	9	9	14	11	65	12:00 AM	25
1:00 AM	1	1	1	1	0	0	2	2	26	1:00 AM	4
2:00 AM	1	0	0	1	9	9	10	10	25	2:00 AM	20
3:00 AM	0	0	0	0	5	0	5	0	27	3:00 AM	5
4:00 AM	1	2	1	1	0	0	2	3	81	4:00 AM	5
5:00 AM	1	10	9	2	18	33	28	45	367	5:00 AM	73
6:00 AM	2	27	38	6	55	70	95	103	1100	6:00 AM	198
7:00 AM	6	37	43	11	92	65	141	113	1410	7:00 AM	254
8:00 AM	9	43	48	15	98	62	155	120	1402	8:00 AM	275
9:00 AM	9	20	60	38	239	158	308	216	1144	9:00 AM	524
10:00 AM	9	16	77	38	350	302	436	356	1098	10:00 AM	792
11:00 AM	12	12	71	70	350	391	433	473	1153	11:00 AM	906
12:00 PM	14	14	108	112	350	381	472	507	1185	12:00 PM	979
1:00 PM	13	14	108	95	317	349	438	458	1117	1:00 PM	896
2:00 PM	14	14	97	95	414	363	525	472	1202	2:00 PM	997
3:00 PM	19	13	65	75	442	442	526	530	1232	3:00 PM	1056
4:00 PM	22	13	75	121	446	484	543	618	1378	4:00 PM	1161
5:00 PM	60	20	139	160	401	435	600	615	1470	5:00 PM	1215
6:00 PM	34	20	42	87	340	386	416	493	1230	6:00 PM	909
7:00 PM	26	16	9	36	248	246	283	298	833	7:00 PM	581
8:00 PM	23	10	5	20	193	200	221	230	654	8:00 PM	451
9:00 PM	21	8	4	13	87	84	112	105	493	9:00 PM	217
10:00 PM	12	6	2	4	28	28	42	38	388	10:00 PM	80
11:00 PM	8	4	2	3	24	18	34	25	209	11:00 PM	59
	321	321	1005	1005	4515	4515					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Series1

Temporal Distribution of Proposed Residential Development[a]

Daily Volume = 642

Start Time	Exiting Trips	Entering Trips	Exiting Percent	Entering Percent	Exiting Volume	Entering Volume	Adjusted Exiting Volume	Adjusted Entering Volume	Total Volume
12:00 AM	4	17	0.00	0.01	0.93	3.96	1	4	4
1:00 AM	5	5	0.00	0.00	1.17	1.16	1	1	2
2:00 AM	2	3	0.00	0.00	0.47	0.70	0	1	1
3:00 AM	1	2	0.00	0.00	0.23	0.47	0	0	1
4:00 AM	9	3	0.01	0.00	2.10	0.70	2	1	3
5:00 AM	45	7	0.03	0.01	10.51	1.63	10	1	11
6:00 AM	121	8	0.09	0.01	28.25	1.86	27	2	29
7:00 AM	166	28	0.12	0.02	38.75	6.52	37	6	43
8:00 AM	146	34	0.11	0.02	34.08	7.92	43	9	52
9:00 AM	89	45	0.06	0.03	20.78	10.48	20	9	29
10:00 AM	71	42	0.05	0.03	16.58	9.78	16	9	25
11:00 AM	55	57	0.04	0.04	12.84	13.28	12	12	24
12:00 PM	65	66	0.05	0.05	15.17	15.37	14	14	28
1:00 PM	63	62	0.05	0.04	14.71	14.44	14	13	27
2:00 PM	61	65	0.04	0.05	14.24	15.14	14	14	27
3:00 PM	58	88	0.04	0.06	13.54	20.50	13	19	31
4:00 PM	57	106	0.04	0.08	13.31	24.69	13	22	35
5:00 PM	68	151	0.05	0.11	15.87	35.17	20	60	80
6:00 PM	92	163	0.07	0.12	21.48	37.97	20	34	55
7:00 PM	73	124	0.05	0.09	17.04	28.89	16	26	42
8:00 PM	47	110	0.03	0.08	10.97	25.62	10	23	34
9:00 PM	38	100	0.03	0.07	8.87	23.29	8	21	30
10:00 PM	27	57	0.02	0.04	6.30	13.28	6	12	18
11:00 PM	12	35	0.01	0.03	2.80	8.15	3	8	11
Total	1375.00	1378.00	1.00	1.00	321.00	321.00	321	321	642

[a]Based on ATR counts conducted between June 4 and June 10, 1999 at 560-unit residential development in Weymouth, MA.

Temporal Distribution of Proposed Office/Library Development

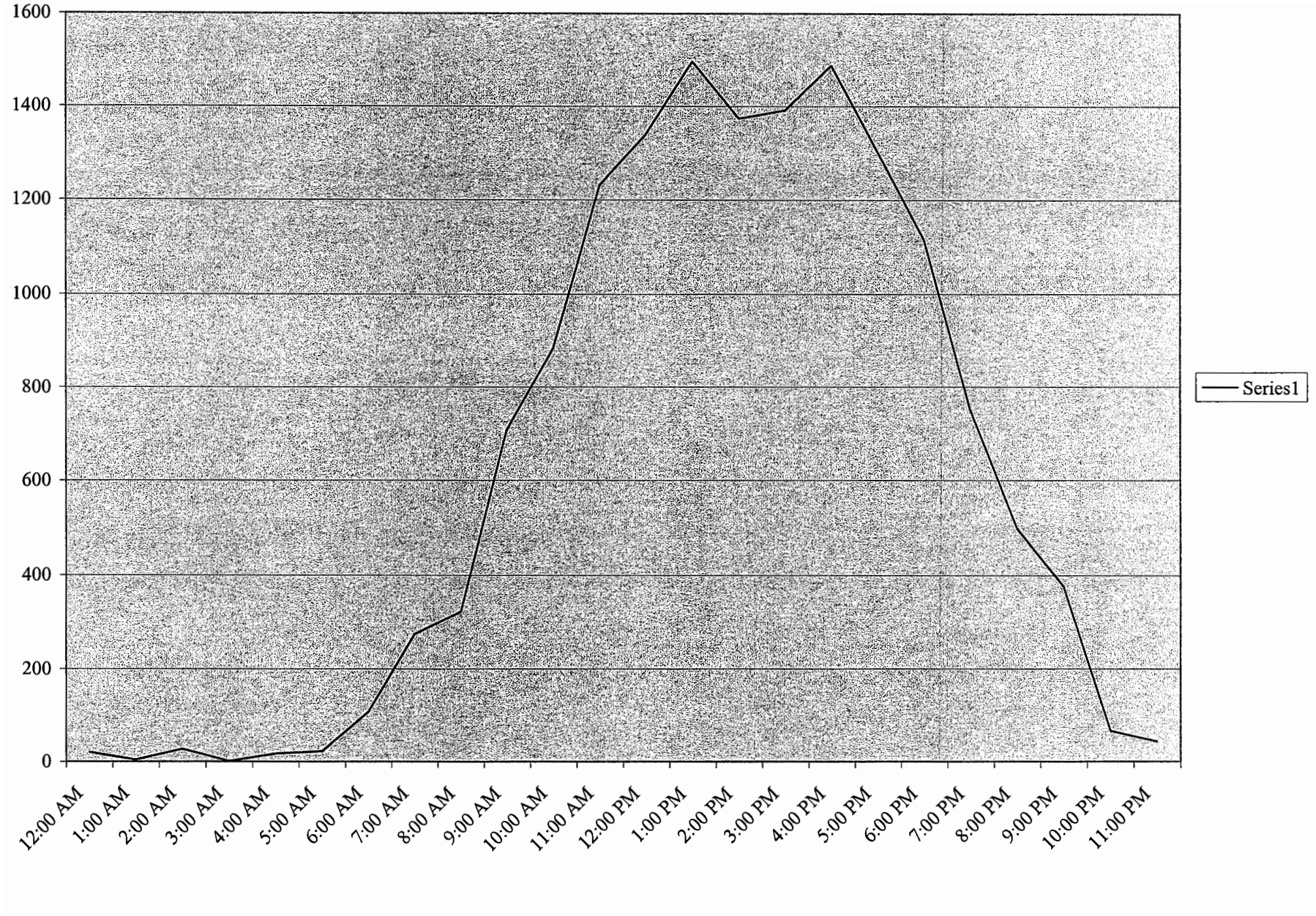
Daily Volume = 2,010

Start Time	Entering Percent	Exiting Percent	Entering Volume	Exiting Volume	Adjusted Entering Volume	Adjusted Exiting Volume	Total Volume
12:00 AM	0.00	0.00	0.80	1.41	1	1	2
1:00 AM	0.00	0.00	0.79	1.00	1	1	2
2:00 AM	0.00	0.00	0.33	0.75	0	1	1
3:00 AM	0.00	0.00	0.43	0.37	0	0	1
4:00 AM	0.00	0.00	0.78	0.91	1	1	2
5:00 AM	0.01	0.00	8.03	1.50	9	2	10
6:00 AM	0.03	0.01	35.17	5.99	38	6	44
7:00 AM	0.13	0.02	128.98	18.68	43	11	54
8:00 AM	0.21	0.03	209.69	27.63	48	15	63
9:00 AM	0.12	0.04	118.44	36.79	60	38	98
10:00 AM	0.05	0.04	53.19	37.22	77	38	115
11:00 AM	0.05	0.07	47.07	67.85	71	70	141
12:00 PM	0.08	0.11	81.88	108.73	108	112	220
1:00 PM	0.10	0.08	101.04	83.07	108	95	203
2:00 PM	0.07	0.06	71.92	63.38	97	95	192
3:00 PM	0.04	0.07	42.32	73.07	65	75	140
4:00 PM	0.03	0.15	32.50	147.97	75	121	196
5:00 PM	0.03	0.17	33.48	169.37	139	160	299
6:00 PM	0.02	0.08	17.86	84.21	42	87	129
7:00 PM	0.01	0.04	8.59	35.24	9	36	45
8:00 PM	0.01	0.02	5.07	19.74	5	20	26
9:00 PM	0.00	0.01	3.35	12.60	4	13	17
10:00 PM	0.00	0.00	2.26	4.20	2	4	7
11:00 PM	0.00	0.00	1.06	3.34	1	3	5
Total	1.00	1.00	1005.00	1005.00	1005	1005	2010

	4515	Retail					
Start Time	Entering %	Exiting %	Entering Volume	Exiting Volume	Total		
12	0.2	0.2	9	9	18	9	9
1	0	0	0	0	0	0	0
2	0.2	0.2	9	9	18	9	9
3	0.1	0	5	0	5	5	0
4	0	0	0	0	0	0	0
5	0.4	0.7	18	32	50	18	33
6:00	1.2	1.5	54	68	122	55	70
7:00	2	1.4	90	63	154	92	65
8:00	2.4	2.6	**108**	**117**	226	**98**	**62**
9:00	5.2	3.4	235	154	388	239	158
10:00	7.6	6.5	343	293	637	350	302
11:00	7.6	8.4	343	379	722	350	391
12:00	7.6	8.2	343	370	713	350	381
1:00	6.9	7.5	312	339	650	317	349
2:00	9	7.8	406	352	759	414	363
3:00	9.6	9.5	433	**429**	862	442	442
4:00	9.7	10.4	438	470	908	446	484
5:00	10.3	11	**465**	**497**	962	**401**	**435**
6:00	7.4	8.3	334	375	709	340	386
7:00	5.4	5.3	244	239	483	248	246
8:00	4.2	4.3	190	194	384	193	200
9:00	1.9	1.8	86	81	167	87	84
10:00	0.6	0.6	27	27	54	28	28
11:00	0.5	0.4	23	18	41	23	19
	100	100.0	4515	4515	9030	4515	4515

SATURDAY DISTRIBUTION OF PROPOSED DEVELOPMENT

	Residential		Office/Library		Retail		Driveway Volumes Total		Route 20 Volumes		
	Entering	Exiting	Entering	Exiting	Entering	Exiting	Entering	Exiting	Total		
12:00 AM	5	1	1	1	12	0	18	2	65	12:00 AM	20
1:00 AM	1	1	1	1	0	0	2	2	26	1:00 AM	4
2:00 AM	1	1	0	1	12	12	13	14	25	2:00 AM	27
3:00 AM	1	0	0	0	0	0	1	0	27	3:00 AM	1
4:00 AM	1	2	1	1	0	12	2	15	81	4:00 AM	17
5:00 AM	2	12	7	1	0	0	9	13	367	5:00 AM	22
6:00 AM	2	33	30	5	12	25	44	63	1100	6:00 AM	107
7:00 AM	8	45	114	16	55	37	177	98	1410	7:00 AM	275
8:00 AM	9	40	90	24	98	62	197	126	1402	8:00 AM	323
9:00 AM	12	24	105	32	238	296	355	352	1144	9:00 AM	707
10:00 AM	12	19	47	33	415	357	474	409	1098	10:00 AM	883
11:00 AM	16	15	52	62	537	548	605	625	1153	11:00 AM	1230
12:00 PM	18	18	92	96	573	542	683	656	1185	12:00 PM	1339
1:00 PM	33	39	145	129	599	552	777	720	1117	1:00 PM	1497
2:00 PM	19	17	128	100	592	517	739	634	1202	2:00 PM	1373
3:00 PM	24	16	37	95	628	591	689	702	1232	3:00 PM	1391
4:00 PM	29	15	29	103	653	659	711	777	1378	4:00 PM	1488
5:00 PM	41	18	30	103	573	536	644	657	1470	5:00 PM	1301
6:00 PM	45	25	16	74	445	511	506	610	1230	6:00 PM	1116
7:00 PM	34	20	8	31	305	351	347	402	833	7:00 PM	749
8:00 PM	30	13	4	17	195	240	229	270	654	8:00 PM	499
9:00 PM	27	10	3	11	122	203	152	224	493	9:00 PM	376
10:00 PM	16	7	2	4	12	25	30	36	388	10:00 PM	66
11:00 PM	9	4	1	3	13	13	23	20	209	11:00 PM	43
	395	395	943	943	6089	6089					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Series1

Temporal Distribution of Proposed Residential Development[a]

Daily Volume = 790

Start Time	Exiting Trips	Entering Trips	Exiting Percent	Entering Percent	Exiting Volume	Entering Volume	Adjusted Exiting Volume	Adjusted Entering Volume	Total Volume
12:00 AM	4	17	0.00	0.01	1.15	4.87	1	5	6
1:00 AM	5	5	0.00	0.00	1.44	1.43	1	1	3
2:00 AM	2	3	0.00	0.00	0.57	0.86	1	1	1
3:00 AM	1	2	0.00	0.00	0.29	0.57	0	1	1
4:00 AM	9	3	0.01	0.00	2.59	0.86	2	1	3
5:00 AM	45	7	0.03	0.01	12.93	2.01	12	2	14
6:00 AM	121	8	0.09	0.01	34.76	2.29	33	2	35
7:00 AM	166	28	0.12	0.02	47.69	8.03	45	8	53
8:00 AM	146	34	0.11	0.02	41.94	9.75	40	9	49
9:00 AM	89	45	0.06	0.03	25.57	12.90	24	12	36
10:00 AM	71	42	0.05	0.03	20.40	12.04	19	12	31
11:00 AM	55	57	0.04	0.04	15.80	16.34	15	16	31
12:00 PM	65	66	0.05	0.05	18.67	18.92	18	18	36
1:00 PM	63	62	0.05	0.04	18.10	17.77	39	33	72
2:00 PM	61	65	0.04	0.05	17.52	18.63	17	19	36
3:00 PM	58	88	0.04	0.06	16.66	25.22	16	24	40
4:00 PM	57	106	0.04	0.08	16.37	30.38	15	29	45
5:00 PM	68	151	0.05	0.11	19.53	43.28	18	41	60
6:00 PM	92	163	0.07	0.12	26.43	46.72	25	45	70
7:00 PM	73	124	0.05	0.09	20.97	35.54	20	34	54
8:00 PM	47	110	0.03	0.08	13.50	31.53	13	30	43
9:00 PM	38	100	0.03	0.07	10.92	28.66	10	27	38
10:00 PM	27	57	0.02	0.04	7.76	16.34	7	16	23
11:00 PM	12	35	0.01	0.03	3.45	10.03	3	10	13
Total	1375.00	1378.00	1.00	1.00	395.00	395.00	395	395	790

[a]Based on ATR counts conducted between June 4 and June 10, 1999 at 560-unit residential development in Weymouth, MA.

Temporal Distribution of Proposed Office/Library Development

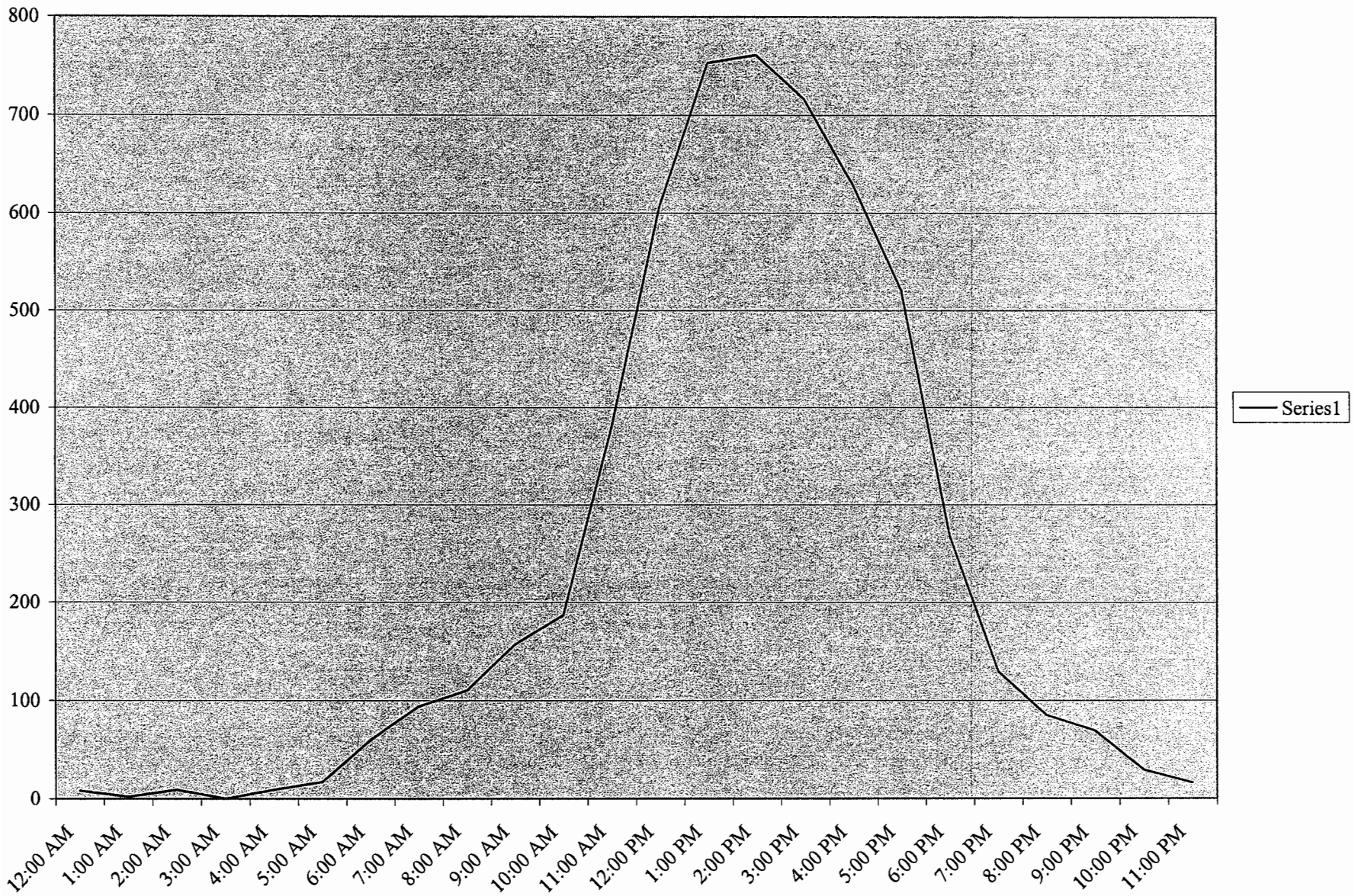
Daily Volume = 1,886

Start Time	Entering Percent	Exiting Percent	Entering Volume	Exiting Volume	Adjusted Entering Volume	Adjusted Exiting Volume	Total Volume
12:00 AM	0.00	0.00	0.75	1.32	1	1	2
1:00 AM	0.00	0.00	0.74	0.94	1	1	2
2:00 AM	0.00	0.00	0.31	0.70	0	1	1
3:00 AM	0.00	0.00	0.40	0.35	0	0	1
4:00 AM	0.00	0.00	0.73	0.85	1	1	1
5:00 AM	0.01	0.00	7.54	1.41	7	1	8
6:00 AM	0.03	0.01	33.00	5.62	31	5	36
7:00 AM	0.13	0.02	121.03	17.53	114	16	130
8:00 AM	0.21	0.03	196.75	25.93	90	24	114
9:00 AM	0.12	0.04	111.13	34.52	105	32	137
10:00 AM	0.05	0.04	49.91	34.92	47	33	80
11:00 AM	0.05	0.07	44.16	63.67	52	60	112
12:00 PM	0.08	0.11	76.82	102.02	92	96	188
1:00 PM	0.10	0.08	94.80	77.95	145	129	274
2:00 PM	0.07	0.06	67.48	59.47	128	100	228
3:00 PM	0.04	0.07	39.71	68.56	37	95	132
4:00 PM	0.03	0.15	30.49	138.84	29	103	132
5:00 PM	0.03	0.17	31.41	158.92	30	103	133
6:00 PM	0.02	0.08	16.76	79.01	16	74	90
7:00 PM	0.01	0.04	8.06	33.06	8	31	39
8:00 PM	0.01	0.02	4.76	18.52	4	17	22
9:00 PM	0.00	0.01	3.14	11.82	3	11	14
10:00 PM	0.00	0.00	2.12	3.94	2	4	6
11:00 PM	0.00	0.00	0.99	3.13	1	3	4
Total	1.00	1.00	943.00	943.00	943	943	1886

		6089	Retail				
Start Time	Entering %	Exiting %	Entering Volume	Exiting Volume	Total		
12	0.2	0	12	0	12	12	0
1	0	0	0	0	0	0	0
2	0.2	0.2	12	12	24	12	12
3	0	0	0	0	0	0	0
4	0	0.2	0	12	12	0	12
5	0	0	0	0	0	0	0
6:00	0.2	0.4	12	24	37	12	25
7:00	0.9	0.6	55	37	91	55	37
8:00	1.6	1	97	61	158	98	62
9:00	3.9	4.8	237	292	530	238	296
10:00	6.8	5.8	414	353	767	415	357
11:00	8.8	8.9	536	542	1078	537	548
12:00	9.4	8.8	572	536	1108	573	542
1:00	10	10.1	609	615	1224	599	552
2:00	9.7	8.4	591	511	1102	592	517
3:00	10.3	9.6	627	585	1212	628	591
4:00	10.7	10.7	652	652	1303	653	659
5:00	9.4	8.7	572	530	1102	573	536
6:00	7.3	8.3	444	505	950	445	511
7:00	5	5.7	304	347	652	305	351
8:00	3.2	3.9	195	237	432	195	240
9:00	2	3.3	122	201	323	122	203
10:00	0.2	0.4	12	24	37	12	25
11:00	0.2	0.2	12	12	24	12	12
	100	100.0	6089	6089	12178	6089	6089

SUNDAY DISTRIBUTION OF PROPOSED DEVELOPMENT

	Residential		Office/Library		Retail		Driveway Volumes Total		Route 20 Volumes		
	Entering	Exiting	Entering	Exiting	Entering	Exiting	Entering	Exiting	Total		
12:00 AM	4	1	0	1	2	0	6	2	65	12:00 AM	8
1:00 AM	1	1	0	0	0	0	1	1	26	1:00 AM	2
2:00 AM	1	0	0	0	2	6	3	6	25	2:00 AM	9
3:00 AM	0	0	0	0	0	0	0	0	27	3:00 AM	0
4:00 AM	1	2	0	0	0	6	1	8	81	4:00 AM	9
5:00 AM	2	10	4	1	0	0	6	11	367	5:00 AM	17
6:00 AM	2	27	16	3	2	10	20	40	1100	6:00 AM	60
7:00 AM	6	38	20	8	8	14	34	60	1410	7:00 AM	94
8:00 AM	8	33	27	10	17	15	52	58	1402	8:00 AM	110
9:00 AM	10	20	33	15	50	29	93	64	1144	9:00 AM	157
10:00 AM	10	16	34	21	73	33	117	70	1098	10:00 AM	187
11:00 AM	13	12	54	36	196	68	263	116	1153	11:00 AM	379
12:00 PM	15	15	71	65	318	122	404	202	1185	12:00 PM	606
1:00 PM	36	37	109	97	237	237	382	371	1117	1:00 PM	753
2:00 PM	15	14	53	60	341	278	409	352	1202	2:00 PM	761
3:00 PM	20	13	33	50	287	313	340	376	1232	3:00 PM	716
4:00 PM	24	13	23	40	204	325	251	378	1378	4:00 PM	629
5:00 PM	34	15	20	35	114	303	168	353	1470	5:00 PM	521
6:00 PM	37	21	8	38	46	118	91	177	1230	6:00 PM	268
7:00 PM	28	17	4	16	27	37	59	70	833	7:00 PM	129
8:00 PM	25	11	2	9	17	21	44	41	654	8:00 PM	85
9:00 PM	23	9	2	6	12	17	37	32	493	9:00 PM	69
10:00 PM	13	6	2	2	2	4	17	12	388	10:00 PM	29
11:00 PM	7	4	0	2	2	1	9	7	209	11:00 PM	16
	335	335	515	515	1957	1957					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Series1

Temporal Distribution of Proposed Residential Development[a]

Daily Volume = 670

Start Time	Exiting Trips	Entering Trips	Exiting Percent	Entering Percent	Exiting Volume	Entering Volume	Adjusted Exiting Volume	Adjusted Entering Volume	Total Volume
12:00 AM	4	17	0.00	0.01	0.97	4.13	1	4	5
1:00 AM	5	5	0.00	0.00	1.22	1.22	1	1	2
2:00 AM	2	3	0.00	0.00	0.49	0.73	0	1	1
3:00 AM	1	2	0.00	0.00	0.24	0.49	0	0	1
4:00 AM	9	3	0.01	0.00	2.19	0.73	2	1	3
5:00 AM	45	7	0.03	0.01	10.96	1.70	10	2	12
6:00 AM	121	8	0.09	0.01	29.48	1.94	27	2	29
7:00 AM	166	28	0.12	0.02	40.44	6.81	38	6	44
8:00 AM	146	34	0.11	0.02	35.57	8.27	33	8	41
9:00 AM	89	45	0.06	0.03	21.68	10.94	20	10	30
10:00 AM	71	42	0.05	0.03	17.30	10.21	16	10	26
11:00 AM	55	57	0.04	0.04	13.40	13.86	12	13	25
12:00 PM	65	66	0.05	0.05	15.84	16.04	15	15	30
1:00 PM	63	62	0.05	0.04	15.35	15.07	37	36	73
2:00 PM	61	65	0.04	0.05	14.86	15.80	14	15	29
3:00 PM	58	88	0.04	0.06	14.13	21.39	13	20	33
4:00 PM	57	106	0.04	0.08	13.89	25.77	13	24	37
5:00 PM	68	151	0.05	0.11	16.57	36.71	15	34	50
6:00 PM	92	163	0.07	0.12	22.41	39.63	21	37	58
7:00 PM	73	124	0.05	0.09	17.79	30.15	17	28	45
8:00 PM	47	110	0.03	0.08	11.45	26.74	11	25	36
9:00 PM	38	100	0.03	0.07	9.26	24.31	9	23	31
10:00 PM	27	57	0.02	0.04	6.58	13.86	6	13	19
11:00 PM	12	35	0.01	0.03	2.92	8.51	3	8	11
Total	1375.00	1378.00	1.00	1.00	335.00	335.00	335	335	670

[a]Based on ATR counts conducted between June 4 and June 10, 1999 at 560-unit residential development in Weymouth, MA.

Temporal Distribution of Proposed Office/Library Development

Daily Volume = 1,030

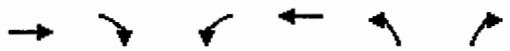
Start Time	Entering Percent	Exiting Percent	Entering Volume	Exiting Volume	Adjusted Entering Volume	Adjusted Exiting Volume	Total Volume
12:00 AM	0.00	0.00	0.41	0.72	0	1	1
1:00 AM	0.00	0.00	0.40	0.51	0	0	1
2:00 AM	0.00	0.00	0.17	0.38	0	0	0
3:00 AM	0.00	0.00	0.22	0.19	0	0	0
4:00 AM	0.00	0.00	0.40	0.47	0	0	1
5:00 AM	0.01	0.00	4.12	0.77	4	1	4
6:00 AM	0.03	0.01	18.02	3.07	16	3	19
7:00 AM	0.13	0.02	66.10	9.57	20	8	28
8:00 AM	0.21	0.03	107.45	14.16	27	10	37
9:00 AM	0.12	0.04	60.69	18.85	33	15	48
10:00 AM	0.05	0.04	27.26	19.07	34	21	55
11:00 AM	0.05	0.07	24.12	34.77	54	36	90
12:00 PM	0.08	0.11	41.96	55.72	71	65	136
1:00 PM	0.10	0.08	51.77	42.57	109	97	206
2:00 PM	0.07	0.06	36.85	32.48	53	60	113
3:00 PM	0.04	0.07	21.68	37.44	33	50	83
4:00 PM	0.03	0.15	16.65	75.82	23	40	63
5:00 PM	0.03	0.17	17.15	86.79	20	35	55
6:00 PM	0.02	0.08	9.15	43.15	8	38	46
7:00 PM	0.01	0.04	4.40	18.06	4	16	20
8:00 PM	0.01	0.02	2.60	10.11	2	9	11
9:00 PM	0.00	0.01	1.72	6.46	2	6	7
10:00 PM	0.00	0.00	1.16	2.15	1	2	3
11:00 PM	0.00	0.00	0.54	1.71	0	2	2
Total	1.00	1.00	515.00	515.00	515	515	1030

	1957 Retail						
Start Time	Entering %	Exiting %	Entering Volume	Exiting Volume	Total		
12	0.1	0	2	0	2	2	0
1	0	0	0	0	0	0	0
2	0.1	0.3	2	6	8	2	6
3	0	0	0	0	0	0	0
4	0	0.3	0	6	6	0	6
5	0	0	0	0	0	0	0
6:00	0.1	0.5	2	10	12	2	10
7:00	0.4	0.7	8	14	22	8	14
8:00	0.8	0.8	16	16	31	17	15
9:00	2.4	1.5	47	29	76	50	29
10:00	3.5	1.7	68	33	102	73	33
11:00	9.4	3.5	184	68	252	196	68
12:00	15.3	6.3	299	123	423	318	122
1:00	17.3	11	339	215	554	237	237
2:00	16.4	14.4	321	282	603	341	278
3:00	13.8	16.2	270	317	587	287	313
4:00	9.8	16.8	192	329	521	204	325
5:00	5.5	15.7	108	307	415	114	303
6:00	2.2	6.1	43	119	162	46	118
7:00	1.3	1.9	25	37	63	27	37
8:00	0.8	1.1	16	22	37	17	21
9:00	0.6	0.9	12	18	29	12	17
10:00	0.1	0.2	2	4	6	2	4
11:00	0.1	0.1	2	2	4	2	2
	100	100.0	1957	1957	3914	1957	1957

CAPACITY ANALYSIS WORKSHEETS

Route 27 at River Road
Route 27 at Glezen Lane
Route 27 at the Site Driveway
Route 27 at Bow Road
Route 27 at Route 126
Route 27/126 at Pelham Island Road and Millbrook Road
Route 27 at Winthrop Road
Route 126 at Bow Road
Route 126 at Plain Road
Route 126 at Claypit Hill Road and Training Field Road
Route 126 at Glezen Lane
Route 126 at Moore Road
Glezen Lane at Moore Road
Glezen Lane at Training Field Road
Training Field Road at Glezen Lane South
Glezen Lane at Training Field Road
Plain Road at Claypit Hill Road
Plain Road at Glen Road
Route 20 at Winthrop Road
Route 20 at Pelham Island Road
Route 20 at Pelham Island Road South
Route 20 at Old County Road (River Road in Wayland)
Route 20 at Union Avenue and the Sudbury Crossing Driveway
Route 20 at Nobscot Road
Route 20 at Route 27/126
Route 20 at Site Driveway

Route 27 at River Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	792	0	30	295	0	106
Peak Hour Factor	0.94	0.94	0.89	0.89	0.78	0.78
Hourly flow rate (vph)	843	0	34	331	0	136
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			843		1241	843
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			843		1241	843
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		100	63
cM capacity (veh/h)			802		187	365

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	843	365	136
Volume Left	0	34	0
Volume Right	0	0	136
cSH	1700	802	365
Volume to Capacity	0.50	0.04	0.37
Queue Length 95th (ft)	0	3	42
Control Delay (s)	0.0	1.4	20.6
Lane LOS		A	C
Approach Delay (s)	0.0	1.4	20.6
Approach LOS			C

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	869	12	32	320	5	111
Peak Hour Factor	0.94	0.94	0.89	0.89	0.78	0.78
Hourly flow rate (vph)	924	13	36	360	6	142
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			937		1362	931
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			937		1362	931
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		96	56
cM capacity (veh/h)			739		157	325

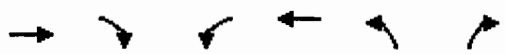
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	937	396	149
Volume Left	0	36	6
Volume Right	13	0	142
cSH	1700	739	311
Volume to Capacity	0.55	0.05	0.48
Queue Length 95th (ft)	0	4	61
Control Delay (s)	0.0	1.5	26.8
Lane LOS		A	D
Approach Delay (s)	0.0	1.5	26.8
Approach LOS			D

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	846	12	33	322	5	112
Peak Hour Factor	0.94	0.94	0.89	0.89	0.78	0.78
Hourly flow rate (vph)	900	13	37	362	6	144
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			913		1342	906
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			913		1342	906
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		96	57
cM capacity (veh/h)			755		161	336

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	913	399	150
Volume Left	0	37	6
Volume Right	13	0	144
cSH	1700	755	321
Volume to Capacity	0.54	0.05	0.47
Queue Length 95th (ft)	0	4	59
Control Delay (s)	0.0	1.5	25.7
Lane LOS		A	D
Approach Delay (s)	0.0	1.5	25.7
Approach LOS			D

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	404	1	90	830	1	43
Peak Hour Factor	0.95	0.95	0.93	0.93	0.85	0.85
Hourly flow rate (vph)	425	1	97	892	1	51
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			426		1512	426
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			426		1512	426
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		99	92
cM capacity (veh/h)			1144		122	629

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	426	989	52
Volume Left	0	97	1
Volume Right	1	0	51
cSH	1700	1144	575
Volume to Capacity	0.25	0.08	0.09
Queue Length 95th (ft)	0	7	7
Control Delay (s)	0.0	2.2	11.9
Lane LOS		A	B
Approach Delay (s)	0.0	2.2	11.9
Approach LOS			B

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	437	10	95	904	14	45
Peak Hour Factor	0.95	0.95	0.93	0.93	0.85	0.85
Hourly flow rate (vph)	460	11	102	972	16	53
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			471		1642	465
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			471		1642	465
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			91		84	91
cM capacity (veh/h)			1102		101	597

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	471	1074	69
Volume Left	0	102	16
Volume Right	11	0	53
cSH	1700	1102	276
Volume to Capacity	0.28	0.09	0.25
Queue Length 95th (ft)	0	8	24
Control Delay (s)	0.0	2.5	22.4
Lane LOS		A	C
Approach Delay (s)	0.0	2.5	22.4
Approach LOS			C

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	466	10	98	912	14	48
Peak Hour Factor	0.95	0.95	0.93	0.93	0.85	0.85
Hourly flow rate (vph)	491	11	105	981	16	56
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			501		1687	496
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			501		1687	496
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			90		82	90
cM capacity (veh/h)			1074		94	574

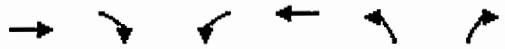
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	501	1086	73
Volume Left	0	105	16
Volume Right	11	0	56
cSH	1700	1074	267
Volume to Capacity	0.29	0.10	0.27
Queue Length 95th (ft)	0	8	27
Control Delay (s)	0.0	2.7	23.5
Lane LOS		A	C
Approach Delay (s)	0.0	2.7	23.5
Approach LOS			C

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	297	1	20	318	2	30
Peak Hour Factor	0.79	0.79	0.85	0.85	0.73	0.73
Hourly flow rate (vph)	376	1	24	374	3	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			377		798	377
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			377		798	377
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		99	94
cM capacity (veh/h)			1192		351	674

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	377	398	44
Volume Left	0	24	3
Volume Right	1	0	41
cSH	1700	1192	638
Volume to Capacity	0.22	0.02	0.07
Queue Length 95th (ft)	0	2	6
Control Delay (s)	0.0	0.7	11.1
Lane LOS		A	B
Approach Delay (s)	0.0	0.7	11.1
Approach LOS			B

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	326	15	21	349	15	32
Peak Hour Factor	0.79	0.79	0.85	0.85	0.73	0.73
Hourly flow rate (vph)	413	19	25	411	21	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			432		882	422
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			432		882	422
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		93	93
cM capacity (veh/h)			1139		312	636

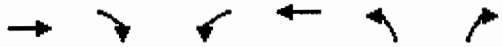
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	432	435	64
Volume Left	0	25	21
Volume Right	19	0	44
cSH	1700	1139	478
Volume to Capacity	0.25	0.02	0.13
Queue Length 95th (ft)	0	2	12
Control Delay (s)	0.0	0.7	13.7
Lane LOS		A	B
Approach Delay (s)	0.0	0.7	13.7
Approach LOS			B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	45.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	371	15	25	386	15	37
Peak Hour Factor	0.79	0.79	0.85	0.85	0.73	0.73
Hourly flow rate (vph)	470	19	29	454	21	51
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			489		992	479
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			489		992	479
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		92	91
cM capacity (veh/h)			1085		267	591

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	489	484	71
Volume Left	0	29	21
Volume Right	19	0	51
cSH	1700	1085	438
Volume to Capacity	0.29	0.03	0.16
Queue Length 95th (ft)	0	2	14
Control Delay (s)	0.0	0.8	14.8
Lane LOS		A	B
Approach Delay (s)	0.0	0.8	14.8
Approach LOS			B

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	50.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	318	5	8	301	4	3
Peak Hour Factor	0.92	0.92	0.94	0.94	0.44	0.44
Hourly flow rate (vph)	346	5	9	320	9	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			351		686	348
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			351		686	348
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		98	99
cM capacity (veh/h)			1219		414	699

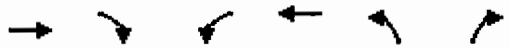
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	351	329	16
Volume Left	0	9	9
Volume Right	5	0	7
cSH	1700	1219	501
Volume to Capacity	0.21	0.01	0.03
Queue Length 95th (ft)	0	1	2
Control Delay (s)	0.0	0.3	12.4
Lane LOS		A	B
Approach Delay (s)	0.0	0.3	12.4
Approach LOS			B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	32.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	340	13	9	319	10	3
Peak Hour Factor	0.92	0.92	0.94	0.94	0.44	0.44
Hourly flow rate (vph)	370	14	10	339	23	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			384		735	377
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			384		735	377
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		94	99
cM capacity (veh/h)			1186		386	674

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	384	349	30
Volume Left	0	10	23
Volume Right	14	0	7
cSH	1700	1186	429
Volume to Capacity	0.23	0.01	0.07
Queue Length 95th (ft)	0	1	6
Control Delay (s)	0.0	0.3	14.0
Lane LOS		A	B
Approach Delay (s)	0.0	0.3	14.0
Approach LOS			B

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	360	13	11	340	10	5
Peak Hour Factor	0.92	0.92	0.94	0.94	0.44	0.44
Hourly flow rate (vph)	391	14	12	362	23	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			405		783	398
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			405		783	398
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		94	98
cM capacity (veh/h)			1164		361	656

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	405	373	34
Volume Left	0	12	23
Volume Right	14	0	11
cSH	1700	1164	425
Volume to Capacity	0.24	0.01	0.08
Queue Length 95th (ft)	0	1	7
Control Delay (s)	0.0	0.4	14.2
Lane LOS		A	B
Approach Delay (s)	0.0	0.4	14.2
Approach LOS			B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	36.8%	ICU Level of Service	A
Analysis Period (min)	15		

Route 27 at Glezen Lane

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	410	499	297	20	16	45
Peak Hour Factor	0.89	0.89	0.86	0.86	0.69	0.69
Hourly flow rate (vph)	461	561	345	23	23	65
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	369				1839	357
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	369				1839	357
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	62				55	91
cM capacity (veh/h)	1201				52	692

Direction, Lane #	SE 1	NW 1	SW 1
Volume Total	1021	369	88
Volume Left	461	0	23
Volume Right	0	23	65
cSH	1201	1700	163
Volume to Capacity	0.38	0.22	0.54
Queue Length 95th (ft)	46	0	69
Control Delay (s)	7.5	0.0	50.5
Lane LOS	A		F
Approach Delay (s)	7.5	0.0	50.5
Approach LOS			F

Intersection Summary			
Average Delay	8.2		
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	431	561	305	11	27	47
Peak Hour Factor	0.89	0.89	0.86	0.86	0.69	0.69
Hourly flow rate (vph)	484	630	355	13	39	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	367				1960	361
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	367				1960	361
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	60				7	90
cM capacity (veh/h)	1202				42	688

Direction, Lane #	SE 1	NW 1	SW 1
Volume Total	1115	367	107
Volume Left	484	0	39
Volume Right	0	13	68
cSH	1202	1700	104
Volume to Capacity	0.40	0.22	1.03
Queue Length 95th (ft)	49	0	163
Control Delay (s)	8.0	0.0	171.8
Lane LOS	A		F
Approach Delay (s)	8.0	0.0	171.8
Approach LOS			F

Intersection Summary			
Average Delay	17.2		
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	431	472	308	11	20	47
Peak Hour Factor	0.89	0.89	0.86	0.86	0.69	0.69
Hourly flow rate (vph)	484	530	358	13	29	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	371				1863	365
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	371				1863	365
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	60				40	90
cM capacity (veh/h)	1199				48	685

Direction, Lane #	SE 1	NW 1	SW 1
Volume Total	1015	371	97
Volume Left	484	0	29
Volume Right	0	13	68
cSH	1199	1700	139
Volume to Capacity	0.40	0.22	0.70
Queue Length 95th (ft)	50	0	99
Control Delay (s)	7.9	0.0	76.1
Lane LOS	A		F
Approach Delay (s)	7.9	0.0	76.1
Approach LOS			F

Intersection Summary			
Average Delay	10.4		
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	78	376	624	5	50	311
Peak Hour Factor	0.89	0.89	0.84	0.84	0.93	0.93
Hourly flow rate (vph)	88	422	743	6	54	334
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	749				1344	746
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	749				1344	746
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				65	20
cM capacity (veh/h)	869				152	417

Direction, Lane #	SE 1	NW 1	SW 1
Volume Total	510	749	388
Volume Left	88	0	54
Volume Right	0	6	334
cSH	869	1700	336
Volume to Capacity	0.10	0.44	1.16
Queue Length 95th (ft)	8	0	394
Control Delay (s)	2.7	0.0	133.3
Lane LOS	A		F
Approach Delay (s)	2.7	0.0	133.3
Approach LOS			F

Intersection Summary			
Average Delay	32.3		
Intersection Capacity Utilization	89.2%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	82	407	688	14	55	327
Peak Hour Factor	0.89	0.89	0.84	0.84	0.93	0.93
Hourly flow rate (vph)	92	457	819	17	59	352
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	836				1469	827
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	836				1469	827
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				53	6
cM capacity (veh/h)	807				126	374

Direction, Lane #	SE 1	NW 1	SW 1
Volume Total	549	836	411
Volume Left	92	0	59
Volume Right	0	17	352
cSH	807	1700	291
Volume to Capacity	0.11	0.49	1.41
Queue Length 95th (ft)	10	0	549
Control Delay (s)	3.0	0.0	237.4
Lane LOS	A		F
Approach Delay (s)	3.0	0.0	237.4
Approach LOS			F

Intersection Summary			
Average Delay	55.2		
Intersection Capacity Utilization	96.2%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	82	439	699	20	65	327
Peak Hour Factor	0.89	0.89	0.84	0.84	0.93	0.93
Hourly flow rate (vph)	92	493	832	24	70	352
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	856				1522	844
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	856				1522	844
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				40	4
cM capacity (veh/h)	793				116	366

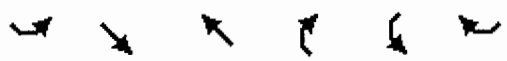
Direction, Lane #	SE 1	NW 1	SW 1
Volume Total	585	856	422
Volume Left	92	0	70
Volume Right	0	24	352
cSH	793	1700	270
Volume to Capacity	0.12	0.50	1.56
Queue Length 95th (ft)	10	0	630
Control Delay (s)	3.0	0.0	303.3
Lane LOS	A		F
Approach Delay (s)	3.0	0.0	303.3
Approach LOS			F

Intersection Summary			
Average Delay	69.6		
Intersection Capacity Utilization	99.4%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	32	286	301	10	20	34
Peak Hour Factor	0.83	0.83	0.93	0.93	0.64	0.64
Hourly flow rate (vph)	39	345	324	11	31	53
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	334				751	329
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	334				751	329
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				92	93
cM capacity (veh/h)	1219				369	717

Direction, Lane #	SE 1	NW 1	SW 1
Volume Total	383	334	84
Volume Left	39	0	31
Volume Right	0	11	53
cSH	1219	1700	532
Volume to Capacity	0.03	0.20	0.16
Queue Length 95th (ft)	2	0	14
Control Delay (s)	1.1	0.0	13.0
Lane LOS	A		B
Approach Delay (s)	1.1	0.0	13.0
Approach LOS			B

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	34	315	331	13	23	36
Peak Hour Factor	0.83	0.83	0.93	0.93	0.64	0.64
Hourly flow rate (vph)	41	380	356	14	36	56
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	370				824	363
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	370				824	363
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				89	92
cM capacity (veh/h)	1183				333	686

Direction, Lane #	SE 1	NW 1	SW 1
Volume Total	420	370	92
Volume Left	41	0	36
Volume Right	0	14	56
cSH	1183	1700	486
Volume to Capacity	0.03	0.22	0.19
Queue Length 95th (ft)	3	0	17
Control Delay (s)	1.1	0.0	14.1
Lane LOS	A		B
Approach Delay (s)	1.1	0.0	14.1
Approach LOS			B

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	50.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	34	365	372	26	33	36
Peak Hour Factor	0.83	0.83	0.93	0.93	0.64	0.64
Hourly flow rate (vph)	41	440	400	28	52	56
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	428				936	414
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	428				936	414
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				82	91
cM capacity (veh/h)	1126				286	643

Direction, Lane #	SE 1	NW 1	SW 1
Volume Total	481	428	108
Volume Left	41	0	52
Volume Right	0	28	56
cSH	1126	1700	403
Volume to Capacity	0.04	0.25	0.27
Queue Length 95th (ft)	3	0	27
Control Delay (s)	1.1	0.0	17.2
Lane LOS	A		C
Approach Delay (s)	1.1	0.0	17.2
Approach LOS			C

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	31	365	333	10	12	36
Peak Hour Factor	0.84	0.84	0.92	0.92	0.80	0.80
Hourly flow rate (vph)	37	435	362	11	15	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	373				876	367
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	373				876	367
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				95	93
cM capacity (veh/h)	1197				312	682

Direction, Lane #	SE 1	NW 1	SW 1
Volume Total	471	373	60
Volume Left	37	0	15
Volume Right	0	11	45
cSH	1197	1700	526
Volume to Capacity	0.03	0.22	0.11
Queue Length 95th (ft)	2	0	10
Control Delay (s)	0.9	0.0	12.7
Lane LOS	A		B
Approach Delay (s)	0.9	0.0	12.7
Approach LOS			B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	33	390	354	12	14	38
Peak Hour Factor	0.84	0.84	0.92	0.92	0.80	0.80
Hourly flow rate (vph)	39	464	385	13	18	48
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	398				934	391
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	398				934	391
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				94	93
cM capacity (veh/h)	1172				287	662

Direction, Lane #	SE 1	NW 1	SW 1
Volume Total	504	398	65
Volume Left	39	0	18
Volume Right	0	13	48
cSH	1172	1700	490
Volume to Capacity	0.03	0.23	0.13
Queue Length 95th (ft)	3	0	11
Control Delay (s)	1.0	0.0	13.5
Lane LOS	A		B
Approach Delay (s)	1.0	0.0	13.5
Approach LOS			B

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	33	412	376	18	20	38
Peak Hour Factor	0.84	0.84	0.92	0.92	0.80	0.80
Hourly flow rate (vph)	39	490	409	20	25	48
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	428				988	418
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	428				988	418
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				91	93
cM capacity (veh/h)	1142				267	639

Direction, Lane #	SE 1	NW 1	SW 1
Volume Total	530	428	72
Volume Left	39	0	25
Volume Right	0	20	48
cSH	1142	1700	432
Volume to Capacity	0.03	0.25	0.17
Queue Length 95th (ft)	3	0	15
Control Delay (s)	1.0	0.0	15.0
Lane LOS	A		C
Approach Delay (s)	1.0	0.0	15.0
Approach LOS			C

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

Route 27 at the Site Driveway

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	112	57	539	75	50	244
Peak Hour Factor	0.92	0.92	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	122	62	580	81	54	262
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	990	620			660	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	990	620			660	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	53	87			94	
cM capacity (veh/h)	258	488			938	

Direction, Lane #	EB 1	EB 2	SE 1	NW 1
Volume Total	122	62	660	316
Volume Left	122	0	0	54
Volume Right	0	62	81	0
cSH	258	488	1700	938
Volume to Capacity	0.47	0.13	0.39	0.06
Queue Length 95th (ft)	59	11	0	5
Control Delay (s)	30.9	13.4	0.0	2.1
Lane LOS	D	B		A
Approach Delay (s)	25.0		0.0	2.1
Approach LOS	D			

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0
Lane Util. Factor	1.00	1.00	1.00			1.00
Frt	1.00	0.85	0.98			1.00
Flt Protected	0.95	1.00	1.00			0.99
Satd. Flow (prot)	1770	1583	1836			1823
Flt Permitted	0.95	1.00	1.00			0.85
Satd. Flow (perm)	1770	1583	1836			1561
Volume (vph)	112	57	539	75	50	244
Peak-hour factor, PHF	0.92	0.92	0.93	0.93	0.93	0.93
Adj. Flow (vph)	122	62	580	81	54	262
RTOR Reduction (vph)	0	50	6	0	0	0
Lane Group Flow (vph)	122	12	655	0	0	316
Heavy Vehicles (%)	2%	2%	2%	0%	0%	4%
Turn Type		Perm			Perm	
Protected Phases	4		6			2
Permitted Phases		4			2	
Actuated Green, G (s)	9.7	9.7	38.2			38.2
Effective Green, g (s)	11.7	11.7	40.2			40.2
Actuated g/C Ratio	0.20	0.20	0.67			0.67
Clearance Time (s)	6.0	6.0	6.0			6.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	346	309	1232			1048
v/s Ratio Prot	c0.07		c0.36			
v/s Ratio Perm		0.01				0.20
v/c Ratio	0.35	0.04	0.53			0.30
Uniform Delay, d1	20.8	19.5	5.0			4.1
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.6	0.1	0.4			0.2
Delay (s)	21.4	19.6	5.5			4.2
Level of Service	C	B	A			A
Approach Delay (s)	20.8		5.5			4.2
Approach LOS	C		A			A

Intersection Summary				
HCM Average Control Delay	7.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	59.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		

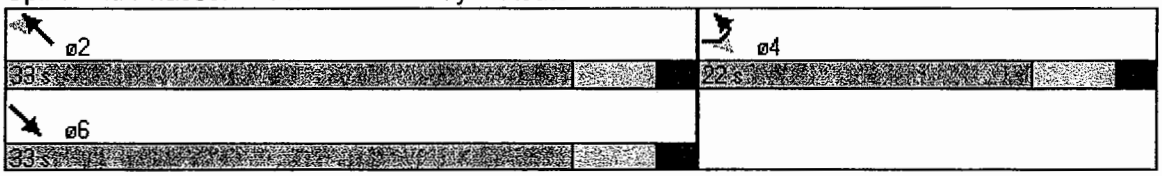
c Critical Lane Group

Lane Group	EBL	EBR	SET	NWL	NWT
Lane Configurations					
Volume (vph)	112	57	539	50	244
Lane Group Flow (vph)	122	62	661	0	316
Turn Type		Perm		Perm	
Protected Phases	4		6		2
Permitted Phases		4		2	
Detector Phases	4	4	6	2	2
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0
Total Split (s)	22.0	22.0	33.0	33.0	33.0
Total Split (%)	40.0%	40.0%	60.0%	60.0%	60.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	Min	Min	Min
v/c Ratio	0.34	0.17	0.54		0.33
Control Delay	15.7	5.9	7.7		6.1
Queue Delay	0.0	0.0	0.0		0.0
Total Delay	15.7	5.9	7.7		6.1
Queue Length 50th (ft)	23	0	83		34
Queue Length 95th (ft)	62	21	197		87
Internal Link Dist (ft)	489		773		1425
Turn Bay Length (ft)					
Base Capacity (vph)	525	513	1261		976
Starvation Cap Reductn	0	0	0		0
Spillback Cap Reductn	0	0	0		0
Storage Cap Reductn	0	0	0		0
Reduced v/c Ratio	0.23	0.12	0.52		0.32

Intersection Summary

Cycle Length: 55
Actuated Cycle Length: 61.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 14: Site Driveway & Route 27



Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	182	182	302	128	196	624
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	198	198	328	139	213	678
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1502	398			467	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1502	398			467	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	70			81	
cM capacity (veh/h)	108	652			1105	

Direction, Lane #	EB 1	EB 2	SE 1	NW 1
Volume Total	198	198	467	891
Volume Left	198	0	0	213
Volume Right	0	198	139	0
cSH	108	652	1700	1105
Volume to Capacity	1.83	0.30	0.27	0.19
Queue Length 95th (ft)	397	32	0	18
Control Delay (s)	474.3	12.9	0.0	4.4
Lane LOS	F	B		A
Approach Delay (s)	243.6		0.0	4.4
Approach LOS	F			

Intersection Summary			
Average Delay	57.2		
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0
Lane Util. Factor	1.00	1.00	1.00			1.00
Frt	1.00	0.85	0.96			1.00
Flt Protected	0.95	1.00	1.00			0.99
Satd. Flow (prot)	1770	1583	1798			1863
Flt Permitted	0.95	1.00	1.00			0.75
Satd. Flow (perm)	1770	1583	1798			1409
Volume (vph)	182	182	302	128	196	624
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	198	198	328	139	213	678
RTOR Reduction (vph)	0	161	17	0	0	0
Lane Group Flow (vph)	198	37	450	0	0	891
Heavy Vehicles (%)	2%	2%	2%	0%	0%	1%
Turn Type		Perm			Perm	
Protected Phases	4		6			2
Permitted Phases		4			2	
Actuated Green, G (s)	12.8	12.8	54.4			54.4
Effective Green, g (s)	14.8	14.8	56.4			56.4
Actuated g/C Ratio	0.19	0.19	0.71			0.71
Clearance Time (s)	6.0	6.0	6.0			6.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	331	296	1280			1003
v/s Ratio Prot	c0.11		0.25			
v/s Ratio Perm		0.02				c0.63
v/c Ratio	0.60	0.12	0.35			0.89
Uniform Delay, d1	29.5	26.8	4.4			8.9
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	2.9	0.2	0.2			9.7
Delay (s)	32.4	27.0	4.5			18.6
Level of Service	C	C	A			B
Approach Delay (s)	29.7		4.5			18.6
Approach LOS	C		A			B

Intersection Summary			
HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	79.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		

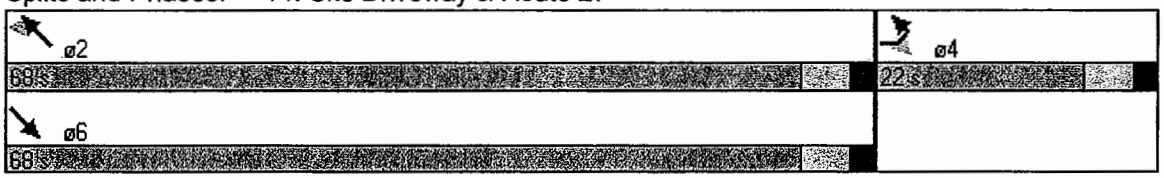
c Critical Lane Group

Lane Group	EBL	EBR	SET	NWL	NWT
Lane Configurations					
Volume (vph)	182	182	302	196	624
Lane Group Flow (vph)	198	198	467	0	891
Turn Type		Perm		Perm	
Protected Phases	4		6		2
Permitted Phases		4		2	
Detector Phases	4	4	6	2	2
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0
Total Split (s)	22.0	22.0	68.0	68.0	68.0
Total Split (%)	24.4%	24.4%	75.6%	75.6%	75.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	Min	Min	Min
v/c Ratio	0.60	0.43	0.36		0.91
Control Delay	39.3	8.2	4.9		25.8
Queue Delay	0.0	0.0	0.0		0.0
Total Delay	39.3	8.2	4.9		25.8
Queue Length 50th (ft)	102	0	70		334
Queue Length 95th (ft)	172	55	116		#707
Internal Link Dist (ft)	489		773		1425
Turn Bay Length (ft)					
Base Capacity (vph)	392	504	1340		1016
Starvation Cap Reductn	0	0	0		0
Spillback Cap Reductn	0	0	0		0
Storage Cap Reductn	0	0	0		0
Reduced v/c Ratio	0.51	0.39	0.35		0.88

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 79.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Site Driveway & Route 27



Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	191	220	274	172	244	311
Peak Hour Factor	0.92	0.92	0.96	0.96	0.97	0.97
Hourly flow rate (vph)	208	239	285	179	252	321
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1199	375			465	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1199	375			465	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	64			77	
cM capacity (veh/h)	158	671			1107	

Direction, Lane #	EB 1	EB 2	SE 1	NW 1
Volume Total	208	239	465	572
Volume Left	208	0	0	252
Volume Right	0	239	179	0
cSH	158	671	1700	1107
Volume to Capacity	1.31	0.36	0.27	0.23
Queue Length 95th (ft)	311	40	0	22
Control Delay (s)	233.2	13.3	0.0	5.5
Lane LOS	F	B		A
Approach Delay (s)	115.5		0.0	5.5
Approach LOS	F			

Intersection Summary			
Average Delay	36.9		
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0
Lane Util. Factor	1.00	1.00	1.00			1.00
Frt	1.00	0.85	0.95			1.00
Flt Protected	0.95	1.00	1.00			0.98
Satd. Flow (prot)	1770	1583	1790			1849
Flt Permitted	0.95	1.00	1.00			0.60
Satd. Flow (perm)	1770	1583	1790			1128
Volume (vph)	191	220	274	172	244	311
Peak-hour factor, PHF	0.92	0.92	0.96	0.96	0.97	0.97
Adj. Flow (vph)	208	239	285	179	252	321
RTOR Reduction (vph)	0	183	32	0	0	0
Lane Group Flow (vph)	208	56	432	0	0	573
Heavy Vehicles (%)	2%	2%	1%	0%	0%	1%
Turn Type		Perm			Perm	
Protected Phases	4		6			2
Permitted Phases		4			2	
Actuated Green, G (s)	11.6	11.6	34.4			34.4
Effective Green, g (s)	13.6	13.6	36.4			36.4
Actuated g/C Ratio	0.23	0.23	0.63			0.63
Clearance Time (s)	6.0	6.0	6.0			6.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	415	371	1123			708
v/s Ratio Prot	c0.12		0.24			
v/s Ratio Perm		0.04				c0.51
v/c Ratio	0.50	0.15	0.38			0.81
Uniform Delay, d1	19.3	17.6	5.3			8.2
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	1.0	0.2	0.2			6.8
Delay (s)	20.2	17.8	5.5			15.0
Level of Service	C	B	A			B
Approach Delay (s)	18.9		5.5			15.0
Approach LOS	B		A			B

Intersection Summary				
HCM Average Control Delay	13.2	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	58.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	75.4%	ICU Level of Service	D	
Analysis Period (min)	15			

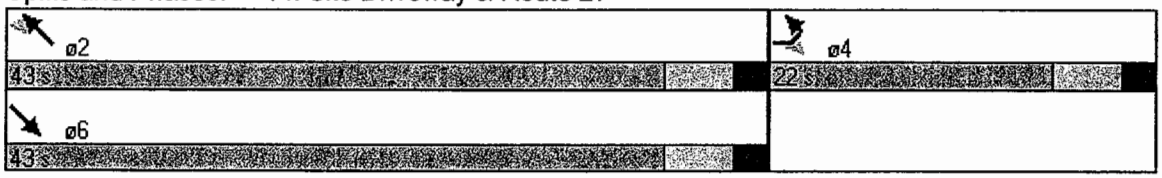
c Critical Lane Group

Lane Group	EBL	EBR	SET	NWL	NWT
Lane Configurations					
Volume (vph)	191	220	274	244	311
Lane Group Flow (vph)	208	239	464	0	573
Turn Type		Perm		Perm	
Protected Phases	4		6		2
Permitted Phases		4		2	
Detector Phases	4	4	6	2	2
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0
Total Split (s)	22.0	22.0	43.0	43.0	43.0
Total Split (%)	33.8%	33.8%	66.2%	66.2%	66.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	Min	Min	Min
v/c Ratio	0.50	0.43	0.40		0.85
Control Delay	24.1	5.8	6.0		25.8
Queue Delay	0.0	0.0	0.0		0.0
Total Delay	24.1	5.8	6.0		25.8
Queue Length 50th (ft)	67	0	54		139
Queue Length 95th (ft)	123	46	119		#388
Internal Link Dist (ft)	489		773		1425
Turn Bay Length (ft)					
Base Capacity (vph)	513	628	1182		689
Starvation Cap Reductn	0	0	0		0
Spillback Cap Reductn	0	0	0		0
Storage Cap Reductn	0	0	0		0
Reduced v/c Ratio	0.41	0.38	0.39		0.83

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 58.1
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Site Driveway & Route 27



Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	43	106	428	43	112	350
Peak Hour Factor	0.92	0.92	0.82	0.82	0.93	0.93
Hourly flow rate (vph)	47	115	522	52	120	376
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1165	548			574	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1165	548			574	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	75	79			88	
cM capacity (veh/h)	191	540			1009	

Direction, Lane #	EB 1	SE 1	NW 1
Volume Total	162	574	497
Volume Left	47	0	120
Volume Right	115	52	0
cSH	353	1700	1009
Volume to Capacity	0.46	0.34	0.12
Queue Length 95th (ft)	58	0	10
Control Delay (s)	23.5	0.0	3.2
Lane LOS	C		A
Approach Delay (s)	23.5	0.0	3.2
Approach LOS	C		

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0
Lane Util. Factor	1.00	1.00	1.00			1.00
Frt	1.00	0.85	0.99			1.00
Flt Protected	0.95	1.00	1.00			0.99
Satd. Flow (prot)	1805	1615	1860			1863
Flt Permitted	0.95	1.00	1.00			0.77
Satd. Flow (perm)	1805	1615	1860			1457
Volume (vph)	43	106	428	43	112	350
Peak-hour factor, PHF	0.92	0.92	0.82	0.82	0.93	0.93
Adj. Flow (vph)	47	115	522	52	120	376
RTOR Reduction (vph)	0	103	2	0	0	0
Lane Group Flow (vph)	47	12	572	0	0	496
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Turn Type		Perm			Perm	
Protected Phases	4		6			2
Permitted Phases		4			2	
Actuated Green, G (s)	6.3	6.3	61.7			61.7
Effective Green, g (s)	8.3	8.3	63.7			63.7
Actuated g/C Ratio	0.10	0.10	0.80			0.80
Clearance Time (s)	6.0	6.0	6.0			6.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	187	168	1481			1160
v/s Ratio Prot	c0.03		0.31			
v/s Ratio Perm		0.01				c0.34
v/c Ratio	0.25	0.07	0.39			0.43
Uniform Delay, d1	33.0	32.4	2.4			2.5
Progression Factor	1.00	1.00	1.00			0.62
Incremental Delay, d2	0.7	0.2	0.8			1.1
Delay (s)	33.7	32.5	3.2			2.6
Level of Service	C	C	A			A
Approach Delay (s)	32.9		3.2			2.6
Approach LOS	C		A			A

Intersection Summary			
HCM Average Control Delay	6.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		

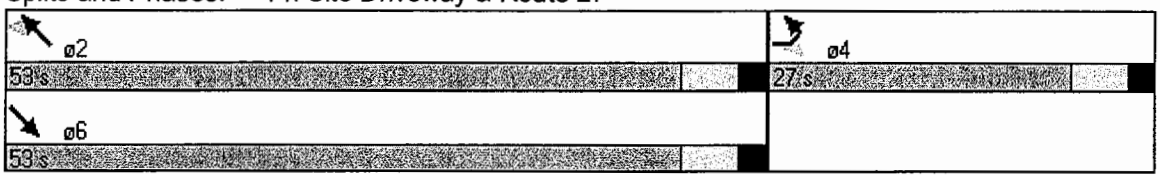
c Critical Lane Group

Lane Group	EBL	EBR	SET	NWL	NWT
Lane Configurations					
Volume (vph)	43	106	428	112	350
Lane Group Flow (vph)	47	115	574	0	496
Turn Type		Perm		Perm	
Protected Phases	4		6		2
Permitted Phases		4		2	
Detector Phases	4	4	6	2	2
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0
Total Split (s)	27.0	27.0	53.0	53.0	53.0
Total Split (%)	33.8%	33.8%	66.3%	66.3%	66.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.22	0.39	0.38		0.46
Control Delay	33.9	11.0	3.4		3.4
Queue Delay	0.0	0.0	0.0		0.0
Total Delay	33.9	11.0	3.4		3.4
Queue Length 50th (ft)	22	0	63		11
Queue Length 95th (ft)	51	44	102		236
Internal Link Dist (ft)	489		773		1425
Turn Bay Length (ft)					
Base Capacity (vph)	519	546	1529		1071
Starvation Cap Reductn	0	0	0		0
Spillback Cap Reductn	0	0	0		0
Storage Cap Reductn	0	0	0		0
Reduced v/c Ratio	0.09	0.21	0.38		0.46

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 38 (48%), Referenced to phase 2:NWTL and 6:SET, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 14: Site Driveway & Route 27



Route 27 at Bow Road

Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	9	19	64	432	319	4
Peak Hour Factor	0.78	0.78	0.93	0.93	0.91	0.91
Hourly flow rate (vph)	12	24	69	465	351	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	955	353	355			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	955	353	355			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	96	94			
cM capacity (veh/h)	273	684	1198			

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	36	533	355
Volume Left	12	69	0
Volume Right	24	0	4
cSH	461	1198	1700
Volume to Capacity	0.08	0.06	0.21
Queue Length 95th (ft)	6	5	0
Control Delay (s)	13.5	1.6	0.0
Lane LOS	B	A	
Approach Delay (s)	13.5	1.6	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	9	20	67	501	346	4
Peak Hour Factor	0.78	0.78	0.93	0.93	0.91	0.91
Hourly flow rate (vph)	12	26	72	539	380	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1065	382	385			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1065	382	385			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	96	94			
cM capacity (veh/h)	233	658	1168			

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	37	611	385
Volume Left	12	72	0
Volume Right	26	0	4
cSH	420	1168	1700
Volume to Capacity	0.09	0.06	0.23
Queue Length 95th (ft)	7	5	0
Control Delay (s)	14.4	1.6	0.0
Lane LOS	B	A	
Approach Delay (s)	14.4	1.6	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	9	20	67	472	349	4
Peak Hour Factor	0.78	0.78	0.93	0.93	0.91	0.91
Hourly flow rate (vph)	12	26	72	508	384	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1037	386	388			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1037	386	388			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	96	94			
cM capacity (veh/h)	242	656	1165			

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	37	580	388
Volume Left	12	72	0
Volume Right	26	0	4
cSH	429	1165	1700
Volume to Capacity	0.09	0.06	0.23
Queue Length 95th (ft)	7	5	0
Control Delay (s)	14.2	1.7	0.0
Lane LOS	B	A	
Approach Delay (s)	14.2	1.7	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	73	56	68	314	605	8
Peak Hour Factor	0.85	0.85	0.88	0.88	0.93	0.93
Hourly flow rate (vph)	86	66	77	357	651	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1166	655	659			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1166	655	659			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	57	86	92			
cM capacity (veh/h)	198	466	924			

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	152	434	659
Volume Left	86	77	0
Volume Right	66	0	9
cSH	264	924	1700
Volume to Capacity	0.57	0.08	0.39
Queue Length 95th (ft)	82	7	0
Control Delay (s)	35.6	2.5	0.0
Lane LOS	E	A	
Approach Delay (s)	35.6	2.5	0.0
Approach LOS	E		

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	77	59	71	344	677	8
Peak Hour Factor	0.85	0.85	0.88	0.88	0.93	0.93
Hourly flow rate (vph)	91	69	81	391	728	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1285	732	737			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1285	732	737			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	46	84	91			
cM capacity (veh/h)	166	421	865			

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	160	472	737
Volume Left	91	81	0
Volume Right	69	0	9
cSH	226	865	1700
Volume to Capacity	0.71	0.09	0.43
Queue Length 95th (ft)	117	8	0
Control Delay (s)	52.3	2.6	0.0
Lane LOS	F	A	
Approach Delay (s)	52.3	2.6	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	77	59	71	386	694	8
Peak Hour Factor	0.85	0.85	0.88	0.88	0.93	0.93
Hourly flow rate (vph)	91	69	81	439	746	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1351	751	755			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1351	751	755			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	40	83	91			
cM capacity (veh/h)	152	411	851			

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	160	519	755
Volume Left	91	81	0
Volume Right	69	0	9
cSH	209	851	1700
Volume to Capacity	0.77	0.09	0.44
Queue Length 95th (ft)	132	8	0
Control Delay (s)	63.0	2.5	0.0
Lane LOS	F	A	
Approach Delay (s)	63.0	2.5	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	8.0		
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	6	2	2	313	315	5
Peak Hour Factor	0.67	0.67	0.84	0.84	0.93	0.93
Hourly flow rate (vph)	9	3	2	373	339	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	719	341	344			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	719	341	344			
tC, single (s)	6.4	6.7	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.8	2.2			
p0 queue free %	98	100	100			
cM capacity (veh/h)	398	604	1226			

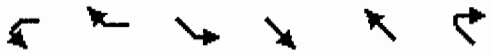
Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	12	375	344
Volume Left	9	2	0
Volume Right	3	0	5
cSH	435	1226	1700
Volume to Capacity	0.03	0.00	0.20
Queue Length 95th (ft)	2	0	0
Control Delay (s)	13.5	0.1	0.0
Lane LOS	B	A	
Approach Delay (s)	13.5	0.1	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	28.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	6	2	2	345	348	5
Peak Hour Factor	0.67	0.67	0.84	0.84	0.93	0.93
Hourly flow rate (vph)	9	3	2	411	374	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	792	377	380			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	792	377	380			
tC, single (s)	6.4	6.7	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.8	2.2			
p0 queue free %	98	99	100			
cM capacity (veh/h)	360	576	1190			

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	12	413	380
Volume Left	9	2	0
Volume Right	3	0	5
cSH	397	1190	1700
Volume to Capacity	0.03	0.00	0.22
Queue Length 95th (ft)	2	0	0
Control Delay (s)	14.3	0.1	0.0
Lane LOS	B	A	
Approach Delay (s)	14.3	0.1	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	29.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	6	2	2	405	402	5
Peak Hour Factor	0.67	0.67	0.84	0.84	0.93	0.93
Hourly flow rate (vph)	9	3	2	482	432	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	922	435	438			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	922	435	438			
tC, single (s)	6.4	6.7	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.8	2.2			
p0 queue free %	97	99	100			
cM capacity (veh/h)	302	531	1133			

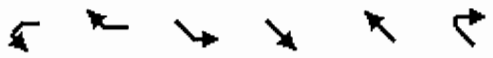
Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	12	485	438
Volume Left	9	2	0
Volume Right	3	0	5
cSH	338	1133	1700
Volume to Capacity	0.04	0.00	0.26
Queue Length 95th (ft)	3	0	0
Control Delay (s)	16.0	0.1	0.0
Lane LOS	C	A	
Approach Delay (s)	16.0	0.1	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	32.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	12	3	3	368	358	7
Peak Hour Factor	0.63	0.63	0.89	0.89	0.95	0.95
Hourly flow rate (vph)	19	5	3	413	377	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	801	381	384			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	801	381	384			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	99	100			
cM capacity (veh/h)	356	671	1185			

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	24	417	384
Volume Left	19	3	0
Volume Right	5	0	7
cSH	392	1185	1700
Volume to Capacity	0.06	0.00	0.23
Queue Length 95th (ft)	5	0	0
Control Delay (s)	14.8	0.1	0.0
Lane LOS	B	A	
Approach Delay (s)	14.8	0.1	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	31.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	13	3	3	390	381	7
Peak Hour Factor	0.63	0.63	0.89	0.89	0.95	0.95
Hourly flow rate (vph)	21	5	3	438	401	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	850	405	408			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	850	405	408			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	99	100			
cM capacity (veh/h)	333	650	1161			

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	25	442	408
Volume Left	21	3	0
Volume Right	5	0	7
cSH	366	1161	1700
Volume to Capacity	0.07	0.00	0.24
Queue Length 95th (ft)	6	0	0
Control Delay (s)	15.6	0.1	0.0
Lane LOS	C	A	
Approach Delay (s)	15.6	0.1	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	32.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	13	3	3	418	409	7
Peak Hour Factor	0.63	0.63	0.89	0.89	0.95	0.95
Hourly flow rate (vph)	21	5	3	470	431	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	911	434	438			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	911	434	438			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	99	100			
cM capacity (veh/h)	306	626	1133			

Direction, Lane #	WB 1	SE 1	NW 1
Volume Total	25	473	438
Volume Left	21	3	0
Volume Right	5	0	7
cSH	339	1133	1700
Volume to Capacity	0.07	0.00	0.26
Queue Length 95th (ft)	6	0	0
Control Delay (s)	16.5	0.1	0.0
Lane LOS	C	A	
Approach Delay (s)	16.5	0.1	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		

Route 27 at Route 126

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	3	570	323	421	241	5
Peak Hour Factor	0.90	0.90	0.94	0.94	0.81	0.81
Hourly flow rate (vph)	3	633	344	448	298	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			833			
pX, platoon unblocked						
vC, conflicting volume	791				984	344
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	791				984	344
tC, single (s)	4.4				6.4	6.6
tC, 2 stage (s)						
tF (s)	2.5				3.5	3.7
p0 queue free %	100				0	99
cM capacity (veh/h)	707				274	621

Direction, Lane #	SE 1	NW 1	NW 2	SW 1
Volume Total	637	344	448	304
Volume Left	3	0	0	298
Volume Right	0	0	448	6
cSH	707	1700	1700	277
Volume to Capacity	0.00	0.20	0.26	1.09
Queue Length 95th (ft)	0	0	0	311
Control Delay (s)	0.1	0.0	0.0	121.9
Lane LOS	A			F
Approach Delay (s)	0.1	0.0		121.9
Approach LOS				F

Intersection Summary			
Average Delay	21.4		
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	12	645	524	454	265	57
Peak Hour Factor	0.90	0.90	0.94	0.94	0.81	0.81
Hourly flow rate (vph)	13	717	557	483	327	70
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			833			
pX, platoon unblocked						
vC, conflicting volume	1040				1301	557
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1040				1301	557
tC, single (s)	4.4				6.4	6.6
tC, 2 stage (s)						
tF (s)	2.5				3.5	3.7
p0 queue free %	98				0	85
cM capacity (veh/h)	563				174	464

Direction, Lane #	SE 1	NW 1	NW 2	SW 1
Volume Total	730	557	483	398
Volume Left	13	0	0	327
Volume Right	0	0	483	70
cSH	563	1700	1700	195
Volume to Capacity	0.02	0.33	0.28	2.04
Queue Length 95th (ft)	2	0	0	756
Control Delay (s)	0.7	0.0	0.0	524.0
Lane LOS	A			F
Approach Delay (s)	0.7	0.0		524.0
Approach LOS				F

Intersection Summary			
Average Delay	96.3		
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	14	582	273	453	265	21
Peak Hour Factor	0.90	0.90	0.94	0.94	0.81	0.81
Hourly flow rate (vph)	16	647	290	482	327	26
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			833			
pX, platoon unblocked						
vC, conflicting volume	772				968	290
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	772				968	290
tC, single (s)	4.4				6.4	6.6
tC, 2 stage (s)						
tF (s)	2.5				3.5	3.7
p0 queue free %	98				0	96
cM capacity (veh/h)	720				275	667

Direction, Lane #	SE 1	NW 1	NW 2	SW 1
Volume Total	662	290	482	353
Volume Left	16	0	0	327
Volume Right	0	0	482	26
cSH	720	1700	1700	288
Volume to Capacity	0.02	0.17	0.28	1.23
Queue Length 95th (ft)	2	0	0	407
Control Delay (s)	0.6	0.0	0.0	166.0
Lane LOS	A			F
Approach Delay (s)	0.6	0.0		166.0
Approach LOS				F

Intersection Summary			
Average Delay	33.0		
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	11
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.92		0.99	
Flt Protected	0.95	1.00	1.00		0.96	
Satd. Flow (prot)	1357	1881	1679		1658	
Flt Permitted	0.16	1.00	1.00		0.96	
Satd. Flow (perm)	235	1881	1679		1658	
Volume (vph)	14	582	273	453	265	21
Peak-hour factor, PHF	0.90	0.90	0.94	0.94	0.81	0.81
Adj. Flow (vph)	16	647	290	482	327	26
RTOR Reduction (vph)	0	0	134	0	6	0
Lane Group Flow (vph)	16	647	638	0	347	0
Heavy Vehicles (%)	33%	1%	3%	4%	2%	40%
Turn Type	pm+pt					
Protected Phases	1	6	2		8	
Permitted Phases	6					
Actuated Green, G (s)	25.1	25.1	18.3		12.9	
Effective Green, g (s)	27.1	27.1	20.3		14.9	
Actuated g/C Ratio	0.54	0.54	0.41		0.30	
Clearance Time (s)	6.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	190	1020	682		494	
v/s Ratio Prot	0.00	c0.34	c0.38		c0.21	
v/s Ratio Perm	0.04					
v/c Ratio	0.08	0.63	0.94		0.70	
Uniform Delay, d1	10.3	8.0	14.2		15.6	
Progression Factor	1.00	1.00	0.86		1.00	
Incremental Delay, d2	0.2	3.0	13.5		4.5	
Delay (s)	10.5	11.0	25.8		20.1	
Level of Service	B	B	C		C	
Approach Delay (s)		11.0	25.8		20.1	
Approach LOS		B	C		C	

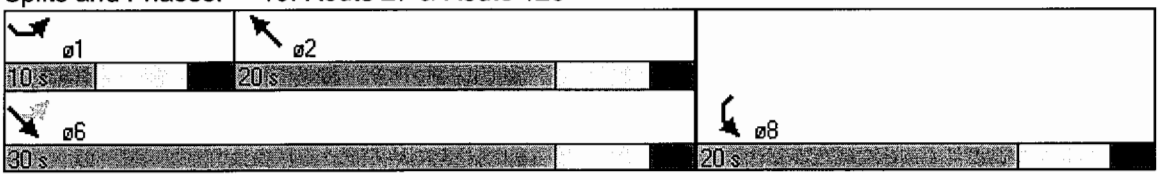
Intersection Summary			
HCM Average Control Delay	19.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	SEL	SET	NWT	SWL
Lane Configurations				
Volume (vph)	14	582	273	265
Lane Group Flow (vph)	16	647	772	353
Turn Type	pm+pt			
Protected Phases	1	6	2	8
Permitted Phases	6			
Detector Phases	1	6	2	8
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	22.0	22.0	22.0
Total Split (s)	10.0	30.0	20.0	20.0
Total Split (%)	20.0%	60.0%	40.0%	40.0%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	C-Min	C-Min	None
v/c Ratio	0.05	0.63	0.81	0.71
Control Delay	6.3	12.0	14.0	22.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	6.3	12.0	14.0	22.1
Queue Length 50th (ft)	2	123	70	85
Queue Length 95th (ft)	9	218	m#357	136
Internal Link Dist (ft)		1425	548	637
Turn Bay Length (ft)				
Base Capacity (vph)	295	1021	957	536
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.05	0.63	0.81	0.66

Intersection Summary

Cycle Length: 50
Actuated Cycle Length: 50
Offset: 48 (96%), Referenced to phase 2:NWT and 6:SETL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Route 27 & Route 126



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	632	356	462	280	6
Peak Hour Factor	0.90	0.90	0.94	0.94	0.81	0.81
Hourly flow rate (vph)	6	702	379	491	346	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			833			
pX, platoon unblocked						
vC, conflicting volume	870				1092	379
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	870				1092	379
tC, single (s)	4.4				6.4	6.6
tC, 2 stage (s)						
tF (s)	2.5				3.5	3.7
p0 queue free %	99				0	99
cM capacity (veh/h)	658				235	592

Direction, Lane #	SE 1	NW 1	NW 2	SW 1
Volume Total	708	379	491	353
Volume Left	6	0	0	346
Volume Right	0	0	491	7
cSH	658	1700	1700	238
Volume to Capacity	0.01	0.22	0.29	1.48
Queue Length 95th (ft)	1	0	0	518
Control Delay (s)	0.2	0.0	0.0	275.8
Lane LOS	A			F
Approach Delay (s)	0.2	0.0		275.8
Approach LOS				F

Intersection Summary			
Average Delay	50.5		
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	11	11
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.92		1.00	
Flt Protected	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1357	1881	1695		1699	
Flt Permitted	0.14	1.00	1.00		0.95	
Satd. Flow (perm)	205	1881	1695		1699	
Volume (vph)	5	632	356	462	280	6
Peak-hour factor, PHF	0.90	0.90	0.94	0.94	0.81	0.81
Adj. Flow (vph)	6	702	379	491	346	7
RTOR Reduction (vph)	0	0	74	0	1	0
Lane Group Flow (vph)	6	702	796	0	352	0
Heavy Vehicles (%)	33%	1%	3%	4%	2%	40%
Turn Type	pm+pt					
Protected Phases	1	6	2		8	
Permitted Phases	6					
Actuated Green, G (s)	28.7	28.7	21.9		14.3	
Effective Green, g (s)	30.7	30.7	23.9		16.3	
Actuated g/C Ratio	0.56	0.56	0.43		0.30	
Clearance Time (s)	6.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	173	1050	737		504	
v/s Ratio Prot	0.00	c0.37	c0.47		c0.21	
v/s Ratio Perm	0.02					
v/c Ratio	0.03	0.67	1.08		0.70	
Uniform Delay, d1	24.9	8.6	15.6		17.2	
Progression Factor	1.00	1.00	0.70		1.00	
Incremental Delay, d2	0.1	3.4	50.2		4.2	
Delay (s)	25.0	11.9	61.1		21.4	
Level of Service	C	B	E		C	
Approach Delay (s)		12.1	61.1		21.4	
Approach LOS		B	E		C	

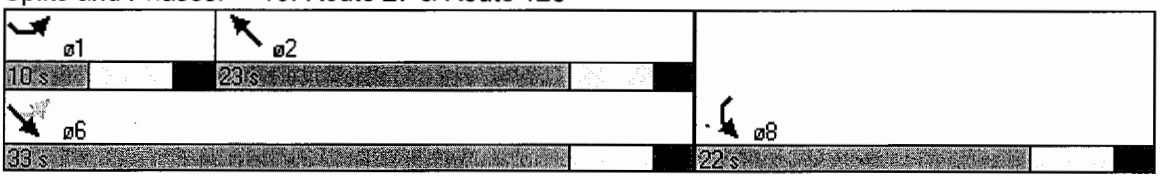
Intersection Summary			
HCM Average Control Delay	35.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	SEL	SET	NWT	SWL
Lane Configurations				
Volume (vph)	5	632	356	280
Lane Group Flow (vph)	6	702	870	353
Turn Type	pm+pt			
Protected Phases	1	6	2	8
Permitted Phases	6			
Detector Phases	1	6	2	8
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0	22.0	22.0
Total Split (s)	10.0	33.0	23.0	22.0
Total Split (%)	18.2%	60.0%	41.8%	40.0%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	C-Min	C-Min	None
v/c Ratio	0.02	0.67	0.92	0.70
Control Delay	6.4	13.2	21.7	22.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	6.4	13.2	21.7	22.5
Queue Length 50th (ft)	1	156	195	95
Queue Length 95th (ft)	5	267	m#739	147
Internal Link Dist (ft)		1425	548	637
Turn Bay Length (ft)				
Base Capacity (vph)	272	1051	948	557
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.02	0.67	0.92	0.63

Intersection Summary

Cycle Length: 55
Actuated Cycle Length: 55
Offset: 0 (0%), Referenced to phase 2:NWT and 6:SETL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Route 27 & Route 126



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	361	712	309	307	4
Peak Hour Factor	0.76	0.76	0.99	0.99	0.80	0.80
Hourly flow rate (vph)	0	475	719	312	384	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			833			
pX, platoon unblocked	0.88				0.88	0.88
vC, conflicting volume	1031				1194	719
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1036				1221	681
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				0	99
cM capacity (veh/h)	597				177	399

Direction, Lane #	SE 1	NW 1	NW 2	SW 1
Volume Total	475	719	312	389
Volume Left	0	0	0	384
Volume Right	0	0	312	5
cSH	597	1700	1700	178
Volume to Capacity	0.00	0.42	0.18	2.19
Queue Length 95th (ft)	0	0	0	777
Control Delay (s)	0.0	0.0	0.0	594.3
Lane LOS				F
Approach Delay (s)	0.0	0.0		594.3
Approach LOS				F

Intersection Summary			
Average Delay	121.9		
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	46	543	799	341	338	15
Peak Hour Factor	0.76	0.76	0.99	0.99	0.80	0.80
Hourly flow rate (vph)	61	714	807	344	422	19
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			833			
pX, platoon unblocked	0.74				0.74	0.74
vC, conflicting volume	1152				1643	807
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1204				1865	740
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	86				0	94
cM capacity (veh/h)	436				52	312

Direction, Lane #	SE 1	NW 1	NW 2	SW 1
Volume Total	775	807	344	441
Volume Left	61	0	0	422
Volume Right	0	0	344	19
cSH	436	1700	1700	54
Volume to Capacity	0.14	0.47	0.20	8.21
Queue Length 95th (ft)	12	0	0	Err
Control Delay (s)	4.4	0.0	0.0	Err
Lane LOS	A			F
Approach Delay (s)	4.4	0.0		Err
Approach LOS				F

Intersection Summary				
Average Delay	1864.8			
Intersection Capacity Utilization	92.9%	ICU Level of Service		F
Analysis Period (min)	15			

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	55	429	764	340	338	56
Peak Hour Factor	0.76	0.76	0.99	0.99	0.80	0.80
Hourly flow rate (vph)	72	564	772	343	422	70
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			833			
pX, platoon unblocked	0.74				0.74	0.74
vC, conflicting volume	1115				1481	772
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1156				1651	691
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	84				0	79
cM capacity (veh/h)	452				68	331

Direction, Lane #	SE 1	NW 1	NW 2	SW 1
Volume Total	637	772	343	492
Volume Left	72	0	0	422
Volume Right	0	0	343	70
cSH	452	1700	1700	77
Volume to Capacity	0.16	0.45	0.20	6.41
Queue Length 95th (ft)	14	0	0	Err
Control Delay (s)	4.7	0.0	0.0	Err
Lane LOS	A			F
Approach Delay (s)	4.7	0.0		Err
Approach LOS				F

Intersection Summary				
Average Delay	2195.4			
Intersection Capacity Utilization	97.6%	ICU Level of Service	F	
Analysis Period (min)	15			

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.96		0.98	
Flt Protected	0.95	1.00	1.00		0.96	
Satd. Flow (prot)	1805	1881	1809		1787	
Flt Permitted	0.06	1.00	1.00		0.96	
Satd. Flow (perm)	122	1881	1809		1787	
Volume (vph)	55	429	764	340	338	56
Peak-hour factor, PHF	0.76	0.76	0.99	0.99	0.80	0.80
Adj. Flow (vph)	72	564	772	343	422	70
RTOR Reduction (vph)	0	0	80	0	6	0
Lane Group Flow (vph)	72	564	1035	0	486	0
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%
Turn Type	pm+pt					
Protected Phases	1	6	2		8	
Permitted Phases	6					
Actuated Green, G (s)	65.9	65.9	56.2		32.1	
Effective Green, g (s)	67.9	67.9	58.2		34.1	
Actuated g/C Ratio	0.62	0.62	0.53		0.31	
Clearance Time (s)	6.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	163	1161	957		554	
v/s Ratio Prot	0.02	c0.30	c0.57		c0.27	
v/s Ratio Perm	0.25					
v/c Ratio	0.44	0.49	1.08		0.88	
Uniform Delay, d1	51.5	11.5	25.9		36.0	
Progression Factor	1.00	1.00	0.69		1.00	
Incremental Delay, d2	1.9	1.5	38.8		14.6	
Delay (s)	53.4	13.0	56.6		50.6	
Level of Service	D	B	E		D	
Approach Delay (s)		17.5	56.6		50.6	
Approach LOS		B	E		D	

Intersection Summary			
HCM Average Control Delay	44.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

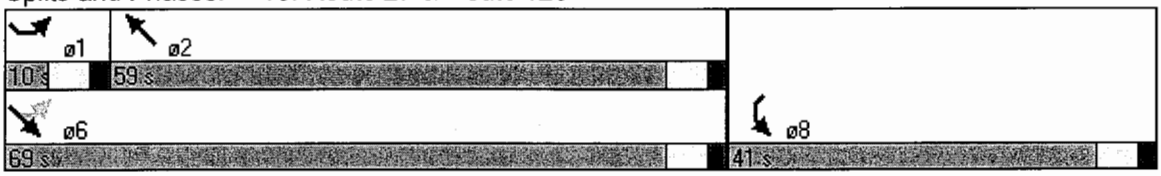
c Critical Lane Group

Lane Group	SEL	SET	NWT	SWL
Lane Configurations				
Volume (vph)	55	429	764	338
Lane Group Flow (vph)	72	564	1115	492
Turn Type	pm+pt			
Protected Phases	1	6	2	8
Permitted Phases	6			
Detector Phases	1	6	2	8
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0	22.0	22.0
Total Split (s)	10.0	69.0	59.0	41.0
Total Split (%)	9.1%	62.7%	53.6%	37.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	C-Min	C-Min	None
v/c Ratio	0.39	0.49	1.06	0.88
Control Delay	16.1	13.9	47.2	46.8
Queue Delay	0.0	0.0	0.8	0.0
Total Delay	16.1	13.9	47.9	46.8
Queue Length 50th (ft)	20	218	~872	310
Queue Length 95th (ft)	34	237	m#749	375
Internal Link Dist (ft)		1425	548	637
Turn Bay Length (ft)				
Base Capacity (vph)	184	1161	1054	606
Starvation Cap Reductn	0	0	2	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.39	0.49	1.06	0.81

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 76 (69%), Referenced to phase 2:NWT and 6:SETL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Route 27 & Route 126



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	439	821	394	388	6
Peak Hour Factor	0.76	0.76	0.99	0.99	0.80	0.80
Hourly flow rate (vph)	1	578	829	398	485	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			833			
pX, platoon unblocked	0.75				0.75	0.75
vC, conflicting volume	1227				1410	829
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1302				1543	773
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				0	98
cM capacity (veh/h)	406				96	303

Direction, Lane #	SE 1	NW 1	NW 2	SW 1
Volume Total	579	829	398	492
Volume Left	1	0	0	485
Volume Right	0	0	398	8
cSH	406	1700	1700	97
Volume to Capacity	0.00	0.49	0.23	5.08
Queue Length 95th (ft)	0	0	0	Err
Control Delay (s)	0.1	0.0	0.0	Err
Lane LOS	A			F
Approach Delay (s)	0.1	0.0		Err
Approach LOS				F

Intersection Summary			
Average Delay	2142.3		
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.96		1.00	
Flt Protected	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1805	1881	1805		1807	
Flt Permitted	0.07	1.00	1.00		0.95	
Satd. Flow (perm)	135	1881	1805		1807	
Volume (vph)	1	439	821	394	388	6
Peak-hour factor, PHF	0.76	0.76	0.99	0.99	0.80	0.80
Adj. Flow (vph)	1	578	829	398	485	8
RTOR Reduction (vph)	0	0	83	0	1	0
Lane Group Flow (vph)	1	578	1144	0	492	0
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%
Turn Type	pm+pt					
Protected Phases	1	6	2		8	
Permitted Phases	6					
Actuated Green, G (s)	57.0	57.0	50.2		21.0	
Effective Green, g (s)	59.0	59.0	52.2		23.0	
Actuated g/C Ratio	0.66	0.66	0.58		0.26	
Clearance Time (s)	6.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	140	1233	1047		462	
v/s Ratio Prot	0.00	c0.31	c0.63		c0.27	
v/s Ratio Perm	0.00					
v/c Ratio	0.01	0.47	1.09		1.07	
Uniform Delay, d1	42.3	7.7	18.9		33.5	
Progression Factor	1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.0	1.3	56.7		60.4	
Delay (s)	42.3	9.0	75.6		93.9	
Level of Service	D	A	E		F	
Approach Delay (s)		9.0	75.6		93.9	
Approach LOS		A	E		F	

Intersection Summary			
HCM Average Control Delay	62.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		

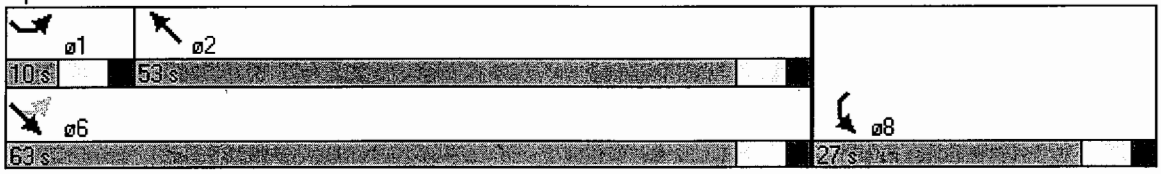
c Critical Lane Group

Lane Group	SEL	SET	NWT	SWL
Lane Configurations				
Volume (vph)	1	439	821	388
Lane Group Flow (vph)	1	578	1227	493
Turn Type	pm+pt			
Protected Phases	1	6	2	8
Permitted Phases	6			
Detector Phases	1	6	2	8
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0	22.0	22.0
Total Split (s)	10.0	63.0	53.0	27.0
Total Split (%)	11.1%	70.0%	58.9%	30.0%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	C-Min	C-Min	None
v/c Ratio	0.00	0.47	1.01	1.06
Control Delay	5.0	9.2	44.6	94.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.0	9.2	44.6	94.4
Queue Length 50th (ft)	0	145	535	~313
Queue Length 95th (ft)	1	164	#1025	#418
Internal Link Dist (ft)		1425	548	637
Turn Bay Length (ft)				
Base Capacity (vph)	204	1233	1214	463
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.00	0.47	1.01	1.06

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NWT and 6:SETL, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Route 27 & Route 126



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	3	372	317	297	299	6
Peak Hour Factor	0.89	0.89	0.98	0.98	0.91	0.91
Hourly flow rate (vph)	3	418	323	303	329	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			833			
pX, platoon unblocked						
vC, conflicting volume	627				748	323
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	627				748	323
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				13	99
cM capacity (veh/h)	965				379	722

Direction, Lane #	SE 1	NW 1	NW 2	SW 1
Volume Total	421	323	303	335
Volume Left	3	0	0	329
Volume Right	0	0	303	7
cSH	965	1700	1700	382
Volume to Capacity	0.00	0.19	0.18	0.88
Queue Length 95th (ft)	0	0	0	216
Control Delay (s)	0.1	0.0	0.0	53.7
Lane LOS	A			F
Approach Delay (s)	0.1	0.0		53.7
Approach LOS				F

Intersection Summary			
Average Delay	13.0		
Intersection Capacity Utilization	45.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	13	442	394	331	335	17
Peak Hour Factor	0.89	0.89	0.98	0.98	0.91	0.91
Hourly flow rate (vph)	15	497	402	338	368	19
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			833			
pX, platoon unblocked						
vC, conflicting volume	740				928	402
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	740				928	402
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				0	97
cM capacity (veh/h)	876				293	653

Direction, Lane #	SE 1	NW 1	NW 2	SW 1
Volume Total	511	402	338	387
Volume Left	15	0	0	368
Volume Right	0	0	338	19
cSH	876	1700	1700	301
Volume to Capacity	0.02	0.24	0.20	1.29
Queue Length 95th (ft)	1	0	0	465
Control Delay (s)	0.5	0.0	0.0	187.0
Lane LOS	A			F
Approach Delay (s)	0.5	0.0		187.0
Approach LOS				F

Intersection Summary			
Average Delay	44.3		
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	65	447	379	331	335	76
Peak Hour Factor	0.89	0.89	0.98	0.98	0.91	0.91
Hourly flow rate (vph)	73	502	387	338	368	84
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			833			
pX, platoon unblocked						
vC, conflicting volume	724				1035	387
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	724				1035	387
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				0	87
cM capacity (veh/h)	887				236	666

Direction, Lane #	SE 1	NW 1	NW 2	SW 1
Volume Total	575	387	338	452
Volume Left	73	0	0	368
Volume Right	0	0	338	84
cSH	887	1700	1700	268
Volume to Capacity	0.08	0.23	0.20	1.69
Queue Length 95th (ft)	7	0	0	722
Control Delay (s)	2.2	0.0	0.0	357.9
Lane LOS	A			F
Approach Delay (s)	2.2	0.0		357.9
Approach LOS				F

Intersection Summary			
Average Delay	93.0		
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	0.97	
Flt Protected	0.95	1.00	1.00	1.00	0.96	
Satd. Flow (prot)	1805	1863	1845	1599	1751	
Flt Permitted	0.37	1.00	1.00	1.00	0.96	
Satd. Flow (perm)	704	1863	1845	1599	1751	
Volume (vph)	65	447	379	331	335	76
Peak-hour factor, PHF	0.89	0.89	0.98	0.98	0.91	0.91
Adj. Flow (vph)	73	502	387	338	368	84
RTOR Reduction (vph)	0	0	0	32	12	0
Lane Group Flow (vph)	73	502	387	306	440	0
Heavy Vehicles (%)	0%	2%	3%	1%	2%	0%
Turn Type	pm+pt			pt+ov		
Protected Phases	1	6	2	2 8	8	
Permitted Phases	6					
Actuated Green, G (s)	45.0	45.0	33.8	62.8	23.0	
Effective Green, g (s)	47.0	47.0	35.8	64.8	25.0	
Actuated g/C Ratio	0.59	0.59	0.45	0.81	0.31	
Clearance Time (s)	6.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	513	1095	826	1295	547	
v/s Ratio Prot	0.01	c0.27	0.21	0.19	c0.25	
v/s Ratio Perm	0.07					
v/c Ratio	0.14	0.46	0.47	0.24	0.80	
Uniform Delay, d1	8.1	9.3	15.4	1.8	25.3	
Progression Factor	1.00	1.00	0.76	2.18	1.00	
Incremental Delay, d2	0.1	1.4	0.6	0.0	8.4	
Delay (s)	8.2	10.7	12.4	3.9	33.7	
Level of Service	A	B	B	A	C	
Approach Delay (s)		10.4	8.4		33.7	
Approach LOS		B	A		C	

Intersection Summary			
HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

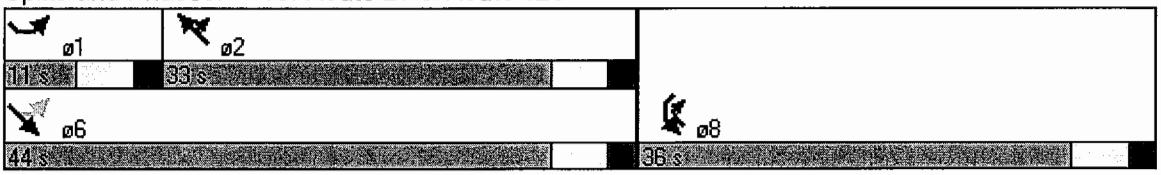
c Critical Lane Group

Lane Group	SEL	SET	NWT	NWR	SWL
Lane Configurations					
Volume (vph)	65	447	379	331	335
Lane Group Flow (vph)	73	502	387	338	452
Turn Type	pm+pt			pt+ov	
Protected Phases	1	6	2	2 8	8
Permitted Phases	6				
Detector Phases	1	6	2	2 8	8
Minimum Initial (s)	4.0	4.0	4.0		4.0
Minimum Split (s)	10.0	22.0	22.0		22.0
Total Split (s)	11.0	44.0	33.0	69.0	36.0
Total Split (%)	13.8%	55.0%	41.3%	86.3%	45.0%
Yellow Time (s)	4.0	4.0	4.0		4.0
All-Red Time (s)	2.0	2.0	2.0		2.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	C-Min	C-Min		None
v/c Ratio	0.16	0.46	0.45	0.25	0.81
Control Delay	9.8	12.4	14.1	2.3	27.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.8	12.4	14.1	2.3	27.9
Queue Length 50th (ft)	15	134	92	0	195
Queue Length 95th (ft)	38	246	m166	m59	270
Internal Link Dist (ft)		1425	548		637
Turn Bay Length (ft)				90	
Base Capacity (vph)	469	1095	855	1433	711
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.46	0.45	0.24	0.64

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NWT and 6:SETL, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Route 27 & Route 126



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	483	423	391	403	8
Peak Hour Factor	0.89	0.89	0.98	0.98	0.91	0.91
Hourly flow rate (vph)	6	543	432	399	443	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			833			
pX, platoon unblocked						
vC, conflicting volume	831				986	432
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	831				986	432
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				0	99
cM capacity (veh/h)	810				273	628

Direction, Lane #	SE 1	NW 1	NW 2	SW 1
Volume Total	548	432	399	452
Volume Left	6	0	0	443
Volume Right	0	0	399	9
cSH	810	1700	1700	276
Volume to Capacity	0.01	0.25	0.23	1.64
Queue Length 95th (ft)	1	0	0	700
Control Delay (s)	0.2	0.0	0.0	334.7
Lane LOS	A			F
Approach Delay (s)	0.2	0.0		334.7
Approach LOS				F

Intersection Summary			
Average Delay	82.6		
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.94		1.00	
Flt Protected	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1805	1863	1741		1772	
Flt Permitted	0.14	1.00	1.00		0.95	
Satd. Flow (perm)	260	1863	1741		1772	
Volume (vph)	5	483	423	391	403	8
Peak-hour factor, PHF	0.89	0.89	0.98	0.98	0.91	0.91
Adj. Flow (vph)	6	543	432	399	443	9
RTOR Reduction (vph)	0	0	53	0	1	0
Lane Group Flow (vph)	6	543	778	0	451	0
Heavy Vehicles (%)	0%	2%	3%	1%	2%	0%
Turn Type	pm+pt					
Protected Phases	1	6	2		8	
Permitted Phases	6					
Actuated Green, G (s)	29.9	29.9	23.2		14.7	
Effective Green, g (s)	31.9	31.9	25.2		16.7	
Actuated g/C Ratio	0.56	0.56	0.45		0.30	
Clearance Time (s)	6.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	220	1050	775		523	
v/s Ratio Prot	0.00	c0.29	c0.45		c0.25	
v/s Ratio Perm	0.01					
v/c Ratio	0.03	0.52	1.00		0.86	
Uniform Delay, d1	11.8	7.6	15.7		18.9	
Progression Factor	1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.4	33.4		13.6	
Delay (s)	11.9	8.0	49.1		32.5	
Level of Service	B	A	D		C	
Approach Delay (s)		8.1	49.1		32.5	
Approach LOS		A	D		C	

Intersection Summary			
HCM Average Control Delay	32.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	56.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		

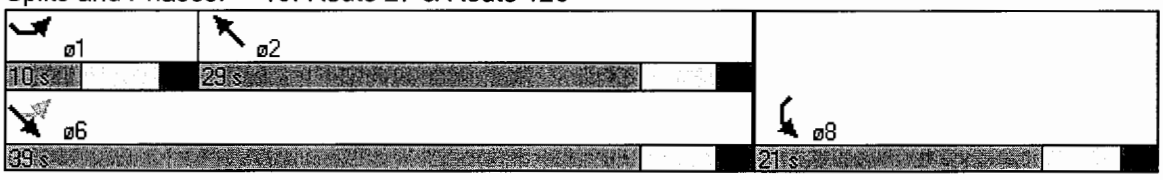
c Critical Lane Group

Lane Group	SEL	SET	NWT	SWL
Lane Configurations				
Volume (vph)	5	483	423	403
Lane Group Flow (vph)	6	543	831	452
Turn Type	pm+pt			
Protected Phases	1	6	2	8
Permitted Phases	6			
Detector Phases	1	6	2	8
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0	22.0	22.0
Total Split (s)	10.0	39.0	29.0	21.0
Total Split (%)	16.7%	65.0%	48.3%	35.0%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	Min	Min	None
v/c Ratio	0.02	0.56	0.93	0.79
Control Delay	7.6	10.3	31.9	29.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.6	10.3	31.9	29.0
Queue Length 50th (ft)	1	101	179	113
Queue Length 95th (ft)	4	165	#520	#314
Internal Link Dist (ft)		1425	548	637
Turn Bay Length (ft)				
Base Capacity (vph)	273	1093	897	582
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.02	0.50	0.93	0.78

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 51.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Route 27 & Route 126



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	412	339	205	208	5
Peak Hour Factor	0.87	0.87	0.95	0.95	0.85	0.85
Hourly flow rate (vph)	6	474	357	216	245	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			833			
pX, platoon unblocked						
vC, conflicting volume	573				842	357
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	573				842	357
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				27	99
cM capacity (veh/h)	1010				335	692

Direction, Lane #	SE 1	NW 1	NW 2	SW 1
Volume Total	479	357	216	251
Volume Left	6	0	0	245
Volume Right	0	0	216	6
cSH	1010	1700	1700	339
Volume to Capacity	0.01	0.21	0.13	0.74
Queue Length 95th (ft)	0	0	0	140
Control Delay (s)	0.2	0.0	0.0	40.3
Lane LOS	A			E
Approach Delay (s)	0.2	0.0		40.3
Approach LOS				E

Intersection Summary			
Average Delay	7.8		
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	9	469	393	228	234	10
Peak Hour Factor	0.87	0.87	0.95	0.95	0.85	0.85
Hourly flow rate (vph)	10	539	414	240	275	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			833			
pX, platoon unblocked						
vC, conflicting volume	654				973	414
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	654				973	414
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				1	98
cM capacity (veh/h)	943				279	643

Direction, Lane #	SE 1	NW 1	NW 2	SW 1
Volume Total	549	414	240	287
Volume Left	10	0	0	275
Volume Right	0	0	240	12
cSH	943	1700	1700	285
Volume to Capacity	0.01	0.24	0.14	1.01
Queue Length 95th (ft)	1	0	0	262
Control Delay (s)	0.3	0.0	0.0	94.5
Lane LOS	A			F
Approach Delay (s)	0.3	0.0		94.5
Approach LOS				F

Intersection Summary			
Average Delay	18.3		
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	40	524	447	228	234	42
Peak Hour Factor	0.87	0.87	0.95	0.95	0.85	0.85
Hourly flow rate (vph)	46	602	471	240	275	49
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			833			
pX, platoon unblocked						
vC, conflicting volume	711				1165	471
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	711				1165	471
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				0	92
cM capacity (veh/h)	898				206	597

Direction, Lane #	SE 1	NW 1	NW 2	SW 1
Volume Total	648	471	240	325
Volume Left	46	0	0	275
Volume Right	0	0	240	49
cSH	898	1700	1700	228
Volume to Capacity	0.05	0.28	0.14	1.42
Queue Length 95th (ft)	4	0	0	465
Control Delay (s)	1.3	0.0	0.0	253.8
Lane LOS	A			F
Approach Delay (s)	1.3	0.0		253.8
Approach LOS				F

Intersection Summary			
Average Delay	49.5		
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	0.98	
Flt Protected	0.95	1.00	1.00	1.00	0.96	
Satd. Flow (prot)	1805	1900	1881	1615	1785	
Flt Permitted	0.44	1.00	1.00	1.00	0.96	
Satd. Flow (perm)	829	1900	1881	1615	1785	
Volume (vph)	40	524	447	228	234	42
Peak-hour factor, PHF	0.87	0.87	0.95	0.95	0.85	0.85
Adj. Flow (vph)	46	602	471	240	275	49
RTOR Reduction (vph)	0	0	0	40	10	0
Lane Group Flow (vph)	46	602	471	200	314	0
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%
Turn Type	Perm			Perm		
Protected Phases		6	2		8	
Permitted Phases	6			2		
Actuated Green, G (s)	49.8	49.8	49.8	49.8	18.2	
Effective Green, g (s)	51.8	51.8	51.8	51.8	20.2	
Actuated g/C Ratio	0.65	0.65	0.65	0.65	0.25	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	537	1230	1218	1046	451	
v/s Ratio Prot		c0.32	0.25		c0.18	
v/s Ratio Perm	0.06			0.12		
v/c Ratio	0.09	0.49	0.39	0.19	0.70	
Uniform Delay, d1	5.3	7.3	6.6	5.7	27.1	
Progression Factor	0.75	0.85	0.55	0.28	1.00	
Incremental Delay, d2	0.3	1.3	0.4	0.2	4.6	
Delay (s)	4.3	7.5	4.1	1.8	31.8	
Level of Service	A	A	A	A	C	
Approach Delay (s)		7.3	3.3		31.8	
Approach LOS		A	A		C	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

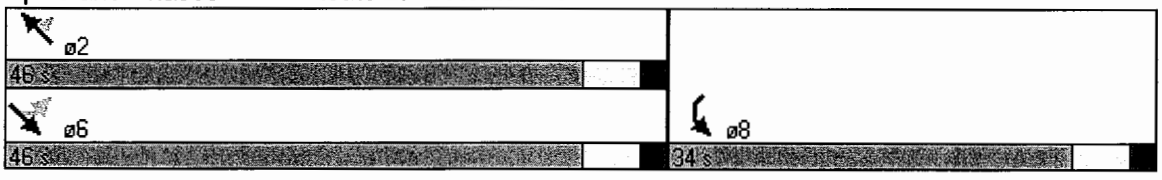
c Critical Lane Group

Lane Group	SEL	SET	NWT	NWR	SWL
Lane Configurations					
Volume (vph)	40	524	447	228	234
Lane Group Flow (vph)	46	602	471	240	324
Turn Type	Perm			Perm	
Protected Phases		6	2		8
Permitted Phases	6			2	
Detector Phases	6	6	2	2	8
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0
Total Split (s)	46.0	46.0	46.0	46.0	34.0
Total Split (%)	57.5%	57.5%	57.5%	57.5%	42.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	C-Min	None
v/c Ratio	0.10	0.49	0.39	0.22	0.70
Control Delay	5.8	8.7	4.7	1.3	27.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	5.8	8.7	4.7	1.3	27.7
Queue Length 50th (ft)	7	135	40	6	141
Queue Length 95th (ft)	26	275	m118	m14	188
Internal Link Dist (ft)		1425	548		637
Turn Bay Length (ft)				90	
Base Capacity (vph)	470	1230	1217	1085	678
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.10	0.49	0.39	0.22	0.48

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 76 (95%), Referenced to phase 2:NWT and 6:SETL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Route 27 & Route 126



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	9	500	423	259	267	10
Peak Hour Factor	0.87	0.87	0.95	0.95	0.85	0.85
Hourly flow rate (vph)	10	575	445	273	314	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			833			
pX, platoon unblocked						
vC, conflicting volume	718				1041	445
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	718				1041	445
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				0	98
cM capacity (veh/h)	892				254	617

Direction, Lane #	SE 1	NW 1	NW 2	SW 1
Volume Total	585	445	273	326
Volume Left	10	0	0	314
Volume Right	0	0	273	12
cSH	892	1700	1700	260
Volume to Capacity	0.01	0.26	0.16	1.26
Queue Length 95th (ft)	1	0	0	399
Control Delay (s)	0.3	0.0	0.0	181.8
Lane LOS	A			F
Approach Delay (s)	0.3	0.0		181.8
Approach LOS				F

Intersection Summary			
Average Delay	36.5		
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.95		1.00	
Flt Protected	0.95	1.00	1.00		0.95	
Satd. Flow (prot)	1805	1900	1791		1804	
Flt Permitted	0.24	1.00	1.00		0.95	
Satd. Flow (perm)	455	1900	1791		1804	
Volume (vph)	9	500	423	259	267	10
Peak-hour factor, PHF	0.87	0.87	0.95	0.95	0.85	0.85
Adj. Flow (vph)	10	575	445	273	314	12
RTOR Reduction (vph)	0	0	50	0	2	0
Lane Group Flow (vph)	10	575	668	0	324	0
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%
Turn Type	pm+pt					
Protected Phases	1	6	2		8	
Permitted Phases	6					
Actuated Green, G (s)	58.0	58.0	53.2		20.0	
Effective Green, g (s)	60.0	60.0	55.2		22.0	
Actuated g/C Ratio	0.67	0.67	0.61		0.24	
Clearance Time (s)	4.0	6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	315	1267	1098		441	
v/s Ratio Prot	0.00	c0.30	c0.37		c0.18	
v/s Ratio Perm	0.02					
v/c Ratio	0.03	0.45	0.61		0.74	
Uniform Delay, d1	8.0	7.2	10.7		31.3	
Progression Factor	1.00	1.00	0.58		1.00	
Incremental Delay, d2	0.0	1.2	0.2		6.3	
Delay (s)	8.1	8.3	6.5		37.6	
Level of Service	A	A	A		D	
Approach Delay (s)		8.3	6.5		37.6	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	13.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	SEL	SET	NWT	SWL
Lane Configurations				
Volume (vph)	9	500	423	267
Lane Group Flow (vph)	10	575	718	326
Turn Type	pm+pt			
Protected Phases	1	6	2	8
Permitted Phases	6			
Detector Phases	1	6	2	8
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	22.0	22.0	22.0
Total Split (s)	8.0	60.0	52.0	30.0
Total Split (%)	8.9%	66.7%	57.8%	33.3%
Yellow Time (s)	3.5	4.0	4.0	4.0
All-Red Time (s)	0.5	2.0	2.0	2.0
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	C-Min	C-Min	None
v/c Ratio	0.03	0.45	0.59	0.74
Control Delay	6.6	9.3	5.4	36.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	6.6	9.3	5.4	36.2
Queue Length 50th (ft)	2	140	53	169
Queue Length 95th (ft)	7	224	m165	231
Internal Link Dist (ft)		1425	548	637
Turn Bay Length (ft)				
Base Capacity (vph)	316	1267	1208	523
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.03	0.45	0.59	0.62

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 39 (43%), Referenced to phase 2:NWT and 6:SETL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Route 27 & Route 126

Route 27 at Winthrop Road

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	13	7	643	2	0	641
Peak Hour Factor	0.63	0.63	0.95	0.95	0.89	0.89
Hourly flow rate (vph)	21	11	677	2	0	720
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						682
pX, platoon unblocked						
vC, conflicting volume	1398	678			679	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1398	678			679	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	98			100	
cM capacity (veh/h)	157	456			923	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	32	679	720
Volume Left	21	0	0
Volume Right	11	2	0
cSH	203	1700	923
Volume to Capacity	0.16	0.40	0.00
Queue Length 95th (ft)	14	0	0
Control Delay (s)	25.9	0.0	0.0
Lane LOS	D		
Approach Delay (s)	25.9	0.0	0.0
Approach LOS	D		

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	14	7	841	2	0	717
Peak Hour Factor	0.63	0.63	0.95	0.95	0.89	0.89
Hourly flow rate (vph)	22	11	885	2	0	806
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						682
pX, platoon unblocked						
vC, conflicting volume	1692	886			887	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1692	886			887	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	79	97			100	
cM capacity (veh/h)	104	346			772	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	33	887	806
Volume Left	22	0	0
Volume Right	11	2	0
cSH	135	1700	772
Volume to Capacity	0.25	0.52	0.00
Queue Length 95th (ft)	23	0	0
Control Delay (s)	40.1	0.0	0.0
Lane LOS	E		
Approach Delay (s)	40.1	0.0	0.0
Approach LOS	E		

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	14	7	733	2	0	716
Peak Hour Factor	0.63	0.63	0.95	0.95	0.89	0.89
Hourly flow rate (vph)	22	11	772	2	0	804
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						682
pX, platoon unblocked						
vC, conflicting volume	1577	773			774	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1577	773			774	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	82	97			100	
cM capacity (veh/h)	122	402			851	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	33	774	804
Volume Left	22	0	0
Volume Right	11	2	0
cSH	159	1700	851
Volume to Capacity	0.21	0.46	0.00
Queue Length 95th (ft)	19	0	0
Control Delay (s)	33.6	0.0	0.0
Lane LOS	D		
Approach Delay (s)	33.6	0.0	0.0
Approach LOS	D		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	4	1	845	0	1	618
Peak Hour Factor	0.31	0.31	0.94	0.94	0.93	0.93
Hourly flow rate (vph)	13	3	899	0	1	665
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						682
pX, platoon unblocked						
vC, conflicting volume	1566	899			899	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1566	899			899	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	99			100	
cM capacity (veh/h)	124	341			764	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	16	899	666
Volume Left	13	0	1
Volume Right	3	0	0
cSH	142	1700	764
Volume to Capacity	0.11	0.53	0.00
Queue Length 95th (ft)	9	0	0
Control Delay (s)	33.6	0.0	0.0
Lane LOS	D		A
Approach Delay (s)	33.6	0.0	0.0
Approach LOS	D		

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	4	1	942	0	1	810
Peak Hour Factor	0.31	0.31	0.94	0.94	0.93	0.93
Hourly flow rate (vph)	13	3	1002	0	1	871
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						682
pX, platoon unblocked						
vC, conflicting volume	1875	1002			1002	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1875	1002			1002	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	99			100	
cM capacity (veh/h)	80	297			699	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	16	1002	872
Volume Left	13	0	1
Volume Right	3	0	0
cSH	93	1700	699
Volume to Capacity	0.17	0.59	0.00
Queue Length 95th (ft)	15	0	0
Control Delay (s)	51.5	0.0	0.0
Lane LOS	F		A
Approach Delay (s)	51.5	0.0	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	4	1	1021	0	1	795
Peak Hour Factor	0.31	0.31	0.94	0.94	0.93	0.93
Hourly flow rate (vph)	13	3	1086	0	1	855
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						682
pX, platoon unblocked						
vC, conflicting volume	1943	1086			1086	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1943	1086			1086	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	82	99			100	
cM capacity (veh/h)	72	265			650	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	16	1086	856
Volume Left	13	0	1
Volume Right	3	0	0
cSH	85	1700	650
Volume to Capacity	0.19	0.64	0.00
Queue Length 95th (ft)	16	0	0
Control Delay (s)	57.4	0.0	0.0
Lane LOS	F		A
Approach Delay (s)	57.4	0.0	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	3	7	594	2	2	611
Peak Hour Factor	0.50	0.50	0.84	0.84	0.90	0.90
Hourly flow rate (vph)	6	14	707	2	2	679
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						682
pX, platoon unblocked						
vC, conflicting volume	1392	708			710	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1392	708			710	
tC, single (s)	6.4	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.4			2.2	
p0 queue free %	96	97			100	
cM capacity (veh/h)	158	415			899	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	20	710	681
Volume Left	6	0	2
Volume Right	14	2	0
cSH	279	1700	899
Volume to Capacity	0.07	0.42	0.00
Queue Length 95th (ft)	6	0	0
Control Delay (s)	18.9	0.0	0.1
Lane LOS	C		A
Approach Delay (s)	18.9	0.0	0.1
Approach LOS	C		

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	3	7	693	2	2	703
Peak Hour Factor	0.50	0.50	0.84	0.84	0.90	0.90
Hourly flow rate (vph)	6	14	825	2	2	781
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						682
pX, platoon unblocked						
vC, conflicting volume	1612	826			827	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1612	826			827	
tC, single (s)	6.4	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.4			2.2	
p0 queue free %	95	96			100	
cM capacity (veh/h)	116	354			813	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	20	827	783
Volume Left	6	0	2
Volume Right	14	2	0
cSH	219	1700	813
Volume to Capacity	0.09	0.49	0.00
Queue Length 95th (ft)	7	0	0
Control Delay (s)	23.1	0.0	0.1
Lane LOS	C		A
Approach Delay (s)	23.1	0.0	0.1
Approach LOS	C		

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	3	7	804	2	2	806
Peak Hour Factor	0.50	0.50	0.84	0.84	0.90	0.90
Hourly flow rate (vph)	6	14	957	2	2	896
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						682
pX, platoon unblocked						
vC, conflicting volume	1858	958			960	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1858	958			960	
tC, single (s)	6.4	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.4			2.2	
p0 queue free %	93	95			100	
cM capacity (veh/h)	81	296			725	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	20	960	898
Volume Left	6	0	2
Volume Right	14	2	0
cSH	165	1700	725
Volume to Capacity	0.12	0.56	0.00
Queue Length 95th (ft)	10	0	0
Control Delay (s)	29.7	0.0	0.1
Lane LOS	D		A
Approach Delay (s)	29.7	0.0	0.1
Approach LOS	D		

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	3	7	525	1	2	555
Peak Hour Factor	0.50	0.50	0.95	0.95	0.97	0.97
Hourly flow rate (vph)	6	14	553	1	2	572
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						682
pX, platoon unblocked						
vC, conflicting volume	1129	553			554	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1129	553			554	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	97			100	
cM capacity (veh/h)	227	536			1027	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	20	554	574
Volume Left	6	0	2
Volume Right	14	1	0
cSH	381	1700	1027
Volume to Capacity	0.05	0.33	0.00
Queue Length 95th (ft)	4	0	0
Control Delay (s)	15.0	0.0	0.1
Lane LOS	B		A
Approach Delay (s)	15.0	0.0	0.1
Approach LOS	B		

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	3	7	595	1	2	621
Peak Hour Factor	0.50	0.50	0.95	0.95	0.97	0.97
Hourly flow rate (vph)	6	14	626	1	2	640
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						682
pX, platoon unblocked						
vC, conflicting volume	1271	627			627	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1271	627			627	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	97			100	
cM capacity (veh/h)	187	487			964	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	20	627	642
Volume Left	6	0	2
Volume Right	14	1	0
cSH	328	1700	964
Volume to Capacity	0.06	0.37	0.00
Queue Length 95th (ft)	5	0	0
Control Delay (s)	16.7	0.0	0.1
Lane LOS	C		A
Approach Delay (s)	16.7	0.0	0.1
Approach LOS	C		

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	44.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	3	7	662	1	2	686
Peak Hour Factor	0.50	0.50	0.95	0.95	0.97	0.97
Hourly flow rate (vph)	6	14	697	1	2	707
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						682
pX, platoon unblocked						
vC, conflicting volume	1409	697			698	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1409	697			698	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	97			100	
cM capacity (veh/h)	154	444			908	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	20	698	709
Volume Left	6	0	2
Volume Right	14	1	0
cSH	284	1700	908
Volume to Capacity	0.07	0.41	0.00
Queue Length 95th (ft)	6	0	0
Control Delay (s)	18.6	0.0	0.1
Lane LOS	C		A
Approach Delay (s)	18.6	0.0	0.1
Approach LOS	C		

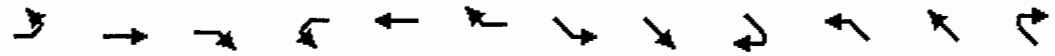
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		

Route 27/126 at Pelham Island Road and Millbrook Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	146	38	3	26	48	12	19	682	110	2	586	48
Peak Hour Factor	0.85	0.85	0.85	0.63	0.63	0.63	0.93	0.93	0.93	0.89	0.89	0.89
Hourly flow rate (vph)	172	45	4	41	76	19	20	733	118	2	658	54
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											205	
pX, platoon unblocked	0.74	0.74		0.74	0.74	0.74	0.74					
vC, conflicting volume	1580	1550	792	1549	1582	685	712			852		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1782	1741	792	1740	1785	576	612			852		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.4	2.2			2.2		
p0 queue free %	0	28	99	0	0	95	97			100		
cM capacity (veh/h)	0	62	392	21	59	374	725			796		

Direction, Lane #	EB 1	WB 1	SE 1	NW 1
Volume Total	220	137	872	715
Volume Left	172	41	20	2
Volume Right	4	19	118	54
cSH	0	41	725	796
Volume to Capacity	Err	3.34	0.03	0.00
Queue Length 95th (ft)	Err	Err	2	0
Control Delay (s)	Err	Err	0.8	0.1
Lane LOS	F	F	A	A
Approach Delay (s)	Err	Err	0.8	0.1
Approach LOS	F	F		

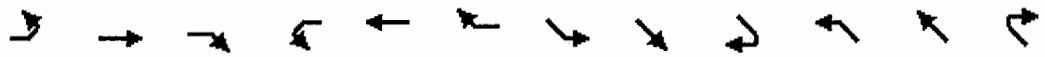
Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	27	52	18	21	759	130	2	960	90
Peak Hour Factor	0.85	0.85	0.85	0.63	0.63	0.63	0.93	0.93	0.93	0.89	0.89	0.89
Hourly flow rate (vph)	0	0	0	43	83	29	23	816	140	2	1079	101
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											205	
pX, platoon unblocked	0.58	0.58		0.58	0.58	0.58	0.58					
vC, conflicting volume	2135	2115	886	1995	2135	1129	1180			956		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2940	2907	886	2701	2940	1221	1307			956		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.4	2.2			2.2		
p0 queue free %	0	100	100	0	0	77	93			100		
cM capacity (veh/h)	0	8	346	8	8	124	314			727		

Direction, Lane #	WB 1	SE 1	SE 2	NW 1
Volume Total	154	23	956	1182
Volume Left	43	23	0	2
Volume Right	29	0	140	101
cSH	10	314	1700	727
Volume to Capacity	15.80	0.07	0.56	0.00
Queue Length 95th (ft)	Err	6	0	0
Control Delay (s)	Err	17.4	0.0	0.1
Lane LOS	F	C		A
Approach Delay (s)	Err	0.4		0.1
Approach LOS	F			

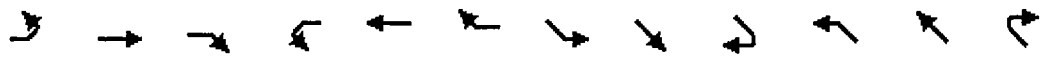
Intersection Summary			
Average Delay	665.4		
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations					↕		↰	↑			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	27	52	15	21	755	71	2	713	90
Peak Hour Factor	0.85	0.85	0.85	0.63	0.63	0.63	0.93	0.93	0.93	0.89	0.89	0.89
Hourly flow rate (vph)	0	0	0	43	83	24	23	812	76	2	801	101
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											205	
pX, platoon unblocked	0.66	0.66		0.66	0.66	0.66	0.66					
vC, conflicting volume	1816	1802	850	1713	1790	852	902			888		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2244	2222	850	2087	2203	774	851			888		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.4	2.2			2.2		
p0 queue free %	0	100	100	0	0	91	96			100		
cM capacity (veh/h)	0	27	363	25	28	254	523			771		

Direction, Lane #	WB 1	SE 1	SE 2	NW 1
Volume Total	149	23	888	904
Volume Left	43	23	0	2
Volume Right	24	0	76	101
cSH	31	523	1700	771
Volume to Capacity	4.74	0.04	0.52	0.00
Queue Length 95th (ft)	Err	3	0	0
Control Delay (s)	Err	12.2	0.0	0.1
Lane LOS	F	B		A
Approach Delay (s)	Err	0.3		0.1
Approach LOS	F			

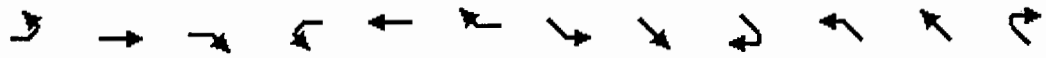
Intersection Summary				
Average Delay	759.6			
Intersection Capacity Utilization	56.4%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations					↕		↰	↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	27	52	15	21	755	71	2	713	90
Peak Hour Factor	0.85	0.85	0.85	0.63	0.63	0.63	0.93	0.93	0.93	0.89	0.89	0.89
Hourly flow rate (vph)	0	0	0	43	83	24	23	812	76	2	801	101
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								628			205	
pX, platoon unblocked	0.82	0.82	0.77	0.82	0.82	0.70	0.70			0.77		
vC, conflicting volume	1816	1802	850	1713	1790	852	902			888		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1572	1555	805	1446	1539	789	861			854		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.4	2.2			2.2		
p0 queue free %	100	100	100	51	9	91	96			100		
cM capacity (veh/h)	14	88	296	87	91	267	554			609		

Direction, Lane #	WB 1	SE 1	SE 2	NW 1								
Volume Total	149	23	888	904								
Volume Left	43	23	0	2								
Volume Right	24	0	76	101								
cSH	100	554	1700	609								
Volume to Capacity	1.49	0.04	0.52	0.00								
Queue Length 95th (ft)	278	3	0	0								
Control Delay (s)	339.4	11.8	0.0	0.1								
Lane LOS	F	B		A								
Approach Delay (s)	339.4	0.3		0.1								
Approach LOS	F											

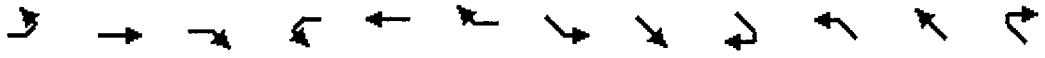
Intersection Summary			
Average Delay	26.0		
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	27	54	13	20	735	157	2	805	91
Peak Hour Factor	0.85	0.85	0.85	0.63	0.63	0.63	0.93	0.93	0.93	0.89	0.89	0.89
Hourly flow rate (vph)	0	0	0	43	86	21	22	790	169	2	904	102
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											205	
pX, platoon unblocked	0.61	0.61		0.61	0.61	0.61	0.61					
vC, conflicting volume	1941	1929	875	1793	1962	956	1007			959		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2549	2528	875	2305	2583	927	1011			959		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.4	2.2			2.2		
p0 queue free %	0	100	100	0	0	89	95			100		
cM capacity (veh/h)	0	16	352	16	15	192	422			725		

Direction, Lane #	WB 1	SE 1	SE 2	NW 1
Volume Total	149	22	959	1009
Volume Left	43	22	0	2
Volume Right	21	0	169	102
cSH	17	422	1700	725
Volume to Capacity	8.57	0.05	0.56	0.00
Queue Length 95th (ft)	Err	4	0	0
Control Delay (s)	Err	14.0	0.0	0.1
Lane LOS	F	B		A
Approach Delay (s)	Err	0.3		0.1
Approach LOS	F			

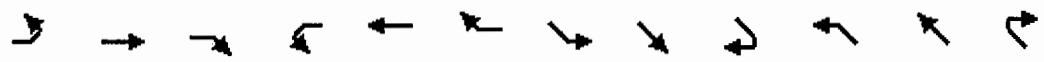
Intersection Summary			
Average Delay	697.7		
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	27	54	13	20	735	157	2	805	91
Peak Hour Factor	0.85	0.85	0.85	0.63	0.63	0.63	0.93	0.93	0.93	0.89	0.89	0.89
Hourly flow rate (vph)	0	0	0	43	86	21	22	790	169	2	904	102
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								628			205	
pX, platoon unblocked	0.76	0.76	0.72	0.76	0.76	0.62	0.62			0.72		
vC, conflicting volume	1941	1929	875	1793	1962	956	1007			959		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1686	1670	826	1492	1714	929	1011			943		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.4	2.2			2.2		
p0 queue free %	0	100	100	43	0	89	95			100		
cM capacity (veh/h)	0	69	270	75	66	196	432			530		

Direction, Lane #	WB 1	SE 1	SE 2	NW 1
Volume Total	149	22	959	1009
Volume Left	43	22	0	2
Volume Right	21	0	169	102
cSH	75	432	1700	530
Volume to Capacity	1.98	0.05	0.56	0.00
Queue Length 95th (ft)	335	4	0	0
Control Delay (s)	574.6	13.8	0.0	0.1
Lane LOS	F	B		A
Approach Delay (s)	574.6	0.3		0.1
Approach LOS	F			

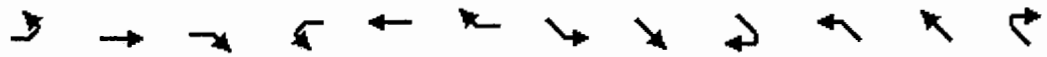
Intersection Summary			
Average Delay	40.3		
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	149	32	2	22	18	4	2	549	117	3	868	25
Peak Hour Factor	0.82	0.82	0.82	0.67	0.67	0.67	0.87	0.87	0.87	0.95	0.95	0.95
Hourly flow rate (vph)	182	39	2	33	27	6	2	631	134	3	914	26
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											205	
pX, platoon unblocked	0.62	0.62		0.62	0.62	0.62	0.62					
vC, conflicting volume	1655	1649	698	1658	1703	927	940			766		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2056	2046	698	2060	2133	882	903			766		
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 %	0	0	99	0	13	97	100			100		
cM capacity (veh/h)	6	35	444	0	31	216	472			857		

Direction, Lane #	EB 1	WB 1	SE 1	NW 1
Volume Total	223	66	768	943
Volume Left	182	33	2	3
Volume Right	2	6	134	26
cSH	7	0	472	857
Volume to Capacity	29.82	Err	0.00	0.00
Queue Length 95th (ft)	Err	Err	0	0
Control Delay (s)	Err	Err	0.1	0.1
Lane LOS	F	F	A	A
Approach Delay (s)	Err	Err	0.1	0.1
Approach LOS	F	F		

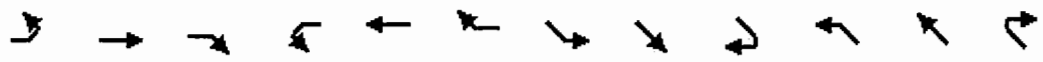
Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	23	20	46	6	735	146	3	1134	62
Peak Hour Factor	0.82	0.82	0.82	0.67	0.67	0.67	0.87	0.87	0.87	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	34	30	69	7	845	168	3	1194	65
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											205	
pX, platoon unblocked	0.58	0.58		0.58	0.58	0.58	0.58					
vC, conflicting volume	2259	2208	929	2091	2259	1226	1259			1013		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	3155	3068	929	2869	3156	1388	1443			1013		
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 %	0	100	100	0	0	33	98			100		
cM capacity (veh/h)	0	7	327	6	6	103	278			693		

Direction, Lane #	WB 1	SE 1	SE 2	NW 1
Volume Total	133	7	1013	1262
Volume Left	34	7	0	3
Volume Right	69	0	168	65
cSH	12	278	1700	693
Volume to Capacity	11.13	0.02	0.60	0.00
Queue Length 95th (ft)	Err	2	0	0
Control Delay (s)	Err	18.3	0.0	0.2
Lane LOS	F	C		A
Approach Delay (s)	Err	0.1		0.2
Approach LOS	F			

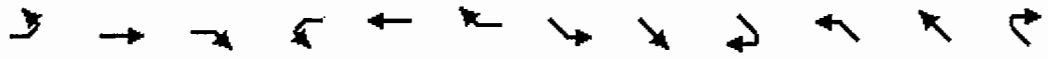
Intersection Summary			
Average Delay	550.3		
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	23	20	52	11	679	83	3	1092	61
Peak Hour Factor	0.82	0.82	0.82	0.67	0.67	0.67	0.87	0.87	0.87	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	34	30	78	13	780	95	3	1149	64
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											205	
pX, platoon unblocked	0.64	0.64		0.64	0.64	0.64	0.64					
vC, conflicting volume	2134	2073	828	1994	2089	1182	1214			876		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2765	2671	828	2546	2695	1283	1333			876		
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 %	0	100	100	0	0	41	96			100		
cM capacity (veh/h)	0	14	374	11	13	131	337			779		

Direction, Lane #	WB 1	SE 1	SE 2	NW 1
Volume Total	142	13	876	1217
Volume Left	34	13	0	3
Volume Right	78	0	95	64
cSH	24	337	1700	779
Volume to Capacity	5.82	0.04	0.52	0.00
Queue Length 95th (ft)	Err	3	0	0
Control Delay (s)	Err	16.1	0.0	0.2
Lane LOS	F	C		A
Approach Delay (s)	Err	0.2		0.2
Approach LOS	F			

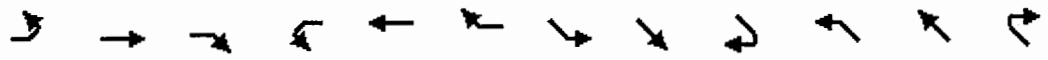
Intersection Summary			
Average Delay	631.1		
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	23	20	52	11	679	83	3	1092	61
Peak Hour Factor	0.82	0.82	0.82	0.67	0.67	0.67	0.87	0.87	0.87	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	34	30	78	13	780	95	3	1149	64
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								628			205	
pX, platoon unblocked	0.75	0.75	0.84	0.75	0.75	0.68	0.68			0.84		
vC, conflicting volume	2134	2073	828	1994	2089	1182	1214			876		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2192	2112	796	2006	2133	1269	1316			853		
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	100	0	18	45	96			100		
cM capacity (veh/h)	3	37	329	33	36	140	359			670		

Direction, Lane #	WB 1	SE 1	SE 2	NW 1
Volume Total	142	13	876	1217
Volume Left	34	13	0	3
Volume Right	78	0	95	64
cSH	58	359	1700	670
Volume to Capacity	2.43	0.04	0.52	0.00
Queue Length 95th (ft)	354	3	0	0
Control Delay (s)	801.0	15.4	0.0	0.2
Lane LOS	F	C		A
Approach Delay (s)	801.0	0.2		0.2
Approach LOS	F			

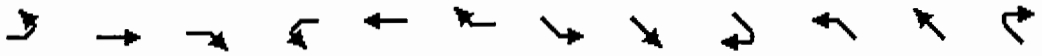
Intersection Summary			
Average Delay	50.7		
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	23	27	45	2	586	245	3	1210	70
Peak Hour Factor	0.82	0.82	0.82	0.67	0.67	0.67	0.87	0.87	0.87	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	34	40	67	2	674	282	3	1274	74
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											205	
pX, platoon unblocked	0.49	0.49		0.49	0.49	0.49	0.49					
vC, conflicting volume	2223	2173	814	1995	2277	1311	1347			955		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	3479	3376	814	3016	3587	1629	1704			955		
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 %	0	100	100	0	0	0	99			100		
cM capacity (veh/h)	0	4	381	4	3	63	187			728		

Direction, Lane #	WB 1	SE 1	SE 2	NW 1
Volume Total	142	2	955	1351
Volume Left	34	2	0	3
Volume Right	67	0	282	74
cSH	6	187	1700	728
Volume to Capacity	24.31	0.01	0.56	0.00
Queue Length 95th (ft)	Err	1	0	0
Control Delay (s)	Err	24.5	0.0	0.2
Lane LOS	F	C		A
Approach Delay (s)	Err	0.1		0.2
Approach LOS	F			

Intersection Summary				
Average Delay	578.9			
Intersection Capacity Utilization	82.4%	ICU Level of Service	E	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	23	27	45	2	586	245	3	1210	70
Peak Hour Factor	0.82	0.82	0.82	0.67	0.67	0.67	0.87	0.87	0.87	0.95	0.95	0.95
Hourly flow rate (vph)	0	0	0	34	40	67	2	674	282	3	1274	74
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								628			205	
pX, platoon unblocked	0.61	0.61	0.82	0.61	0.61	0.52	0.52			0.82		
vC, conflicting volume	2223	2173	814	1995	2277	1311	1347			955		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2552	2469	774	2180	2639	1592	1663			945		
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 %	0	100	100	0	0	4	99			99		
cM capacity (veh/h)	0	18	330	20	14	70	206			602		

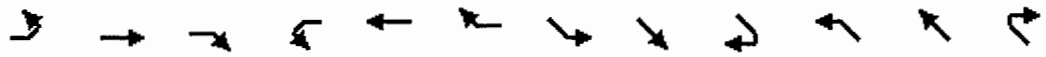
Direction, Lane #	WB 1	SE 1	SE 2	NW 1
Volume Total	142	2	955	1351
Volume Left	34	2	0	3
Volume Right	67	0	282	74
cSH	26	206	1700	602
Volume to Capacity	5.45	0.01	0.56	0.01
Queue Length 95th (ft)	Err	1	0	0
Control Delay (s)	Err	22.7	0.0	0.3
Lane LOS	F	C		A
Approach Delay (s)	Err	0.1		0.3
Approach LOS	F			

Intersection Summary			
Average Delay	578.9		
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	152	46	5	14	46	8	4	515	152	4	454	20
Peak Hour Factor	0.91	0.91	0.91	0.68	0.68	0.68	0.95	0.95	0.95	0.91	0.91	0.91
Hourly flow rate (vph)	167	51	5	21	68	12	4	542	160	4	499	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											205	
pX, platoon unblocked	0.84	0.84		0.84	0.84	0.84	0.84					
vC, conflicting volume	1195	1160	622	1180	1229	510	521			702		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1231	1190	622	1214	1272	418	431			702		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.5	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	0	68	99	79	52	98	100			100		
cM capacity (veh/h)	79	158	490	99	141	496	959			905		

Direction, Lane #	EB 1	WB 1	SE 1	NW 1
Volume Total	223	100	706	525
Volume Left	167	21	4	4
Volume Right	5	12	160	22
cSH	91	141	959	905
Volume to Capacity	2.45	0.71	0.00	0.00
Queue Length 95th (ft)	514	102	0	0
Control Delay (s)	759.3	76.9	0.1	0.1
Lane LOS	F	F	A	A
Approach Delay (s)	759.3	76.9	0.1	0.1
Approach LOS	F	F		

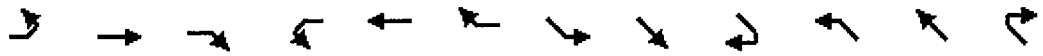
Intersection Summary			
Average Delay	114.0		
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	15	50	10	5	587	185	4	715	71
Peak Hour Factor	0.91	0.91	0.91	0.68	0.68	0.68	0.95	0.95	0.95	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	22	74	15	5	618	195	4	786	78
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											205	
pX, platoon unblocked	0.69	0.69		0.69	0.69	0.69	0.69					
vC, conflicting volume	1611	1598	715	1462	1657	825	864			813		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1887	1869	715	1671	1954	745	802			813		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.5	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	0	100	100	58	0	94	99			99		
cM capacity (veh/h)	0	50	434	52	44	261	572			823		

Direction, Lane #	WB 1	SE 1	SE 2	NW 1
Volume Total	110	5	813	868
Volume Left	22	5	0	4
Volume Right	15	0	195	78
cSH	51	572	1700	823
Volume to Capacity	2.15	0.01	0.48	0.01
Queue Length 95th (ft)	278	1	0	0
Control Delay (s)	701.2	11.4	0.0	0.1
Lane LOS	F	B		A
Approach Delay (s)	701.2	0.1		0.1
Approach LOS	F			

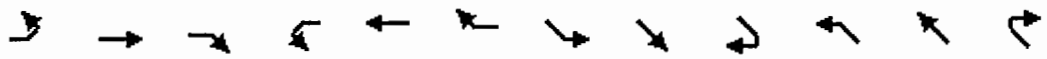
Intersection Summary			
Average Delay	43.2		
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	15	50	19	13	666	103	4	691	71
Peak Hour Factor	0.91	0.91	0.91	0.68	0.68	0.68	0.95	0.95	0.95	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	22	74	28	14	701	108	4	759	78
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											205	
pX, platoon unblocked	0.71	0.71		0.71	0.71	0.71	0.71					
vC, conflicting volume	1654	1629	755	1536	1644	798	837			809		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1922	1886	755	1755	1908	716	771			809		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.4	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	0	100	100	53	0	90	98			99		
cM capacity (veh/h)	0	49	412	47	48	280	605			825		

Direction, Lane #	WB 1	SE 1	SE 2	NW 1
Volume Total	124	14	809	842
Volume Left	22	14	0	4
Volume Right	28	0	108	78
cSH	58	605	1700	825
Volume to Capacity	2.11	0.02	0.48	0.01
Queue Length 95th (ft)	300	2	0	0
Control Delay (s)	664.8	11.1	0.0	0.1
Lane LOS	F	B		A
Approach Delay (s)	664.8	0.2		0.1
Approach LOS	F			

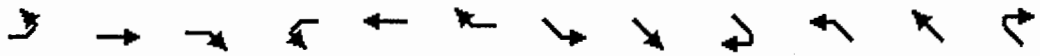
Intersection Summary			
Average Delay	46.1		
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations					↕		↰	↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	15	50	19	13	666	103	4	691	71
Peak Hour Factor	0.91	0.91	0.91	0.68	0.68	0.68	0.95	0.95	0.95	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	22	74	28	14	701	108	4	759	78
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								628			205	
pX, platoon unblocked	0.85	0.85	0.86	0.85	0.85	0.78	0.78			0.86		
vC, conflicting volume	1654	1629	755	1536	1644	798	837			809		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1522	1491	715	1382	1509	741	791			778		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.4	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	100	100	100	78	27	91	98			99		
cM capacity (veh/h)	30	103	373	102	101	297	653			728		

Direction, Lane #	WB 1	SE 1	SE 2	NW 1								
Volume Total	124	14	809	842								
Volume Left	22	14	0	4								
Volume Right	28	0	108	78								
cSH	119	653	1700	728								
Volume to Capacity	1.04	0.02	0.48	0.01								
Queue Length 95th (ft)	178	2	0	0								
Control Delay (s)	164.2	10.6	0.0	0.2								
Lane LOS	F	B		A								
Approach Delay (s)	164.2	0.2		0.2								
Approach LOS	F											

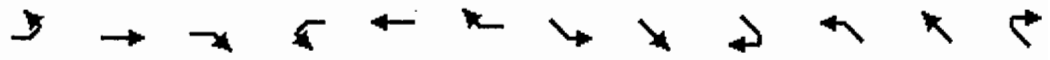
Intersection Summary			
Average Delay	11.5		
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	15	60	9	4	562	319	4	805	80
Peak Hour Factor	0.91	0.91	0.91	0.68	0.68	0.68	0.95	0.95	0.95	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	22	88	13	4	592	336	4	885	88
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											205	
pX, platoon unblocked	0.62	0.62		0.62	0.62	0.62	0.62					
vC, conflicting volume	1763	1749	759	1537	1873	929	973			927		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2226	2205	759	1864	2404	885	956			927		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.4	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	0	100	100	36	0	93	99			99		
cM capacity (veh/h)	0	28	409	35	21	194	452			746		

Direction, Lane #	WB 1	SE 1	SE 2	NW 1
Volume Total	124	4	927	977
Volume Left	22	4	0	4
Volume Right	13	0	336	88
cSH	25	452	1700	746
Volume to Capacity	4.99	0.01	0.55	0.01
Queue Length 95th (ft)	Err	1	0	0
Control Delay (s)	Err	13.0	0.0	0.2
Lane LOS	F	B		A
Approach Delay (s)	Err	0.1		0.2
Approach LOS	F			

Intersection Summary			
Average Delay	608.0		
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	15	60	9	4	562	319	4	805	80
Peak Hour Factor	0.91	0.91	0.91	0.68	0.68	0.68	0.95	0.95	0.95	0.91	0.91	0.91
Hourly flow rate (vph)	0	0	0	22	88	13	4	592	336	4	885	88
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								628			205	
pX, platoon unblocked	0.73	0.73	0.81	0.73	0.73	0.63	0.63			0.81		
vC, conflicting volume	1763	1749	759	1537	1873	929	973			927		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1660	1641	703	1349	1812	887	956			910		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.4	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.5	2.2			2.2		
p0 queue free %	0	100	100	76	0	93	99			99		
cM capacity (veh/h)	0	72	357	93	57	197	459			613		

Direction, Lane #	WB 1	SE 1	SE 2	NW 1
Volume Total	124	4	927	977
Volume Left	22	4	0	4
Volume Right	13	0	336	88
cSH	66	459	1700	613
Volume to Capacity	1.86	0.01	0.55	0.01
Queue Length 95th (ft)	282	1	0	1
Control Delay (s)	541.6	12.9	0.0	0.2
Lane LOS	F	B		A
Approach Delay (s)	541.6	0.1		0.2
Approach LOS	F			

Intersection Summary			
Average Delay	33.1		
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	85	22	2	12	17	2	3	531	86	3	457	18
Peak Hour Factor	0.84	0.84	0.84	0.81	0.81	0.81	0.92	0.92	0.92	0.97	0.97	0.97
Hourly flow rate (vph)	101	26	2	15	21	2	3	577	93	3	471	19
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											205	
pX, platoon unblocked	0.85	0.85		0.85	0.85	0.85	0.85					
vC, conflicting volume	1130	1126	624	1133	1164	480	490			671		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1152	1148	624	1155	1192	390	401			671		
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 %	24	85	100	89	87	100	100			100		
cM capacity (veh/h)	134	170	489	130	160	565	996			929		

Direction, Lane #	EB 1	WB 1	SE 1	NW 1
Volume Total	130	38	674	493
Volume Left	101	15	3	3
Volume Right	2	2	93	19
cSH	142	154	996	929
Volume to Capacity	0.92	0.25	0.00	0.00
Queue Length 95th (ft)	157	23	0	0
Control Delay (s)	115.4	36.1	0.1	0.1
Lane LOS	F	E	A	A
Approach Delay (s)	115.4	36.1	0.1	0.1
Approach LOS	F	E		

Intersection Summary			
Average Delay	12.3		
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	13	19	3	4	589	110	3	624	44
Peak Hour Factor	0.25	0.25	0.25	0.81	0.81	0.81	0.92	0.92	0.92	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	0	16	23	4	4	640	120	3	643	45
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											205	
pX, platoon unblocked	0.75	0.75		0.75	0.75	0.75	0.75					
vC, conflicting volume	1396	1404	700	1321	1441	666	689			760		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1530	1539	700	1429	1589	554	584			760		
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	100	81	71	99	99			100		
cM capacity (veh/h)	55	86	443	84	81	401	749			861		

Direction, Lane #	WB 1	SE 1	SE 2	NW 1
Volume Total	43	4	760	692
Volume Left	16	4	0	3
Volume Right	4	0	120	45
cSH	88	749	1700	861
Volume to Capacity	0.49	0.01	0.45	0.00
Queue Length 95th (ft)	52	0	0	0
Control Delay (s)	80.0	9.8	0.0	0.1
Lane LOS	F	A		A
Approach Delay (s)	80.0	0.1		0.1
Approach LOS	F			

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	13	19	8	9	639	108	3	673	44
Peak Hour Factor	0.25	0.25	0.25	0.81	0.81	0.81	0.92	0.92	0.92	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	0	16	23	10	10	695	117	3	694	45
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											205	
pX, platoon unblocked	0.73	0.73		0.73	0.73	0.73	0.73					
vC, conflicting volume	1517	1518	753	1437	1554	716	739			812		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1711	1713	753	1601	1763	610	641			812		
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	100	74	61	97	99			100		
cM capacity (veh/h)	35	65	413	62	61	362	693			823		

Direction, Lane #	WB 1	SE 1	SE 2	NW 1
Volume Total	49	10	812	742
Volume Left	16	10	0	3
Volume Right	10	0	117	45
cSH	73	693	1700	823
Volume to Capacity	0.67	0.01	0.48	0.00
Queue Length 95th (ft)	76	1	0	0
Control Delay (s)	122.8	10.3	0.0	0.1
Lane LOS	F	B		A
Approach Delay (s)	122.8	0.1		0.1
Approach LOS	F			

Intersection Summary				
Average Delay	3.9			
Intersection Capacity Utilization	50.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	13	19	8	9	639	108	3	673	44
Peak Hour Factor	0.25	0.25	0.25	0.81	0.81	0.81	0.92	0.92	0.92	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	0	16	23	10	10	695	117	3	694	45
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								628			205	
pX, platoon unblocked	0.86	0.86	0.84	0.86	0.86	0.78	0.78			0.84		
vC, conflicting volume	1517	1518	753	1437	1554	716	739			812		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1314	1315	705	1221	1357	637	666			775		
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	100	88	82	97	99			100		
cM capacity (veh/h)	97	135	368	135	128	376	729			710		

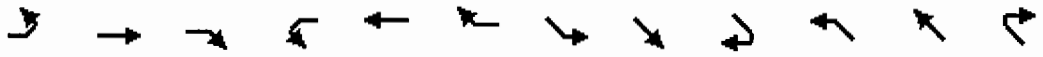
Direction, Lane #	WB 1	SE 1	SE 2	NW 1
Volume Total	49	10	812	742
Volume Left	16	10	0	3
Volume Right	10	0	117	45
cSH	150	729	1700	710
Volume to Capacity	0.33	0.01	0.48	0.00
Queue Length 95th (ft)	33	1	0	0
Control Delay (s)	40.4	10.0	0.0	0.1
Lane LOS	E	B		A
Approach Delay (s)	40.4	0.1		0.1
Approach LOS	E			

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	50.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	13	19	8	9	639	108	3	673	44
Peak Hour Factor	0.25	0.25	0.25	0.81	0.81	0.81	0.92	0.92	0.92	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	0	16	23	10	10	695	117	3	694	45
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)											205	
pX, platoon unblocked	0.64	0.64		0.64	0.64	0.64	0.64					
vC, conflicting volume	1517	1518	753	1437	1554	716	739			812		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1805	1806	753	1680	1862	559	594			812		
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	100	67	50	97	98			100		
cM capacity (veh/h)	23	50	413	48	47	342	638			823		

Direction, Lane #	WB 1	SE 1	SE 2	NW 1
Volume Total	49	10	812	742
Volume Left	16	10	0	3
Volume Right	10	0	117	45
cSH	57	638	1700	823
Volume to Capacity	0.87	0.02	0.48	0.00
Queue Length 95th (ft)	96	1	0	0
Control Delay (s)	197.6	10.7	0.0	0.1
Lane LOS	F	B		A
Approach Delay (s)	197.6	0.1		0.1
Approach LOS	F			

Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	50.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	0	0	13	19	8	9	639	108	3	673	44
Peak Hour Factor	0.25	0.25	0.25	0.81	0.81	0.81	0.92	0.92	0.92	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	0	16	23	10	10	695	117	3	694	45
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)								628			205	
pX, platoon unblocked	0.91	0.91	0.86	0.91	0.91	0.89	0.89			0.86		
vC, conflicting volume	1517	1518	753	1437	1554	716	739			812		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1390	1391	713	1302	1430	682	708			781		
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	100	87	81	98	99			100		
cM capacity (veh/h)	91	129	374	126	122	404	804			727		

Direction, Lane #	WB 1	SE 1	SE 2	NW 1
Volume Total	49	10	812	742
Volume Left	16	10	0	3
Volume Right	10	0	117	45
cSH	143	804	1700	727
Volume to Capacity	0.34	0.01	0.48	0.00
Queue Length 95th (ft)	35	1	0	0
Control Delay (s)	42.8	9.5	0.0	0.1
Lane LOS	E	A		A
Approach Delay (s)	42.8	0.1		0.1
Approach LOS	E			

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	50.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Route 126 at Bow Road

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	6	365	204	16	52	18
Peak Hour Factor	0.94	0.94	0.75	0.75	0.73	0.73
Hourly flow rate (vph)	6	388	272	21	71	25
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	293				684	283
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	293				684	283
tC, single (s)	4.1				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	100				83	97
cM capacity (veh/h)	1280				415	747

Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	395	293	96
Volume Left	6	0	71
Volume Right	0	21	25
cSH	1280	1700	469
Volume to Capacity	0.00	0.17	0.20
Queue Length 95th (ft)	0	0	19
Control Delay (s)	0.2	0.0	14.6
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	14.6
Approach LOS			B

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	34.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	6	403	278	17	55	19
Peak Hour Factor	0.94	0.94	0.75	0.75	0.73	0.73
Hourly flow rate (vph)	6	429	371	23	75	26
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	393				823	382
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	393				823	382
tC, single (s)	4.1				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	99				78	96
cM capacity (veh/h)	1176				344	657

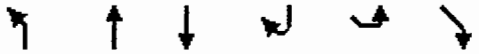
Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	435	393	101
Volume Left	6	0	75
Volume Right	0	23	26
cSH	1176	1700	392
Volume to Capacity	0.01	0.23	0.26
Queue Length 95th (ft)	0	0	25
Control Delay (s)	0.2	0.0	17.4
Lane LOS	A		C
Approach Delay (s)	0.2	0.0	17.4
Approach LOS			C

Intersection Summary				
Average Delay	2.0			
Intersection Capacity Utilization	36.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	6	404	242	17	55	19
Peak Hour Factor	0.94	0.94	0.75	0.75	0.73	0.73
Hourly flow rate (vph)	6	430	323	23	75	26
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	345				777	334
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	345				777	334
tC, single (s)	4.1				6.4	6.3
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	99				79	96
cM capacity (veh/h)	1225				367	699

Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	436	345	101
Volume Left	6	0	75
Volume Right	0	23	26
cSH	1225	1700	417
Volume to Capacity	0.01	0.20	0.24
Queue Length 95th (ft)	0	0	23
Control Delay (s)	0.2	0.0	16.4
Lane LOS	A		C
Approach Delay (s)	0.2	0.0	16.4
Approach LOS			C

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	16	289	277	44	8	3
Peak Hour Factor	0.94	0.94	0.85	0.85	0.69	0.69
Hourly flow rate (vph)	17	307	326	52	12	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	378				693	352
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	378				693	352
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				97	99
cM capacity (veh/h)	1192				406	696

Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	324	378	16
Volume Left	17	0	12
Volume Right	0	52	4
cSH	1192	1700	458
Volume to Capacity	0.01	0.22	0.03
Queue Length 95th (ft)	1	0	3
Control Delay (s)	0.6	0.0	13.1
Lane LOS	A		B
Approach Delay (s)	0.6	0.0	13.1
Approach LOS			B

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	17	366	317	46	8	3
Peak Hour Factor	0.94	0.94	0.85	0.85	0.69	0.69
Hourly flow rate (vph)	18	389	373	54	12	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	427				826	400
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	427				826	400
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				97	99
cM capacity (veh/h)	1143				339	654

Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	407	427	16
Volume Left	18	0	12
Volume Right	0	54	4
cSH	1143	1700	391
Volume to Capacity	0.02	0.25	0.04
Queue Length 95th (ft)	1	0	3
Control Delay (s)	0.5	0.0	14.6
Lane LOS	A		B
Approach Delay (s)	0.5	0.0	14.6
Approach LOS			B

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	17	374	355	46	8	3
Peak Hour Factor	0.94	0.94	0.85	0.85	0.69	0.69
Hourly flow rate (vph)	18	398	418	54	12	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	472				879	445
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	472				879	445
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				96	99
cM capacity (veh/h)	1101				315	618

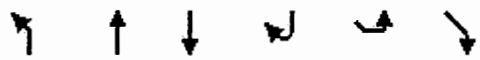
Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	416	472	16
Volume Left	18	0	12
Volume Right	0	54	4
cSH	1101	1700	364
Volume to Capacity	0.02	0.28	0.04
Queue Length 95th (ft)	1	0	3
Control Delay (s)	0.5	0.0	15.3
Lane LOS	A		C
Approach Delay (s)	0.5	0.0	15.3
Approach LOS			C

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	244	246	3	5	1
Peak Hour Factor	0.81	0.81	0.87	0.87	0.38	0.38
Hourly flow rate (vph)	6	301	283	3	13	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	286				598	284
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	286				598	284
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	100
cM capacity (veh/h)	1282				466	759

Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	307	286	16
Volume Left	6	0	13
Volume Right	0	3	3
cSH	1282	1700	498
Volume to Capacity	0.00	0.17	0.03
Queue Length 95th (ft)	0	0	2
Control Delay (s)	0.2	0.0	12.5
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	12.5
Approach LOS			B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	26.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	285	291	3	5	1
Peak Hour Factor	0.81	0.81	0.87	0.87	0.38	0.38
Hourly flow rate (vph)	6	352	334	3	13	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	338				700	336
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	338				700	336
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				97	100
cM capacity (veh/h)	1227				406	710

Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	358	338	16
Volume Left	6	0	13
Volume Right	0	3	3
cSH	1227	1700	437
Volume to Capacity	0.01	0.20	0.04
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.2	0.0	13.5
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	13.5
Approach LOS			B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	29.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	337	350	3	5	1
Peak Hour Factor	0.81	0.81	0.87	0.87	0.38	0.38
Hourly flow rate (vph)	6	416	402	3	13	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	406				832	404
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	406				832	404
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				96	100
cM capacity (veh/h)	1158				340	651

Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	422	406	16
Volume Left	6	0	13
Volume Right	0	3	3
cSH	1158	1700	369
Volume to Capacity	0.01	0.24	0.04
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.2	0.0	15.2
Lane LOS	A		C
Approach Delay (s)	0.2	0.0	15.2
Approach LOS			C

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	31.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	8	232	264	9	5	4
Peak Hour Factor	0.87	0.87	0.95	0.95	0.56	0.56
Hourly flow rate (vph)	9	267	278	9	9	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	287				568	283
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	287				568	283
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	99
cM capacity (veh/h)	1286				484	761

Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	276	287	16
Volume Left	9	0	9
Volume Right	0	9	7
cSH	1286	1700	578
Volume to Capacity	0.01	0.17	0.03
Queue Length 95th (ft)	1	0	2
Control Delay (s)	0.3	0.0	11.4
Lane LOS	A		B
Approach Delay (s)	0.3	0.0	11.4
Approach LOS			B

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	28.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	8	261	298	9	5	4
Peak Hour Factor	0.87	0.87	0.95	0.95	0.56	0.56
Hourly flow rate (vph)	9	300	314	9	9	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	323				637	318
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	323				637	318
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	99
cM capacity (veh/h)	1248				441	727

Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	309	323	16
Volume Left	9	0	9
Volume Right	0	9	7
cSH	1248	1700	535
Volume to Capacity	0.01	0.19	0.03
Queue Length 95th (ft)	1	0	2
Control Delay (s)	0.3	0.0	11.9
Lane LOS	A		B
Approach Delay (s)	0.3	0.0	11.9
Approach LOS			B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	30.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	8	291	328	9	5	4
Peak Hour Factor	0.87	0.87	0.95	0.95	0.56	0.56
Hourly flow rate (vph)	9	334	345	9	9	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	355				703	350
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	355				703	350
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	99
cM capacity (veh/h)	1215				404	698

Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	344	355	16
Volume Left	9	0	9
Volume Right	0	9	7
cSH	1215	1700	497
Volume to Capacity	0.01	0.21	0.03
Queue Length 95th (ft)	1	0	3
Control Delay (s)	0.3	0.0	12.5
Lane LOS	A		B
Approach Delay (s)	0.3	0.0	12.5
Approach LOS			B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	31.8%	ICU Level of Service	A
Analysis Period (min)	15		

Route 126 at Plain Road

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	6	14	359	59	22	210
Peak Hour Factor	0.71	0.71	0.89	0.89	0.75	0.75
Hourly flow rate (vph)	8	20	403	66	29	280
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	775	437			470	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	775	437			470	
tC, single (s)	6.4	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.4			2.2	
p0 queue free %	98	97			97	
cM capacity (veh/h)	359	609			1076	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	28	470	309
Volume Left	8	0	29
Volume Right	20	66	0
cSH	504	1700	1076
Volume to Capacity	0.06	0.28	0.03
Queue Length 95th (ft)	4	0	2
Control Delay (s)	12.6	0.0	1.0
Lane LOS	B		A
Approach Delay (s)	12.6	0.0	1.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	39.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	11	15	395	63	23	280
Peak Hour Factor	0.71	0.71	0.89	0.89	0.75	0.75
Houdy flow rate (vph)	15	21	444	71	31	373
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	914	479			515	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	914	479			515	
tC, single (s)	6.4	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.4			2.2	
p0 queue free %	95	96			97	
cM capacity (veh/h)	297	576			1036	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	37	515	404
Volume Left	15	0	31
Volume Right	21	71	0
cSH	412	1700	1036
Volume to Capacity	0.09	0.30	0.03
Queue Length 95th (ft)	7	0	2
Control Delay (s)	14.6	0.0	1.0
Lane LOS	B		A
Approach Delay (s)	14.6	0.0	1.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	7	15	396	63	23	248
Peak Hour Factor	0.71	0.71	0.89	0.89	0.75	0.75
Hourly flow rate (vph)	10	21	445	71	31	331
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	872	480			516	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	872	480			516	
tC, single (s)	6.4	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.4			2.2	
p0 queue free %	97	96			97	
cM capacity (veh/h)	314	576			1035	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	31	516	361
Volume Left	10	0	31
Volume Right	21	71	0
cSH	455	1700	1035
Volume to Capacity	0.07	0.30	0.03
Queue Length 95th (ft)	5	0	2
Control Delay (s)	13.5	0.0	1.0
Lane LOS	B		A
Approach Delay (s)	13.5	0.0	1.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	42.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	6	11	289	14	35	301
Peak Hour Factor	0.71	0.71	0.94	0.94	0.87	0.87
Hourly flow rate (vph)	8	15	307	15	40	346
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	741	315			322	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	741	315			322	
tC, single (s)	6.4	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.4			2.2	
p0 queue free %	98	98			97	
cM capacity (veh/h)	374	709			1249	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	24	322	386
Volume Left	8	0	40
Volume Right	15	15	0
cSH	539	1700	1249
Volume to Capacity	0.04	0.19	0.03
Queue Length 95th (ft)	3	0	2
Control Delay (s)	12.0	0.0	1.1
Lane LOS	B		A
Approach Delay (s)	12.0	0.0	1.1
Approach LOS	B		

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	7	12	362	19	37	341
Peak Hour Factor	0.71	0.71	0.94	0.94	0.87	0.87
Hourly flow rate (vph)	10	17	385	20	43	392
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	872	395			405	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	872	395			405	
tC, single (s)	6.4	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.4			2.2	
p0 queue free %	97	97			96	
cM capacity (veh/h)	312	639			1164	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	27	405	434
Volume Left	10	0	43
Volume Right	17	20	0
cSH	461	1700	1164
Volume to Capacity	0.06	0.24	0.04
Queue Length 95th (ft)	5	0	3
Control Delay (s)	13.3	0.0	1.2
Lane LOS	B		A
Approach Delay (s)	13.3	0.0	1.2
Approach LOS	B		

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	10	12	372	20	37	379
Peak Hour Factor	0.71	0.71	0.94	0.94	0.87	0.87
Hourly flow rate (vph)	14	17	396	21	43	436
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	927	406			417	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	927	406			417	
tC, single (s)	6.4	6.3			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.4			2.2	
p0 queue free %	95	97			96	
cM capacity (veh/h)	289	630			1153	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	31	417	478
Volume Left	14	0	43
Volume Right	17	21	0
cSH	410	1700	1153
Volume to Capacity	0.08	0.25	0.04
Queue Length 95th (ft)	6	0	3
Control Delay (s)	14.5	0.0	1.1
Lane LOS	B		A
Approach Delay (s)	14.5	0.0	1.1
Approach LOS	B		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	12	6	234	13	6	235
Peak Hour Factor	0.75	0.75	0.80	0.80	0.86	0.86
Hourly flow rate (vph)	16	8	292	16	7	273
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	588	301			309	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	588	301			309	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	99			99	
cM capacity (veh/h)	472	744			1263	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	24	309	280
Volume Left	16	0	7
Volume Right	8	16	0
cSH	538	1700	1263
Volume to Capacity	0.04	0.18	0.01
Queue Length 95th (ft)	3	0	0
Control Delay (s)	12.0	0.0	0.2
Lane LOS	B		A
Approach Delay (s)	12.0	0.0	0.2
Approach LOS	B		

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	27.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	14	6	274	15	6	278
Peak Hour Factor	0.75	0.75	0.80	0.80	0.86	0.86
Hourly flow rate (vph)	19	8	342	19	7	323
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	689	352			361	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	689	352			361	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	99			99	
cM capacity (veh/h)	412	696			1209	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	27	361	330
Volume Left	19	0	7
Volume Right	8	19	0
cSH	470	1700	1209
Volume to Capacity	0.06	0.21	0.01
Queue Length 95th (ft)	5	0	0
Control Delay (s)	13.1	0.0	0.2
Lane LOS	B		A
Approach Delay (s)	13.1	0.0	0.2
Approach LOS	B		

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	29.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	19	6	322	19	6	332
Peak Hour Factor	0.75	0.75	0.80	0.80	0.86	0.86
Hourly flow rate (vph)	25	8	402	24	7	386
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	814	414			426	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	814	414			426	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	99			99	
cM capacity (veh/h)	348	642			1144	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	33	426	393
Volume Left	25	0	7
Volume Right	8	24	0
cSH	391	1700	1144
Volume to Capacity	0.09	0.25	0.01
Queue Length 95th (ft)	7	0	0
Control Delay (s)	15.1	0.0	0.2
Lane LOS	C		A
Approach Delay (s)	15.1	0.0	0.2
Approach LOS	C		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	32.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	6	6	212	8	3	282
Peak Hour Factor	0.75	0.75	0.90	0.90	0.85	0.85
Hourly flow rate (vph)	8	8	236	9	4	332
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	579	240			244	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	579	240			244	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	99			100	
cM capacity (veh/h)	479	804			1334	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	16	244	335
Volume Left	8	0	4
Volume Right	8	9	0
cSH	601	1700	1334
Volume to Capacity	0.03	0.14	0.00
Queue Length 95th (ft)	2	0	0
Control Delay (s)	11.2	0.0	0.1
Lane LOS	B		A
Approach Delay (s)	11.2	0.0	0.1
Approach LOS	B		

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	27.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	6	6	240	8	3	317
Peak Hour Factor	0.75	0.75	0.90	0.90	0.85	0.85
Hourly flow rate (vph)	8	8	267	9	4	373
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	651	271			276	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	651	271			276	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	99			100	
cM capacity (veh/h)	435	772			1299	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	16	276	376
Volume Left	8	0	4
Volume Right	8	9	0
cSH	557	1700	1299
Volume to Capacity	0.03	0.16	0.00
Queue Length 95th (ft)	2	0	0
Control Delay (s)	11.7	0.0	0.1
Lane LOS	B		A
Approach Delay (s)	11.7	0.0	0.1
Approach LOS	B		

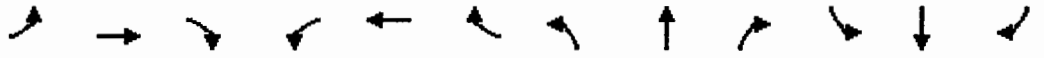
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	29.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	9	6	267	11	3	344
Peak Hour Factor	0.75	0.75	0.90	0.90	0.85	0.85
Hourly flow rate (vph)	12	8	297	12	4	405
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	715	303			309	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	715	303			309	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	99			100	
cM capacity (veh/h)	399	742			1263	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	20	309	408
Volume Left	12	0	4
Volume Right	8	12	0
cSH	490	1700	1263
Volume to Capacity	0.04	0.18	0.00
Queue Length 95th (ft)	3	0	0
Control Delay (s)	12.7	0.0	0.1
Lane LOS	B		A
Approach Delay (s)	12.7	0.0	0.1
Approach LOS	B		

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	30.5%	ICU Level of Service	A
Analysis Period (min)	15		

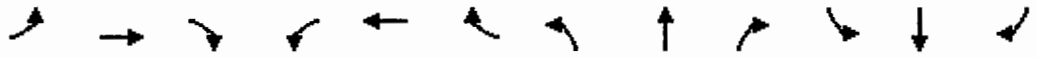
Route 126 at Claypit Hill Road and Training Field Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	8	38	9	9	18	46	11	348	22	72	217	0
Peak Hour Factor	0.44	0.44	0.44	0.70	0.70	0.70	0.93	0.93	0.93	0.75	0.75	0.75
Hourly flow rate (vph)	18	86	20	13	26	66	12	374	24	96	289	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	970	903	289	955	891	386	289			398		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	970	903	289	955	891	386	289			398		
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 %	90	66	97	92	90	90	99			92		
cM capacity (veh/h)	182	254	755	161	258	662	1284			1166		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	125	104	410	385
Volume Left	18	13	12	96
Volume Right	20	66	24	0
cSH	268	374	1284	1166
Volume to Capacity	0.47	0.28	0.01	0.08
Queue Length 95th (ft)	58	28	1	7
Control Delay (s)	29.7	18.3	0.3	2.7
Lane LOS	D	C	A	A
Approach Delay (s)	29.7	18.3	0.3	2.7
Approach LOS	D	C		

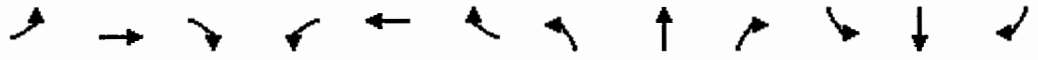
Intersection Summary				
Average Delay	6.6			
Intersection Capacity Utilization	51.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	8	40	9	14	19	48	12	393	24	76	282	0
Peak Hour Factor	0.44	0.44	0.44	0.70	0.70	0.70	0.93	0.93	0.93	0.75	0.75	0.75
Hourly flow rate (vph)	18	91	20	20	27	69	13	423	26	101	376	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1122	1053	376	1106	1040	435	376			448		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1122	1053	376	1106	1040	435	376			448		
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 %	87	56	97	82	87	89	99			91		
cM capacity (veh/h)	137	205	675	112	209	621	1194			1117		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	130	116	461	477
Volume Left	18	20	13	101
Volume Right	20	69	26	0
cSH	214	276	1194	1117
Volume to Capacity	0.61	0.42	0.01	0.09
Queue Length 95th (ft)	87	49	1	7
Control Delay (s)	44.8	27.2	0.3	2.6
Lane LOS	E	D	A	A
Approach Delay (s)	44.8	27.2	0.3	2.6
Approach LOS	E	D		

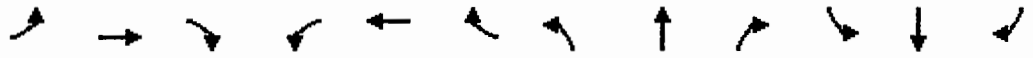
Intersection Summary			
Average Delay	8.7		
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	8	40	9	10	20	48	12	394	24	76	254	0
Peak Hour Factor	0.44	0.44	0.44	0.70	0.70	0.70	0.93	0.93	0.93	0.75	0.75	0.75
Hourly flow rate (vph)	18	91	20	14	29	69	13	424	26	101	339	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1087	1017	339	1070	1004	437	339			449		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1087	1017	339	1070	1004	437	339			449		
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 %	87	58	97	88	87	89	99			91		
cM capacity (veh/h)	145	216	708	121	219	620	1232			1116		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	130	111	462	440
Volume Left	18	14	13	101
Volume Right	20	69	26	0
cSH	225	311	1232	1116
Volume to Capacity	0.58	0.36	0.01	0.09
Queue Length 95th (ft)	80	39	1	7
Control Delay (s)	40.7	22.9	0.3	2.7
Lane LOS	E	C	A	A
Approach Delay (s)	40.7	22.9	0.3	2.7
Approach LOS	E	C		

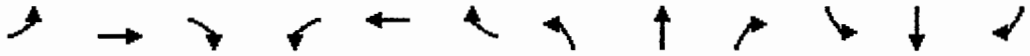
Intersection Summary				
Average Delay	8.0			
Intersection Capacity Utilization	56.4%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	32	17	12	25	51	10	266	28	53	323	2
Peak Hour Factor	0.91	0.91	0.91	0.71	0.71	0.71	0.92	0.92	0.92	0.85	0.85	0.85
Hourly flow rate (vph)	2	35	19	17	35	72	11	289	30	62	380	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	921	847	381	868	833	304	382			320		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	921	847	381	868	833	304	382			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	88	97	93	88	90	99			95		
cM capacity (veh/h)	198	283	670	231	289	740	1187			1252		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	56	124	330	445
Volume Left	2	17	11	62
Volume Right	19	72	30	2
cSH	344	424	1187	1252
Volume to Capacity	0.16	0.29	0.01	0.05
Queue Length 95th (ft)	14	30	1	4
Control Delay (s)	17.5	17.0	0.4	1.6
Lane LOS	C	C	A	A
Approach Delay (s)	17.5	17.0	0.4	1.6
Approach LOS	C	C		

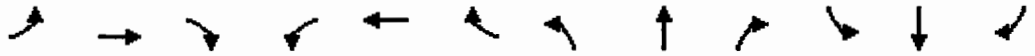
Intersection Summary			
Average Delay	4.1		
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	34	18	14	26	54	11	334	33	56	363	2
Peak Hour Factor	0.91	0.91	0.91	0.71	0.71	0.71	0.92	0.92	0.92	0.85	0.85	0.85
Hourly flow rate (vph)	2	37	20	20	37	76	12	363	36	66	427	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1059	983	428	1003	966	381	429			399		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1059	983	428	1003	966	381	429			399		
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	84	97	89	85	89	99			94		
cM capacity (veh/h)	152	234	631	180	240	671	1141			1171		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	59	132	411	495
Volume Left	2	20	12	66
Volume Right	20	76	36	2
cSH	289	352	1141	1171
Volume to Capacity	0.21	0.38	0.01	0.06
Queue Length 95th (ft)	19	43	1	4
Control Delay (s)	20.7	21.2	0.3	1.6
Lane LOS	C	C	A	A
Approach Delay (s)	20.7	21.2	0.3	1.6
Approach LOS	C	C		

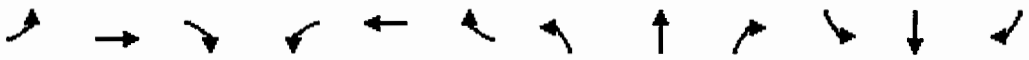
Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	37	18	17	29	54	11	344	33	56	398	2
Peak Hour Factor	0.91	0.91	0.91	0.71	0.71	0.71	0.92	0.92	0.92	0.85	0.85	0.85
Hourly flow rate (vph)	2	41	20	24	41	76	12	374	36	66	468	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1113	1035	469	1057	1018	392	471			410		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1113	1035	469	1057	1018	392	471			410		
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 %	98	81	97	85	82	88	99			94		
cM capacity (veh/h)	135	218	598	161	223	661	1102			1160		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	63	141	422	536
Volume Left	2	24	12	66
Volume Right	20	76	36	2
cSH	266	315	1102	1160
Volume to Capacity	0.24	0.45	0.01	0.06
Queue Length 95th (ft)	22	55	1	5
Control Delay (s)	22.7	25.3	0.4	1.6
Lane LOS	C	D	A	A
Approach Delay (s)	22.7	25.3	0.4	1.6
Approach LOS	C	D		

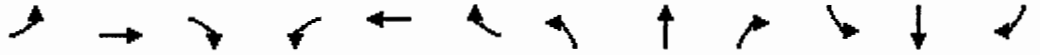
Intersection Summary				
Average Delay	5.2			
Intersection Capacity Utilization	67.1%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	4	14	21	11	15	15	26	185	7	13	192	4
Peak Hour Factor	0.65	0.65	0.65	0.79	0.79	0.79	0.74	0.74	0.74	0.92	0.92	0.92
Hourly flow rate (vph)	6	22	32	14	19	19	35	250	9	14	209	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	593	569	211	607	566	255	213			259		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	593	569	211	607	566	255	213			259		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.3		
p0 queue free %	98	95	96	96	95	98	97			99		
cM capacity (veh/h)	385	419	834	358	420	789	1369			1271		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	60	52	295	227
Volume Left	6	14	35	14
Volume Right	32	19	9	4
cSH	565	480	1369	1271
Volume to Capacity	0.11	0.11	0.03	0.01
Queue Length 95th (ft)	9	9	2	1
Control Delay (s)	12.1	13.4	1.1	0.6
Lane LOS	B	B	A	A
Approach Delay (s)	12.1	13.4	1.1	0.6
Approach LOS	B	B		

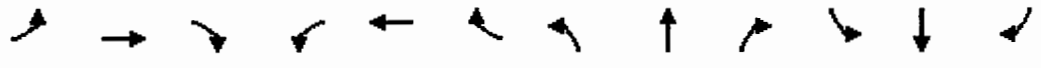
Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	29.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	4	15	22	13	16	16	27	221	8	14	232	4
Peak Hour Factor	0.65	0.65	0.65	0.79	0.79	0.79	0.74	0.74	0.74	0.92	0.92	0.92
Hourly flow rate (vph)	6	23	34	16	20	20	36	299	11	15	252	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	692	667	254	707	664	304	257			309		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	692	667	254	707	664	304	257			309		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.3		
p0 queue free %	98	94	96	95	95	97	97			99		
cM capacity (veh/h)	326	367	789	301	368	740	1320			1218		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	63	57	346	272
Volume Left	6	16	36	15
Volume Right	34	20	11	4
cSH	506	416	1320	1218
Volume to Capacity	0.12	0.14	0.03	0.01
Queue Length 95th (ft)	11	12	2	1
Control Delay (s)	13.1	15.0	1.1	0.6
Lane LOS	B	C	A	A
Approach Delay (s)	13.1	15.0	1.1	0.6
Approach LOS	B	C		

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	33.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	4	19	22	18	21	16	27	265	12	14	281	4
Peak Hour Factor	0.65	0.65	0.65	0.79	0.79	0.79	0.74	0.74	0.74	0.92	0.92	0.92
Hourly flow rate (vph)	6	29	34	23	27	20	36	358	16	15	305	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	811	785	308	826	779	366	310			374		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	811	785	308	826	779	366	310			374		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.3		
p0 queue free %	98	91	95	91	92	97	97			99		
cM capacity (veh/h)	264	313	737	243	316	683	1262			1152		

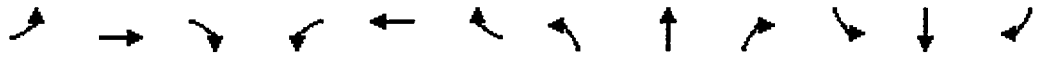
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	69	70	411	325
Volume Left	6	23	36	15
Volume Right	34	20	16	4
cSH	426	335	1262	1152
Volume to Capacity	0.16	0.21	0.03	0.01
Queue Length 95th (ft)	14	19	2	1
Control Delay (s)	15.1	18.5	1.0	0.5
Lane LOS	C	C	A	A
Approach Delay (s)	15.1	18.5	1.0	0.5
Approach LOS	C	C		

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	38.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	15	15	15	11	9	26	173	12	13	241	6
Peak Hour Factor	0.83	0.83	0.83	0.58	0.58	0.58	0.93	0.93	0.93	0.94	0.94	0.94
Hourly flow rate (vph)	0	18	18	26	19	16	28	186	13	14	256	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	561	542	260	563	539	192	263			199		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	561	542	260	563	539	192	263			199		
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	96	98	94	96	98	98			99		
cM capacity (veh/h)	409	436	784	407	438	854	1313			1386		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	36	60	227	277
Volume Left	0	26	28	14
Volume Right	18	16	13	6
cSH	561	483	1313	1386
Volume to Capacity	0.06	0.13	0.02	0.01
Queue Length 95th (ft)	5	11	2	1
Control Delay (s)	11.9	13.5	1.1	0.5
Lane LOS	B	B	A	A
Approach Delay (s)	11.9	13.5	1.1	0.5
Approach LOS	B	B		

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	34.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	16	16	16	12	9	27	199	13	14	274	6
Peak Hour Factor	0.83	0.83	0.83	0.58	0.58	0.58	0.93	0.93	0.93	0.94	0.94	0.94
Hourly flow rate (vph)	0	19	19	28	21	16	29	214	14	15	291	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	629	610	295	632	607	221	298			228		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	629	610	295	632	607	221	298			228		
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	95	97	92	95	98	98			99		
cM capacity (veh/h)	365	398	749	362	400	824	1275			1352		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	39	64	257	313
Volume Left	0	28	29	15
Volume Right	19	16	14	6
cSH	520	434	1275	1352
Volume to Capacity	0.07	0.15	0.02	0.01
Queue Length 95th (ft)	6	13	2	1
Control Delay (s)	12.5	14.7	1.1	0.5
Lane LOS	B	B	A	A
Approach Delay (s)	12.5	14.7	1.1	0.5
Approach LOS	B	B		

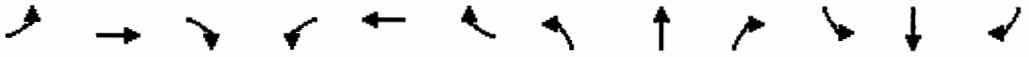
Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	18	16	19	14	9	27	223	16	14	298	6
Peak Hour Factor	0.83	0.83	0.83	0.58	0.58	0.58	0.93	0.93	0.93	0.94	0.94	0.94
Hourly flow rate (vph)	0	22	19	33	24	16	29	240	17	15	317	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	684	665	320	687	660	248	323			257		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	684	665	320	687	660	248	323			257		
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	94	97	90	94	98	98			99		
cM capacity (veh/h)	332	370	725	330	373	795	1248			1320		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	41	72	286	338
Volume Left	0	33	29	15
Volume Right	19	16	17	6
cSH	481	394	1248	1320
Volume to Capacity	0.09	0.18	0.02	0.01
Queue Length 95th (ft)	7	17	2	1
Control Delay (s)	13.2	16.2	1.0	0.4
Lane LOS	B	C	A	A
Approach Delay (s)	13.2	16.2	1.0	0.4
Approach LOS	B	C		

Intersection Summary				
Average Delay	2.9			
Intersection Capacity Utilization	38.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Route 126 at Glezen Lane



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	139	252	9	15	12	19	5	339	40	54	217	15
Peak Hour Factor	0.89	0.89	0.89	0.72	0.72	0.72	0.93	0.93	0.93	0.73	0.73	0.73
Hourly flow rate (vph)	156	283	10	21	17	26	5	365	43	74	297	21
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	887	874	308	1004	863	386	318			408		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	887	874	308	1004	863	386	318			408		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.2		
p0 queue free %	33	0	99	0	94	96	100			94		
cM capacity (veh/h)	232	271	737	0	275	666	1254			1162		

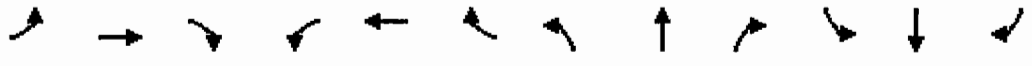
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	449	64	413	392
Volume Left	156	21	5	74
Volume Right	10	26	43	21
cSH	259	0	1254	1162
Volume to Capacity	1.73	Err	0.00	0.06
Queue Length 95th (ft)	737	Err	0	5
Control Delay (s)	378.7	Err	0.1	2.1
Lane LOS	F	F	A	A
Approach Delay (s)	378.7	Err	0.1	2.1
Approach LOS	F	F		

Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	74.0%	ICU Level of Service	D	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	146	265	9	21	13	20	5	372	43	57	277	16
Peak Hour Factor	0.89	0.89	0.89	0.72	0.72	0.72	0.93	0.93	0.93	0.73	0.73	0.73
Hourly flow rate (vph)	164	298	10	29	18	28	5	400	46	78	379	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1017	1004	390	1139	991	423	401			446		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1017	1004	390	1139	991	423	401			446		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.2		
p0 queue free %	11	0	98	0	92	96	100			93		
cM capacity (veh/h)	185	226	662	0	230	635	1168			1125		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	472	75	452	479
Volume Left	164	29	5	78
Volume Right	10	28	46	22
cSH	213	0	1168	1125
Volume to Capacity	2.22	Err	0.00	0.07
Queue Length 95th (ft)	930	Err	0	6
Control Delay (s)	600.5	Err	0.1	2.0
Lane LOS	F	F	A	A
Approach Delay (s)	600.5	Err	0.1	2.0
Approach LOS	F	F		

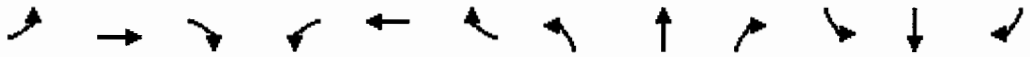
Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	146	265	9	17	13	20	5	373	43	57	253	16
Peak Hour Factor	0.89	0.89	0.89	0.72	0.72	0.72	0.93	0.93	0.93	0.73	0.73	0.73
Hourly flow rate (vph)	164	298	10	24	18	28	5	401	46	78	347	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	985	972	358	1108	960	424	368			447		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	985	972	358	1108	960	424	368			447		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.2		
p0 queue free %	16	0	99	0	92	96	100			93		
cM capacity (veh/h)	195	236	691	0	240	634	1201			1124		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	472	69	453	447
Volume Left	164	24	5	78
Volume Right	10	28	46	22
cSH	223	0	1201	1124
Volume to Capacity	2.12	Err	0.00	0.07
Queue Length 95th (ft)	902	Err	0	6
Control Delay (s)	553.8	Err	0.1	2.1
Lane LOS	F	F	A	A
Approach Delay (s)	553.8	Err	0.1	2.1
Approach LOS	F	F		

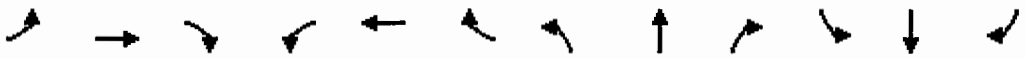
Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	21	21	4	21	181	29	6	281	17	18	343	147
Peak Hour Factor	0.89	0.89	0.89	0.88	0.88	0.88	0.89	0.89	0.89	0.95	0.95	0.95
Hourly flow rate (vph)	24	24	4	24	206	33	7	316	19	19	361	155
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	951	825	438	831	892	325	516			335		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	951	825	438	831	892	325	516			335		
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 %	74	92	99	91	26	95	99			98		
cM capacity (veh/h)	89	303	623	262	277	721	1060			1236		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	52	262	342	535
Volume Left	24	24	7	19
Volume Right	4	33	19	155
cSH	148	299	1060	1236
Volume to Capacity	0.35	0.88	0.01	0.02
Queue Length 95th (ft)	36	198	0	1
Control Delay (s)	41.8	64.1	0.2	0.5
Lane LOS	E	F	A	A
Approach Delay (s)	41.8	64.1	0.2	0.5
Approach LOS	E	F		

Intersection Summary			
Average Delay	16.2		
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	22	22	4	23	190	30	6	345	22	19	383	154
Peak Hour Factor	0.89	0.89	0.89	0.88	0.88	0.88	0.89	0.89	0.89	0.95	0.95	0.95
Hourly flow rate (vph)	25	25	4	26	216	34	7	388	25	20	403	162
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1080	950	484	955	1019	400	565			412		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1080	950	484	955	1019	400	565			412		
tC, single (s)	7.1	6.5	6.2	7.2	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 %	29	90	99	88	7	95	99			98		
cM capacity (veh/h)	35	256	587	212	233	654	1017			1157		

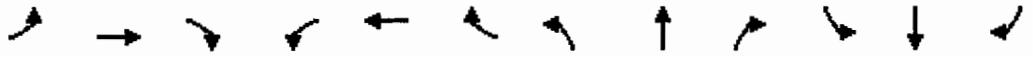
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	54	276	419	585
Volume Left	25	26	7	20
Volume Right	4	34	25	162
cSH	66	251	1017	1157
Volume to Capacity	0.82	1.10	0.01	0.02
Queue Length 95th (ft)	95	297	1	1
Control Delay (s)	166.0	129.4	0.2	0.5
Lane LOS	F	F	A	A
Approach Delay (s)	166.0	129.4	0.2	0.5
Approach LOS	F	F		

Intersection Summary				
Average Delay	33.8			
Intersection Capacity Utilization	60.4%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	22	22	4	26	190	30	6	355	22	19	415	154
Peak Hour Factor	0.89	0.89	0.89	0.88	0.88	0.88	0.89	0.89	0.89	0.95	0.95	0.95
Hourly flow rate (vph)	25	25	4	30	216	34	7	399	25	20	437	162
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1125	995	518	999	1064	411	599			424		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1125	995	518	999	1064	411	599			424		
tC, single (s)	7.1	6.5	6.2	7.2	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 %	0	90	99	85	2	95	99			98		
cM capacity (veh/h)	14	241	562	197	219	645	988			1146		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	54	280	430	619
Volume Left	25	30	7	20
Volume Right	4	34	25	162
cSH	28	235	988	1146
Volume to Capacity	1.89	1.19	0.01	0.02
Queue Length 95th (ft)	159	334	1	1
Control Delay (s)	717.4	162.1	0.2	0.5
Lane LOS	F	F	A	A
Approach Delay (s)	717.4	162.1	0.2	0.5
Approach LOS	F	F		

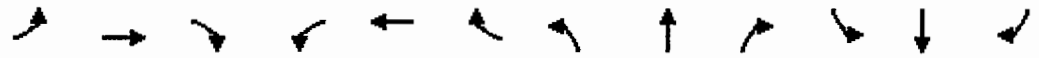
Intersection Summary			
Average Delay	61.0		
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	18	8	14	14	9	7	179	25	14	186	17
Peak Hour Factor	0.71	0.71	0.71	0.62	0.62	0.62	0.75	0.75	0.75	0.95	0.95	0.95
Hourly flow rate (vph)	7	25	11	23	23	15	9	239	33	15	196	18
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	534	525	205	532	517	255	214			272		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	534	525	205	532	517	255	214			272		
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 %	98	94	99	95	95	98	99			99		
cM capacity (veh/h)	428	452	841	430	457	788	1368			1303		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	44	60	281	228
Volume Left	7	23	9	15
Volume Right	11	15	33	18
cSH	508	496	1368	1303
Volume to Capacity	0.09	0.12	0.01	0.01
Queue Length 95th (ft)	7	10	1	1
Control Delay (s)	12.7	13.3	0.3	0.6
Lane LOS	B	B	A	A
Approach Delay (s)	12.7	13.3	0.3	0.6
Approach LOS	B	B		

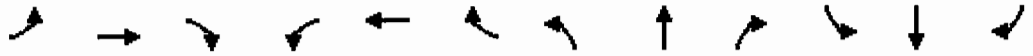
Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	27.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	19	8	16	15	9	7	214	27	15	224	18
Peak Hour Factor	0.71	0.71	0.71	0.62	0.62	0.62	0.75	0.75	0.75	0.95	0.95	0.95
Hourly flow rate (vph)	7	27	11	26	24	15	9	285	36	16	236	19
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	625	617	245	623	608	303	255			321		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	625	617	245	623	608	303	255			321		
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 %	98	93	99	93	94	98	99			99		
cM capacity (veh/h)	369	400	798	370	405	741	1322			1250		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	45	65	331	271
Volume Left	7	26	9	16
Volume Right	11	15	36	19
cSH	450	432	1322	1250
Volume to Capacity	0.10	0.15	0.01	0.01
Queue Length 95th (ft)	8	13	1	1
Control Delay (s)	13.9	14.8	0.3	0.6
Lane LOS	B	B	A	A
Approach Delay (s)	13.9	14.8	0.3	0.6
Approach LOS	B	B		

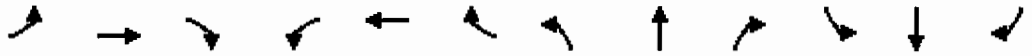
Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	19	8	21	15	9	7	254	31	15	268	18
Peak Hour Factor	0.71	0.71	0.71	0.62	0.62	0.62	0.75	0.75	0.75	0.95	0.95	0.95
Hourly flow rate (vph)	7	27	11	34	24	15	9	339	41	16	282	19
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	728	722	292	726	711	359	301			380		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	728	722	292	726	711	359	301			380		
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 %	98	92	99	89	93	98	99			99		
cM capacity (veh/h)	312	348	752	313	353	690	1271			1190		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	45	73	389	317
Volume Left	7	34	9	16
Volume Right	11	15	41	19
cSH	394	367	1271	1190
Volume to Capacity	0.11	0.20	0.01	0.01
Queue Length 95th (ft)	10	18	1	1
Control Delay (s)	15.3	17.2	0.3	0.5
Lane LOS	C	C	A	A
Approach Delay (s)	15.3	17.2	0.3	0.5
Approach LOS	C	C		

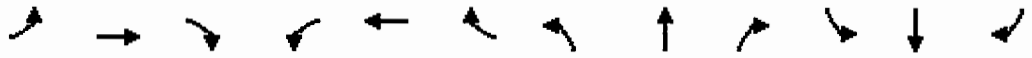
Intersection Summary				
Average Delay	2.7			
Intersection Capacity Utilization	35.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	8	14	3	21	15	8	4	151	16	7	215	13
Peak Hour Factor	0.79	0.79	0.79	0.78	0.78	0.78	0.87	0.87	0.87	0.85	0.85	0.85
Hourly flow rate (vph)	10	18	4	27	19	10	5	174	18	8	253	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	489	478	261	482	477	183	268			192		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	489	478	261	482	477	183	268			192		
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 %	98	96	100	94	96	99	100			99		
cM capacity (veh/h)	469	485	783	478	486	865	1307			1394		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	32	56	197	276
Volume Left	10	27	5	8
Volume Right	4	10	18	15
cSH	502	524	1307	1394
Volume to Capacity	0.06	0.11	0.00	0.01
Queue Length 95th (ft)	5	9	0	0
Control Delay (s)	12.7	12.7	0.2	0.3
Lane LOS	B	B	A	A
Approach Delay (s)	12.7	12.7	0.2	0.3
Approach LOS	B	B		

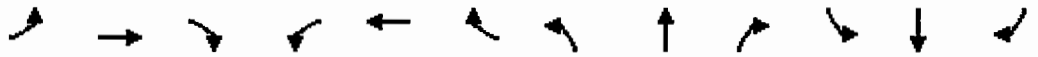
Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	26.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	8	15	3	22	16	8	4	176	17	7	247	14
Peak Hour Factor	0.79	0.79	0.79	0.78	0.78	0.78	0.87	0.87	0.87	0.85	0.85	0.85
Hourly flow rate (vph)	10	19	4	28	21	10	5	202	20	8	291	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	557	546	299	550	545	212	307			222		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	557	546	299	550	545	212	307			222		
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 %	98	96	99	93	95	99	100			99		
cM capacity (veh/h)	420	443	745	429	444	833	1265			1359		

Direction, Lane #	EB	WB	NB 1	SB 1
Volume Total	33	59	226	315
Volume Left	10	28	5	8
Volume Right	4	10	20	16
cSH	457	475	1265	1359
Volume to Capacity	0.07	0.12	0.00	0.01
Queue Length 95th (ft)	6	11	0	0
Control Delay (s)	13.5	13.7	0.2	0.3
Lane LOS	B	B	A	A
Approach Delay (s)	13.5	13.7	0.2	0.3
Approach LOS	B	B		

Intersection Summary				
Average Delay	2.2			
Intersection Capacity Utilization	28.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	8	15	3	25	16	8	4	197	20	7	268	14
Peak Hour Factor	0.79	0.79	0.79	0.78	0.78	0.78	0.87	0.87	0.87	0.85	0.85	0.85
Hourly flow rate (vph)	10	19	4	32	21	10	5	226	23	8	315	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	608	599	324	600	595	238	332			249		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	608	599	324	600	595	238	332			249		
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 %	97	95	99	92	95	99	100			99		
cM capacity (veh/h)	387	414	722	396	416	806	1239			1328		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	33	63	254	340
Volume Left	10	32	5	8
Volume Right	4	10	23	16
cSH	426	439	1239	1328
Volume to Capacity	0.08	0.14	0.00	0.01
Queue Length 95th (ft)	6	12	0	0
Control Delay (s)	14.2	14.6	0.2	0.2
Lane LOS	B	B	A	A
Approach Delay (s)	14.2	14.6	0.2	0.2
Approach LOS	B	B		

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	29.9%	ICU Level of Service	A
Analysis Period (min)	15		

Route 126 at Moore Road

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	23	8	3	482	305	9
Peak Hour Factor	0.62	0.62	0.91	0.91	0.78	0.78
Hourly flow rate (vph)	37	13	3	530	391	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	933	397	403			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	933	397	403			
tC, single (s)	6.4	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	87	98	100			
cM capacity (veh/h)	292	631	1167			

Direction, Lane #	SE 1	NE 1	SW 1
Volume Total	50	533	403
Volume Left	37	3	0
Volume Right	13	0	12
cSH	339	1167	1700
Volume to Capacity	0.15	0.00	0.24
Queue Length 95th (ft)	13	0	0
Control Delay (s)	17.4	0.1	0.0
Lane LOS	C	A	
Approach Delay (s)	17.4	0.1	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	37.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	24	8	3	523	370	9
Peak Hour Factor	0.62	0.62	0.91	0.91	0.78	0.78
Hourly flow rate (vph)	39	13	3	575	474	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1061	480	486			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1061	480	486			
tC, single (s)	6.4	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	84	98	100			
cM capacity (veh/h)	245	566	1088			

Direction, Lane #	SE 1	NE 1	SW 1
Volume Total	52	578	486
Volume Left	39	3	0
Volume Right	13	0	12
cSH	285	1088	1700
Volume to Capacity	0.18	0.00	0.29
Queue Length 95th (ft)	16	0	0
Control Delay (s)	20.4	0.1	0.0
Lane LOS	C	A	
Approach Delay (s)	20.4	0.1	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	39.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	24	8	3	524	346	9
Peak Hour Factor	0.62	0.62	0.91	0.91	0.78	0.78
Hourly flow rate (vph)	39	13	3	576	444	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1032	449	455			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1032	449	455			
tC, single (s)	6.4	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	85	98	100			
cM capacity (veh/h)	255	589	1116			

Direction, Lane #	SE 1	NE 1	SW 1
Volume Total	52	579	455
Volume Left	39	3	0
Volume Right	13	0	12
cSH	297	1116	1700
Volume to Capacity	0.17	0.00	0.27
Queue Length 95th (ft)	15	0	0
Control Delay (s)	19.6	0.1	0.0
Lane LOS	C	A	
Approach Delay (s)	19.6	0.1	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	9	3	4	334	513	15
Peak Hour Factor	0.75	0.75	0.98	0.98	0.92	0.92
Hourly flow rate (vph)	12	4	4	341	558	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	915	566	574			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	915	566	574			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	99	100			
cM capacity (veh/h)	304	528	1009			

Direction, Lane #	SE 1	NE 1	SW 1
Volume Total	16	345	574
Volume Left	12	4	0
Volume Right	4	0	16
cSH	340	1009	1700
Volume to Capacity	0.05	0.00	0.34
Queue Length 95th (ft)	4	0	0
Control Delay (s)	16.1	0.1	0.0
Lane LOS	C	A	
Approach Delay (s)	16.1	0.1	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	37.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	9	3	4	401	562	16
Peak Hour Factor	0.75	0.75	0.98	0.98	0.92	0.92
Hourly flow rate (vph)	12	4	4	409	611	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1037	620	628			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1037	620	628			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	99	100			
cM capacity (veh/h)	257	492	963			

Direction, Lane #	SE 1	NE 1	SW 1
Volume Total	16	413	628
Volume Left	12	4	0
Volume Right	4	0	17
cSH	292	963	1700
Volume to Capacity	0.05	0.00	0.37
Queue Length 95th (ft)	4	0	0
Control Delay (s)	18.0	0.1	0.0
Lane LOS	C	A	
Approach Delay (s)	18.0	0.1	0.0
Approach LOS	C		

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	40.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	9	3	4	411	594	16
Peak Hour Factor	0.75	0.75	0.98	0.98	0.92	0.92
Hourly flow rate (vph)	12	4	4	419	646	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1082	654	663			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1082	654	663			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	99	100			
cM capacity (veh/h)	242	470	935			

Direction, Lane #	SE 1	NE 1	SW 1
Volume Total	16	423	663
Volume Left	12	4	0
Volume Right	4	0	17
cSH	275	935	1700
Volume to Capacity	0.06	0.00	0.39
Queue Length 95th (ft)	5	0	0
Control Delay (s)	18.9	0.1	0.0
Lane LOS	C	A	
Approach Delay (s)	18.9	0.1	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	42.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	5	1	5	190	223	8
Peak Hour Factor	0.75	0.75	0.89	0.89	0.85	0.85
Hourly flow rate (vph)	7	1	6	213	262	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	492	267	272			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	492	267	272			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	100	100			
cM capacity (veh/h)	537	776	1303			

Direction, Lane #	SE 1	NE 1	SW 1
Volume Total	8	219	272
Volume Left	7	6	0
Volume Right	1	0	9
cSH	567	1303	1700
Volume to Capacity	0.01	0.00	0.16
Queue Length 95th (ft)	1	0	0
Control Delay (s)	11.4	0.2	0.0
Lane LOS	B	A	
Approach Delay (s)	11.4	0.2	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	24.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	5	1	5	226	263	8
Peak Hour Factor	0.75	0.75	0.89	0.89	0.85	0.85
Hourly flow rate (vph)	7	1	6	254	309	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	579	314	319			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	579	314	319			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	100	100			
cM capacity (veh/h)	478	731	1253			

Direction, Lane #	SE 1	NE 1	SW 1
Volume Total	8	260	319
Volume Left	7	6	0
Volume Right	1	0	9
cSH	507	1253	1700
Volume to Capacity	0.02	0.00	0.19
Queue Length 95th (ft)	1	0	0
Control Delay (s)	12.2	0.2	0.0
Lane LOS	B	A	
Approach Delay (s)	12.2	0.2	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	25.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	5	1	5	266	307	8
Peak Hour Factor	0.75	0.75	0.89	0.89	0.85	0.85
Hourly flow rate (vph)	7	1	6	299	361	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	676	366	371			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	676	366	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 %	98	100	100			
cM capacity (veh/h)	420	684	1199			

Direction, Lane #	SE 1	NE 1	SW 1
Volume Total	8	304	371
Volume Left	7	6	0
Volume Right	1	0	9
cSH	449	1199	1700
Volume to Capacity	0.02	0.00	0.22
Queue Length 95th (ft)	1	0	0
Control Delay (s)	13.2	0.2	0.0
Lane LOS	B	A	
Approach Delay (s)	13.2	0.2	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	28.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	11	5	1	164	229	10
Peak Hour Factor	0.61	0.61	0.88	0.88	0.87	0.87
Hourly flow rate (vph)	18	8	1	186	263	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	458	269	275			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	458	269	275			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	99	100			
cM capacity (veh/h)	564	775	1300			

Direction, Lane #	SE 1	NE 1	SW 1
Volume Total	26	188	275
Volume Left	18	1	0
Volume Right	8	0	11
cSH	617	1300	1700
Volume to Capacity	0.04	0.00	0.16
Queue Length 95th (ft)	3	0	0
Control Delay (s)	11.1	0.1	0.0
Lane LOS	B	A	
Approach Delay (s)	11.1	0.1	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	22.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	12	5	1	189	262	11
Peak Hour Factor	0.61	0.61	0.88	0.88	0.87	0.87
Hourly flow rate (vph)	20	8	1	215	301	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	525	307	314			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	525	307	314			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	99	100			
cM capacity (veh/h)	516	737	1258			

Direction, Lane #	SE 1	NE 1	SW 1
Volume Total	28	216	314
Volume Left	20	1	0
Volume Right	8	0	13
cSH	566	1258	1700
Volume to Capacity	0.05	0.00	0.18
Queue Length 95th (ft)	4	0	0
Control Delay (s)	11.7	0.0	0.0
Lane LOS	B	A	
Approach Delay (s)	11.7	0.0	0.0
Approach LOS	B		

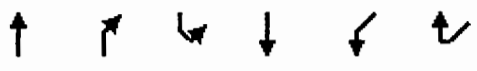
Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	24.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	12	5	1	210	283	11
Peak Hour Factor	0.61	0.61	0.88	0.88	0.87	0.87
Hourly flow rate (vph)	20	8	1	239	325	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	573	332	338			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	573	332	338			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	99	100			
cM capacity (veh/h)	484	715	1233			

Direction, Lane #	SE 1	NE 1	SW 1
Volume Total	28	240	338
Volume Left	20	1	0
Volume Right	8	0	13
cSH	535	1233	1700
Volume to Capacity	0.05	0.00	0.20
Queue Length 95th (ft)	4	0	0
Control Delay (s)	12.1	0.0	0.0
Lane LOS	B	A	
Approach Delay (s)	12.1	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	25.6%	ICU Level of Service	A
Analysis Period (min)	15		

Glezen Lane at Moore Road



Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	24	401	12	23	34	1
Peak Hour Factor	0.88	0.88	0.73	0.73	0.58	0.58
Hourly flow rate (vph)	27	456	16	32	59	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			483		319	255
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			483		319	255
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			98		91	100
cM capacity (veh/h)			1049		661	788

Direction, Lane #	NB 1	SB 1	SW 1
Volume Total	483	48	60
Volume Left	0	16	59
Volume Right	456	0	2
cSH	1700	1049	664
Volume to Capacity	0.28	0.02	0.09
Queue Length 95th (ft)	0	1	7
Control Delay (s)	0.0	3.0	11.0
Lane LOS		A	B
Approach Delay (s)	0.0	3.0	11.0
Approach LOS			B

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	36.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	26	421	13	34	36	1
Peak Hour Factor	0.88	0.88	0.73	0.73	0.58	0.58
Hourly flow rate (vph)	30	478	18	47	62	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			508		351	269
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			508		351	269
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			98		90	100
cM capacity (veh/h)			1027		633	775

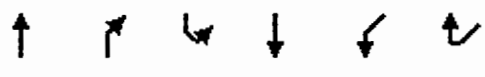
Direction, Lane #	NB 1	SB 1	SW 1
Volume Total	508	64	64
Volume Left	0	18	62
Volume Right	478	0	2
cSH	1700	1027	636
Volume to Capacity	0.30	0.02	0.10
Queue Length 95th (ft)	0	1	8
Control Delay (s)	0.0	2.5	11.3
Lane LOS		A	B
Approach Delay (s)	0.0	2.5	11.3
Approach LOS			B

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	37.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	26	421	13	26	36	1
Peak Hour Factor	0.88	0.88	0.73	0.73	0.58	0.58
Hourly flow rate (vph)	30	478	18	36	62	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			508		340	269
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			508		340	269
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			98		90	100
cM capacity (veh/h)			1027		643	775

Direction, Lane #	NB 1	SB 1	SW 1
Volume Total	508	53	64
Volume Left	0	18	62
Volume Right	478	0	2
cSH	1700	1027	646
Volume to Capacity	0.30	0.02	0.10
Queue Length 95th (ft)	0	1	8
Control Delay (s)	0.0	3.0	11.2
Lane LOS		A	B
Approach Delay (s)	0.0	3.0	11.2
Approach LOS			B

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	37.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	32	40	7	43	326	7
Peak Hour Factor	0.88	0.88	0.73	0.73	0.58	0.58
Hourly flow rate (vph)	36	45	10	59	562	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			82		137	59
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			82		137	59
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			99		34	99
cM capacity (veh/h)			1478		848	1012

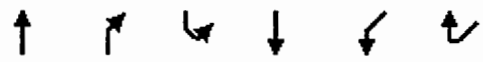
Direction, Lane #	NB 1	SB 1	SW 1
Volume Total	82	68	574
Volume Left	0	10	562
Volume Right	45	0	12
cSH	1700	1478	851
Volume to Capacity	0.05	0.01	0.67
Queue Length 95th (ft)	0	0	135
Control Delay (s)	0.0	1.1	17.5
Lane LOS		A	C
Approach Delay (s)	0.0	1.1	17.5
Approach LOS			C

Intersection Summary			
Average Delay	14.0		
Intersection Capacity Utilization	33.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	43	42	7	47	343	1
Peak Hour Factor	0.88	0.88	0.73	0.73	0.58	0.58
Hourly flow rate (vph)	49	48	10	64	591	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			97		156	73
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			97		156	73
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			99		29	100
cM capacity (veh/h)			1460		827	995

Direction, Lane #	NB 1	SB 1	SW 1
Volume Total	97	74	593
Volume Left	0	10	591
Volume Right	48	0	2
cSH	1700	1460	828
Volume to Capacity	0.06	0.01	0.72
Queue Length 95th (ft)	0	0	156
Control Delay (s)	0.0	1.0	19.5
Lane LOS		A	C
Approach Delay (s)	0.0	1.0	19.5
Approach LOS			C

Intersection Summary			
Average Delay	15.3		
Intersection Capacity Utilization	34.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	39	42	7	50	343	7
Peak Hour Factor	0.88	0.88	0.73	0.73	0.58	0.58
Hourly flow rate (vph)	44	48	10	68	591	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			92		156	68
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			92		156	68
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			99		29	99
cM capacity (veh/h)			1466		828	1001

Direction, Lane #	NB 1	SB 1	SW 1
Volume Total	92	78	603
Volume Left	0	10	591
Volume Right	48	0	12
cSH	1700	1466	831
Volume to Capacity	0.05	0.01	0.73
Queue Length 95th (ft)	0	0	162
Control Delay (s)	0.0	1.0	19.9
Lane LOS		A	C
Approach Delay (s)	0.0	1.0	19.9
Approach LOS			C

Intersection Summary			
Average Delay	15.6		
Intersection Capacity Utilization	34.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	39	18	3	35	25	3
Peak Hour Factor	0.88	0.88	0.73	0.73	0.58	0.58
Hourly flow rate (vph)	44	20	4	48	43	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			65		111	55
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			65		111	55
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			100		95	99
cM capacity (veh/h)			1500		881	1018

Direction, Lane #	NB 1	SB 1	SW 1
Volume Total	65	52	48
Volume Left	0	4	43
Volume Right	20	0	5
cSH	1700	1500	894
Volume to Capacity	0.04	0.00	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.6	9.3
Lane LOS		A	A
Approach Delay (s)	0.0	0.6	9.3
Approach LOS			A

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	14.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	35	17	3	31	24	3
Peak Hour Factor	0.88	0.88	0.73	0.73	0.58	0.58
Hourly flow rate (vph)	40	19	4	42	41	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			59		100	49
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			59		100	49
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			100		95	99
cM capacity (veh/h)			1507		894	1025

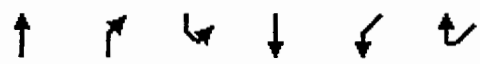
Direction, Lane #	NB 1	SB 1	SW 1
Volume Total	59	47	47
Volume Left	0	4	41
Volume Right	19	0	5
cSH	1700	1507	907
Volume to Capacity	0.03	0.00	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.7	9.2
Lane LOS		A	A
Approach Delay (s)	0.0	0.7	9.2
Approach LOS			A

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	14.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	43	18	3	40	25	3
Peak Hour Factor	0.88	0.88	0.73	0.73	0.58	0.58
Hourly flow rate (vph)	49	20	4	55	43	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			69		122	59
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			69		122	59
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			100		95	99
cM capacity (veh/h)			1494		868	1012

Direction, Lane #	NB 1	SB 1	SW 1
Volume Total	69	59	48
Volume Left	0	4	43
Volume Right	20	0	5
cSH	1700	1494	882
Volume to Capacity	0.04	0.00	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.5	9.3
Lane LOS		A	A
Approach Delay (s)	0.0	0.5	9.3
Approach LOS			A

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	14.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	23	14	3	21	23	5
Peak Hour Factor	0.88	0.88	0.73	0.73	0.58	0.58
Hourly flow rate (vph)	26	16	4	29	40	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			42		71	34
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			42		71	34
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			100		96	99
cM capacity (veh/h)			1529		928	1045

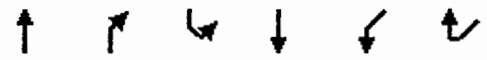
Direction, Lane #	NB 1	SB 1	SW 1
Volume Total	42	33	48
Volume Left	0	4	40
Volume Right	16	0	9
cSH	1700	1529	947
Volume to Capacity	0.02	0.00	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.9	9.0
Lane LOS		A	A
Approach Delay (s)	0.0	0.9	9.0
Approach LOS			A

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	13.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	25	15	3	23	24	5
Peak Hour Factor	0.88	0.88	0.73	0.73	0.58	0.58
Hourly flow rate (vph)	28	17	4	32	41	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			45		77	37
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			45		77	37
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			100		96	99
cM capacity (veh/h)			1525		921	1041

Direction, Lane #	NB 1	SB 1	SW 1
Volume Total	45	36	50
Volume Left	0	4	41
Volume Right	17	0	9
cSH	1700	1525	940
Volume to Capacity	0.03	0.00	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.9	9.0
Lane LOS		A	A
Approach Delay (s)	0.0	0.9	9.0
Approach LOS			A

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	13.7%	ICU Level of Service	A
Analysis Period (min)	15		

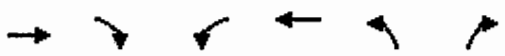


Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	27	15	3	25	24	5
Peak Hour Factor	0.88	0.88	0.73	0.73	0.58	0.58
Hourly flow rate (vph)	31	17	4	34	41	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			48		82	39
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			48		82	39
tC, single (s)			4.2		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.3		3.5	3.3
p0 queue free %			100		95	99
cM capacity (veh/h)			1522		915	1038

Direction, Lane #	NB 1	SB 1	SW 1
Volume Total	48	38	50
Volume Left	0	4	41
Volume Right	17	0	9
cSH	1700	1522	934
Volume to Capacity	0.03	0.00	0.05
Queue Length 95th (ft)	0	0	4
Control Delay (s)	0.0	0.8	9.1
Lane LOS		A	A
Approach Delay (s)	0.0	0.8	9.1
Approach LOS			A

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	13.8%	ICU Level of Service	A
Analysis Period (min)	15		

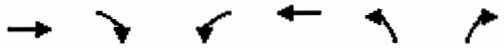
Glezen Lane at Training Field Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	413	36	1	45	12	1
Peak Hour Factor	0.86	0.86	0.68	0.68	0.41	0.41
Hourly flow rate (vph)	480	42	1	66	29	2

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	522	68	32
Volume Left (vph)	0	1	29
Volume Right (vph)	42	0	2
Hadj (s)	-0.05	0.00	0.14
Departure Headway (s)	4.0	4.5	5.3
Degree Utilization, x	0.58	0.08	0.05
Capacity (veh/h)	888	769	610
Control Delay (s)	12.4	7.9	8.5
Approach Delay (s)	12.4	7.9	8.5
Approach LOS	B	A	A

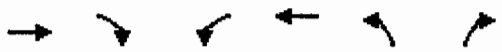
Intersection Summary			
Delay	11.8		
HCM Level of Service	B		
Intersection Capacity Utilization	33.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	435	38	1	57	13	1
Peak Hour Factor	0.86	0.86	0.68	0.68	0.41	0.41
Hourly flow rate (vph)	506	44	1	84	32	2

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	550	85	34
Volume Left (vph)	0	1	32
Volume Right (vph)	44	0	2
Hadj (s)	-0.05	0.00	0.14
Departure Headway (s)	4.0	4.5	5.4
Degree Utilization, x	0.62	0.11	0.05
Capacity (veh/h)	882	763	596
Control Delay (s)	13.3	8.1	8.7
Approach Delay (s)	13.3	8.1	8.7
Approach LOS	B	A	A

Intersection Summary			
Delay	12.4		
HCM Level of Service	B		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	435	38	1	49	14	1
Peak Hour Factor	0.86	0.86	0.68	0.68	0.41	0.41
Hourly flow rate (vph)	506	44	1	72	34	2

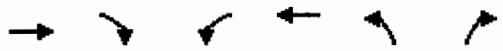
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	550	74	37
Volume Left (vph)	0	1	34
Volume Right (vph)	44	0	2
Hadj (s)	-0.05	0.00	0.15
Departure Headway (s)	4.0	4.5	5.4
Degree Utilization, x	0.62	0.09	0.05
Capacity (veh/h)	883	761	599
Control Delay (s)	13.3	8.0	8.7
Approach Delay (s)	13.3	8.0	8.7
Approach LOS	B	A	A

Intersection Summary			
Delay	12.5		
HCM Level of Service	B		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	55	29	1	350	23	1
Peak Hour Factor	0.88	0.88	0.95	0.95	0.75	0.75
Hourly flow rate (vph)	62	33	1	368	31	1

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	95	369	32
Volume Left (vph)	0	1	31
Volume Right (vph)	33	0	1
Hadj (s)	-0.21	0.00	0.17
Departure Headway (s)	4.1	4.1	5.1
Degree Utilization, x	0.11	0.42	0.04
Capacity (veh/h)	847	863	650
Control Delay (s)	7.6	10.0	8.3
Approach Delay (s)	7.6	10.0	8.3
Approach LOS	A	A	A

Intersection Summary			
Delay	9.4		
HCM Level of Service	A		
Intersection Capacity Utilization	29.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	67	30	1	370	24	1
Peak Hour Factor	0.88	0.88	0.95	0.95	0.75	0.75
Hourly flow rate (vph)	76	34	1	389	32	1

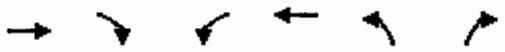
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	110	391	33
Volume Left (vph)	0	1	32
Volume Right (vph)	34	0	1
Hadj (s)	-0.19	0.00	0.17
Departure Headway (s)	4.2	4.1	5.1
Degree Utilization, x	0.13	0.44	0.05
Capacity (veh/h)	837	859	637
Control Delay (s)	7.8	10.3	8.4
Approach Delay (s)	7.8	10.3	8.4
Approach LOS	A	B	A

Intersection Summary			
Delay		9.7	
HCM Level of Service		A	
Intersection Capacity Utilization	30.3%	ICU Level of Service	A
Analysis Period (min)		15	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	63	33	1	373	27	1
Peak Hour Factor	0.88	0.88	0.95	0.95	0.75	0.75
Hourly flow rate (vph)	72	38	1	393	36	1

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	109	394	37
Volume Left (vph)	0	1	36
Volume Right (vph)	38	0	1
Hadj (s)	-0.21	0.00	0.17
Departure Headway (s)	4.2	4.1	5.1
Degree Utilization, x	0.13	0.45	0.05
Capacity (veh/h)	836	856	636
Control Delay (s)	7.8	10.4	8.4
Approach Delay (s)	7.8	10.4	8.4
Approach LOS	A	B	A

Intersection Summary			
Delay		9.8	
HCM Level of Service		A	
Intersection Capacity Utilization	30.4%	ICU Level of Service	A
Analysis Period (min)		15	



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	26	15	0	44	10	2
Peak Hour Factor	0.85	0.85	0.73	0.73	0.60	0.60
Hourly flow rate (vph)	31	18	0	60	17	3

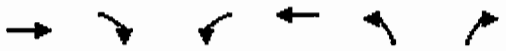
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	48	60	20
Volume Left (vph)	0	0	17
Volume Right (vph)	18	0	3
Hadj (s)	-0.22	0.00	0.07
Departure Headway (s)	3.8	4.0	4.2
Degree Utilization, x	0.05	0.07	0.02
Capacity (veh/h)	938	892	828
Control Delay (s)	7.0	7.3	7.3
Approach Delay (s)	7.0	7.3	7.3
Approach LOS	A	A	A

Intersection Summary			
Delay	7.2		
HCM Level of Service	A		
Intersection Capacity Utilization	14.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	29	16	0	48	11	2
Peak Hour Factor	0.85	0.85	0.73	0.73	0.60	0.60
Hourly flow rate (vph)	34	19	0	66	18	3

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	53	66	22
Volume Left (vph)	0	0	18
Volume Right (vph)	19	0	3
Hadj (s)	-0.21	0.00	0.08
Departure Headway (s)	3.8	4.0	4.2
Degree Utilization, x	0.06	0.07	0.03
Capacity (veh/h)	933	889	820
Control Delay (s)	7.0	7.3	7.3
Approach Delay (s)	7.0	7.3	7.3
Approach LOS	A	A	A

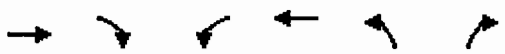
Intersection Summary			
Delay	7.2		
HCM Level of Service	A		
Intersection Capacity Utilization	14.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	33	20	0	53	16	2
Peak Hour Factor	0.85	0.85	0.73	0.73	0.60	0.60
Hourly flow rate (vph)	39	24	0	73	27	3

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	62	73	30
Volume Left (vph)	0	0	27
Volume Right (vph)	24	0	3
Hadj (s)	-0.23	0.00	0.11
Departure Headway (s)	3.8	4.0	4.3
Degree Utilization, x	0.07	0.08	0.04
Capacity (veh/h)	928	881	805
Control Delay (s)	7.1	7.4	7.4
Approach Delay (s)	7.1	7.4	7.4
Approach LOS	A	A	A

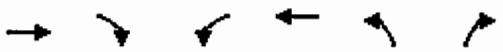
Intersection Summary			
Delay	7.3		
HCM Level of Service	A		
Intersection Capacity Utilization	14.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	22	16	0	28	13	1
Peak Hour Factor	0.73	0.73	0.64	0.64	0.70	0.70
Hourly flow rate (vph)	30	22	0	44	19	1

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	52	44	20
Volume Left (vph)	0	0	19
Volume Right (vph)	22	0	1
Hadj (s)	-0.25	0.00	0.14
Departure Headway (s)	3.7	4.0	4.2
Degree Utilization, x	0.05	0.05	0.02
Capacity (veh/h)	950	891	820
Control Delay (s)	6.9	7.2	7.3
Approach Delay (s)	6.9	7.2	7.3
Approach LOS	A	A	A

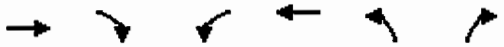
Intersection Summary			
Delay	7.1		
HCM Level of Service	A		
Intersection Capacity Utilization	14.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	24	17	0	30	14	1
Peak Hour Factor	0.73	0.73	0.64	0.64	0.70	0.70
Hourly flow rate (vph)	33	23	0	47	20	1

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	56	47	21
Volume Left (vph)	0	0	20
Volume Right (vph)	23	0	1
Hadj (s)	-0.25	0.00	0.15
Departure Headway (s)	3.7	4.0	4.3
Degree Utilization, x	0.06	0.05	0.03
Capacity (veh/h)	947	889	816
Control Delay (s)	7.0	7.2	7.4
Approach Delay (s)	7.0	7.2	7.4
Approach LOS	A	A	A

Intersection Summary			
Delay	7.1		
HCM Level of Service	A		
Intersection Capacity Utilization	14.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	26	19	0	32	16	1
Peak Hour Factor	0.73	0.73	0.64	0.64	0.70	0.70
Hourly flow rate (vph)	36	26	0	50	23	1

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	62	50	24
Volume Left (vph)	0	0	23
Volume Right (vph)	26	0	1
Hadj (s)	-0.25	0.00	0.15
Departure Headway (s)	3.7	4.0	4.3
Degree Utilization, x	0.06	0.06	0.03
Capacity (veh/h)	945	885	810
Control Delay (s)	7.0	7.2	7.4
Approach Delay (s)	7.0	7.2	7.4
Approach LOS	A	A	A

Intersection Summary			
Delay	7.2		
HCM Level of Service	A		
Intersection Capacity Utilization	14.0%	ICU Level of Service	A
Analysis Period (min)	15		

Training Field Road at Glezen Lane South

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	9	26	16	0	0	33
Peak Hour Factor	0.63	0.63	0.57	0.57	0.52	0.52
Hourly flow rate (vph)	14	41	28	0	0	63
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	28				98	28
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	28				98	28
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	94
cM capacity (veh/h)	1599				898	1053

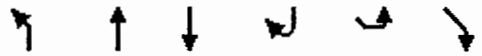
Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	56	28	63
Volume Left	14	0	0
Volume Right	0	0	63
cSH	1599	1700	1053
Volume to Capacity	0.01	0.02	0.06
Queue Length 95th (ft)	1	0	5
Control Delay (s)	1.9	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	1.9	0.0	8.6
Approach LOS			A

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	18.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	9	27	17	0	0	35
Peak Hour Factor	0.63	0.63	0.57	0.57	0.52	0.52
Hourly flow rate (vph)	14	43	30	0	0	67
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	30				101	30
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	30				101	30
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	94
cM capacity (veh/h)	1596				894	1051

Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	57	30	67
Volume Left	14	0	0
Volume Right	0	0	67
cSH	1596	1700	1051
Volume to Capacity	0.01	0.02	0.06
Queue Length 95th (ft)	1	0	5
Control Delay (s)	1.9	0.0	8.7
Lane LOS	A		A
Approach Delay (s)	1.9	0.0	8.7
Approach LOS			A

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	18.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	27	17	0	0	35
Peak Hour Factor	0.63	0.63	0.57	0.57	0.52	0.52
Hourly flow rate (vph)	16	43	30	0	0	67
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	30				104	30
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	30				104	30
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	94
cM capacity (veh/h)	1596				889	1051

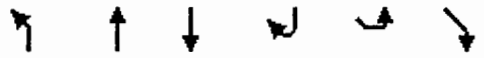
Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	59	30	67
Volume Left	16	0	0
Volume Right	0	0	67
cSH	1596	1700	1051
Volume to Capacity	0.01	0.02	0.06
Queue Length 95th (ft)	1	0	5
Control Delay (s)	2.0	0.0	8.7
Lane LOS	A		A
Approach Delay (s)	2.0	0.0	8.7
Approach LOS			A

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	18.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	50	28	27	2	1	41
Peak Hour Factor	0.85	0.85	0.73	0.73	0.41	0.41
Hourly flow rate (vph)	59	33	37	3	2	100
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	40				189	38
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	40				189	38
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				100	90
cM capacity (veh/h)	1583				775	1039

Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	92	40	102
Volume Left	59	0	2
Volume Right	0	3	100
cSH	1583	1700	1031
Volume to Capacity	0.04	0.02	0.10
Queue Length 95th (ft)	3	0	8
Control Delay (s)	4.8	0.0	8.9
Lane LOS	A		A
Approach Delay (s)	4.8	0.0	8.9
Approach LOS			A

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	20.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	53	29	28	2	1	43
Peak Hour Factor	0.85	0.85	0.73	0.73	0.41	0.41
Hourly flow rate (vph)	62	34	38	3	2	105
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	41				199	40
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	41				199	40
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				100	90
cM capacity (veh/h)	1581				763	1037

Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	96	41	107
Volume Left	62	0	2
Volume Right	0	3	105
cSH	1581	1700	1029
Volume to Capacity	0.04	0.02	0.10
Queue Length 95th (ft)	3	0	9
Control Delay (s)	4.9	0.0	8.9
Lane LOS	A		A
Approach Delay (s)	4.9	0.0	8.9
Approach LOS			A

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	21.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	56	29	28	2	1	46
Peak Hour Factor	0.85	0.85	0.73	0.73	0.41	0.41
Hourly flow rate (vph)	66	34	38	3	2	112
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	41				206	40
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	41				206	40
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				100	89
cM capacity (veh/h)	1581				755	1037

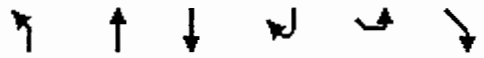
Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	100	41	115
Volume Left	66	0	2
Volume Right	0	3	112
cSH	1581	1700	1029
Volume to Capacity	0.04	0.02	0.11
Queue Length 95th (ft)	3	0	9
Control Delay (s)	5.0	0.0	8.9
Lane LOS	A		A
Approach Delay (s)	5.0	0.0	8.9
Approach LOS			A

Intersection Summary			
Average Delay	5.9		
Intersection Capacity Utilization	21.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	17	24	20	1	1	12
Peak Hour Factor	0.85	0.85	0.73	0.73	0.41	0.41
Hourly flow rate (vph)	20	28	27	1	2	29
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	29				96	28
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	29				96	28
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	97
cM capacity (veh/h)	1598				897	1053

Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	48	29	32
Volume Left	20	0	2
Volume Right	0	1	29
cSH	1598	1700	1039
Volume to Capacity	0.01	0.02	0.03
Queue Length 95th (ft)	1	0	2
Control Delay (s)	3.1	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	3.1	0.0	8.6
Approach LOS			A

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	18.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	18	25	21	1	1	13
Peak Hour Factor	0.85	0.85	0.73	0.73	0.41	0.41
Hourly flow rate (vph)	21	29	29	1	2	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	30				101	29
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	30				101	29
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	97
cM capacity (veh/h)	1596				890	1051

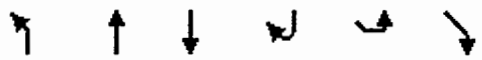
Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	51	30	34
Volume Left	21	0	2
Volume Right	0	1	32
cSH	1596	1700	1038
Volume to Capacity	0.01	0.02	0.03
Queue Length 95th (ft)	1	0	3
Control Delay (s)	3.1	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	3.1	0.0	8.6
Approach LOS			A

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	19.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	23	25	21	1	1	17
Peak Hour Factor	0.85	0.85	0.73	0.73	0.41	0.41
Hourly flow rate (vph)	27	29	29	1	2	41
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	30				113	29
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	30				113	29
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	96
cM capacity (veh/h)	1596				873	1051

Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	56	30	44
Volume Left	27	0	2
Volume Right	0	1	41
cSH	1596	1700	1039
Volume to Capacity	0.02	0.02	0.04
Queue Length 95th (ft)	1	0	3
Control Delay (s)	3.6	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	3.6	0.0	8.6
Approach LOS			A

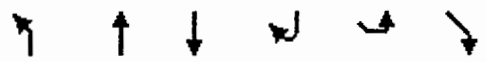
Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	19.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	16	19	15	0	2	12
Peak Hour Factor	0.73	0.73	0.75	0.75	0.70	0.70
Hourly flow rate (vph)	22	26	20	0	3	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	20				90	20
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	20				90	20
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	98
cM capacity (veh/h)	1609				903	1064

Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	48	20	20
Volume Left	22	0	3
Volume Right	0	0	17
cSH	1609	1700	1037
Volume to Capacity	0.01	0.01	0.02
Queue Length 95th (ft)	1	0	1
Control Delay (s)	3.4	0.0	8.5
Lane LOS	A		A
Approach Delay (s)	3.4	0.0	8.5
Approach LOS			A

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	18.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	17	20	16	0	2	13
Peak Hour Factor	0.73	0.73	0.75	0.75	0.70	0.70
Hourly flow rate (vph)	23	27	21	0	3	19
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	21				95	21
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	21				95	21
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	98
cM capacity (veh/h)	1608				896	1062

Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	51	21	21
Volume Left	23	0	3
Volume Right	0	0	19
cSH	1608	1700	1036
Volume to Capacity	0.01	0.01	0.02
Queue Length 95th (ft)	1	0	2
Control Delay (s)	3.4	0.0	8.5
Lane LOS	A		A
Approach Delay (s)	3.4	0.0	8.5
Approach LOS			A

Intersection Summary			
Average Delay	3.8		
Intersection Capacity Utilization	18.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	19	20	16	0	2	15
Peak Hour Factor	0.73	0.73	0.75	0.75	0.70	0.70
Hourly flow rate (vph)	26	27	21	0	3	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	21				101	21
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	21				101	21
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	98
cM capacity (veh/h)	1608				888	1062

Direction, Lane #	NB 1	SB 1	SE 1
Volume Total	53	21	24
Volume Left	26	0	3
Volume Right	0	0	21
cSH	1608	1700	1038
Volume to Capacity	0.02	0.01	0.02
Queue Length 95th (ft)	1	0	2
Control Delay (s)	3.6	0.0	8.6
Lane LOS	A		A
Approach Delay (s)	3.6	0.0	8.6
Approach LOS			A

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	18.8%	ICU Level of Service	A
Analysis Period (min)	15		

Glezen Lane at Training Field Road

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	414	1	1	14	10	45
Peak Hour Factor	0.87	0.87	0.75	0.75	0.57	0.57
Hourly flow rate (vph)	476	1	1	19	18	79
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	78	57	96			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	78	57	96			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	49	100	100			
cM capacity (veh/h)	929	1015	1510			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	477	20	96
Volume Left	476	1	0
Volume Right	1	0	79
cSH	929	1510	1700
Volume to Capacity	0.51	0.00	0.06
Queue Length 95th (ft)	75	0	0
Control Delay (s)	12.9	0.5	0.0
Lane LOS	B	A	
Approach Delay (s)	12.9	0.5	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	10.4		
Intersection Capacity Utilization	33.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	436	1	1	15	11	57
Peak Hour Factor	0.87	0.87	0.75	0.75	0.57	0.57
Hourly flow rate (vph)	501	1	1	20	19	100
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	92	69	119			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	92	69	119			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	45	100	100			
cM capacity (veh/h)	912	999	1481			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	502	21	119
Volume Left	501	1	0
Volume Right	1	0	100
cSH	912	1481	1700
Volume to Capacity	0.55	0.00	0.07
Queue Length 95th (ft)	86	0	0
Control Delay (s)	13.7	0.5	0.0
Lane LOS	B	A	
Approach Delay (s)	13.7	0.5	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	10.7		
Intersection Capacity Utilization	35.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	436	1	1	15	11	49
Peak Hour Factor	0.87	0.87	0.75	0.75	0.57	0.57
Hourly flow rate (vph)	501	1	1	20	19	86
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	85	62	105			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	85	62	105			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	46	100	100			
cM capacity (veh/h)	921	1008	1499			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	502	21	105
Volume Left	501	1	0
Volume Right	1	0	86
cSH	921	1499	1700
Volume to Capacity	0.55	0.00	0.06
Queue Length 95th (ft)	85	0	0
Control Delay (s)	13.5	0.5	0.0
Lane LOS	B	A	
Approach Delay (s)	13.5	0.5	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	10.8		
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	54	2	0	19	21	351
Peak Hour Factor	0.93	0.93	0.59	0.59	0.93	0.93
Hourly flow rate (vph)	58	2	0	32	23	377
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	243	211	400			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	243	211	400			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	100	100			
cM capacity (veh/h)	749	834	1170			

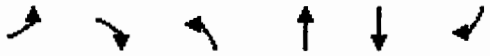
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	60	32	400
Volume Left	58	0	0
Volume Right	2	0	377
cSH	752	1170	1700
Volume to Capacity	0.08	0.00	0.24
Queue Length 95th (ft)	7	0	0
Control Delay (s)	10.2	0.0	0.0
Lane LOS	B		
Approach Delay (s)	10.2	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	32.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	66	2	0	20	22	371
Peak Hour Factor	0.93	0.93	0.59	0.59	0.93	0.93
Hourly flow rate (vph)	71	2	0	34	24	399
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	257	223	423			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	257	223	423			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	100	100			
cM capacity (veh/h)	736	821	1147			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	73	34	423
Volume Left	71	0	0
Volume Right	2	0	399
cSH	738	1147	1700
Volume to Capacity	0.10	0.00	0.25
Queue Length 95th (ft)	8	0	0
Control Delay (s)	10.4	0.0	0.0
Lane LOS	B		
Approach Delay (s)	10.4	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	62	2	0	20	22	374
Peak Hour Factor	0.93	0.93	0.59	0.59	0.93	0.93
Hourly flow rate (vph)	67	2	0	34	24	402
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	259	225	426			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	259	225	426			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	100	100			
cM capacity (veh/h)	735	820	1144			

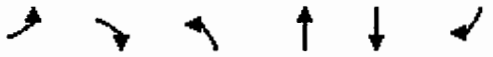
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	69	34	426
Volume Left	67	0	0
Volume Right	2	0	402
cSH	737	1144	1700
Volume to Capacity	0.09	0.00	0.25
Queue Length 95th (ft)	8	0	0
Control Delay (s)	10.4	0.0	0.0
Lane LOS	B		
Approach Delay (s)	10.4	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	31	0	4	18	18	41
Peak Hour Factor	0.97	0.97	0.79	0.79	0.64	0.64
Hourly flow rate (vph)	32	0	5	23	28	64
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	93	60	92			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	93	60	92			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	100	100			
cM capacity (veh/h)	909	1011	1515			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	32	28	92
Volume Left	32	5	0
Volume Right	0	0	64
cSH	909	1515	1700
Volume to Capacity	0.04	0.00	0.05
Queue Length 95th (ft)	3	0	0
Control Delay (s)	9.1	1.4	0.0
Lane LOS	A	A	
Approach Delay (s)	9.1	1.4	0.0
Approach LOS	A		

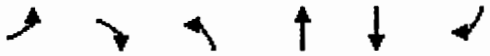
Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	14.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	35	0	4	19	19	45
Peak Hour Factor	0.97	0.97	0.79	0.79	0.64	0.64
Hourly flow rate (vph)	36	0	5	24	30	70
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	99	65	100			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	99	65	100			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	100	100			
cM capacity (veh/h)	902	1005	1505			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	36	29	100
Volume Left	36	5	0
Volume Right	0	0	70
cSH	902	1505	1700
Volume to Capacity	0.04	0.00	0.06
Queue Length 95th (ft)	3	0	0
Control Delay (s)	9.2	1.3	0.0
Lane LOS	A	A	
Approach Delay (s)	9.2	1.3	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	14.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	39	0	4	19	19	50
Peak Hour Factor	0.97	0.97	0.79	0.79	0.64	0.64
Hourly flow rate (vph)	40	0	5	24	30	78
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	103	69	108			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	103	69	108			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	100	100			
cM capacity (veh/h)	897	1000	1495			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	40	29	108
Volume Left	40	5	0
Volume Right	0	0	78
cSH	897	1495	1700
Volume to Capacity	0.04	0.00	0.06
Queue Length 95th (ft)	4	0	0
Control Delay (s)	9.2	1.3	0.0
Lane LOS	A	A	
Approach Delay (s)	9.2	1.3	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	14.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	26	0	0	20	16	30
Peak Hour Factor	0.65	0.65	0.56	0.56	0.77	0.77
Hourly flow rate (vph)	40	0	0	36	21	39
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	76	40	60			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	76	40	60			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	100	100			
cM capacity (veh/h)	932	1037	1557			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	40	36	60
Volume Left	40	0	0
Volume Right	0	0	39
cSH	932	1557	1700
Volume to Capacity	0.04	0.00	0.04
Queue Length 95th (ft)	3	0	0
Control Delay (s)	9.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.0	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	28	0	0	21	17	33
Peak Hour Factor	0.65	0.65	0.56	0.56	0.77	0.77
Hourly flow rate (vph)	43	0	0	38	22	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	81	44	65			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	81	44	65			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	100	100			
cM capacity (veh/h)	926	1032	1550			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	43	38	65
Volume Left	43	0	0
Volume Right	0	0	43
cSH	926	1550	1700
Volume to Capacity	0.05	0.00	0.04
Queue Length 95th (ft)	4	0	0
Control Delay (s)	9.1	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.1	0.0	0.0
Approach LOS	A		

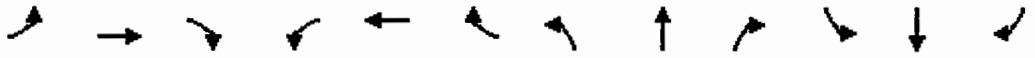
Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	30	0	0	21	17	35
Peak Hour Factor	0.65	0.65	0.56	0.56	0.77	0.77
Hourly flow rate (vph)	46	0	0	38	22	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	82	45	68			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	82	45	68			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	100	100			
cM capacity (veh/h)	925	1031	1547			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	46	38	68
Volume Left	46	0	0
Volume Right	0	0	45
cSH	925	1547	1700
Volume to Capacity	0.05	0.00	0.04
Queue Length 95th (ft)	4	0	0
Control Delay (s)	9.1	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.1	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

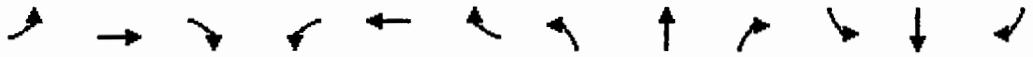
Plain Road at Claypit Hill Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	105	65	28	78	2	66	9	84	0	7	20
Peak Hour Factor	0.52	0.52	0.52	0.79	0.79	0.79	0.67	0.67	0.67	0.45	0.45	0.45
Hourly flow rate (vph)	10	202	125	35	99	3	99	13	125	0	16	44
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	101			327			507	456	264	587	517	100
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	101			327			507	456	264	587	517	100
tC, single (s)	4.1			4.5			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.6			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			77	97	84	100	97	95
cM capacity (veh/h)	1504			1043			429	483	777	338	446	961

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	337	137	237	60
Volume Left	10	35	99	0
Volume Right	125	3	125	44
cSH	1504	1043	566	740
Volume to Capacity	0.01	0.03	0.42	0.08
Queue Length 95th (ft)	0	3	52	7
Control Delay (s)	0.3	2.5	15.9	10.3
Lane LOS	A	A	C	B
Approach Delay (s)	0.3	2.5	15.9	10.3
Approach LOS			C	B

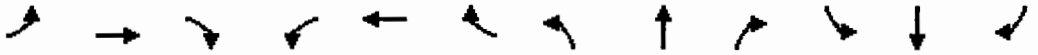
Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	110	68	29	82	2	69	9	88	0	7	21
Peak Hour Factor	0.52	0.52	0.52	0.79	0.79	0.79	0.67	0.67	0.67	0.45	0.45	0.45
Hourly flow rate (vph)	10	212	131	37	104	3	103	13	131	0	16	47
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	106			342			529	476	277	613	540	105
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	106			342			529	476	277	613	540	105
tC, single (s)	4.1			4.5			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.6			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			96			75	97	83	100	96	95
cM capacity (veh/h)	1497			1029			412	470	764	320	433	955

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	352	143	248	62
Volume Left	10	37	103	0
Volume Right	131	3	131	47
cSH	1497	1029	550	733
Volume to Capacity	0.01	0.04	0.45	0.08
Queue Length 95th (ft)	0	3	58	7
Control Delay (s)	0.3	2.5	16.8	10.4
Lane LOS	A	A	C	B
Approach Delay (s)	0.3	2.5	16.8	10.4
Approach LOS			C	B

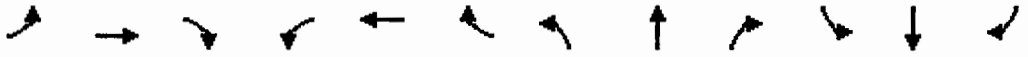
Intersection Summary			
Average Delay	6.5		
Intersection Capacity Utilization	42.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	111	68	30	83	2	69	9	89	0	7	21
Peak Hour Factor	0.52	0.52	0.52	0.79	0.79	0.79	0.67	0.67	0.67	0.45	0.45	0.45
Hourly flow rate (vph)	10	213	131	38	105	3	103	13	133	0	16	47
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	108			344			535	482	279	620	546	106
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	108			344			535	482	279	620	546	106
tC, single (s)	4.1			4.5			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.6			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			96			75	97	83	100	96	95
cM capacity (veh/h)	1496			1027			408	466	762	315	429	953

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	354	146	249	62
Volume Left	10	38	103	0
Volume Right	131	3	133	47
cSH	1496	1027	547	730
Volume to Capacity	0.01	0.04	0.46	0.09
Queue Length 95th (ft)	0	3	59	7
Control Delay (s)	0.3	2.5	17.0	10.4
Lane LOS	A	A	C	B
Approach Delay (s)	0.3	2.5	17.0	10.4
Approach LOS			C	B

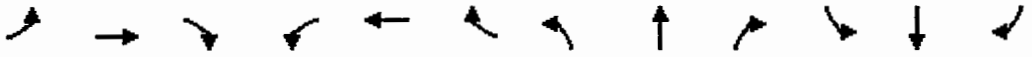
Intersection Summary				
Average Delay	6.6			
Intersection Capacity Utilization	42.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	83	36	55	83	5	26	6	70	3	11	10
Peak Hour Factor	0.76	0.76	0.76	0.83	0.83	0.83	0.82	0.82	0.82	0.67	0.67	0.67
Hourly flow rate (vph)	4	109	47	66	100	6	32	7	85	4	16	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	106			157			399	379	133	465	400	103
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	106			157			399	379	133	465	400	103
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			95			94	99	91	99	97	98
cM capacity (veh/h)	1498			1423			522	529	919	441	515	957

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	161	172	124	36
Volume Left	4	66	32	4
Volume Right	47	6	85	15
cSH	1498	1423	743	622
Volume to Capacity	0.00	0.05	0.17	0.06
Queue Length 95th (ft)	0	4	15	5
Control Delay (s)	0.2	3.2	10.8	11.1
Lane LOS	A	A	B	B
Approach Delay (s)	0.2	3.2	10.8	11.1
Approach LOS			B	B

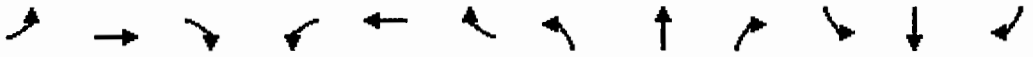
Intersection Summary				
Average Delay	4.7			
Intersection Capacity Utilization	31.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	87	38	58	87	5	27	6	74	3	12	11
Peak Hour Factor	0.76	0.76	0.76	0.83	0.83	0.83	0.82	0.82	0.82	0.67	0.67	0.67
Hourly flow rate (vph)	4	114	50	70	105	6	33	7	90	4	18	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	111			164			420	398	139	489	420	108
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	111			164			420	398	139	489	420	108
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			95			93	99	90	99	96	98
cM capacity (veh/h)	1492			1414			502	515	911	422	500	952

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	168	181	130	39
Volume Left	4	70	33	4
Volume Right	50	6	90	16
cSH	1492	1414	730	609
Volume to Capacity	0.00	0.05	0.18	0.06
Queue Length 95th (ft)	0	4	16	5
Control Delay (s)	0.2	3.2	11.0	11.3
Lane LOS	A	A	B	B
Approach Delay (s)	0.2	3.2	11.0	11.3
Approach LOS			B	B

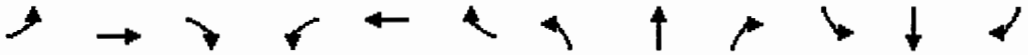
Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	93	38	61	93	5	27	6	78	3	12	11
Peak Hour Factor	0.76	0.76	0.76	0.83	0.83	0.83	0.82	0.82	0.82	0.67	0.67	0.67
Hourly flow rate (vph)	4	122	50	73	112	6	33	7	95	4	18	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	118			172			443	420	147	516	442	115
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	118			172			443	420	147	516	442	115
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			95			93	99	89	99	96	98
cM capacity (veh/h)	1483			1405			484	498	902	401	484	943

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	176	192	135	39
Volume Left	4	73	33	4
Volume Right	50	6	95	16
cSH	1483	1405	719	592
Volume to Capacity	0.00	0.05	0.19	0.07
Queue Length 95th (ft)	0	4	17	5
Control Delay (s)	0.2	3.2	11.2	11.5
Lane LOS	A	A	B	B
Approach Delay (s)	0.2	3.2	11.2	11.5
Approach LOS			B	B

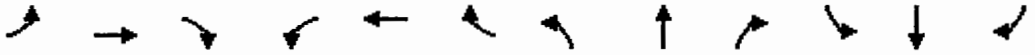
Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	37.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	6	38	13	17	38	2	16	16	20	3	17	5
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.68	0.68	0.68	0.69	0.69	0.69
Hourly flow rate (vph)	8	48	16	22	48	3	24	24	29	4	25	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	51			65			183	165	56	205	172	49
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	51			65			183	165	56	205	172	49
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			97	97	97	99	97	99
cM capacity (veh/h)	1569			1551			745	717	1016	707	711	1025

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	72	72	76	36
Volume Left	8	22	24	4
Volume Right	16	3	29	7
cSH	1569	1551	819	757
Volume to Capacity	0.00	0.01	0.09	0.05
Queue Length 95th (ft)	0	1	8	4
Control Delay (s)	0.8	2.3	9.8	10.0
Lane LOS	A	A	A	A
Approach Delay (s)	0.8	2.3	9.8	10.0
Approach LOS			A	A

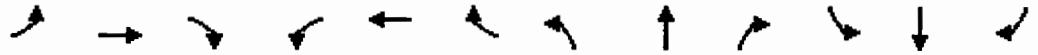
Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	19.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	6	40	14	18	40	2	17	17	21	3	18	5
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.68	0.68	0.68	0.69	0.69	0.69
Hourly flow rate (vph)	8	51	18	23	51	3	25	25	31	4	26	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	53			68			192	173	59	216	181	52
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	53			68			192	173	59	216	181	52
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			97	96	97	99	96	99
cM capacity (veh/h)	1565			1546			733	709	1012	693	703	1022

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	76	76	81	38
Volume Left	8	23	25	4
Volume Right	18	3	31	7
cSH	1565	1546	810	746
Volume to Capacity	0.00	0.01	0.10	0.05
Queue Length 95th (ft)	0	1	8	4
Control Delay (s)	0.8	2.3	9.9	10.1
Lane LOS	A	A	A	B
Approach Delay (s)	0.8	2.3	9.9	10.1
Approach LOS			A	B

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	20.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	6	48	14	23	49	2	17	17	25	3	18	5
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.68	0.68	0.68	0.69	0.69	0.69
Hourly flow rate (vph)	8	61	18	29	62	3	25	25	37	4	26	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	65			78			227	208	70	256	215	63
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	65			78			227	208	70	256	215	63
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			96	96	96	99	96	99
cM capacity (veh/h)	1551			1533			693	676	999	645	670	1007

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	86	94	87	38
Volume Left	8	29	25	4
Volume Right	18	3	37	7
cSH	1551	1533	790	712
Volume to Capacity	0.00	0.02	0.11	0.05
Queue Length 95th (ft)	0	1	9	4
Control Delay (s)	0.7	2.4	10.1	10.3
Lane LOS	A	A	B	B
Approach Delay (s)	0.7	2.4	10.1	10.3
Approach LOS			B	B

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	22.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	37	9	16	34	2	7	13	17	2	14	10
Peak Hour Factor	0.72	0.72	0.72	0.87	0.87	0.87	0.66	0.66	0.66	0.72	0.72	0.72
Hourly flow rate (vph)	4	51	12	18	39	2	11	20	26	3	19	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	41			64			167	144	58	179	149	40
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	41			64			167	144	58	179	149	40
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	97	97	100	97	99
cM capacity (veh/h)	1581			1551			767	740	1014	744	735	1037

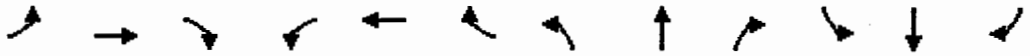
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	68	60	56	36
Volume Left	4	18	11	3
Volume Right	12	2	26	14
cSH	1581	1551	851	829
Volume to Capacity	0.00	0.01	0.07	0.04
Queue Length 95th (ft)	0	1	5	3
Control Delay (s)	0.5	2.3	9.5	9.5
Lane LOS	A	A	A	A
Approach Delay (s)	0.5	2.3	9.5	9.5
Approach LOS			A	A

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	18.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	39	9	17	36	2	7	14	18	2	15	11
Peak Hour Factor	0.72	0.72	0.72	0.87	0.87	0.87	0.66	0.66	0.66	0.72	0.72	0.72
Hourly flow rate (vph)	4	54	12	20	41	2	11	21	27	3	21	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	44			67			176	152	60	188	157	43
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	44			67			176	152	60	188	157	43
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	97	97	100	97	99
cM capacity (veh/h)	1578			1548			753	733	1011	730	728	1034

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	71	63	59	39
Volume Left	4	20	11	3
Volume Right	12	2	27	15
cSH	1578	1548	844	824
Volume to Capacity	0.00	0.01	0.07	0.05
Queue Length 95th (ft)	0	1	6	4
Control Delay (s)	0.4	2.3	9.6	9.6
Lane LOS	A	A	A	A
Approach Delay (s)	0.4	2.3	9.6	9.6
Approach LOS			A	A

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	19.2%	ICU Level of Service	A
Analysis Period (min)	15		

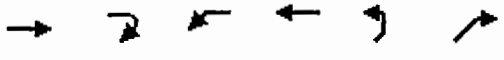


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	43	9	19	40	2	7	14	20	2	15	11
Peak Hour Factor	0.72	0.72	0.72	0.87	0.87	0.87	0.66	0.66	0.66	0.72	0.72	0.72
Hourly flow rate (vph)	4	60	12	22	46	2	11	21	30	3	21	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	48			72			191	166	66	206	171	47
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	48			72			191	166	66	206	171	47
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	97	97	100	97	99
cM capacity (veh/h)	1572			1541			736	718	1003	708	713	1028

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	76	70	62	39
Volume Left	4	22	11	3
Volume Right	12	2	30	15
cSH	1572	1541	838	810
Volume to Capacity	0.00	0.01	0.07	0.05
Queue Length 95th (ft)	0	1	6	4
Control Delay (s)	0.4	2.4	9.6	9.7
Lane LOS	A	A	A	A
Approach Delay (s)	0.4	2.4	9.6	9.7
Approach LOS			A	A

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	20.6%	ICU Level of Service	A
Analysis Period (min)	15		

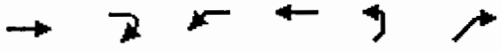
Plain Road at Glen Road



Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	50	30	96	9	6	90
Peak Hour Factor	0.67	0.67	0.59	0.59	0.65	0.65
Hourly flow rate (vph)	75	45	163	15	9	138
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			119		438	97
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			119		438	97
tC, single (s)			4.1		6.7	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.8	3.3
p0 queue free %			89		98	86
cM capacity (veh/h)			1475		465	959

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	119	178	148
Volume Left	0	163	9
Volume Right	45	0	138
cSH	1700	1475	899
Volume to Capacity	0.07	0.11	0.16
Queue Length 95th (ft)	0	9	15
Control Delay (s)	0.0	7.2	9.8
Lane LOS		A	A
Approach Delay (s)	0.0	7.2	9.8
Approach LOS			A

Intersection Summary			
Average Delay	6.1		
Intersection Capacity Utilization	25.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	53	32	101	9	6	95
Peak Hour Factor	0.67	0.67	0.59	0.59	0.65	0.65
Hourly flow rate (vph)	79	48	171	15	9	146
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			127		461	103
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			127		461	103
tC, single (s)			4.1		6.7	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.8	3.3
p0 queue free %			88		98	85
cM capacity (veh/h)			1466		447	952

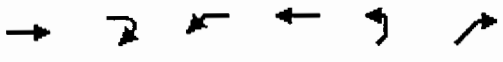
Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	127	186	155
Volume Left	0	171	9
Volume Right	48	0	146
cSH	1700	1466	892
Volume to Capacity	0.07	0.12	0.17
Queue Length 95th (ft)	0	10	16
Control Delay (s)	0.0	7.2	9.9
Lane LOS		A	A
Approach Delay (s)	0.0	7.2	9.9
Approach LOS			A

Intersection Summary			
Average Delay	6.1		
Intersection Capacity Utilization	25.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	53	32	102	9	6	96
Peak Hour Factor	0.67	0.67	0.59	0.59	0.65	0.65
Hourly flow rate (vph)	79	48	173	15	9	148
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			127		464	103
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			127		464	103
tC, single (s)			4.1		6.7	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.8	3.3
p0 queue free %			88		98	84
cM capacity (veh/h)			1466		444	952

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	127	188	157
Volume Left	0	173	9
Volume Right	48	0	148
cSH	1700	1466	892
Volume to Capacity	0.07	0.12	0.18
Queue Length 95th (ft)	0	10	16
Control Delay (s)	0.0	7.2	9.9
Lane LOS		A	A
Approach Delay (s)	0.0	7.2	9.9
Approach LOS			A

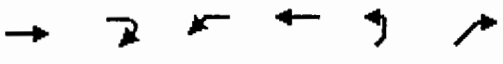
Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	25.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	48	46	80	25	19	38
Peak Hour Factor	0.81	0.81	0.91	0.91	0.68	0.68
Hourly flow rate (vph)	59	57	88	27	28	56
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			116		291	88
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			116		291	88
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		96	94
cM capacity (veh/h)			1479		662	968

Direction, Lane #	EB 1	WB 1	NE 1			
Volume Total	116	115	84			
Volume Left	0	88	28			
Volume Right	57	0	56			
cSH	1700	1479	839			
Volume to Capacity	0.07	0.06	0.10			
Queue Length 95th (ft)	0	5	8			
Control Delay (s)	0.0	5.9	9.8			
Lane LOS		A	A			
Approach Delay (s)	0.0	5.9	9.8			
Approach LOS			A			

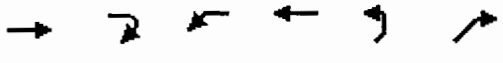
Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	22.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	50	48	84	26	20	40
Peak Hour Factor	0.81	0.81	0.91	0.91	0.68	0.68
Hourly flow rate (vph)	62	59	92	29	29	59
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			121		305	91
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			121		305	91
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		95	94
cM capacity (veh/h)			1473		648	963

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	121	121	88
Volume Left	0	92	29
Volume Right	59	0	59
cSH	1700	1473	829
Volume to Capacity	0.07	0.06	0.11
Queue Length 95th (ft)	0	5	9
Control Delay (s)	0.0	5.9	9.9
Lane LOS		A	A
Approach Delay (s)	0.0	5.9	9.9
Approach LOS			A

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	22.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	50	48	87	26	20	44
Peak Hour Factor	0.81	0.81	0.91	0.91	0.68	0.68
Hourly flow rate (vph)	62	59	96	29	29	65
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			121		311	91
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			121		311	91
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		95	93
cM capacity (veh/h)			1473		641	963

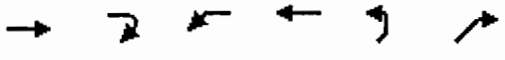
Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	121	124	94
Volume Left	0	96	29
Volume Right	59	0	65
cSH	1700	1473	833
Volume to Capacity	0.07	0.06	0.11
Queue Length 95th (ft)	0	5	10
Control Delay (s)	0.0	6.0	9.9
Lane LOS		A	A
Approach Delay (s)	0.0	6.0	9.9
Approach LOS			A

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	23.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	11	11	46	8	10	44
Peak Hour Factor	0.69	0.69	0.79	0.79	0.75	0.75
Hourly flow rate (vph)	16	16	58	10	13	59
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			32		150	24
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			32		150	24
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		98	94
cM capacity (veh/h)			1593		815	1058

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	32	68	72
Volume Left	0	58	13
Volume Right	16	0	59
cSH	1700	1593	1003
Volume to Capacity	0.02	0.04	0.07
Queue Length 95th (ft)	0	3	6
Control Delay (s)	0.0	6.3	8.9
Lane LOS		A	A
Approach Delay (s)	0.0	6.3	8.9
Approach LOS			A

Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	12	12	48	8	11	46
Peak Hour Factor	0.69	0.69	0.79	0.79	0.75	0.75
Hourly flow rate (vph)	17	17	61	10	15	61
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			35		158	26
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			35		158	26
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		98	94
cM capacity (veh/h)			1590		806	1056

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	35	71	76
Volume Left	0	61	15
Volume Right	17	0	61
cSH	1700	1590	996
Volume to Capacity	0.02	0.04	0.08
Queue Length 95th (ft)	0	3	6
Control Delay (s)	0.0	6.3	8.9
Lane LOS		A	A
Approach Delay (s)	0.0	6.3	8.9
Approach LOS			A

Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	19.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	12	12	53	8	11	50
Peak Hour Factor	0.69	0.69	0.79	0.79	0.75	0.75
Hourly flow rate (vph)	17	17	67	10	15	67
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			35		170	26
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			35		170	26
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		98	94
cM capacity (veh/h)			1590		790	1056

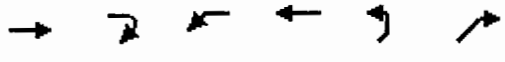
Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	35	77	81
Volume Left	0	67	15
Volume Right	17	0	67
cSH	1700	1590	995
Volume to Capacity	0.02	0.04	0.08
Queue Length 95th (ft)	0	3	7
Control Delay (s)	0.0	6.4	8.9
Lane LOS		A	A
Approach Delay (s)	0.0	6.4	8.9
Approach LOS			A

Intersection Summary			
Average Delay	6.3		
Intersection Capacity Utilization	20.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	7	7	37	3	7	49
Peak Hour Factor	0.70	0.70	0.91	0.91	0.88	0.88
Hourly flow rate (vph)	10	10	41	3	8	56
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			20		100	15
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			20		100	15
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		99	95
cM capacity (veh/h)			1609		881	1070

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	20	44	64
Volume Left	0	41	8
Volume Right	10	0	56
cSH	1700	1609	1042
Volume to Capacity	0.01	0.03	0.06
Queue Length 95th (ft)	0	2	5
Control Delay (s)	0.0	6.8	8.7
Lane LOS		A	A
Approach Delay (s)	0.0	6.8	8.7
Approach LOS			A

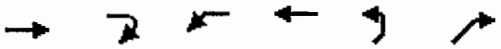
Intersection Summary			
Average Delay	6.7		
Intersection Capacity Utilization	19.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	7	7	39	3	7	51
Peak Hour Factor	0.70	0.70	0.91	0.91	0.88	0.88
Hourly flow rate (vph)	10	10	43	3	8	58
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			20		104	15
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			20		104	15
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		99	95
cM capacity (veh/h)			1609		875	1070

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	20	46	66
Volume Left	0	43	8
Volume Right	10	0	58
cSH	1700	1609	1042
Volume to Capacity	0.01	0.03	0.06
Queue Length 95th (ft)	0	2	5
Control Delay (s)	0.0	6.8	8.7
Lane LOS		A	A
Approach Delay (s)	0.0	6.8	8.7
Approach LOS			A

Intersection Summary			
Average Delay	6.7		
Intersection Capacity Utilization	19.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	7	7	41	3	7	53
Peak Hour Factor	0.70	0.70	0.91	0.91	0.88	0.88
Hourly flow rate (vph)	10	10	45	3	8	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			20		108	15
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			20		108	15
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		99	94
cM capacity (veh/h)			1609		869	1070

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	20	48	68
Volume Left	0	45	8
Volume Right	10	0	60
cSH	1700	1609	1042
Volume to Capacity	0.01	0.03	0.07
Queue Length 95th (ft)	0	2	5
Control Delay (s)	0.0	6.8	8.7
Lane LOS		A	A
Approach Delay (s)	0.0	6.8	8.7
Approach LOS			A

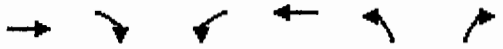
Intersection Summary			
Average Delay	6.8		
Intersection Capacity Utilization	19.4%	ICU Level of Service	A
Analysis Period (min)	15		

Route 20 at Winthrop Road

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	753	2	7	788	0	0
Peak Hour Factor	0.93	0.93	0.80	0.80	0.92	0.92
Hourly flow rate (vph)	810	2	9	985	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	570			919		
pX, platoon unblocked						
vC, conflicting volume			812		1813	811
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			812		1813	811
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			823		85	380

Direction, Lane #	EB 1	WB 1
Volume Total	812	994
Volume Left	0	9
Volume Right	2	0
cSH	1700	823
Volume to Capacity	0.48	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	0.3
Lane LOS		A
Approach Delay (s)	0.0	0.3
Approach LOS		

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	891	2	7	1076	0	0
Peak Hour Factor	0.93	0.93	0.80	0.80	0.92	0.92
Hourly flow rate (vph)	958	2	9	1345	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	570			919		
pX, platoon unblocked						
vC, conflicting volume			960		2322	959
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			960		2322	959
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			725		41	312

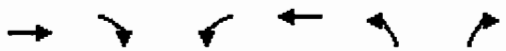
Direction, Lane #	EB 1	WB 1
Volume Total	960	1354
Volume Left	0	9
Volume Right	2	0
cSH	1700	725
Volume to Capacity	0.56	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	0.6
Lane LOS		A
Approach Delay (s)	0.0	0.6
Approach LOS		

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	902	2	7	908	0	0
Peak Hour Factor	0.93	0.93	0.80	0.80	0.92	0.92
Hourly flow rate (vph)	970	2	9	1135	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	570			919		
pX, platoon unblocked						
vC, conflicting volume			972		2123	971
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			972		2123	971
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			717		54	307

Direction, Lane #	EB 1	WB 1
Volume Total	972	1144
Volume Left	0	9
Volume Right	2	0
cSH	1700	717
Volume to Capacity	0.57	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	0.4
Lane LOS		A
Approach Delay (s)	0.0	0.4
Approach LOS		

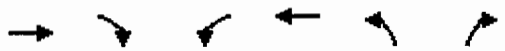
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	824	3	7	937	0	0
Peak Hour Factor	0.92	0.92	0.98	0.98	0.92	0.92
Hourly flow rate (vph)	896	3	7	956	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	570			919		
pX, platoon unblocked						
vC, conflicting volume			899		1868	897
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			899		1868	897
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			764		80	341

Direction, Lane #	EB 1	WB 1
Volume Total	899	963
Volume Left	0	7
Volume Right	3	0
cSH	1700	764
Volume to Capacity	0.53	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	0.3
Lane LOS		A
Approach Delay (s)	0.0	0.3
Approach LOS		

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1094	5	7	1093	0	0
Peak Hour Factor	0.92	0.92	0.98	0.98	0.92	0.92
Hourly flow rate (vph)	1189	5	7	1115	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	570			919		
pX, platoon unblocked						
vC, conflicting volume			1195		2321	1192
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1195		2321	1192
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			591		41	230

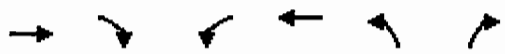
Direction, Lane #	EB 1	WB 1
Volume Total	1195	1122
Volume Left	0	7
Volume Right	5	0
cSH	1700	591
Volume to Capacity	0.70	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	0.5
Lane LOS		A
Approach Delay (s)	0.0	0.5
Approach LOS		

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1079	5	7	1210	0	0
Peak Hour Factor	0.92	0.92	0.98	0.98	0.92	0.92
Hourly flow rate (vph)	1173	5	7	1235	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	570			919		
pX, platoon unblocked						
vC, conflicting volume			1178		2425	1176
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1178		2425	1176
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			600		36	235

Direction, Lane #	EB 1	WB 1
Volume Total	1178	1242
Volume Left	0	7
Volume Right	5	0
cSH	1700	600
Volume to Capacity	0.69	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	0.5
Lane LOS		A
Approach Delay (s)	0.0	0.5
Approach LOS		

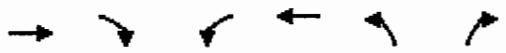
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	713	4	9	703	0	0
Peak Hour Factor	0.80	0.80	0.96	0.96	0.92	0.92
Hourly flow rate (vph)	891	5	9	732	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	570			919		
pX, platoon unblocked						
vC, conflicting volume			896		1645	894
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			896		1645	894
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			766		109	343

Direction, Lane #	EB 1	WB 1
Volume Total	896	742
Volume Left	0	9
Volume Right	5	0
cSH	1700	766
Volume to Capacity	0.53	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	0.3
Lane LOS		A
Approach Delay (s)	0.0	0.3
Approach LOS		

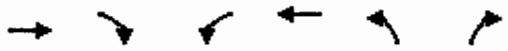
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	875	4	9	883	0	0
Peak Hour Factor	0.80	0.80	0.96	0.96	0.92	0.92
Hourly flow rate (vph)	1094	5	9	920	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	570			919		
pX, platoon unblocked						
vC, conflicting volume			1099		2035	1096
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1099		2035	1096
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			643		62	262

Direction, Lane #	EB 1	WB 1
Volume Total	1099	929
Volume Left	0	9
Volume Right	5	0
cSH	1700	643
Volume to Capacity	0.65	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	0.4
Lane LOS		A
Approach Delay (s)	0.0	0.4
Approach LOS		

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1020	4	9	1044	0	0
Peak Hour Factor	0.80	0.80	0.96	0.96	0.92	0.92
Hourly flow rate (vph)	1275	5	9	1088	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	570			919		
pX, platoon unblocked						
vC, conflicting volume			1280		2384	1278
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1280		2384	1278
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		100	100
cM capacity (veh/h)			549		38	205

Direction, Lane #	EB 1	WB 1
Volume Total	1280	1097
Volume Left	0	9
Volume Right	5	0
cSH	1700	549
Volume to Capacity	0.75	0.02
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	0.6
Lane LOS		A
Approach Delay (s)	0.0	0.6
Approach LOS		

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	625	2	2	614	0	0
Peak Hour Factor	0.95	0.95	0.89	0.89	0.92	0.92
Hourly flow rate (vph)	658	2	2	690	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	570			919		
pX, platoon unblocked						
vC, conflicting volume			660		1353	659
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			660		1353	659
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			938		166	467

Direction, Lane #	EB 1	WB 1
Volume Total	660	692
Volume Left	0	2
Volume Right	2	0
cSH	1700	938
Volume to Capacity	0.39	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.1
Lane LOS		A
Approach Delay (s)	0.0	0.1
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	37.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	756	2	2	753	0	0
Peak Hour Factor	0.95	0.95	0.89	0.89	0.92	0.92
Hourly flow rate (vph)	796	2	2	846	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	570			919		
pX, platoon unblocked						
vC, conflicting volume			798		1647	797
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			798		1647	797
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			833		110	390

Direction, Lane #	EB 1	WB 1
Volume Total	798	848
Volume Left	0	2
Volume Right	2	0
cSH	1700	833
Volume to Capacity	0.47	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.1
Lane LOS		A
Approach Delay (s)	0.0	0.1
Approach LOS		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	841	2	2	846	0	0
Peak Hour Factor	0.95	0.95	0.89	0.89	0.92	0.92
Hourly flow rate (vph)	885	2	2	951	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)	570			919		
pX, platoon unblocked						
vC, conflicting volume			887		1841	886
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			887		1841	886
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			772		83	346

Direction, Lane #	EB 1	WB 1
Volume Total	887	953
Volume Left	0	2
Volume Right	2	0
cSH	1700	772
Volume to Capacity	0.52	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.1
Lane LOS		A
Approach Delay (s)	0.0	0.1
Approach LOS		

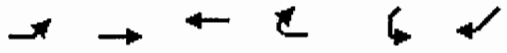
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		

Route 20 at Pelham Island Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	157	646	3	28	669	0	4	30	34	0	21	139
Peak Hour Factor	0.97	0.97	0.97	0.89	0.89	0.89	0.75	0.75	0.75	0.85	0.85	0.85
Hourly flow rate (vph)	162	666	3	31	752	0	5	40	45	0	25	164
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					475							
pX, platoon unblocked	0.69						0.69	0.69		0.69	0.69	0.69
vC, conflicting volume	752			669			1982	1806	668	1871	1807	752
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	638			669			2433	2176	668	2271	2178	638
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	75			97			0	0	90	0	0	50
cM capacity (veh/h)	642			912			0	23	462	0	23	328

Direction, Lane #	EB 1	WB 1	NE 1	SW 1
Volume Total	831	783	91	188
Volume Left	162	31	5	0
Volume Right	3	0	45	164
cSH	642	912	0	120
Volume to Capacity	0.25	0.03	Err	1.57
Queue Length 95th (ft)	25	3	Err	342
Control Delay (s)	6.6	0.9	Err	355.1
Lane LOS	A	A	F	F
Approach Delay (s)	6.6	0.9	Err	355.1
Approach LOS			F	F

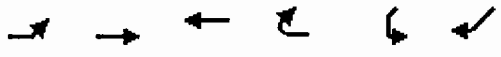
Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	99.3%	ICU Level of Service	F
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑	↑		Y	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1027	970	0	0	184
Peak Hour Factor	0.97	0.97	0.89	0.89	0.85	0.85
Hourly flow rate (vph)	0	1059	1090	0	0	216
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			475			
pX, platoon unblocked	0.58				0.58	0.58
vC, conflicting volume	1090				2149	1090
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1155				2980	1155
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	0
cM capacity (veh/h)	347				9	140

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	1059	1090	216
Volume Left	0	0	0
Volume Right	0	0	216
cSH	1700	1700	140
Volume to Capacity	0.62	0.64	1.55
Queue Length 95th (ft)	0	0	375
Control Delay (s)	0.0	0.0	336.8
Lane LOS			F
Approach Delay (s)	0.0	0.0	336.8
Approach LOS			F

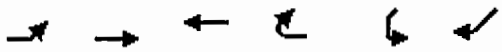
Intersection Summary			
Average Delay	30.8		
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑	↑		↱	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	939	841	0	0	125
Peak Hour Factor	0.97	0.97	0.89	0.89	0.85	0.85
Hourly flow rate (vph)	0	968	945	0	0	147
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			475			
pX, platoon unblocked	0.61				0.61	0.61
vC, conflicting volume	945				1913	945
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	909				2503	909
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	28
cM capacity (veh/h)	450				19	203

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	968	945	147
Volume Left	0	0	0
Volume Right	0	0	147
cSH	1700	1700	203
Volume to Capacity	0.57	0.56	0.72
Queue Length 95th (ft)	0	0	118
Control Delay (s)	0.0	0.0	58.7
Lane LOS			F
Approach Delay (s)	0.0	0.0	58.7
Approach LOS			F

Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑	↑		Y	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1077	865	0	0	213
Peak Hour Factor	0.97	0.97	0.89	0.89	0.85	0.85
Hourly flow rate (vph)	0	1110	972	0	0	251
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			475			
pX, platoon unblocked	0.60				0.60	0.60
vC, conflicting volume	972				2082	972
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	953				2804	953
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	0
cM capacity (veh/h)	428				12	189

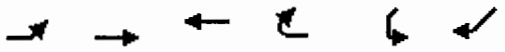
Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	1110	972	251
Volume Left	0	0	0
Volume Right	0	0	251
cSH	1700	1700	189
Volume to Capacity	0.65	0.57	1.32
Queue Length 95th (ft)	0	0	356
Control Delay (s)	0.0	0.0	225.9
Lane LOS			F
Approach Delay (s)	0.0	0.0	225.9
Approach LOS			F

Intersection Summary			
Average Delay	24.3		
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	170	725	3	36	718	0	0	13	26	0	11	127
Peak Hour Factor	0.98	0.98	0.98	0.94	0.94	0.94	0.66	0.66	0.66	0.88	0.88	0.88
Hourly flow rate (vph)	173	740	3	38	764	0	0	20	39	0	12	144
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					475							
pX, platoon unblocked	0.58						0.58	0.58		0.58	0.58	0.58
vC, conflicting volume	764			743			2079	1929	741	1978	1930	764
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	593			743			2861	2602	741	2687	2604	593
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	70			96			0	0	91	0	0	51
cM capacity (veh/h)	576			874			0	10	419	0	10	295

Direction, Lane #	EB 1	WB 1	NE 1	SW 1
Volume Total	916	802	59	157
Volume Left	173	38	0	0
Volume Right	3	0	39	144
cSH	576	874	28	88
Volume to Capacity	0.30	0.04	2.12	1.78
Queue Length 95th (ft)	32	3	176	327
Control Delay (s)	8.7	1.2	817.4	472.6
Lane LOS	A	A	F	F
Approach Delay (s)	8.7	1.2	817.4	472.6
Approach LOS			F	F

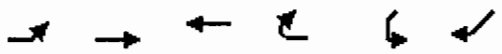
Intersection Summary			
Average Delay	67.9		
Intersection Capacity Utilization	105.9%	ICU Level of Service	G
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑	↑		Y	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1233	910	0	0	165
Peak Hour Factor	0.98	0.98	0.94	0.94	0.88	0.88
Hourly flow rate (vph)	0	1258	968	0	0	188
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			475			
pX, platoon unblocked	0.61				0.61	0.61
vC, conflicting volume	968				2226	968
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	948				3004	948
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	4
cM capacity (veh/h)	448				9	195

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	1258	968	188
Volume Left	0	0	0
Volume Right	0	0	188
cSH	1700	1700	195
Volume to Capacity	0.74	0.57	0.96
Queue Length 95th (ft)	0	0	198
Control Delay (s)	0.0	0.0	104.2
Lane LOS			F
Approach Delay (s)	0.0	0.0	104.2
Approach LOS			F

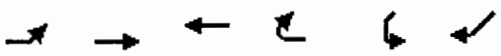
Intersection Summary			
Average Delay	8.1		
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑	↑		Y	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1153	1049	0	0	102
Peak Hour Factor	0.98	0.98	0.94	0.94	0.88	0.88
Hourly flow rate (vph)	0	1177	1116	0	0	116
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			475			
pX, platoon unblocked	0.58				0.58	0.58
vC, conflicting volume	1116				2292	1116
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1198				3212	1198
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	13
cM capacity (veh/h)	345				7	133

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	1177	1116	116
Volume Left	0	0	0
Volume Right	0	0	116
cSH	1700	1700	133
Volume to Capacity	0.69	0.66	0.87
Queue Length 95th (ft)	0	0	140
Control Delay (s)	0.0	0.0	109.4
Lane LOS			F
Approach Delay (s)	0.0	0.0	109.4
Approach LOS			F

Intersection Summary			
Average Delay	5.3		
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑	↑		Y	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1462	1136	0	0	271
Peak Hour Factor	0.98	0.98	0.94	0.94	0.88	0.88
Hourly flow rate (vph)	0	1492	1209	0	0	308
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			475			
pX, platoon unblocked	0.55				0.55	0.55
vC, conflicting volume	1209				2700	1209
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1378				4083	1378
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	0
cM capacity (veh/h)	278				2	99

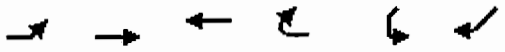
Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	1492	1209	308
Volume Left	0	0	0
Volume Right	0	0	308
cSH	1700	1700	99
Volume to Capacity	0.88	0.71	3.12
Queue Length 95th (ft)	0	0	Err
Control Delay (s)	0.0	0.0	Err
Lane LOS			F
Approach Delay (s)	0.0	0.0	Err
Approach LOS			F

Intersection Summary			
Average Delay	1023.6		
Intersection Capacity Utilization	100.4%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	193	683	4	20	672	1	0	9	32	4	9	189
Peak Hour Factor	0.92	0.92	0.92	0.86	0.86	0.86	0.57	0.57	0.57	0.96	0.96	0.96
Hourly flow rate (vph)	210	742	4	23	781	1	0	16	56	4	9	197
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					475							
pX, platoon unblocked	0.66						0.66	0.66		0.66	0.66	0.66
vC, conflicting volume	783			747			2194	1993	745	2057	1995	782
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	673			747			2797	2495	745	2590	2497	672
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	66			97			100	0	87	0	25	35
cM capacity (veh/h)	616			871			1	13	418	0	13	304

Direction, Lane #	EB 1	WB 1	NE 1	SW 1
Volume Total	957	806	72	210
Volume Left	210	23	0	4
Volume Right	4	1	56	197
cSH	616	871	52	0
Volume to Capacity	0.34	0.03	1.39	Err
Queue Length 95th (ft)	38	2	165	Err
Control Delay (s)	9.6	0.7	389.5	Err
Lane LOS	A	A	F	F
Approach Delay (s)	9.6	0.7	389.5	Err
Approach LOS			F	F

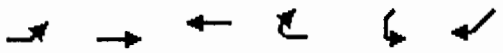
Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	109.2%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑	↑		Y	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1130	886	0	4	235
Peak Hour Factor	0.92	0.92	0.86	0.86	0.96	0.96
Hourly flow rate (vph)	0	1228	1030	0	4	245
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			475			
pX, platoon unblocked	0.53				0.53	0.53
vC, conflicting volume	1030				2258	1030
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1057				3355	1057
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				13	0
cM capacity (veh/h)	356				5	147

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	1228	1030	249
Volume Left	0	0	4
Volume Right	0	0	245
cSH	1700	1700	98
Volume to Capacity	0.72	0.61	2.54
Queue Length 95th (ft)	0	0	573
Control Delay (s)	0.0	0.0	789.2
Lane LOS			F
Approach Delay (s)	0.0	0.0	789.2
Approach LOS			F

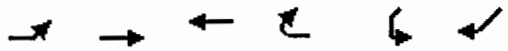
Intersection Summary			
Average Delay	78.4		
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑	↑		Y	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1188	1073	0	4	153
Peak Hour Factor	0.92	0.92	0.86	0.86	0.96	0.96
Hourly flow rate (vph)	0	1291	1248	0	4	159
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			475			
pX, platoon unblocked	0.51				0.51	0.51
vC, conflicting volume	1248				2539	1248
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1483				4002	1483
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				0	0
cM capacity (veh/h)	236				2	79

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	1291	1248	164
Volume Left	0	0	4
Volume Right	0	0	159
cSH	1700	1700	37
Volume to Capacity	0.76	0.73	4.46
Queue Length 95th (ft)	0	0	Err
Control Delay (s)	0.0	0.0	Err
Lane LOS			F
Approach Delay (s)	0.0	0.0	Err
Approach LOS			F

Intersection Summary			
Average Delay	605.1		
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑	↑		Y	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	1534	1188	0	4	380
Peak Hour Factor	0.92	0.92	0.86	0.86	0.96	0.96
Hourly flow rate (vph)	0	1667	1381	0	4	396
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			475			
pX, platoon unblocked	0.46				0.46	0.46
vC, conflicting volume	1381				3049	1381
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1830				5458	1830
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				0	0
cM capacity (veh/h)	155				0	44

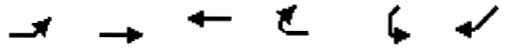
Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	1667	1381	400
Volume Left	0	0	4
Volume Right	0	0	396
cSH	1700	1700	11
Volume to Capacity	0.98	0.81	36.03
Queue Length 95th (ft)	0	0	Err
Control Delay (s)	0.0	0.0	Err
Lane LOS			F
Approach Delay (s)	0.0	0.0	Err
Approach LOS			F

Intersection Summary			
Average Delay	1159.7		
Intersection Capacity Utilization	111.1%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	99	459	6	7	498	6	1	4	10	2	3	101
Peak Hour Factor	0.82	0.82	0.82	0.84	0.84	0.84	0.75	0.75	0.75	0.66	0.66	0.66
Hourly flow rate (vph)	121	560	7	8	593	7	1	5	13	3	5	153
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					475							
pX, platoon unblocked	0.81						0.81	0.81		0.81	0.81	0.81
vC, conflicting volume	600			567			1573	1422	563	1434	1422	596
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	507			567			1706	1519	563	1534	1519	503
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	86			99			96	94	97	95	95	67
cM capacity (veh/h)	867			1015			34	83	529	64	83	465

Direction, Lane #	EB 1	WB 1	NE 1	SW 1
Volume Total	688	608	20	161
Volume Left	121	8	1	3
Volume Right	7	7	13	153
cSH	867	1015	155	373
Volume to Capacity	0.14	0.01	0.13	0.43
Queue Length 95th (ft)	12	1	11	53
Control Delay (s)	3.4	0.2	31.6	21.8
Lane LOS	A	A	D	C
Approach Delay (s)	3.4	0.2	31.6	21.8
Approach LOS			D	C

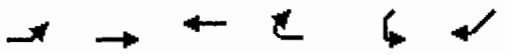
Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑	↑		↱	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	726	650	0	2	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	789	707	0	2	141
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			475			
pX, platoon unblocked	0.66				0.66	0.66
vC, conflicting volume	707				1496	707
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	555				1751	555
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	60
cM capacity (veh/h)	676				63	353

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	789	707	143
Volume Left	0	0	2
Volume Right	0	0	141
cSH	1700	1700	330
Volume to Capacity	0.46	0.42	0.43
Queue Length 95th (ft)	0	0	53
Control Delay (s)	0.0	0.0	24.1
Lane LOS			C
Approach Delay (s)	0.0	0.0	24.1
Approach LOS			C

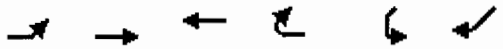
Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑	↑		Y	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	829	758	0	2	128
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	901	824	0	2	139
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			475			
pX, platoon unblocked	0.59				0.59	0.59
vC, conflicting volume	824				1725	824
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	701				2232	701
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				92	47
cM capacity (veh/h)	533				28	260

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	901	824	141
Volume Left	0	0	2
Volume Right	0	0	139
cSH	1700	1700	231
Volume to Capacity	0.53	0.48	0.61
Queue Length 95th (ft)	0	0	90
Control Delay (s)	0.0	0.0	42.5
Lane LOS			E
Approach Delay (s)	0.0	0.0	42.5
Approach LOS			E

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↑	↑		↾	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	0	955	833	0	2	194
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1038	905	0	2	211
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			475			
pX, platoon unblocked	0.58				0.58	0.58
vC, conflicting volume	905				1943	905
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	836				2634	836
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				86	1
cM capacity (veh/h)	466				15	214

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	1038	905	213
Volume Left	0	0	2
Volume Right	0	0	211
cSH	1700	1700	189
Volume to Capacity	0.61	0.53	1.13
Queue Length 95th (ft)	0	0	265
Control Delay (s)	0.0	0.0	156.0
Lane LOS			F
Approach Delay (s)	0.0	0.0	156.0
Approach LOS			F

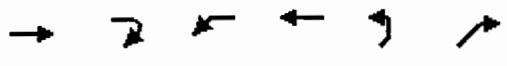
Intersection Summary			
Average Delay	15.4		
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		

Route 20 at Pelham Island Road South

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	960	4	51	1103	9	67
Peak Hour Factor	0.97	0.97	0.89	0.89	0.75	0.75
Hourly flow rate (vph)	990	4	57	1239	12	89
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				650		
pX, platoon unblocked					0.59	
vC, conflicting volume			994		2346	992
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			994		3293	992
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		0	70
cM capacity (veh/h)			688		5	301

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	994	1297	101
Volume Left	0	57	12
Volume Right	4	0	89
cSH	1700	688	40
Volume to Capacity	0.58	0.08	2.56
Queue Length 95th (ft)	0	7	278
Control Delay (s)	0.0	3.6	926.2
Lane LOS		A	F
Approach Delay (s)	0.0	3.6	926.2
Approach LOS			F

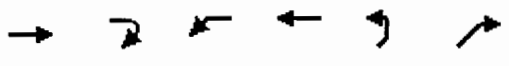
Intersection Summary			
Average Delay	41.2		
Intersection Capacity Utilization	110.8%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	872	4	51	915	5	67
Peak Hour Factor	0.97	0.97	0.89	0.89	0.75	0.75
Hourly flow rate (vph)	899	4	57	1028	7	89
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				650		
pX, platoon unblocked					0.62	
vC, conflicting volume			903		2044	901
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			903		2693	901
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		52	74
cM capacity (veh/h)			745		14	340

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	903	1085	96
Volume Left	0	57	7
Volume Right	4	0	89
cSH	1700	745	129
Volume to Capacity	0.53	0.08	0.75
Queue Length 95th (ft)	0	6	108
Control Delay (s)	0.0	2.4	88.6
Lane LOS		A	F
Approach Delay (s)	0.0	2.4	88.6
Approach LOS			F

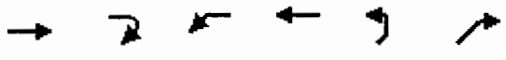
Intersection Summary			
Average Delay	5.3		
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1010	4	51	1027	5	67
Peak Hour Factor	0.97	0.97	0.89	0.89	0.75	0.75
Hourly flow rate (vph)	1041	4	57	1154	7	89
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				650		
pX, platoon unblocked					0.61	
vC, conflicting volume			1045		2312	1043
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1045		3155	1043
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			91		1	68
cM capacity (veh/h)			658		7	281

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	1045	1211	96
Volume Left	0	57	7
Volume Right	4	0	89
cSH	1700	658	73
Volume to Capacity	0.61	0.09	1.31
Queue Length 95th (ft)	0	7	189
Control Delay (s)	0.0	3.4	306.9
Lane LOS		A	F
Approach Delay (s)	0.0	3.4	306.9
Approach LOS			F

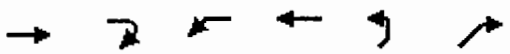
Intersection Summary			
Average Delay	14.3		
Intersection Capacity Utilization	106.7%	ICU Level of Service	G
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1192	7	50	1025	1	41
Peak Hour Factor	0.96	0.96	0.94	0.94	0.66	0.66
Hourly flow rate (vph)	1242	7	53	1090	2	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				650		
pX, platoon unblocked					0.62	
vC, conflicting volume			1249		2442	1245
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1249		3324	1245
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			91		71	71
cM capacity (veh/h)			564		5	214

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	1249	1144	64
Volume Left	0	53	2
Volume Right	7	0	62
cSH	1700	564	110
Volume to Capacity	0.73	0.09	0.58
Queue Length 95th (ft)	0	8	69
Control Delay (s)	0.0	3.6	74.8
Lane LOS		A	F
Approach Delay (s)	0.0	3.6	74.8
Approach LOS			F

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	104.6%	ICU Level of Service	G
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1112	8	50	1101	4	41
Peak Hour Factor	0.96	0.96	0.94	0.94	0.66	0.66
Hourly flow rate (vph)	1158	8	53	1171	6	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				650		
pX, platoon unblocked					0.59	
vC, conflicting volume			1167		2440	1162
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1167		3437	1162
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			91		0	74
cM capacity (veh/h)			606		4	240

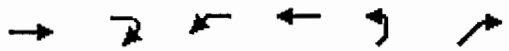
Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	1167	1224	68
Volume Left	0	53	6
Volume Right	8	0	62
cSH	1700	606	41
Volume to Capacity	0.69	0.09	1.68
Queue Length 95th (ft)	0	7	177
Control Delay (s)	0.0	3.6	547.5
Lane LOS		A	F
Approach Delay (s)	0.0	3.6	547.5
Approach LOS			F

Intersection Summary			
Average Delay	17.0		
Intersection Capacity Utilization	108.6%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1421	8	50	1357	4	41
Peak Hour Factor	0.96	0.96	0.94	0.94	0.66	0.66
Hourly flow rate (vph)	1480	8	53	1444	6	62
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				650		
pX, platoon unblocked					0.56	
vC, conflicting volume			1489		3034	1484
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1489		4650	1484
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			88		0	60
cM capacity (veh/h)			457		1	155

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	1489	1497	68
Volume Left	0	53	6
Volume Right	8	0	62
cSH	1700	457	6
Volume to Capacity	0.88	0.12	10.58
Queue Length 95th (ft)	0	10	Err
Control Delay (s)	0.0	10.8	Err
Lane LOS		B	F
Approach Delay (s)	0.0	10.8	Err
Approach LOS			F

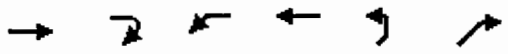
Intersection Summary			
Average Delay	228.6		
Intersection Capacity Utilization	121.9%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1086	5	30	1091	1	44
Peak Hour Factor	0.92	0.92	0.86	0.86	0.57	0.57
Hourly flow rate (vph)	1180	5	35	1269	2	77
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				650		
pX, platoon unblocked					0.54	
vC, conflicting volume			1186		2522	1183
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1186		3819	1183
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		22	67
cM capacity (veh/h)			596		2	233

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	1186	1303	79
Volume Left	0	35	2
Volume Right	5	0	77
cSH	1700	596	71
Volume to Capacity	0.70	0.06	1.11
Queue Length 95th (ft)	0	5	149
Control Delay (s)	0.0	2.9	243.5
Lane LOS		A	F
Approach Delay (s)	0.0	2.9	243.5
Approach LOS			F

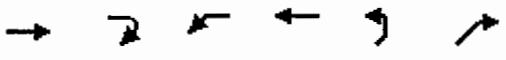
Intersection Summary			
Average Delay	8.9		
Intersection Capacity Utilization	91.6%	ICU Level of Service	F
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1144	9	30	1196	6	44
Peak Hour Factor	0.92	0.92	0.86	0.86	0.57	0.57
Hourly flow rate (vph)	1243	10	35	1391	11	77
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				650		
pX, platoon unblocked					0.52	
vC, conflicting volume			1253		2709	1248
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1253		4310	1248
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		0	64
cM capacity (veh/h)			562		1	213

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	1253	1426	88
Volume Left	0	35	11
Volume Right	10	0	77
cSH	1700	562	8
Volume to Capacity	0.74	0.06	10.92
Queue Length 95th (ft)	0	5	Err
Control Delay (s)	0.0	4.2	Err
Lane LOS		A	F
Approach Delay (s)	0.0	4.2	Err
Approach LOS			F

Intersection Summary			
Average Delay	319.2		
Intersection Capacity Utilization	97.1%	ICU Level of Service	F
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1486	9	30	1538	6	44
Peak Hour Factor	0.92	0.92	0.86	0.86	0.57	0.57
Hourly flow rate (vph)	1615	10	35	1788	11	77
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				650		
pX, platoon unblocked					0.46	
vC, conflicting volume			1625		3478	1620
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1625		6361	1620
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			91		0	40
cM capacity (veh/h)			406		0	129

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	1625	1823	88
Volume Left	0	35	11
Volume Right	10	0	77
cSH	1700	406	0
Volume to Capacity	0.96	0.09	319.40
Queue Length 95th (ft)	0	7	Err
Control Delay (s)	0.0	0.3	Err
Lane LOS		A	F
Approach Delay (s)	0.0	0.3	Err
Approach LOS			F

Intersection Summary			
Average Delay	248.2		
Intersection Capacity Utilization	115.0%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	711	6	7	780	1	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	773	7	8	848	1	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				650		
pX, platoon unblocked					0.67	
vC, conflicting volume			779		1639	776
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			779		1961	776
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		98	96
cM capacity (veh/h)			847		46	401

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	779	855	17
Volume Left	0	8	1
Volume Right	7	0	16
cSH	1700	847	271
Volume to Capacity	0.46	0.01	0.06
Queue Length 95th (ft)	0	1	5
Control Delay (s)	0.0	0.2	19.2
Lane LOS		A	C
Approach Delay (s)	0.0	0.2	19.2
Approach LOS			C

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	814	9	10	879	4	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	885	10	11	955	4	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				650		
pX, platoon unblocked					0.60	
vC, conflicting volume			895		1867	890
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			895		2455	890
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		78	95
cM capacity (veh/h)			767		20	345

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	895	966	21
Volume Left	0	11	4
Volume Right	10	0	16
cSH	1700	767	79
Volume to Capacity	0.53	0.01	0.26
Queue Length 95th (ft)	0	1	24
Control Delay (s)	0.0	0.4	66.3
Lane LOS		A	F
Approach Delay (s)	0.0	0.4	66.3
Approach LOS			F

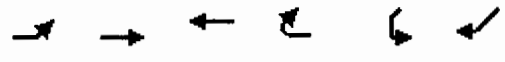
Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	940	9	7	1020	4	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1022	10	8	1109	4	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)				650		
pX, platoon unblocked					0.58	
vC, conflicting volume			1032		2151	1027
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1032		2975	1027
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		53	94
cM capacity (veh/h)			681		9	287

Direction, Lane #	EB 1	WB 1	NE 1
Volume Total	1032	1116	21
Volume Left	0	8	4
Volume Right	10	0	16
cSH	1700	681	39
Volume to Capacity	0.61	0.01	0.53
Queue Length 95th (ft)	0	1	47
Control Delay (s)	0.0	0.4	174.7
Lane LOS		A	F
Approach Delay (s)	0.0	0.4	174.7
Approach LOS			F

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		

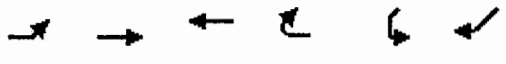
Route 20 at Old County Road (River Road in Wayland)



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	106	1008	601	26	20	43
Peak Hour Factor	0.91	0.91	0.94	0.94	0.79	0.79
Hourly flow rate (vph)	116	1108	639	28	25	54
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	667				1994	653
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	667				1994	653
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				57	88
cM capacity (veh/h)	932				59	471

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	1224	667	80
Volume Left	116	0	25
Volume Right	0	28	54
cSH	932	1700	146
Volume to Capacity	0.12	0.39	0.55
Queue Length 95th (ft)	11	0	68
Control Delay (s)	4.0	0.0	55.9
Lane LOS	A		F
Approach Delay (s)	4.0	0.0	55.9
Approach LOS			F

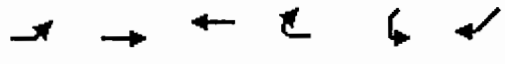
Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	105.9%	ICU Level of Service	G
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	141	1177	656	93	61	56
Peak Hour Factor	0.91	0.91	0.94	0.94	0.79	0.79
Hourly flow rate (vph)	155	1293	698	99	77	71
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	797				2351	747
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	797				2351	747
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	81				0	83
cM capacity (veh/h)	834				33	416

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	1448	797	148
Volume Left	155	0	77
Volume Right	0	99	71
cSH	834	1700	58
Volume to Capacity	0.19	0.47	2.54
Queue Length 95th (ft)	17	0	373
Control Delay (s)	8.2	0.0	848.2
Lane LOS	A		F
Approach Delay (s)	8.2	0.0	848.2
Approach LOS			F

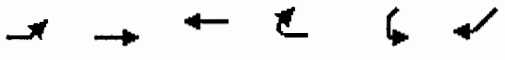
Intersection Summary			
Average Delay	57.5		
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	141	1138	665	93	61	56
Peak Hour Factor	0.91	0.91	0.94	0.94	0.79	0.79
Hourly flow rate (vph)	155	1251	707	99	77	71
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	806				2317	757
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	806				2317	757
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	81				0	83
cM capacity (veh/h)	827				34	411

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	1405	806	148
Volume Left	155	0	77
Volume Right	0	99	71
cSH	827	1700	61
Volume to Capacity	0.19	0.47	2.43
Queue Length 95th (ft)	17	0	367
Control Delay (s)	7.7	0.0	796.1
Lane LOS	A		F
Approach Delay (s)	7.7	0.0	796.1
Approach LOS			F

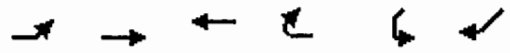
Intersection Summary			
Average Delay	54.5		
Intersection Capacity Utilization	125.1%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	52	796	923	38	21	95
Peak Hour Factor	0.93	0.93	0.87	0.87	0.83	0.83
Hourly flow rate (vph)	56	856	1061	44	25	114
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1105				2051	1083
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1105				2051	1083
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				55	57
cM capacity (veh/h)	640				57	265

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	912	1105	140
Volume Left	56	0	25
Volume Right	0	44	114
cSH	640	1700	159
Volume to Capacity	0.09	0.65	0.88
Queue Length 95th (ft)	7	0	153
Control Delay (s)	2.5	0.0	98.8
Lane LOS	A		F
Approach Delay (s)	2.5	0.0	98.8
Approach LOS			F

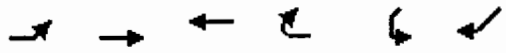
Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	98.2%	ICU Level of Service	F
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	76	874	1074	99	97	132
Peak Hour Factor	0.93	0.93	0.87	0.87	0.83	0.83
Hourly flow rate (vph)	82	940	1234	114	117	159
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1348				2395	1291
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1348				2395	1291
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	84				0	21
cM capacity (veh/h)	517				32	200

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	1022	1348	276
Volume Left	82	0	117
Volume Right	0	114	159
cSH	517	1700	61
Volume to Capacity	0.16	0.79	4.49
Queue Length 95th (ft)	14	0	Err
Control Delay (s)	5.4	0.0	Err
Lane LOS	A		F
Approach Delay (s)	5.4	0.0	Err
Approach LOS			F

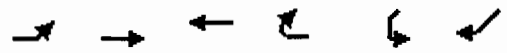
Intersection Summary			
Average Delay	1044.8		
Intersection Capacity Utilization	129.0%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	76	966	1059	99	97	132
Peak Hour Factor	0.93	0.93	0.87	0.87	0.83	0.83
Hourly flow rate (vph)	82	1039	1217	114	117	159
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1331				2476	1274
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1331				2476	1274
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	84				0	22
cM capacity (veh/h)	525				28	205

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	1120	1331	276
Volume Left	82	0	117
Volume Right	0	114	159
cSH	525	1700	56
Volume to Capacity	0.16	0.78	4.93
Queue Length 95th (ft)	14	0	Err
Control Delay (s)	5.8	0.0	Err
Lane LOS	A		F
Approach Delay (s)	5.8	0.0	Err
Approach LOS			F

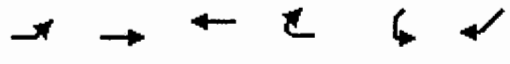
Intersection Summary			
Average Delay	1013.9		
Intersection Capacity Utilization	133.7%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	29	733	689	20	27	26
Peak Hour Factor	0.94	0.94	0.92	0.92	0.69	0.69
Hourly flow rate (vph)	31	780	749	22	39	38
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	771				1601	760
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	771				1601	760
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				66	91
cM capacity (veh/h)	853				113	409

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	811	771	77
Volume Left	31	0	39
Volume Right	0	22	38
cSH	853	1700	176
Volume to Capacity	0.04	0.45	0.44
Queue Length 95th (ft)	3	0	50
Control Delay (s)	1.0	0.0	40.5
Lane LOS	A		E
Approach Delay (s)	1.0	0.0	40.5
Approach LOS			E

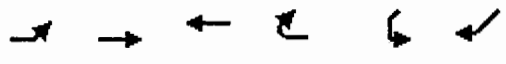
Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	61	840	825	84	109	57
Peak Hour Factor	0.94	0.94	0.92	0.92	0.69	0.69
Hourly flow rate (vph)	65	894	897	91	158	83
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	988				1966	942
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	988				1966	942
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				0	74
cM capacity (veh/h)	707				64	321

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	959	988	241
Volume Left	65	0	158
Volume Right	0	91	83
cSH	707	1700	88
Volume to Capacity	0.09	0.58	2.74
Queue Length 95th (ft)	8	0	575
Control Delay (s)	2.6	0.0	889.2
Lane LOS	A		F
Approach Delay (s)	2.6	0.0	889.2
Approach LOS			F

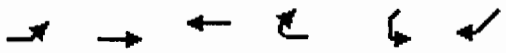
Intersection Summary			
Average Delay	99.0		
Intersection Capacity Utilization	110.6%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	61	976	947	84	109	57
Peak Hour Factor	0.94	0.94	0.92	0.92	0.69	0.69
Hourly flow rate (vph)	65	1038	1029	91	158	83
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1121				2243	1075
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1121				2243	1075
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				0	69
cM capacity (veh/h)	631				42	269

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	1103	1121	241
Volume Left	65	0	158
Volume Right	0	91	83
cSH	631	1700	59
Volume to Capacity	0.10	0.66	4.06
Queue Length 95th (ft)	9	0	Err
Control Delay (s)	3.5	0.0	Err
Lane LOS	A		F
Approach Delay (s)	3.5	0.0	Err
Approach LOS			F

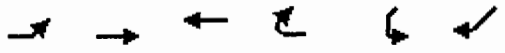
Intersection Summary			
Average Delay	977.7		
Intersection Capacity Utilization	117.5%	ICU Level of Service	H
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	17	527	580	6	10	24
Peak Hour Factor	0.89	0.89	0.90	0.90	0.94	0.94
Hourly flow rate (vph)	19	592	644	7	11	26
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	651				1278	648
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	651				1278	648
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				94	95
cM capacity (veh/h)	945				181	474

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	611	651	36
Volume Left	19	0	11
Volume Right	0	7	26
cSH	945	1700	322
Volume to Capacity	0.02	0.38	0.11
Queue Length 95th (ft)	2	0	9
Control Delay (s)	0.5	0.0	17.6
Lane LOS	A		C
Approach Delay (s)	0.5	0.0	17.6
Approach LOS			C

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	51.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	37	621	675	70	62	38
Peak Hour Factor	0.89	0.89	0.90	0.90	0.94	0.94
Hourly flow rate (vph)	42	698	750	78	66	40
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	828				1570	789
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	828				1570	789
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				44	90
cM capacity (veh/h)	812				117	394

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	739	828	106
Volume Left	42	0	66
Volume Right	0	78	40
cSH	812	1700	159
Volume to Capacity	0.05	0.49	0.67
Queue Length 95th (ft)	4	0	95
Control Delay (s)	1.3	0.0	64.0
Lane LOS	A		F
Approach Delay (s)	1.3	0.0	64.0
Approach LOS			F

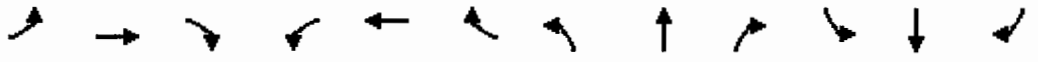
Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	37	683	707	70	62	38
Peak Hour Factor	0.89	0.89	0.90	0.90	0.94	0.94
Hourly flow rate (vph)	42	767	786	78	66	40
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	863				1675	824
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	863				1675	824
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				34	89
cM capacity (veh/h)	788				100	376

Direction, Lane #	EB 1	WB 1	SW 1
Volume Total	809	863	106
Volume Left	42	0	66
Volume Right	0	78	40
cSH	788	1700	139
Volume to Capacity	0.05	0.51	0.76
Queue Length 95th (ft)	4	0	115
Control Delay (s)	1.4	0.0	85.9
Lane LOS	A		F
Approach Delay (s)	1.4	0.0	85.9
Approach LOS			F

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		

Route 20 at Union Avenue and the Sudbury Crossing Driveway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	14	14	10	12	12	12	12	12	10	10	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.98		1.00	0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1560	1964		1532	1791		1805	1621			1494	1501
Flt Permitted	0.10	1.00		0.36	1.00		0.63	1.00			0.74	1.00
Satd. Flow (perm)	159	1964		580	1791		1197	1621			1141	1501
Volume (vph)	348	751	10	31	551	64	18	29	44	88	35	386
Peak-hour factor, PHF	0.94	0.94	0.94	0.89	0.89	0.89	0.78	0.78	0.78	0.94	0.94	0.94
Adj. Flow (vph)	370	799	11	35	619	72	23	37	56	94	37	411
RTOR Reduction (vph)	0	1	0	0	5	0	0	43	0	0	0	314
Lane Group Flow (vph)	370	809	0	35	686	0	23	50	0	0	131	97
Heavy Vehicles (%)	8%	3%	0%	10%	4%	8%	0%	3%	9%	18%	6%	4%
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	59.2	59.2		36.4	36.4		20.1	20.1			20.1	20.1
Effective Green, g (s)	60.2	60.2		37.4	37.4		21.1	21.1			21.1	21.1
Actuated g/C Ratio	0.67	0.67		0.42	0.42		0.24	0.24			0.24	0.24
Clearance Time (s)	4.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	402	1324		243	750		283	383			270	355
v/s Ratio Prot	c0.19	0.41			0.38			0.03				
v/s Ratio Perm	c0.43			0.06			0.02				c0.11	0.06
v/c Ratio	0.92	0.61		0.14	0.92		0.08	0.13			0.49	0.27
Uniform Delay, d1	26.0	8.1		16.0	24.5		26.6	26.9			29.4	27.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	26.1	0.8		0.3	15.7		0.6	0.7			6.1	1.9
Delay (s)	52.1	8.9		16.3	40.2		27.1	27.6			35.5	29.7
Level of Service	D	A		B	D		C	C			D	C
Approach Delay (s)		22.5			39.0			27.5			31.1	
Approach LOS		C			D			C			C	

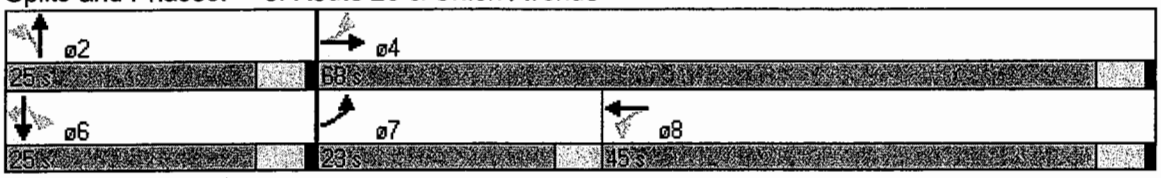
Intersection Summary			
HCM Average Control Delay	29.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	89.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

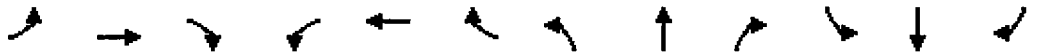
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	348	751	31	551	18	29	88	35	386
Lane Group Flow (vph)	370	810	35	691	23	93	0	131	411
Turn Type	pm+pt		Perm		Perm		Perm		Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phases	7	4	8	8	2	2	6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	23.0	68.0	45.0	45.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	24.7%	73.1%	48.4%	48.4%	26.9%	26.9%	26.9%	26.9%	26.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
v/c Ratio	0.89	0.61	0.14	0.92	0.08	0.22		0.49	0.62
Control Delay	46.9	10.3	17.5	42.8	29.4	15.6		38.2	7.8
Queue Delay	0.0	0.8	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	46.9	11.1	17.5	42.8	29.4	15.6		38.2	7.8
Queue Length 50th (ft)	153	220	12	355	11	17		68	0
Queue Length 95th (ft)	#323	319	32	#564	27	46		127	79
Internal Link Dist (ft)		589		958		945		634	
Turn Bay Length (ft)									
Base Capacity (vph)	418	1352	257	796	278	426		269	668
Starvation Cap Reductn	0	253	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	5	0		0	6
Storage Cap Reductn	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.89	0.74	0.14	0.87	0.08	0.22		0.49	0.62

Intersection Summary

Cycle Length: 93
Actuated Cycle Length: 89.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Route 20 & Union Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	14	14	10	12	12	12	12	12	10	10	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.98		1.00	0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.96	1.00
Satd. Flow (prot)	1560	1965		1532	1791		1805	1621			1488	1501
Flt Permitted	0.09	1.00		0.30	1.00		0.60	1.00			0.72	1.00
Satd. Flow (perm)	150	1965		478	1791		1138	1621			1115	1501
Volume (vph)	366	855	10	31	594	69	18	29	44	100	35	406
Peak-hour factor, PHF	0.94	0.94	0.94	0.89	0.89	0.89	0.78	0.78	0.78	0.94	0.94	0.94
Adj. Flow (vph)	389	910	11	35	667	78	23	37	56	106	37	432
RTOR Reduction (vph)	0	1	0	0	5	0	0	43	0	0	0	333
Lane Group Flow (vph)	389	920	0	35	740	0	23	50	0	0	143	99
Heavy Vehicles (%)	8%	3%	0%	10%	4%	8%	0%	3%	9%	18%	6%	4%
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	61.7	61.7		38.7	38.7		20.0	20.0			20.0	20.0
Effective Green, g (s)	62.7	62.7		39.7	39.7		21.0	21.0			21.0	21.0
Actuated g/C Ratio	0.68	0.68		0.43	0.43		0.23	0.23			0.23	0.23
Clearance Time (s)	4.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	395	1344		207	775		261	371			255	344
v/s Ratio Prot	c0.20	0.47			0.41			0.03				
v/s Ratio Perm	c0.47			0.07			0.02				c0.13	0.07
v/c Ratio	0.98	0.68		0.17	0.96		0.09	0.13			0.56	0.29
Uniform Delay, d1	28.5	8.6		15.9	25.1		27.8	28.1			31.3	29.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	40.9	1.5		0.4	21.9		0.7	0.8			8.6	2.1
Delay (s)	69.4	10.1		16.3	47.0		28.5	28.9			39.9	31.3
Level of Service	E	B		B	D		C	C			D	C
Approach Delay (s)		27.7			45.7			28.8			33.4	
Approach LOS		C			D			C			C	

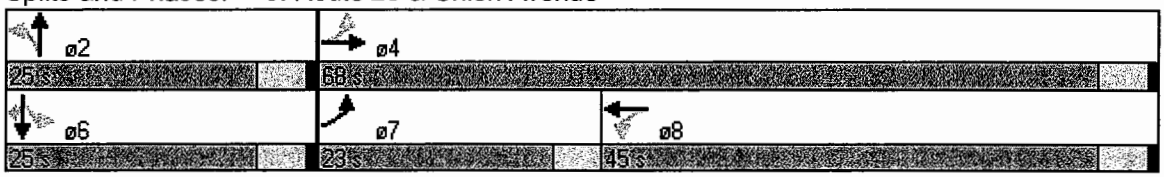
Intersection Summary			
HCM Average Control Delay	34.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	91.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	366	855	31	594	18	29	100	35	406
Lane Group Flow (vph)	389	921	35	745	23	93	0	143	432
Turn Type	pm+pt		Perm		Perm		Perm		Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phases	7	4	8	8	2	2	6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	23.0	68.0	45.0	45.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	24.7%	73.1%	48.4%	48.4%	26.9%	26.9%	26.9%	26.9%	26.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
v/c Ratio	0.99	0.69	0.17	0.96	0.09	0.22		0.56	0.64
Control Delay	71.0	11.9	18.4	49.4	29.7	15.6		41.5	8.1
Queue Delay	0.0	1.2	0.0	0.0	0.0	0.0		0.0	0.1
Total Delay	71.0	13.1	18.4	49.4	29.7	15.6		41.5	8.1
Queue Length 50th (ft)	184	277	12	403	11	17		75	0
Queue Length 95th (ft)	#376	407	33	#636	27	46		140	82
Internal Link Dist (ft)		589		958		945		634	
Turn Bay Length (ft)									
Base Capacity (vph)	393	1352	212	794	260	415		256	677
Starvation Cap Reductn	0	225	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	7	0		0	11
Storage Cap Reductn	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.99	0.82	0.17	0.94	0.09	0.22		0.56	0.65

Intersection Summary

Cycle Length: 93
Actuated Cycle Length: 91.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Route 20 & Union Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	14	14	10	12	12	12	12	12	10	10	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.98		1.00	0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.96	1.00
Satd. Flow (prot)	1560	1965		1532	1791		1805	1621			1487	1501
Flt Permitted	0.09	1.00		0.29	1.00		0.59	1.00			0.72	1.00
Satd. Flow (perm)	149	1965		462	1791		1125	1621			1112	1501
Volume (vph)	366	868	10	31	602	70	18	29	44	102	35	406
Peak-hour factor, PHF	0.94	0.94	0.94	0.89	0.89	0.89	0.78	0.78	0.78	0.94	0.94	0.94
Adj. Flow (vph)	389	923	11	35	676	79	23	37	56	109	37	432
RTOR Reduction (vph)	0	0	0	0	5	0	0	43	0	0	0	333
Lane Group Flow (vph)	389	934	0	35	750	0	23	50	0	0	146	99
Heavy Vehicles (%)	8%	3%	0%	10%	4%	8%	0%	3%	9%	18%	6%	4%
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	62.1	62.1		39.1	39.1		20.0	20.0			20.0	20.0
Effective Green, g (s)	63.1	63.1		40.1	40.1		21.0	21.0			21.0	21.0
Actuated g/C Ratio	0.69	0.69		0.44	0.44		0.23	0.23			0.23	0.23
Clearance Time (s)	4.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	393	1346		201	780		257	370			254	342
v/s Ratio Prot	c0.20	0.48			0.42			0.03				
v/s Ratio Perm	c0.47			0.08			0.02				c0.13	0.07
v/c Ratio	0.99	0.69		0.17	0.96		0.09	0.13			0.57	0.29
Uniform Delay, d1	28.8	8.7		15.9	25.3		28.0	28.3			31.6	29.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	42.2	1.6		0.4	23.2		0.7	0.8			9.1	2.1
Delay (s)	71.0	10.3		16.3	48.5		28.7	29.1			40.7	31.5
Level of Service	E	B		B	D		C	C			D	C
Approach Delay (s)		28.1			47.1			29.0			33.8	
Approach LOS		C			D			C			C	

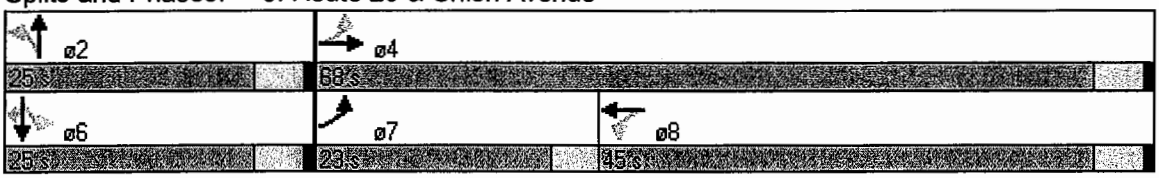
Intersection Summary			
HCM Average Control Delay	34.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	92.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

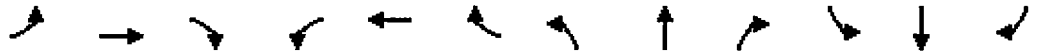
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	366	868	31	602	18	29	102	35	406
Lane Group Flow (vph)	389	934	35	755	23	93	0	146	432
Turn Type	pm+pt		Perm		Perm		Perm		Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phases	7	4	8	8	2	2	6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	23.0	68.0	45.0	45.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	24.7%	73.1%	48.4%	48.4%	26.9%	26.9%	26.9%	26.9%	26.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
v/c Ratio	0.99	0.69	0.17	0.96	0.09	0.23		0.57	0.64
Control Delay	71.9	12.1	18.6	50.8	29.7	15.6		42.3	8.1
Queue Delay	0.0	1.3	0.0	0.0	0.0	0.0		0.0	0.1
Total Delay	71.9	13.5	18.6	50.8	29.7	15.6		42.3	8.2
Queue Length 50th (ft)	184	284	12	412	11	17		77	0
Queue Length 95th (ft)	#376	419	33	#650	27	46		143	82
Internal Link Dist (ft)		589		958		945		634	
Turn Bay Length (ft)									
Base Capacity (vph)	391	1352	204	794	256	413		254	675
Starvation Cap Reductn	0	223	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	7	0		0	11
Storage Cap Reductn	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.99	0.83	0.17	0.95	0.09	0.23		0.57	0.65

Intersection Summary

Cycle Length: 93
Actuated Cycle Length: 92.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Route 20 & Union Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	14	14	10	12	12	12	12	12	10	10	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.98		1.00	0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.96	1.00
Satd. Flow (prot)	1560	1965		1532	1791		1805	1621			1487	1501
Flt Permitted	0.09	1.00		0.32	1.00		0.58	1.00			0.72	1.00
Satd. Flow (perm)	153	1965		516	1791		1103	1621			1112	1501
Volume (vph)	366	868	10	31	602	70	18	29	44	102	35	406
Peak-hour factor, PHF	0.94	0.94	0.94	0.89	0.89	0.89	0.78	0.78	0.78	0.94	0.94	0.94
Adj. Flow (vph)	389	923	11	35	676	79	23	37	56	109	37	432
RTOR Reduction (vph)	0	1	0	0	4	0	0	45	0	0	0	345
Lane Group Flow (vph)	389	933	0	35	751	0	23	48	0	0	146	87
Heavy Vehicles (%)	8%	3%	0%	10%	4%	8%	0%	3%	9%	18%	6%	4%
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	61.9	61.9		37.9	37.9		17.0	17.0			17.0	17.0
Effective Green, g (s)	62.9	62.9		38.9	38.9		18.0	18.0			18.0	18.0
Actuated g/C Ratio	0.71	0.71		0.44	0.44		0.20	0.20			0.20	0.20
Clearance Time (s)	4.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	425	1390		226	784		223	328			225	304
v/s Ratio Prot	c0.21	0.48			0.42			0.03				
v/s Ratio Perm	c0.44			0.07			0.02				c0.13	0.06
v/c Ratio	0.92	0.67		0.15	0.96		0.10	0.15			0.65	0.29
Uniform Delay, d1	26.2	7.2		15.1	24.2		28.9	29.1			32.5	30.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	24.0	1.3		0.3	22.0		0.9	0.9			13.6	2.4
Delay (s)	50.2	8.5		15.4	46.2		29.8	30.1			46.2	32.4
Level of Service	D	A		B	D		C	C			D	C
Approach Delay (s)		20.8			44.9			30.0			35.9	
Approach LOS		C			D			C			D	

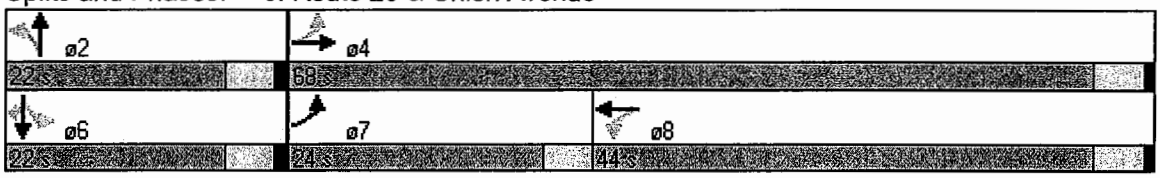
Intersection Summary			
HCM Average Control Delay	31.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	88.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

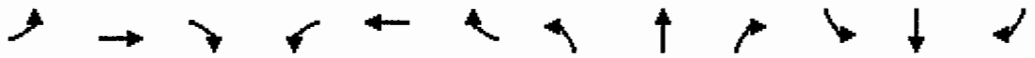
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	366	868	31	602	18	29	102	35	406
Lane Group Flow (vph)	389	934	35	755	23	93	0	146	432
Turn Type	pm+pt		Perm		Perm		Perm		Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phases	7	4	8	8	2	2	6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	24.0	68.0	44.0	44.0	22.0	22.0	22.0	22.0	22.0
Total Split (%)	26.7%	75.6%	48.9%	48.9%	24.4%	24.4%	24.4%	24.4%	24.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
v/c Ratio	0.92	0.67	0.16	0.96	0.10	0.25		0.65	0.67
Control Delay	52.9	10.2	17.2	48.9	31.0	16.5		48.3	9.0
Queue Delay	0.0	1.0	0.0	0.0	0.0	0.0		0.0	0.1
Total Delay	52.9	11.3	17.2	48.9	31.0	16.5		48.3	9.1
Queue Length 50th (ft)	170	247	12	394	11	17		77	0
Queue Length 95th (ft)	#346	367	32	#629	28	46		#160	84
Internal Link Dist (ft)		589		958		945		634	
Turn Bay Length (ft)									
Base Capacity (vph)	423	1397	229	800	222	373		225	649
Starvation Cap Reductn	0	229	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	6	0		0	9
Storage Cap Reductn	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.92	0.80	0.15	0.94	0.11	0.25		0.65	0.68

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 88.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Route 20 & Union Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	14	14	10	12	12	12	12	12	10	10	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1668	2007		1685	1855		1805	1728			1715	1546
Flt Permitted	0.09	1.00		0.39	1.00		0.46	1.00			0.46	1.00
Satd. Flow (perm)	164	2007		700	1855		874	1728			813	1546
Volume (vph)	297	626	42	96	642	39	121	84	111	117	89	393
Peak-hour factor, PHF	0.94	0.94	0.94	0.89	0.89	0.89	0.78	0.78	0.78	0.94	0.94	0.94
Adj. Flow (vph)	316	666	45	108	721	44	155	108	142	124	95	418
RTOR Reduction (vph)	0	3	0	0	2	0	0	50	0	0	0	319
Lane Group Flow (vph)	316	708	0	108	763	0	155	200	0	0	219	99
Heavy Vehicles (%)	1%	0%	0%	0%	1%	10%	0%	0%	1%	1%	0%	1%
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	59.4	59.4		37.8	37.8		20.1	20.1			20.1	20.1
Effective Green, g (s)	60.4	60.4		38.8	38.8		21.1	21.1			21.1	21.1
Actuated g/C Ratio	0.67	0.67		0.43	0.43		0.24	0.24			0.24	0.24
Clearance Time (s)	4.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	406	1354		303	804		206	407			192	364
v/s Ratio Prot	c0.15	0.35			c0.41			0.12				
v/s Ratio Perm	0.37			0.15			0.18				c0.27	0.06
v/c Ratio	0.78	0.52		0.36	0.95		0.75	0.49			1.14	0.27
Uniform Delay, d1	24.2	7.3		17.0	24.4		31.8	29.6			34.2	27.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	9.1	0.4		0.7	20.0		22.2	4.2			107.9	1.8
Delay (s)	33.3	7.7		17.7	44.4		53.9	33.7			142.1	29.7
Level of Service	C	A		B	D		D	C			F	C
Approach Delay (s)		15.6			41.1			41.5			68.4	
Approach LOS		B			D			D			E	

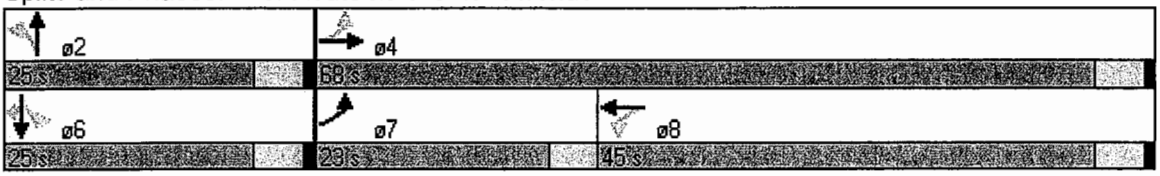
Intersection Summary			
HCM Average Control Delay	38.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	89.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	297	626	96	642	121	84	117	89	393
Lane Group Flow (vph)	316	711	108	765	155	250	0	219	418
Turn Type	pm+pt		Perm		Perm		Perm		Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phases	7	4	8	8	2	2	6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	23.0	68.0	45.0	45.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	24.7%	73.1%	48.4%	48.4%	26.9%	26.9%	26.9%	26.9%	26.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
v/c Ratio	0.79	0.52	0.36	0.95	0.78	0.55		1.19	0.61
Control Delay	36.1	8.8	21.5	47.3	61.5	28.0		162.6	7.6
Queue Delay	0.0	0.5	0.0	0.0	0.7	0.0		0.0	0.0
Total Delay	36.1	9.3	21.5	47.3	62.1	28.0		162.6	7.6
Queue Length 50th (ft)	124	173	41	414	87	95		~162	0
Queue Length 95th (ft)	#249	250	83	#649	#154	140		#303	78
Internal Link Dist (ft)		589		958		945		634	
Turn Bay Length (ft)									
Base Capacity (vph)	420	1384	314	832	199	458		184	684
Starvation Cap Reductn	0	300	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	3	0		0	7
Storage Cap Reductn	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.75	0.66	0.34	0.92	0.79	0.55		1.19	0.62

Intersection Summary

Cycle Length: 93
Actuated Cycle Length: 89.6
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Route 20 & Union Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	14	14	10	12	12	12	12	12	10	10	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1668	2009		1685	1855		1805	1728			1713	1546
Flt Permitted	0.09	1.00		0.37	1.00		0.43	1.00			0.44	1.00
Satd. Flow (perm)	156	2009		662	1855		810	1728			775	1546
Volume (vph)	312	683	42	96	739	45	121	84	111	127	89	413
Peak-hour factor, PHF	0.94	0.94	0.94	0.89	0.89	0.89	0.78	0.78	0.78	0.94	0.94	0.94
Adj. Flow (vph)	332	727	45	108	830	51	155	108	142	135	95	439
RTOR Reduction (vph)	0	3	0	0	2	0	0	51	0	0	0	318
Lane Group Flow (vph)	332	769	0	108	879	0	155	199	0	0	230	121
Heavy Vehicles (%)	1%	0%	0%	0%	1%	10%	0%	0%	1%	1%	0%	1%
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	62.3	62.3		40.0	40.0		20.0	20.0			20.0	20.0
Effective Green, g (s)	63.3	63.3		41.0	41.0		21.0	21.0			21.0	21.0
Actuated g/C Ratio	0.69	0.69		0.44	0.44		0.23	0.23			0.23	0.23
Clearance Time (s)	4.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	407	1378		294	824		184	393			176	352
v/s Ratio Prot	c0.16	0.38			c0.47			0.12				
v/s Ratio Perm	0.40			0.16			0.19				c0.30	0.08
v/c Ratio	0.82	0.56		0.37	1.07		0.84	0.51			1.31	0.34
Uniform Delay, d1	37.0	7.4		17.0	25.6		34.1	31.1			35.6	29.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	11.9	0.5		0.8	50.6		35.0	4.6			172.9	2.6
Delay (s)	48.9	7.9		17.8	76.3		69.1	35.7			208.5	32.5
Level of Service	D	A		B	E		E	D			F	C
Approach Delay (s)		20.2			69.9			48.5			93.0	
Approach LOS		C			E			D			F	

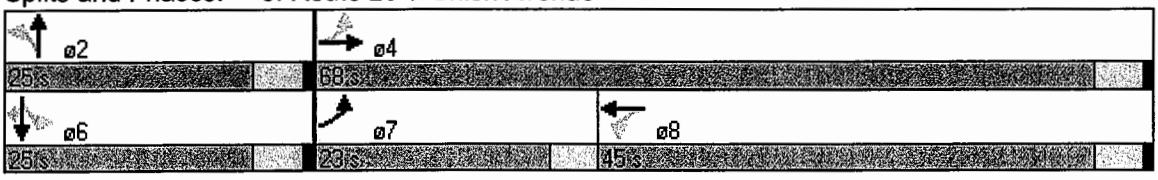
Intersection Summary			
HCM Average Control Delay	54.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	92.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	312	683	96	739	121	84	127	89	413
Lane Group Flow (vph)	332	772	108	881	155	250	0	230	439
Turn Type	pm+pt		Perm		Perm		Perm		Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phases	7	4	8	8	2	2	6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	23.0	68.0	45.0	45.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	24.7%	73.1%	48.4%	48.4%	26.9%	26.9%	26.9%	26.9%	26.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
v/c Ratio	0.82	0.56	0.37	1.07	0.85	0.56		1.31	0.66
Control Delay	39.3	9.2	22.0	77.4	72.8	28.7		207.3	9.6
Queue Delay	0.0	0.7	0.0	0.0	2.9	0.0		0.0	0.1
Total Delay	39.3	9.9	22.0	77.4	75.7	28.7		207.3	9.7
Queue Length 50th (ft)	135	198	41	~583	88	95		~177	13
Queue Length 95th (ft)	#272	286	85	#803	#160	140		#322	103
Internal Link Dist (ft)		589		958		945		634	
Turn Bay Length (ft)									
Base Capacity (vph)	415	1384	293	827	183	445		175	670
Starvation Cap Reductn	0	285	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	6	0		0	14
Storage Cap Reductn	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.80	0.70	0.37	1.07	0.88	0.56		1.31	0.67

Intersection Summary

Cycle Length: 93
Actuated Cycle Length: 92.3
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Route 20 & Union Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	14	14	10	12	12	12	12	12	10	10	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1668	2010		1685	1855		1805	1728			1711	1546
Flt Permitted	0.09	1.00		0.36	1.00		0.41	1.00			0.44	1.00
Satd. Flow (perm)	156	2010		634	1855		778	1728			769	1546
Volume (vph)	312	727	42	96	764	47	121	84	111	135	89	413
Peak-hour factor, PHF	0.94	0.94	0.94	0.89	0.89	0.89	0.78	0.78	0.78	0.94	0.94	0.94
Adj. Flow (vph)	332	773	45	108	858	53	155	108	142	144	95	439
RTOR Reduction (vph)	0	2	0	0	2	0	0	51	0	0	0	314
Lane Group Flow (vph)	332	816	0	108	909	0	155	199	0	0	239	125
Heavy Vehicles (%)	1%	0%	0%	0%	1%	10%	0%	0%	1%	1%	0%	1%
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	62.2	62.2		40.0	40.0		20.0	20.0			20.0	20.0
Effective Green, g (s)	63.2	63.2		41.0	41.0		21.0	21.0			21.0	21.0
Actuated g/C Ratio	0.69	0.69		0.44	0.44		0.23	0.23			0.23	0.23
Clearance Time (s)	4.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	405	1378		282	825		177	394			175	352
v/s Ratio Prot	c0.16	0.41			c0.49			0.12				
v/s Ratio Perm	0.40			0.17			0.20				c0.31	0.08
v/c Ratio	0.82	0.59		0.38	1.10		0.88	0.51			1.37	0.35
Uniform Delay, d1	37.1	7.7		17.1	25.6		34.3	31.1			35.6	29.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	12.2	0.7		0.9	62.9		41.2	4.6			196.7	2.8
Delay (s)	49.3	8.4		18.0	88.5		75.6	35.6			232.3	32.7
Level of Service	D	A		B	F		E	D			F	C
Approach Delay (s)		20.2			81.0			50.9			103.1	
Approach LOS		C			F			D			F	

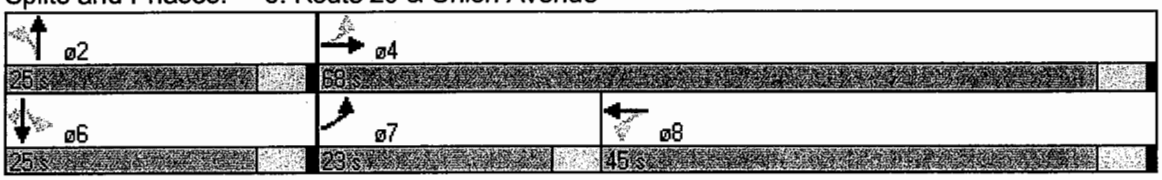
Intersection Summary			
HCM Average Control Delay	60.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	92.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	97.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

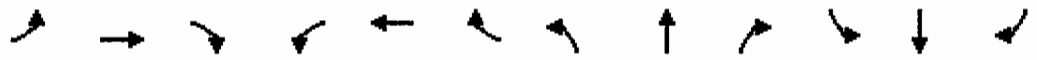
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	312	727	96	764	121	84	135	89	413
Lane Group Flow (vph)	332	818	108	911	155	250	0	239	439
Turn Type	pm+pt		Perm		Perm		Perm		Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phases	7	4	8	8	2	2	6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	23.0	68.0	45.0	45.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	24.7%	73.1%	48.4%	48.4%	26.9%	26.9%	26.9%	26.9%	26.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
v/c Ratio	0.82	0.59	0.38	1.10	0.88	0.56		1.38	0.66
Control Delay	39.5	9.8	22.6	89.7	80.5	28.7		233.6	9.9
Queue Delay	0.0	0.8	0.0	0.0	5.0	0.0		0.0	0.2
Total Delay	39.5	10.5	22.6	89.7	85.5	28.7		233.6	10.1
Queue Length 50th (ft)	135	218	42	~621	89	95		~189	15
Queue Length 95th (ft)	#272	316	87	#842	#164	140		#335	107
Internal Link Dist (ft)		589		958		945		634	
Turn Bay Length (ft)									
Base Capacity (vph)	415	1385	281	827	176	445		173	666
Starvation Cap Reductn	0	273	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	7	0		0	17
Storage Cap Reductn	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.80	0.74	0.38	1.10	0.92	0.56		1.38	0.68

Intersection Summary

Cycle Length: 93
Actuated Cycle Length: 92.2
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Route 20 & Union Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	14	14	10	12	12	12	12	12	10	10	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1668	2010		1685	1855		1805	1728			1711	1546
Flt Permitted	0.10	1.00		0.32	1.00		0.45	1.00			0.49	1.00
Satd. Flow (perm)	176	2010		575	1855		859	1728			856	1546
Volume (vph)	312	727	42	96	764	47	121	84	111	135	89	413
Peak-hour factor, PHF	0.94	0.94	0.94	0.89	0.89	0.89	0.78	0.78	0.78	0.94	0.94	0.94
Adj. Flow (vph)	332	773	45	108	858	53	155	108	142	144	95	439
RTOR Reduction (vph)	0	2	0	0	3	0	0	59	0	0	0	257
Lane Group Flow (vph)	332	816	0	108	908	0	155	191	0	0	239	182
Heavy Vehicles (%)	1%	0%	0%	0%	1%	10%	0%	0%	1%	1%	0%	1%
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	51.0	51.0		35.0	35.0		19.0	19.0			19.0	19.0
Effective Green, g (s)	52.0	52.0		36.0	36.0		20.0	20.0			20.0	20.0
Actuated g/C Ratio	0.65	0.65		0.45	0.45		0.25	0.25			0.25	0.25
Clearance Time (s)	4.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	338	1307		259	835		215	432			214	387
v/s Ratio Prot	c0.15	0.41			c0.49			0.11				
v/s Ratio Perm	0.49			0.19			0.18				c0.28	0.12
v/c Ratio	0.98	0.62		0.42	1.09		0.72	0.44			1.12	0.47
Uniform Delay, d1	36.1	8.2		14.9	22.0		27.4	25.3			30.0	25.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	43.9	0.9		1.1	57.7		18.8	3.3			96.4	4.0
Delay (s)	80.0	9.2		16.0	79.7		46.3	28.5			126.4	29.5
Level of Service	E	A		B	E		D	C			F	C
Approach Delay (s)		29.6			73.0			35.3			63.7	
Approach LOS		C			E			D			E	

Intersection Summary			
HCM Average Control Delay	51.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	97.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	312	727	96	764	121	84	135	89	413
Lane Group Flow (vph)	332	818	108	911	155	250	0	239	439
Turn Type	pm+pt		Perm		Perm		Perm		Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phases	7	4	8	8	2	2	6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	16.0	56.0	40.0	40.0	24.0	24.0	24.0	24.0	24.0
Total Split (%)	20.0%	70.0%	50.0%	50.0%	30.0%	30.0%	30.0%	30.0%	30.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
v/c Ratio	0.98	0.62	0.42	1.09	0.72	0.51		1.12	0.68
Control Delay	67.3	10.8	21.2	81.5	49.0	21.5		128.6	12.7
Queue Delay	0.0	0.4	0.0	0.5	0.5	0.0		0.0	0.1
Total Delay	67.3	11.3	21.2	82.1	49.5	21.5		128.6	12.9
Queue Length 50th (ft)	117	209	35	~520	71	71		~139	38
Queue Length 95th (ft)	#283	315	80	#733	#127	113		#277	137
Internal Link Dist (ft)		589		958		945		634	
Turn Bay Length (ft)									
Base Capacity (vph)	338	1309	259	838	215	492		214	644
Starvation Cap Reductn	0	150	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	1	4	0		0	10
Storage Cap Reductn	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.98	0.71	0.42	1.09	0.73	0.51		1.12	0.69

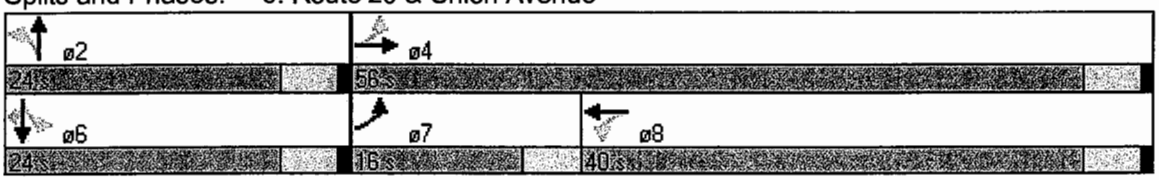
Intersection Summary

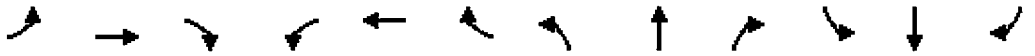
Cycle Length: 80
Actuated Cycle Length: 80
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

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

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

Splits and Phases: 6: Route 20 & Union Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	14	14	10	12	12	12	12	12	10	10	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1652	1993		1685	1877		1805	1727			1713	1546
Flt Permitted	0.11	1.00		0.44	1.00		0.50	1.00			0.60	1.00
Satd. Flow (perm)	187	1993		781	1877		941	1727			1050	1546
Volume (vph)	213	480	60	143	570	50	117	89	119	87	87	343
Peak-hour factor, PHF	0.91	0.91	0.91	0.93	0.93	0.93	0.93	0.93	0.93	0.79	0.79	0.79
Adj. Flow (vph)	234	527	66	154	613	54	126	96	128	110	110	434
RTOR Reduction (vph)	0	6	0	0	4	0	0	49	0	0	0	319
Lane Group Flow (vph)	234	587	0	154	663	0	126	175	0	0	220	115
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	0%	1%	2%	0%	1%
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	50.9	50.9		32.2	32.2		20.5	20.5			20.5	20.5
Effective Green, g (s)	51.9	51.9		33.2	33.2		21.5	21.5			21.5	21.5
Actuated g/C Ratio	0.64	0.64		0.41	0.41		0.26	0.26			0.26	0.26
Clearance Time (s)	4.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	384	1271		319	766		249	456			277	408
v/s Ratio Prot	c0.11	0.29			c0.35			0.10				
v/s Ratio Perm	0.28			0.20			0.13				c0.21	0.07
v/c Ratio	0.61	0.46		0.48	0.87		0.51	0.38			0.79	0.28
Uniform Delay, d1	16.3	7.6		17.8	22.1		25.4	24.5			27.9	23.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	2.7	0.3		1.2	10.1		7.2	2.4			20.5	1.7
Delay (s)	19.1	7.8		18.9	32.2		32.6	27.0			48.4	25.5
Level of Service	B	A		B	C		C	C			D	C
Approach Delay (s)		11.0			29.7			29.0			33.2	
Approach LOS		B			C			C			C	

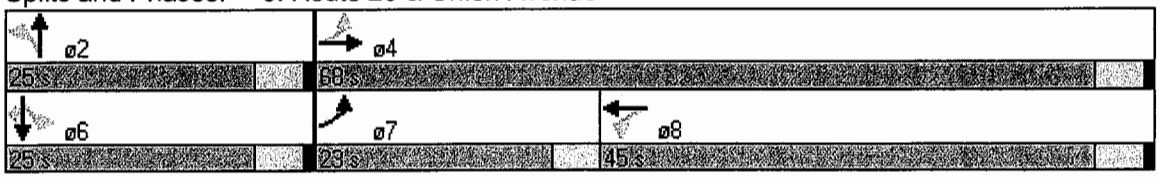
Intersection Summary			
HCM Average Control Delay	24.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	81.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

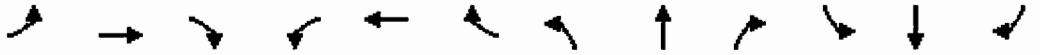
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	213	480	143	570	117	89	87	87	343
Lane Group Flow (vph)	234	593	154	667	126	224	0	220	434
Turn Type	pm+pt		Perm		Perm		Perm		Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phases	7	4	8	8	2	2	6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	23.0	68.0	45.0	45.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	24.7%	73.1%	48.4%	48.4%	26.9%	26.9%	26.9%	26.9%	26.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
v/c Ratio	0.58	0.47	0.49	0.87	0.57	0.44		0.92	0.60
Control Delay	16.7	8.3	24.3	36.0	42.8	23.4		78.5	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0		0.0	0.0
Total Delay	16.7	8.3	24.3	36.0	42.9	23.4		78.5	7.1
Queue Length 50th (ft)	45	130	58	311	62	72		~124	0
Queue Length 95th (ft)	120	191	120	#488	#151	152		#238	37
Internal Link Dist (ft)		589		958		945		634	
Turn Bay Length (ft)									
Base Capacity (vph)	457	1376	361	870	222	505		238	727
Starvation Cap Reductn	0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	2	0		0	4
Storage Cap Reductn	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.51	0.43	0.43	0.77	0.57	0.44		0.92	0.60

Intersection Summary

Cycle Length: 93
Actuated Cycle Length: 81.8
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Route 20 & Union Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	14	14	10	12	12	12	12	12	10	10	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1652	1997		1685	1877		1805	1727			1709	1546
Flt Permitted	0.10	1.00		0.41	1.00		0.45	1.00			0.54	1.00
Satd. Flow (perm)	167	1997		729	1877		850	1727			948	1546
Volume (vph)	224	547	60	143	647	57	117	89	119	98	87	360
Peak-hour factor, PHF	0.91	0.91	0.91	0.93	0.93	0.93	0.93	0.93	0.93	0.79	0.79	0.79
Adj. Flow (vph)	246	601	66	154	696	61	126	96	128	124	110	456
RTOR Reduction (vph)	0	5	0	0	3	0	0	51	0	0	0	334
Lane Group Flow (vph)	246	662	0	154	754	0	126	173	0	0	234	122
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	0%	1%	2%	0%	1%
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	56.3	56.3		36.6	36.6		20.3	20.3			20.3	20.3
Effective Green, g (s)	57.3	57.3		37.6	37.6		21.3	21.3			21.3	21.3
Actuated g/C Ratio	0.66	0.66		0.43	0.43		0.25	0.25			0.25	0.25
Clearance Time (s)	4.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	380	1321		317	815		209	425			233	380
v/s Ratio Prot	c0.12	0.33			c0.40			0.10				
v/s Ratio Perm	0.31			0.21			0.15				c0.25	0.08
v/c Ratio	0.65	0.50		0.49	0.92		0.60	0.41			1.00	0.32
Uniform Delay, d1	20.3	7.4		17.6	23.2		28.9	27.4			32.6	26.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	3.8	0.3		1.2	16.0		12.2	2.9			60.1	2.2
Delay (s)	24.1	7.7		18.7	39.2		41.1	30.3			92.7	29.0
Level of Service	C	A		B	D		D	C			F	C
Approach Delay (s)		12.1			35.7			34.2			50.6	
Approach LOS		B			D			C			D	

Intersection Summary			
HCM Average Control Delay	31.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	86.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

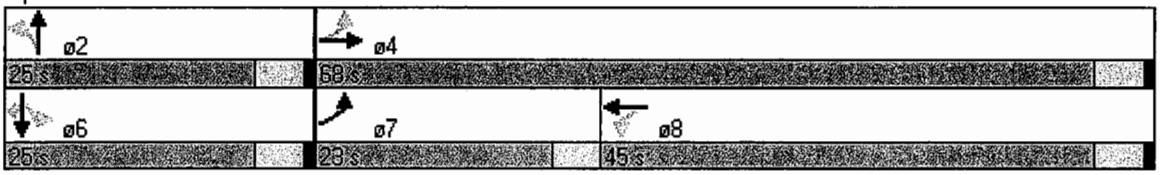
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	224	547	143	647	117	89	98	87	360
Lane Group Flow (vph)	246	667	154	757	126	224	0	234	456
Turn Type	pm+pt		Perm		Perm		Perm		Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phases	7	4	8	8	2	2	6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	23.0	68.0	45.0	45.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	24.7%	73.1%	48.4%	48.4%	26.9%	26.9%	26.9%	26.9%	26.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
v/c Ratio	0.66	0.50	0.49	0.93	0.65	0.47		1.08	0.64
Control Delay	26.4	8.5	24.6	42.7	50.5	24.9		119.5	8.3
Queue Delay	0.0	0.4	0.0	0.0	0.4	0.0		0.0	0.1
Total Delay	26.4	9.0	24.6	42.7	50.9	24.9		119.5	8.4
Queue Length 50th (ft)	80	156	61	394	68	78		~163	6
Queue Length 95th (ft)	160	226	124	#643	#158	152		#258	44
Internal Link Dist (ft)		589		958		945		634	
Turn Bay Length (ft)									
Base Capacity (vph)	417	1378	333	860	194	474		217	714
Starvation Cap Reductn	0	298	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	4	0		0	8
Storage Cap Reductn	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.59	0.62	0.46	0.88	0.66	0.47		1.08	0.65

Intersection Summary

Cycle Length: 93
Actuated Cycle Length: 86.8
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

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

Splits and Phases: 6: Route 20 & Union Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	14	14	10	12	12	12	12	12	10	10	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1652	1999		1685	1877		1805	1727			1706	1546
Flt Permitted	0.09	1.00		0.39	1.00		0.40	1.00			0.51	1.00
Satd. Flow (perm)	154	1999		684	1877		761	1727			897	1546
Volume (vph)	224	610	60	143	709	62	117	89	119	110	87	360
Peak-hour factor, PHF	0.91	0.91	0.91	0.93	0.93	0.93	0.93	0.93	0.93	0.79	0.79	0.79
Adj. Flow (vph)	246	670	66	154	762	67	126	96	128	139	110	456
RTOR Reduction (vph)	0	4	0	0	3	0	0	51	0	0	0	327
Lane Group Flow (vph)	246	732	0	154	826	0	126	173	0	0	249	129
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	0%	1%	2%	0%	1%
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	60.1	60.1		40.1	40.1		20.0	20.0			20.0	20.0
Effective Green, g (s)	61.1	61.1		41.1	41.1		21.0	21.0			21.0	21.0
Actuated g/C Ratio	0.68	0.68		0.46	0.46		0.23	0.23			0.23	0.23
Clearance Time (s)	4.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	370	1356		312	856		177	403			209	360
v/s Ratio Prot	c0.12	0.37			c0.44			0.10				
v/s Ratio Perm	0.33			0.23			0.17				c0.28	0.08
v/c Ratio	0.66	0.54		0.49	0.96		0.71	0.43			1.19	0.36
Uniform Delay, d1	22.9	7.4		17.2	23.8		31.8	29.4			34.6	28.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	4.5	0.4		1.2	22.3		21.5	3.3			123.5	2.8
Delay (s)	27.4	7.8		18.4	46.1		53.3	32.7			158.1	31.7
Level of Service	C	A		B	D		D	C			F	C
Approach Delay (s)		12.7			41.8			40.1			76.3	
Approach LOS		B			D			D			E	

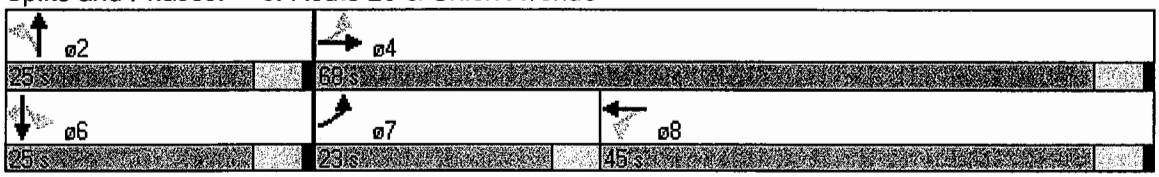
Intersection Summary			
HCM Average Control Delay	40.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	90.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

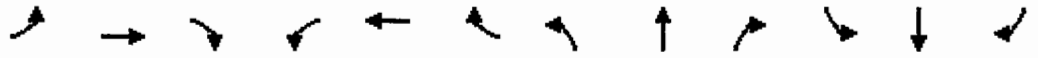
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	224	610	143	709	117	89	110	87	360
Lane Group Flow (vph)	246	736	154	829	126	224	0	249	456
Turn Type	pm+pt		Perm		Perm		Perm		Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phases	7	4	8	8	2	2	6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	23.0	68.0	45.0	45.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	24.7%	73.1%	48.4%	48.4%	26.9%	26.9%	26.9%	26.9%	26.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
v/c Ratio	0.66	0.54	0.49	0.97	0.73	0.49		1.22	0.66
Control Delay	26.3	9.0	25.0	49.5	59.8	25.5		169.7	9.7
Queue Delay	0.0	0.5	0.0	0.0	1.1	0.0		0.0	0.1
Total Delay	26.3	9.5	25.0	49.5	60.9	25.5		169.7	9.8
Queue Length 50th (ft)	80	183	62	456	68	78		~181	14
Queue Length 95th (ft)	160	264	128	#741	#166	152		#280	53
Internal Link Dist (ft)		589		958		945		634	
Turn Bay Length (ft)									
Base Capacity (vph)	408	1380	312	858	172	454		204	687
Starvation Cap Reductn	0	280	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	5	0		0	13
Storage Cap Reductn	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.60	0.67	0.49	0.97	0.75	0.49		1.22	0.68

Intersection Summary

Cycle Length: 93
Actuated Cycle Length: 90.1
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Route 20 & Union Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	14	14	10	12	12	12	12	12	10	10	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1652	1999		1685	1877		1805	1727			1706	1546
Flt Permitted	0.12	1.00		0.36	1.00		0.47	1.00			0.59	1.00
Satd. Flow (perm)	211	1999		630	1877		898	1727			1035	1546
Volume (vph)	224	610	60	143	709	62	117	89	119	110	87	360
Peak-hour factor, PHF	0.91	0.91	0.91	0.93	0.93	0.93	0.93	0.93	0.93	0.79	0.79	0.79
Adj. Flow (vph)	246	670	66	154	762	67	126	96	128	139	110	456
RTOR Reduction (vph)	0	5	0	0	5	0	0	74	0	0	0	228
Lane Group Flow (vph)	246	731	0	154	824	0	126	150	0	0	249	228
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	0%	1%	2%	0%	1%
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	39.0	39.0		28.0	28.0		16.0	16.0			16.0	16.0
Effective Green, g (s)	40.0	40.0		29.0	29.0		17.0	17.0			17.0	17.0
Actuated g/C Ratio	0.62	0.62		0.45	0.45		0.26	0.26			0.26	0.26
Clearance Time (s)	4.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	285	1230		281	837		235	452			271	404
v/s Ratio Prot	c0.09	0.37			c0.44			0.09				
v/s Ratio Perm	0.44			0.24			0.14				c0.24	0.15
v/c Ratio	0.86	0.59		0.55	0.98		0.54	0.33			0.92	0.56
Uniform Delay, d1	15.7	7.6		13.2	17.8		20.6	19.4			23.3	20.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	22.6	0.8		2.2	27.1		8.5	2.0			37.2	5.6
Delay (s)	38.3	8.4		15.4	44.9		29.1	21.4			60.6	26.4
Level of Service	D	A		B	D		C	C			E	C
Approach Delay (s)		15.9			40.2			24.2			38.5	
Approach LOS		B			D			C			D	

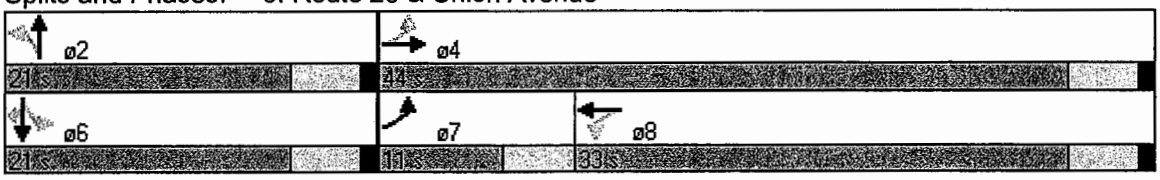
Intersection Summary			
HCM Average Control Delay	30.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	224	610	143	709	117	89	110	87	360
Lane Group Flow (vph)	246	736	154	829	126	224	0	249	456
Turn Type	pm+pt		Perm		Perm		Perm		Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phases	7	4	8	8	2	2	6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	11.0	44.0	33.0	33.0	21.0	21.0	21.0	21.0	21.0
Total Split (%)	16.9%	67.7%	50.8%	50.8%	32.3%	32.3%	32.3%	32.3%	32.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
v/c Ratio	0.86	0.60	0.55	0.98	0.54	0.43		0.92	0.72
Control Delay	42.7	9.9	22.3	48.0	30.4	14.0		65.3	15.1
Queue Delay	0.0	0.0	0.0	1.5	0.0	0.0		0.0	0.1
Total Delay	42.7	9.9	22.3	49.5	30.5	14.0		65.3	15.1
Queue Length 50th (ft)	48	150	43	306	43	39		96	47
Queue Length 95th (ft)	#168	240	102	#548	#95	93		#181	98
Internal Link Dist (ft)		589		958		945		634	
Turn Bay Length (ft)									
Base Capacity (vph)	285	1236	281	842	235	526		271	633
Starvation Cap Reductn	0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	6	1	0		0	4
Storage Cap Reductn	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.86	0.60	0.55	0.99	0.54	0.43		0.92	0.72

Intersection Summary

Cycle Length: 65
Actuated Cycle Length: 65
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Route 20 & Union Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	14	14	10	12	12	12	12	12	10	10	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.92			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1668	1981		1652	1859		1805	1737			1731	1561
Flt Permitted	0.16	1.00		0.44	1.00		0.65	1.00			0.84	1.00
Satd. Flow (perm)	288	1981		770	1859		1227	1737			1486	1561
Volume (vph)	159	518	52	144	450	41	121	87	92	50	91	249
Peak-hour factor, PHF	0.97	0.97	0.97	0.89	0.89	0.89	0.89	0.89	0.89	0.91	0.91	0.91
Adj. Flow (vph)	164	534	54	162	506	46	136	98	103	55	100	274
RTOR Reduction (vph)	0	6	0	0	4	0	0	36	0	0	0	185
Lane Group Flow (vph)	164	582	0	162	548	0	136	165	0	0	155	89
Heavy Vehicles (%)	1%	1%	0%	2%	1%	0%	0%	2%	0%	0%	1%	0%
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	38.2	38.2		25.1	25.1		21.6	21.6			21.6	21.6
Effective Green, g (s)	39.2	39.2		26.1	26.1		22.6	22.6			22.6	22.6
Actuated g/C Ratio	0.56	0.56		0.37	0.37		0.32	0.32			0.32	0.32
Clearance Time (s)	4.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	342	1113		288	695		397	562			481	505
v/s Ratio Prot	0.06	c0.29			c0.29			0.10				
v/s Ratio Perm	0.21			0.21			c0.11				0.10	0.06
v/c Ratio	0.48	0.52		0.56	0.79		0.34	0.29			0.32	0.18
Uniform Delay, d1	10.8	9.5		17.3	19.4		17.9	17.6			17.8	16.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	1.1	0.4		2.5	5.9		2.3	1.3			1.8	0.8
Delay (s)	11.9	9.9		19.8	25.3		20.3	19.0			19.6	17.7
Level of Service	B	A		B	C		C	B			B	B
Approach Delay (s)		10.4			24.1			19.5			18.4	
Approach LOS		B			C			B			B	

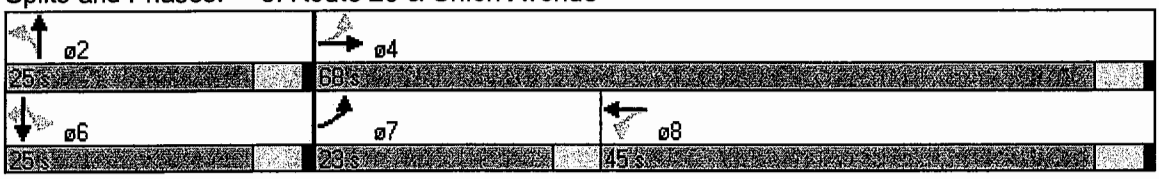
Intersection Summary			
HCM Average Control Delay	17.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	69.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

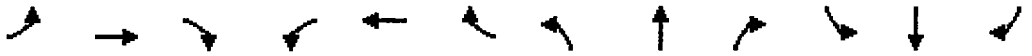
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	159	518	144	450	121	87	50	91	249
Lane Group Flow (vph)	164	588	162	552	136	201	0	155	274
Turn Type	pm+pt		Perm		Perm		Perm		Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phases	7	4	8	8	2	2	6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	23.0	68.0	45.0	45.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	24.7%	73.1%	48.4%	48.4%	26.9%	26.9%	26.9%	26.9%	26.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
v/c Ratio	0.40	0.54	0.56	0.79	0.38	0.33		0.36	0.40
Control Delay	9.3	10.1	26.3	28.1	29.7	20.3		28.2	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	9.3	10.1	26.3	28.1	29.7	20.3		28.2	5.8
Queue Length 50th (ft)	29	130	54	205	48	50		54	0
Queue Length 95th (ft)	51	190	122	349	129	137		142	62
Internal Link Dist (ft)		589		958		945		634	
Turn Bay Length (ft)									
Base Capacity (vph)	514	1367	382	925	354	602		427	693
Starvation Cap Reductn	0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.32	0.43	0.42	0.60	0.38	0.33		0.36	0.40

Intersection Summary

Cycle Length: 93
Actuated Cycle Length: 69.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Route 20 & Union Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	14	14	10	12	12	12	12	12	10	10	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.92			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1668	1983		1652	1859		1805	1737			1729	1561
Flt Permitted	0.13	1.00		0.41	1.00		0.62	1.00			0.82	1.00
Satd. Flow (perm)	223	1983		721	1859		1185	1737			1452	1561
Volume (vph)	167	583	52	144	509	46	121	87	92	57	91	262
Peak-hour factor, PHF	0.97	0.97	0.97	0.89	0.89	0.89	0.89	0.89	0.89	0.91	0.91	0.91
Adj. Flow (vph)	172	601	54	162	572	52	136	98	103	63	100	288
RTOR Reduction (vph)	0	5	0	0	4	0	0	37	0	0	0	199
Lane Group Flow (vph)	172	650	0	162	620	0	136	164	0	0	163	89
Heavy Vehicles (%)	1%	1%	0%	2%	1%	0%	0%	2%	0%	0%	1%	0%
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	41.6	41.6		28.2	28.2		21.6	21.6			21.6	21.6
Effective Green, g (s)	42.6	42.6		29.2	29.2		22.6	22.6			22.6	22.6
Actuated g/C Ratio	0.58	0.58		0.40	0.40		0.31	0.31			0.31	0.31
Clearance Time (s)	4.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	315	1154		288	742		366	536			448	482
v/s Ratio Prot	0.07	c0.33			c0.33			0.09				
v/s Ratio Perm	0.25			0.22			c0.11				0.11	0.06
v/c Ratio	0.55	0.56		0.56	0.84		0.37	0.31			0.36	0.18
Uniform Delay, d1	12.0	9.5		17.0	19.8		19.8	19.3			19.7	18.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	1.9	0.6		2.5	8.1		2.9	1.5			2.3	0.8
Delay (s)	13.9	10.2		19.6	28.0		22.6	20.8			22.0	19.4
Level of Service	B	B		B	C		C	C			C	B
Approach Delay (s)		10.9			26.2			21.5			20.3	
Approach LOS		B			C			C			C	

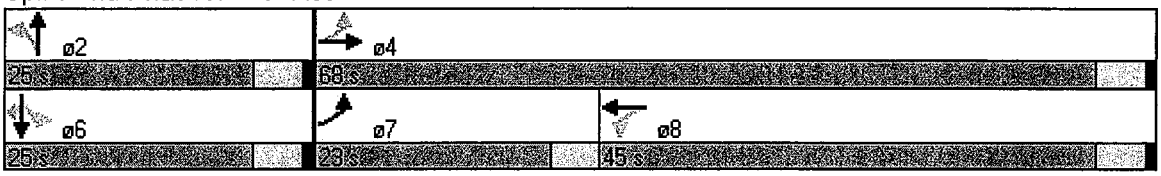
Intersection Summary			
HCM Average Control Delay	19.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	73.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	167	583	144	509	121	87	57	91	262
Lane Group Flow (vph)	172	655	162	624	136	201	0	163	288
Turn Type	pm+pt		Perm		Perm		Perm		Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phases	7	4	8	8	2	2	6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	23.0	68.0	45.0	45.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	24.7%	73.1%	48.4%	48.4%	26.9%	26.9%	26.9%	26.9%	26.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
v/c Ratio	0.46	0.58	0.56	0.83	0.42	0.35		0.42	0.42
Control Delay	10.3	10.5	26.1	30.4	32.2	21.6		31.2	6.0
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	10.3	10.6	26.1	30.4	32.2	21.6		31.2	6.0
Queue Length 50th (ft)	31	153	56	249	53	55		64	0
Queue Length 95th (ft)	53	224	126	413	130	137		151	63
Internal Link Dist (ft)		589		958		945		634	
Turn Bay Length (ft)									
Base Capacity (vph)	478	1369	357	922	327	576		385	683
Starvation Cap Reductn	0	148	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.36	0.54	0.45	0.68	0.42	0.35		0.42	0.42

Intersection Summary

Cycle Length: 93
Actuated Cycle Length: 72.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Route 20 & Union Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	14	14	10	12	12	12	12	12	10	10	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.92			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1668	1984		1652	1859		1805	1737			1728	1561
Flt Permitted	0.12	1.00		0.39	1.00		0.62	1.00			0.82	1.00
Satd. Flow (perm)	213	1984		671	1859		1169	1737			1440	1561
Volume (vph)	167	613	52	144	526	47	121	87	92	60	91	262
Peak-hour factor, PHF	0.97	0.97	0.97	0.89	0.89	0.89	0.89	0.89	0.89	0.91	0.91	0.91
Adj. Flow (vph)	172	632	54	162	591	53	136	98	103	66	100	288
RTOR Reduction (vph)	0	5	0	0	4	0	0	37	0	0	0	201
Lane Group Flow (vph)	172	681	0	162	640	0	136	164	0	0	166	87
Heavy Vehicles (%)	1%	1%	0%	2%	1%	0%	0%	2%	0%	0%	1%	0%
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	42.8	42.8		29.4	29.4		21.5	21.5			21.5	21.5
Effective Green, g (s)	43.8	43.8		30.4	30.4		22.5	22.5			22.5	22.5
Actuated g/C Ratio	0.59	0.59		0.41	0.41		0.30	0.30			0.30	0.30
Clearance Time (s)	4.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	310	1170		275	761		354	526			436	473
v/s Ratio Prot	0.07	c0.34			c0.34			0.09				
v/s Ratio Perm	0.26			0.24			c0.12				0.12	0.06
v/c Ratio	0.55	0.58		0.59	0.84		0.38	0.31			0.38	0.18
Uniform Delay, d1	12.2	9.5		17.1	19.8		20.4	19.9			20.4	19.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	2.1	0.7		3.2	8.4		3.1	1.5			2.5	0.9
Delay (s)	14.4	10.3		20.3	28.1		23.6	21.5			22.9	20.0
Level of Service	B	B		C	C		C	C			C	B
Approach Delay (s)		11.1			26.6			22.3			21.1	
Approach LOS		B			C			C			C	

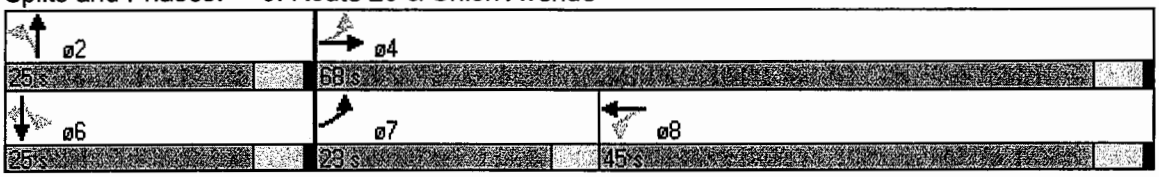
Intersection Summary			
HCM Average Control Delay	19.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	74.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

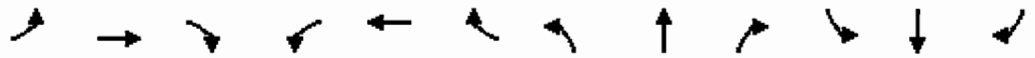
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	167	613	144	526	121	87	60	91	262
Lane Group Flow (vph)	172	686	162	644	136	201	0	166	288
Turn Type	pm+pt		Perm		Perm		Perm		Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phases	7	4	8	8	2	2	6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	23.0	68.0	45.0	45.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	24.7%	73.1%	48.4%	48.4%	26.9%	26.9%	26.9%	26.9%	26.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
v/c Ratio	0.48	0.59	0.56	0.84	0.43	0.35		0.45	0.43
Control Delay	11.2	10.7	26.3	30.7	33.1	21.9		32.3	6.1
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	11.2	10.9	26.3	30.7	33.1	21.9		32.3	6.1
Queue Length 50th (ft)	31	164	57	263	56	58		68	0
Queue Length 95th (ft)	58	240	127	431	130	136		153	63
Internal Link Dist (ft)		589		958		945		634	
Turn Bay Length (ft)									
Base Capacity (vph)	467	1369	347	921	318	567		371	677
Starvation Cap Reductn	0	163	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.37	0.57	0.47	0.70	0.43	0.35		0.45	0.43

Intersection Summary

Cycle Length: 93
Actuated Cycle Length: 74
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Route 20 & Union Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	14	14	10	12	12	12	12	12	10	10	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.92			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1668	1984		1652	1859		1805	1737			1728	1561
Flt Permitted	0.15	1.00		0.34	1.00		0.65	1.00			0.82	1.00
Satd. Flow (perm)	270	1984		583	1859		1239	1737			1446	1561
Volume (vph)	167	613	52	144	526	47	121	87	92	60	91	262
Peak-hour factor, PHF	0.97	0.97	0.97	0.89	0.89	0.89	0.89	0.89	0.89	0.91	0.91	0.91
Adj. Flow (vph)	172	632	54	162	591	53	136	98	103	66	100	288
RTOR Reduction (vph)	0	6	0	0	6	0	0	61	0	0	0	195
Lane Group Flow (vph)	172	680	0	162	638	0	136	140	0	0	166	93
Heavy Vehicles (%)	1%	1%	0%	2%	1%	0%	0%	2%	0%	0%	1%	0%
Turn Type	pm+pt			Perm			Perm			Perm		Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	29.5	29.5		21.0	21.0		17.4	17.4			17.4	17.4
Effective Green, g (s)	30.5	30.5		22.0	22.0		18.4	18.4			18.4	18.4
Actuated g/C Ratio	0.54	0.54		0.39	0.39		0.32	0.32			0.32	0.32
Clearance Time (s)	4.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	255	1063		225	719		401	562			468	505
v/s Ratio Prot	0.05	c0.34			c0.34			0.08				
v/s Ratio Perm	0.31			0.28			0.11				c0.11	0.06
v/c Ratio	0.67	0.64		0.72	0.89		0.34	0.25			0.35	0.18
Uniform Delay, d1	10.8	9.3		14.8	16.3		14.6	14.2			14.7	13.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	6.9	1.3		10.8	12.8		2.3	1.1			2.1	0.8
Delay (s)	17.7	10.6		25.6	29.1		16.9	15.2			16.8	14.7
Level of Service	B	B		C	C		B	B			B	B
Approach Delay (s)		12.1			28.4			15.9			15.4	
Approach LOS		B			C			B			B	

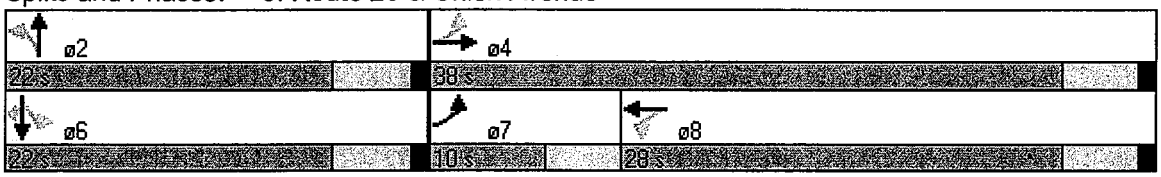
Intersection Summary			
HCM Average Control Delay	18.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	56.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	167	613	144	526	121	87	60	91	262
Lane Group Flow (vph)	172	686	162	644	136	201	0	166	288
Turn Type	pm+pt		Perm		Perm		Perm		Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phases	7	4	8	8	2	2	6	6	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Total Split (s)	10.0	38.0	28.0	28.0	22.0	22.0	22.0	22.0	22.0
Total Split (%)	16.7%	63.3%	46.7%	46.7%	36.7%	36.7%	36.7%	36.7%	36.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	Max	Max	Max	Max	Max
v/c Ratio	0.63	0.65	0.64	0.88	0.34	0.32		0.35	0.41
Control Delay	19.0	12.4	29.5	31.9	19.7	11.3		19.3	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	19.0	12.4	29.5	31.9	19.7	11.3		19.3	4.5
Queue Length 50th (ft)	27	142	45	202	38	30		47	0
Queue Length 95th (ft)	#79	233	#124	#379	80	73		94	46
Internal Link Dist (ft)		589		958		945		634	
Turn Bay Length (ft)									
Base Capacity (vph)	275	1129	267	779	400	631		472	706
Starvation Cap Reductn	0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.63	0.61	0.61	0.83	0.34	0.32		0.35	0.41

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 56.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Route 20 & Union Avenue



Route 20 at Nobscot Road

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	15	11	12	12	13	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1990	1501	1687	1810	1776	1641
Flt Permitted	1.00	1.00	0.10	1.00	0.95	1.00
Satd. Flow (perm)	1990	1501	172	1810	1776	1641
Volume (vph)	827	23	200	757	181	353
Peak-hour factor, PHF	0.95	0.95	0.92	0.92	0.86	0.86
Adj. Flow (vph)	871	24	217	823	210	410
RTOR Reduction (vph)	0	12	0	0	0	117
Lane Group Flow (vph)	871	12	217	823	210	293
Heavy Vehicles (%)	5%	4%	7%	5%	5%	5%
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Actuated Green, G (s)	36.2	36.2	47.2	47.2	16.3	23.3
Effective Green, g (s)	37.2	37.2	48.2	48.2	17.3	24.3
Actuated g/C Ratio	0.51	0.51	0.66	0.66	0.24	0.33
Clearance Time (s)	5.0	5.0	4.0	5.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1007	760	257	1187	418	632
v/s Ratio Prot	0.44		c0.08	0.45	0.12	c0.04
v/s Ratio Perm		0.01	c0.47			0.13
v/c Ratio	0.86	0.02	0.84	0.69	0.50	0.46
Uniform Delay, d1	15.9	9.0	18.4	8.0	24.4	19.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.9	0.0	21.6	1.8	4.3	0.5
Delay (s)	23.8	9.0	40.0	9.8	28.6	20.0
Level of Service	C	A	D	A	C	B
Approach Delay (s)	23.4			16.1	22.9	
Approach LOS	C			B	C	

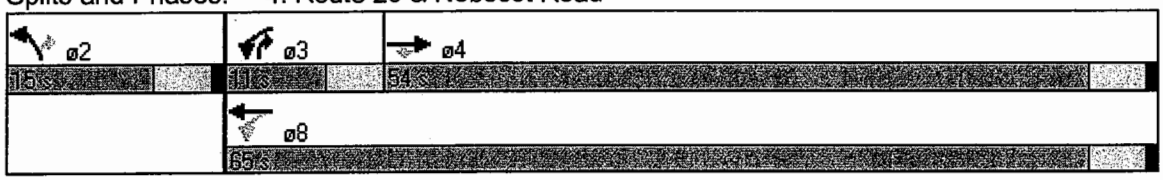
Intersection Summary			
HCM Average Control Delay	20.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	73.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	827	23	200	757	181	353
Lane Group Flow (vph)	871	24	217	823	210	410
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Detector Phases	4	4	3	8	2	3
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	9.0	21.0	9.0	9.0
Total Split (s)	54.0	54.0	11.0	65.0	15.0	11.0
Total Split (%)	67.5%	67.5%	13.8%	81.3%	18.8%	13.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	0.0	1.0	1.0	0.0
Lead/Lag	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	None
v/c Ratio	0.87	0.03	0.67	0.70	0.50	0.55
Control Delay	26.1	3.4	17.6	11.3	32.4	15.0
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	26.1	3.4	17.6	11.6	32.4	15.0
Queue Length 50th (ft)	323	0	33	199	86	80
Queue Length 95th (ft)	480	10	#66	306	166	184
Internal Link Dist (ft)	444			589	1860	
Turn Bay Length (ft)						
Base Capacity (vph)	1158	884	324	1284	418	742
Starvation Cap Reductn	0	0	0	83	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.03	0.67	0.69	0.50	0.55

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 73.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Route 20 & Nobscot Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	15	11	12	12	13	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1990	1501	1687	1810	1776	1641
Flt Permitted	1.00	1.00	0.09	1.00	0.95	1.00
Satd. Flow (perm)	1990	1501	156	1810	1776	1641
Volume (vph)	916	24	213	808	190	390
Peak-hour factor, PHF	0.95	0.95	0.92	0.92	0.86	0.86
Adj. Flow (vph)	964	25	232	878	221	453
RTOR Reduction (vph)	0	12	0	0	0	98
Lane Group Flow (vph)	964	13	232	878	221	355
Heavy Vehicles (%)	5%	4%	7%	5%	5%	5%
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Actuated Green, G (s)	40.6	40.6	51.7	51.7	16.2	23.3
Effective Green, g (s)	41.6	41.6	52.7	52.7	17.2	24.3
Actuated g/C Ratio	0.53	0.53	0.68	0.68	0.22	0.31
Clearance Time (s)	5.0	5.0	4.0	5.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1063	802	245	1224	392	596
v/s Ratio Prot	0.48		c0.09	0.49	0.12	c0.05
v/s Ratio Perm		0.01	c0.55			0.16
v/c Ratio	0.91	0.02	0.95	0.72	0.56	0.59
Uniform Delay, d1	16.4	8.5	23.2	7.9	27.0	22.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.0	0.0	42.6	2.0	5.8	1.6
Delay (s)	27.4	8.5	65.8	10.0	32.8	24.2
Level of Service	C	A	E	A	C	C
Approach Delay (s)	26.9			21.6	27.0	
Approach LOS	C			C	C	

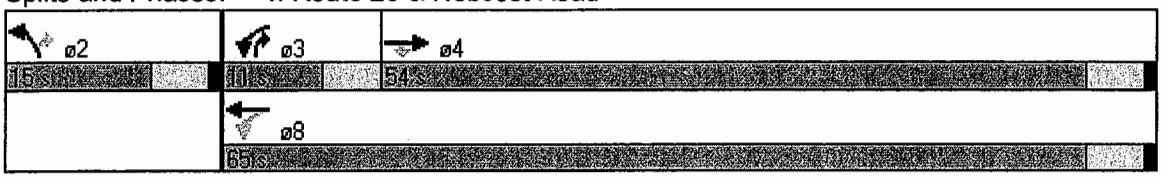
Intersection Summary				
HCM Average Control Delay	24.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	916	24	213	808	190	390
Lane Group Flow (vph)	964	25	232	878	221	453
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Detector Phases	4	4	3	8	2	3
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	9.0	21.0	9.0	9.0
Total Split (s)	54.0	54.0	11.0	65.0	15.0	11.0
Total Split (%)	67.5%	67.5%	13.8%	81.3%	18.8%	13.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	0.0	1.0	1.0	0.0
Lead/Lag	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	None
v/c Ratio	0.91	0.03	0.86	0.72	0.56	0.66
Control Delay	29.8	3.2	43.6	11.7	35.8	21.0
Queue Delay	0.0	0.0	0.0	0.5	0.0	0.0
Total Delay	29.8	3.2	43.6	12.3	35.8	21.1
Queue Length 50th (ft)	390	0	49	225	103	133
Queue Length 95th (ft)	#597	10	#113	349	175	239
Internal Link Dist (ft)	444			589	1860	
Turn Bay Length (ft)						
Base Capacity (vph)	1157	883	270	1284	392	688
Starvation Cap Reductn	0	0	0	124	0	0
Spillback Cap Reductn	2	0	0	0	0	4
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.03	0.86	0.76	0.56	0.66

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 78.1
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Route 20 & Nobscot Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	15	11	12	12	13	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1990	1501	1687	1810	1776	1641
Flt Permitted	1.00	1.00	0.09	1.00	0.95	1.00
Satd. Flow (perm)	1990	1501	154	1810	1776	1641
Volume (vph)	925	24	215	814	190	394
Peak-hour factor, PHF	0.95	0.95	0.92	0.92	0.86	0.86
Adj. Flow (vph)	974	25	234	885	221	458
RTOR Reduction (vph)	0	12	0	0	0	97
Lane Group Flow (vph)	974	13	234	885	221	361
Heavy Vehicles (%)	5%	4%	7%	5%	5%	5%
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Actuated Green, G (s)	41.0	41.0	52.1	52.1	16.2	23.3
Effective Green, g (s)	42.0	42.0	53.1	53.1	17.2	24.3
Actuated g/C Ratio	0.54	0.54	0.68	0.68	0.22	0.31
Clearance Time (s)	5.0	5.0	4.0	5.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1067	805	243	1227	390	593
v/s Ratio Prot	0.49		c0.09	0.49	0.12	c0.06
v/s Ratio Perm		0.01	c0.56			0.17
v/c Ratio	0.91	0.02	0.96	0.72	0.57	0.61
Uniform Delay, d1	16.5	8.5	23.7	7.9	27.2	23.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.7	0.0	47.1	2.1	5.9	1.8
Delay (s)	28.1	8.5	70.8	10.1	33.1	24.7
Level of Service	C	A	E	B	C	C
Approach Delay (s)	27.7			22.8	27.5	
Approach LOS	C			C	C	

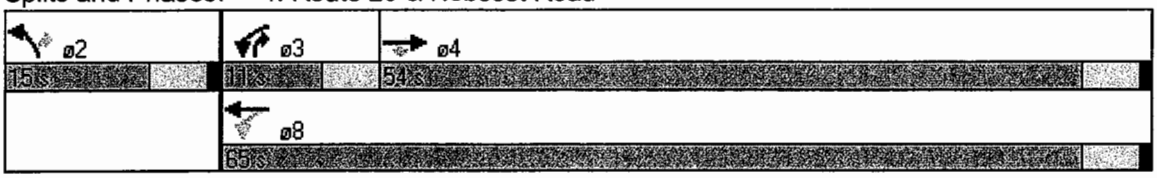
Intersection Summary				
HCM Average Control Delay	25.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	78.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Volume (vph)	925	24	215	814	190	394
Lane Group Flow (vph)	974	25	234	885	221	458
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Detector Phases	4	4	3	8	2	3
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	9.0	21.0	9.0	9.0
Total Split (s)	54.0	54.0	11.0	65.0	15.0	11.0
Total Split (%)	67.5%	67.5%	13.8%	81.3%	18.8%	13.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	0.0	1.0	1.0	0.0
Lead/Lag	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	None
v/c Ratio	0.92	0.03	0.89	0.72	0.57	0.67
Control Delay	30.4	3.2	50.1	11.8	36.1	21.8
Queue Delay	0.0	0.0	0.0	0.6	0.0	0.0
Total Delay	30.5	3.2	50.1	12.4	36.1	21.8
Queue Length 50th (ft)	398	0	55	229	104	140
Queue Length 95th (ft)	#622	10	#194	356	175	245
Internal Link Dist (ft)	444			589	1860	
Turn Bay Length (ft)						
Base Capacity (vph)	1157	883	263	1284	390	683
Starvation Cap Reductn	0	0	0	127	0	0
Spillback Cap Reductn	2	0	0	0	0	5
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.03	0.89	0.76	0.57	0.68

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 78.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Route 20 & Nobscot Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	15	11	12	12	13	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	2069	1487	1770	1863	1811	1706
Flt Permitted	1.00	1.00	0.10	1.00	0.95	1.00
Satd. Flow (perm)	2069	1487	186	1863	1811	1706
Volume (vph)	809	93	325	816	148	242
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.87	0.87
Adj. Flow (vph)	870	100	349	877	170	278
RTOR Reduction (vph)	0	50	0	0	0	117
Lane Group Flow (vph)	870	50	349	877	170	161
Heavy Vehicles (%)	1%	5%	2%	2%	3%	1%
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Actuated Green, G (s)	35.1	35.1	46.2	46.2	16.3	23.4
Effective Green, g (s)	36.1	36.1	47.2	47.2	17.3	24.4
Actuated g/C Ratio	0.50	0.50	0.65	0.65	0.24	0.34
Clearance Time (s)	5.0	5.0	4.0	5.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1030	740	276	1213	432	668
v/s Ratio Prot	0.42		c0.12	0.47	c0.09	0.02
v/s Ratio Perm		0.03	c0.70			0.07
v/c Ratio	0.84	0.07	1.26	0.72	0.39	0.24
Uniform Delay, d1	15.8	9.5	20.8	8.3	23.2	17.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.5	0.0	144.7	2.2	2.7	0.2
Delay (s)	22.2	9.5	165.5	10.5	25.9	17.6
Level of Service	C	A	F	B	C	B
Approach Delay (s)	20.9			54.6	20.7	
Approach LOS	C			D	C	

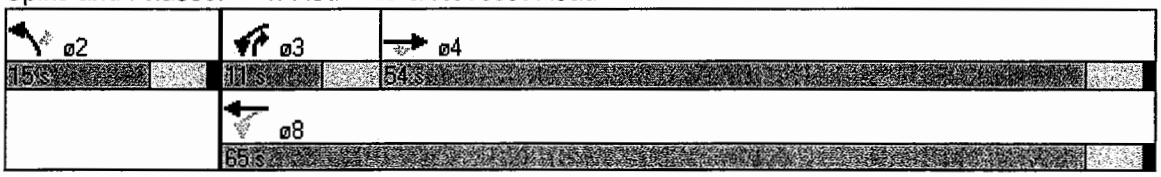
Intersection Summary			
HCM Average Control Delay	36.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	72.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	809	93	325	816	148	242
Lane Group Flow (vph)	870	100	349	877	170	278
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Detector Phases	4	4	3	8	2	3
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	9.0	21.0	9.0	9.0
Total Split (s)	54.0	54.0	11.0	65.0	15.0	11.0
Total Split (%)	67.5%	67.5%	13.8%	81.3%	18.8%	13.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	0.0	1.0	1.0	0.0
Lead/Lag	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	None
v/c Ratio	0.85	0.13	1.02	0.73	0.39	0.36
Control Delay	24.4	2.3	69.6	12.1	29.7	9.1
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	24.4	2.3	69.6	12.4	29.7	9.1
Queue Length 50th (ft)	313	0	~79	219	65	30
Queue Length 95th (ft)	459	19	#190	335	138	94
Internal Link Dist (ft)	444			589	1860	
Turn Bay Length (ft)						
Base Capacity (vph)	1203	906	341	1321	432	777
Starvation Cap Reductn	0	0	0	81	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.11	1.02	0.71	0.39	0.36

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 72.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Route 20 & Nobscot Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	15	11	12	12	13	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	2069	1487	1770	1863	1811	1706
Flt Permitted	1.00	1.00	0.09	1.00	0.95	1.00
Satd. Flow (perm)	2069	1487	171	1863	1811	1706
Volume (vph)	869	98	360	904	156	260
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.87	0.87
Adj. Flow (vph)	934	105	387	972	179	299
RTOR Reduction (vph)	0	50	0	0	0	104
Lane Group Flow (vph)	934	55	387	972	179	195
Heavy Vehicles (%)	1%	5%	2%	2%	3%	1%
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Actuated Green, G (s)	38.6	38.6	49.7	49.7	16.3	23.4
Effective Green, g (s)	39.6	39.6	50.7	50.7	17.3	24.4
Actuated g/C Ratio	0.52	0.52	0.67	0.67	0.23	0.32
Clearance Time (s)	5.0	5.0	4.0	5.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1078	775	263	1243	412	638
v/s Ratio Prot	0.45		c0.14	0.52	c0.10	0.03
v/s Ratio Perm		0.04	c0.84			0.09
v/c Ratio	0.87	0.07	1.47	0.78	0.43	0.31
Uniform Delay, d1	15.9	9.0	22.9	8.8	25.2	19.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.5	0.0	231.7	3.3	3.3	0.3
Delay (s)	23.4	9.1	254.6	12.1	28.5	19.7
Level of Service	C	A	F	B	C	B
Approach Delay (s)	21.9			81.1	23.0	
Approach LOS	C			F	C	

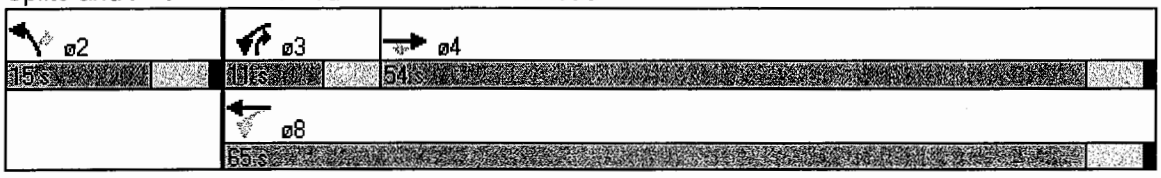
Intersection Summary			
HCM Average Control Delay	50.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	76.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Volume (vph)	869	98	360	904	156	260
Lane Group Flow (vph)	934	105	387	972	179	299
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Detector Phases	4	4	3	8	2	3
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	9.0	21.0	9.0	9.0
Total Split (s)	54.0	54.0	11.0	65.0	15.0	11.0
Total Split (%)	67.5%	67.5%	13.8%	81.3%	18.8%	13.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	0.0	1.0	1.0	0.0
Lead/Lag	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	None
v/c Ratio	0.87	0.13	1.28	0.78	0.44	0.41
Control Delay	25.4	2.2	168.3	13.9	32.0	12.1
Queue Delay	0.0	0.0	0.0	0.6	0.0	0.0
Total Delay	25.4	2.2	168.3	14.5	32.0	12.1
Queue Length 50th (ft)	355	0	~112	268	76	49
Queue Length 95th (ft)	523	20	#268	419	144	120
Internal Link Dist (ft)	444			589	1860	
Turn Bay Length (ft)						
Base Capacity (vph)	1203	908	302	1321	411	734
Starvation Cap Reductn	0	0	0	106	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.12	1.28	0.80	0.44	0.41

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 76.2
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Route 20 & Nobscot Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	15	11	12	12	13	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	2069	1487	1770	1863	1811	1706
Flt Permitted	1.00	1.00	0.09	1.00	0.95	1.00
Satd. Flow (perm)	2069	1487	166	1863	1811	1706
Volume (vph)	903	98	367	922	156	270
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.87	0.87
Adj. Flow (vph)	971	105	395	991	179	310
RTOR Reduction (vph)	0	49	0	0	0	97
Lane Group Flow (vph)	971	56	395	991	179	213
Heavy Vehicles (%)	1%	5%	2%	2%	3%	1%
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Actuated Green, G (s)	39.8	39.8	50.9	50.9	16.2	23.3
Effective Green, g (s)	40.8	40.8	51.9	51.9	17.2	24.3
Actuated g/C Ratio	0.53	0.53	0.67	0.67	0.22	0.32
Clearance Time (s)	5.0	5.0	4.0	5.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1095	787	259	1254	404	626
v/s Ratio Prot	0.47		c0.14	0.53	c0.10	0.03
v/s Ratio Perm		0.04	c0.88			0.09
v/c Ratio	0.89	0.07	1.53	0.79	0.44	0.34
Uniform Delay, d1	16.1	8.9	23.8	8.8	25.8	20.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.9	0.0	255.0	3.5	3.5	0.3
Delay (s)	25.0	8.9	278.8	12.3	29.3	20.6
Level of Service	C	A	F	B	C	C
Approach Delay (s)	23.4			88.2	23.8	
Approach LOS	C			F	C	

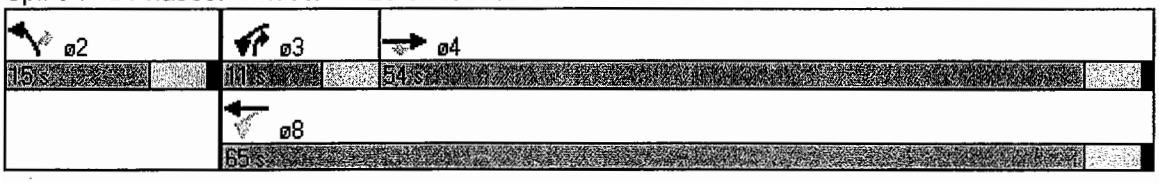
Intersection Summary			
HCM Average Control Delay	53.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	77.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Volume (vph)	903	98	367	922	156	270
Lane Group Flow (vph)	971	105	395	991	179	310
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Detector Phases	4	4	3	8	2	3
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	9.0	21.0	9.0	9.0
Total Split (s)	54.0	54.0	11.0	65.0	15.0	11.0
Total Split (%)	67.5%	67.5%	13.8%	81.3%	18.8%	13.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	0.0	1.0	1.0	0.0
Lead/Lag	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	None
v/c Ratio	0.89	0.13	1.42	0.79	0.44	0.43
Control Delay	27.2	2.2	226.3	14.2	32.6	13.5
Queue Delay	0.0	0.0	0.0	0.8	0.0	0.0
Total Delay	27.2	2.2	226.3	15.1	32.6	13.5
Queue Length 50th (ft)	382	0	~209	280	79	61
Queue Length 95th (ft)	565	20	#400	440	144	133
Internal Link Dist (ft)	444			589	1860	
Turn Bay Length (ft)						
Base Capacity (vph)	1203	908	279	1321	404	717
Starvation Cap Reductn	0	0	0	118	0	0
Spillback Cap Reductn	0	0	0	0	0	1
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.12	1.42	0.82	0.44	0.43

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 77.3
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Route 20 & Nobscot Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	15	11	12	12	13	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	2090	1561	1787	1881	1865	1689
Flt Permitted	1.00	1.00	0.12	1.00	0.95	1.00
Satd. Flow (perm)	2090	1561	223	1881	1865	1689
Volume (vph)	695	47	220	730	135	210
Peak-hour factor, PHF	0.93	0.93	0.88	0.88	0.95	0.95
Adj. Flow (vph)	747	51	250	830	142	221
RTOR Reduction (vph)	0	28	0	0	0	140
Lane Group Flow (vph)	747	23	250	830	142	81
Heavy Vehicles (%)	0%	0%	1%	1%	0%	2%
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Actuated Green, G (s)	28.7	28.7	39.7	39.7	16.3	23.3
Effective Green, g (s)	29.7	29.7	40.7	40.7	17.3	24.3
Actuated g/C Ratio	0.45	0.45	0.62	0.62	0.26	0.37
Clearance Time (s)	5.0	5.0	4.0	5.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	941	702	303	1160	489	724
v/s Ratio Prot	0.36		0.09	c0.44	c0.08	0.01
v/s Ratio Perm		0.01	c0.42			0.04
v/c Ratio	0.79	0.03	0.83	0.72	0.29	0.11
Uniform Delay, d1	15.5	10.1	14.0	8.7	19.4	13.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.7	0.0	16.5	2.1	1.5	0.1
Delay (s)	20.2	10.2	30.5	10.8	20.9	13.8
Level of Service	C	B	C	B	C	B
Approach Delay (s)	19.6			15.4	16.6	
Approach LOS	B			B	B	

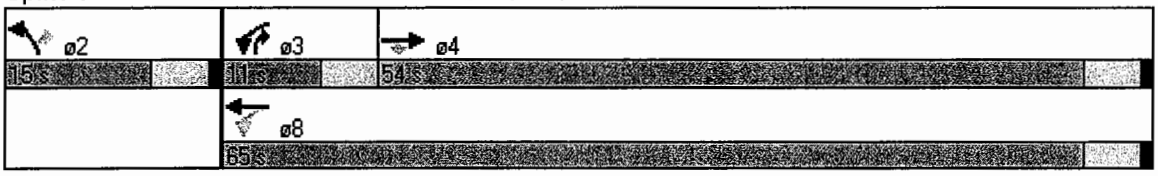
Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	66.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	695	47	220	730	135	210
Lane Group Flow (vph)	747	51	250	830	142	221
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Detector Phases	4	4	3	8	2	3
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	9.0	21.0	9.0	9.0
Total Split (s)	54.0	54.0	11.0	65.0	15.0	11.0
Total Split (%)	67.5%	67.5%	13.8%	81.3%	18.8%	13.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	0.0	1.0	1.0	0.0
Lead/Lag	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	None
v/c Ratio	0.80	0.07	0.61	0.72	0.29	0.26
Control Delay	22.4	3.1	11.9	12.5	24.8	3.7
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	22.4	3.1	11.9	12.5	24.8	3.7
Queue Length 50th (ft)	243	0	38	196	45	0
Queue Length 95th (ft)	358	14	62	287	114	44
Internal Link Dist (ft)	444			589	1860	
Turn Bay Length (ft)						
Base Capacity (vph)	1216	930	413	1334	489	853
Starvation Cap Reductn	0	0	0	40	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.05	0.61	0.64	0.29	0.26

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 66.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Route 20 & Nobscot Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	15	11	12	12	13	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	2090	1561	1787	1881	1865	1689
Flt Permitted	1.00	1.00	0.11	1.00	0.95	1.00
Satd. Flow (perm)	2090	1561	201	1881	1865	1689
Volume (vph)	763	49	242	804	142	132
Peak-hour factor, PHF	0.93	0.93	0.88	0.88	0.95	0.95
Adj. Flow (vph)	820	53	275	914	149	139
RTOR Reduction (vph)	0	28	0	0	0	90
Lane Group Flow (vph)	820	25	275	914	149	49
Heavy Vehicles (%)	0%	0%	1%	1%	0%	2%
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Actuated Green, G (s)	32.4	32.4	43.6	43.6	16.4	23.6
Effective Green, g (s)	33.4	33.4	44.6	44.6	17.4	24.6
Actuated g/C Ratio	0.48	0.48	0.64	0.64	0.25	0.35
Clearance Time (s)	5.0	5.0	4.0	5.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	997	745	291	1198	464	690
v/s Ratio Prot	0.39		c0.10	0.49	c0.08	0.01
v/s Ratio Perm		0.02	c0.50			0.02
v/c Ratio	0.82	0.03	0.95	0.76	0.32	0.07
Uniform Delay, d1	15.7	9.7	18.5	9.0	21.5	15.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.6	0.0	37.9	2.9	1.8	0.0
Delay (s)	21.3	9.7	56.5	11.9	23.3	15.1
Level of Service	C	A	E	B	C	B
Approach Delay (s)	20.6			22.2	19.4	
Approach LOS	C			C	B	

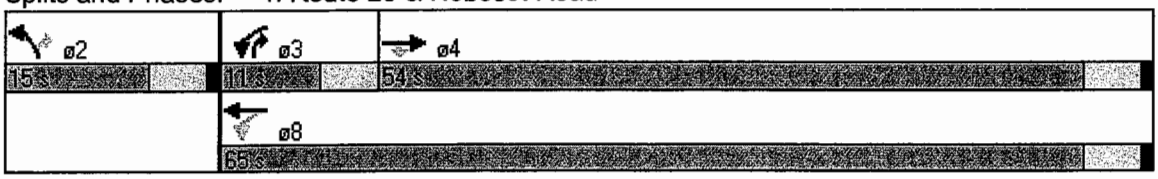
Intersection Summary			
HCM Average Control Delay	21.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Volume (vph)	763	49	242	804	142	132
Lane Group Flow (vph)	820	53	275	914	149	139
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Detector Phases	4	4	3	8	2	3
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	9.0	21.0	9.0	9.0
Total Split (s)	54.0	54.0	11.0	65.0	15.0	11.0
Total Split (%)	67.5%	67.5%	13.8%	81.3%	18.8%	13.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	0.0	1.0	1.0	0.0
Lead/Lag	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	None
v/c Ratio	0.82	0.07	0.74	0.76	0.32	0.18
Control Delay	23.1	2.8	19.3	13.6	27.4	4.6
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	23.1	2.8	19.3	13.8	27.4	4.6
Queue Length 50th (ft)	282	0	43	235	53	0
Queue Length 95th (ft)	411	14	#83	342	127	38
Internal Link Dist (ft)	444			589	1860	
Turn Bay Length (ft)						
Base Capacity (vph)	1215	930	374	1334	462	771
Starvation Cap Reductn	0	0	0	56	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.06	0.74	0.72	0.32	0.18

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 70.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Route 20 & Nobscot Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	15	11	12	12	13	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	2090	1561	1787	1881	1865	1689
Flt Permitted	1.00	1.00	0.10	1.00	0.95	1.00
Satd. Flow (perm)	2090	1561	189	1881	1865	1689
Volume (vph)	811	49	256	852	142	147
Peak-hour factor, PHF	0.93	0.93	0.88	0.88	0.95	0.95
Adj. Flow (vph)	872	53	291	968	149	155
RTOR Reduction (vph)	0	27	0	0	0	103
Lane Group Flow (vph)	872	26	291	968	149	52
Heavy Vehicles (%)	0%	0%	1%	1%	0%	2%
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Actuated Green, G (s)	34.8	34.8	45.9	45.9	16.3	23.4
Effective Green, g (s)	35.8	35.8	46.9	46.9	17.3	24.4
Actuated g/C Ratio	0.50	0.50	0.65	0.65	0.24	0.34
Clearance Time (s)	5.0	5.0	4.0	5.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1036	774	280	1222	447	664
v/s Ratio Prot	0.42		c0.10	0.51	c0.08	0.01
v/s Ratio Perm		0.02	c0.57			0.02
v/c Ratio	0.84	0.03	1.04	0.79	0.33	0.08
Uniform Delay, d1	15.7	9.3	20.8	9.1	22.7	16.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.3	0.0	64.4	3.6	2.0	0.1
Delay (s)	22.1	9.4	85.1	12.7	24.7	16.3
Level of Service	C	A	F	B	C	B
Approach Delay (s)	21.3			29.5	20.4	
Approach LOS	C			C	C	

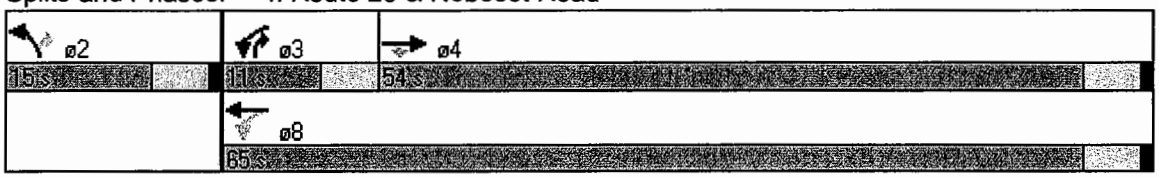
Intersection Summary			
HCM Average Control Delay	25.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	72.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Volume (vph)	811	49	256	852	142	147
Lane Group Flow (vph)	872	53	291	968	149	155
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Detector Phases	4	4	3	8	2	3
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	9.0	21.0	9.0	9.0
Total Split (s)	54.0	54.0	11.0	65.0	15.0	11.0
Total Split (%)	67.5%	67.5%	13.8%	81.3%	18.8%	13.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	0.0	1.0	1.0	0.0
Lead/Lag	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	None
v/c Ratio	0.85	0.07	0.85	0.79	0.33	0.20
Control Delay	24.2	2.7	32.7	14.6	28.6	4.5
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	24.2	2.7	32.7	14.9	28.6	4.5
Queue Length 50th (ft)	312	0	46	264	56	0
Queue Length 95th (ft)	455	14	#119	385	127	40
Internal Link Dist (ft)	444			589	1860	
Turn Bay Length (ft)						
Base Capacity (vph)	1215	930	344	1334	447	761
Starvation Cap Reductn	0	0	0	74	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.06	0.85	0.77	0.33	0.20

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 72.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Route 20 & Nobscot Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	15	11	12	12	13	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	2069	1561	1805	1900	1829	1706
Flt Permitted	1.00	1.00	0.14	1.00	0.95	1.00
Satd. Flow (perm)	2069	1561	268	1900	1829	1706
Volume (vph)	622	47	180	636	97	198
Peak-hour factor, PHF	0.98	0.98	0.94	0.94	0.86	0.86
Adj. Flow (vph)	635	48	191	677	113	230
RTOR Reduction (vph)	0	29	0	0	0	138
Lane Group Flow (vph)	635	19	191	677	113	92
Heavy Vehicles (%)	1%	0%	0%	0%	2%	1%
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Actuated Green, G (s)	23.4	23.4	34.3	34.3	16.3	23.2
Effective Green, g (s)	24.4	24.4	35.3	35.3	17.3	24.2
Actuated g/C Ratio	0.40	0.40	0.58	0.58	0.29	0.40
Clearance Time (s)	5.0	5.0	4.0	5.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	833	629	331	1107	522	794
v/s Ratio Prot	c0.31		0.07	c0.36	c0.06	0.01
v/s Ratio Perm		0.01	0.27			0.04
v/c Ratio	0.76	0.03	0.58	0.61	0.22	0.12
Uniform Delay, d1	15.6	10.9	10.0	8.2	16.5	11.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.2	0.0	2.4	1.0	1.0	0.1
Delay (s)	19.8	11.0	12.4	9.2	17.4	11.5
Level of Service	B	B	B	A	B	B
Approach Delay (s)	19.1			9.9	13.5	
Approach LOS	B			A	B	

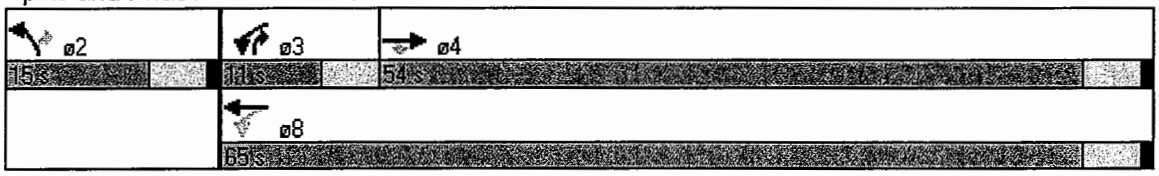
Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	60.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↱	↰	↑	↰	↱
Volume (vph)	622	47	180	636	97	198
Lane Group Flow (vph)	635	48	191	677	113	230
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Detector Phases	4	4	3	8	2	3
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	9.0	21.0	9.0	9.0
Total Split (s)	54.0	54.0	11.0	65.0	15.0	11.0
Total Split (%)	67.5%	67.5%	13.8%	81.3%	18.8%	13.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	0.0	1.0	1.0	0.0
Lead/Lag	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	None
v/c Ratio	0.77	0.07	0.41	0.61	0.22	0.25
Control Delay	22.0	3.6	8.2	10.6	21.0	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	3.6	8.2	10.6	21.0	3.1
Queue Length 50th (ft)	191	0	28	139	31	0
Queue Length 95th (ft)	291	15	51	216	80	34
Internal Link Dist (ft)	444			589	1860	
Turn Bay Length (ft)						
Base Capacity (vph)	1206	930	470	1348	521	919
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.05	0.41	0.50	0.22	0.25

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 60.8
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Route 20 & Nobscot Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	15	11	12	12	13	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	2069	1561	1805	1900	1829	1706
Flt Permitted	1.00	1.00	0.13	1.00	0.95	1.00
Satd. Flow (perm)	2069	1561	240	1900	1829	1706
Volume (vph)	684	49	197	696	102	217
Peak-hour factor, PHF	0.98	0.98	0.94	0.94	0.86	0.86
Adj. Flow (vph)	698	50	210	740	119	252
RTOR Reduction (vph)	0	28	0	0	0	157
Lane Group Flow (vph)	698	22	210	740	119	95
Heavy Vehicles (%)	1%	0%	0%	0%	2%	1%
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Actuated Green, G (s)	26.7	26.7	37.6	37.6	16.3	23.2
Effective Green, g (s)	27.7	27.7	38.6	38.6	17.3	24.2
Actuated g/C Ratio	0.43	0.43	0.60	0.60	0.27	0.38
Clearance Time (s)	5.0	5.0	4.0	5.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	897	677	314	1148	495	753
v/s Ratio Prot	c0.34		0.07	c0.39	c0.07	0.01
v/s Ratio Perm		0.01	0.33			0.04
v/c Ratio	0.78	0.03	0.67	0.64	0.24	0.13
Uniform Delay, d1	15.5	10.4	11.1	8.2	18.2	13.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3	0.0	5.3	1.3	1.1	0.1
Delay (s)	19.8	10.4	16.4	9.5	19.3	13.0
Level of Service	B	B	B	A	B	B
Approach Delay (s)	19.2			11.0	15.0	
Approach LOS	B			B	B	

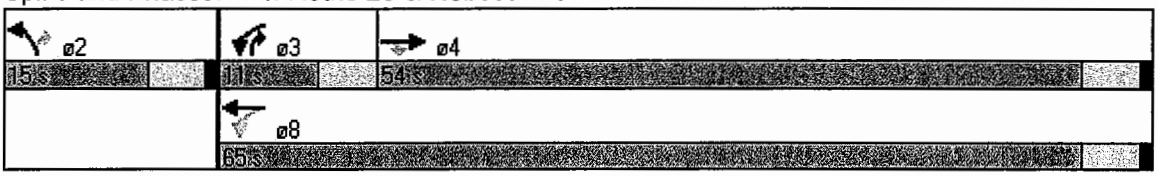
Intersection Summary			
HCM Average Control Delay	14.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	63.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	684	49	197	696	102	217
Lane Group Flow (vph)	698	50	210	740	119	252
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Detector Phases	4	4	3	8	2	3
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	9.0	21.0	9.0	9.0
Total Split (s)	54.0	54.0	11.0	65.0	15.0	11.0
Total Split (%)	67.5%	67.5%	13.8%	81.3%	18.8%	13.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	0.0	1.0	1.0	0.0
Lead/Lag	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	None
v/c Ratio	0.78	0.07	0.48	0.65	0.24	0.28
Control Delay	22.1	3.2	9.1	10.9	23.3	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	3.2	9.1	10.9	23.3	3.4
Queue Length 50th (ft)	220	0	31	160	36	0
Queue Length 95th (ft)	328	14	54	246	89	39
Internal Link Dist (ft)	444			589	1860	
Turn Bay Length (ft)						
Base Capacity (vph)	1205	930	441	1348	495	897
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.05	0.48	0.55	0.24	0.28

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 64.2
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Route 20 & Nobscot Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	15	11	12	12	13	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	2069	1561	1805	1900	1829	1706
Flt Permitted	1.00	1.00	0.12	1.00	0.95	1.00
Satd. Flow (perm)	2069	1561	232	1900	1829	1706
Volume (vph)	707	49	201	709	102	224
Peak-hour factor, PHF	0.98	0.98	0.94	0.94	0.86	0.86
Adj. Flow (vph)	721	50	214	754	119	260
RTOR Reduction (vph)	0	28	0	0	0	152
Lane Group Flow (vph)	721	22	214	754	119	108
Heavy Vehicles (%)	1%	0%	0%	0%	2%	1%
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Actuated Green, G (s)	27.7	27.7	38.7	38.7	16.3	23.3
Effective Green, g (s)	28.7	28.7	39.7	39.7	17.3	24.3
Actuated g/C Ratio	0.44	0.44	0.61	0.61	0.27	0.37
Clearance Time (s)	5.0	5.0	4.0	5.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	914	689	311	1160	487	743
v/s Ratio Prot	c0.35		0.07	c0.40	c0.07	0.02
v/s Ratio Perm		0.01	0.35			0.05
v/c Ratio	0.79	0.03	0.69	0.65	0.24	0.15
Uniform Delay, d1	15.6	10.3	11.5	8.2	18.7	13.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.6	0.0	6.2	1.3	1.2	0.1
Delay (s)	20.1	10.3	17.7	9.5	19.9	13.6
Level of Service	C	B	B	A	B	B
Approach Delay (s)	19.5			11.3	15.6	
Approach LOS	B			B	B	

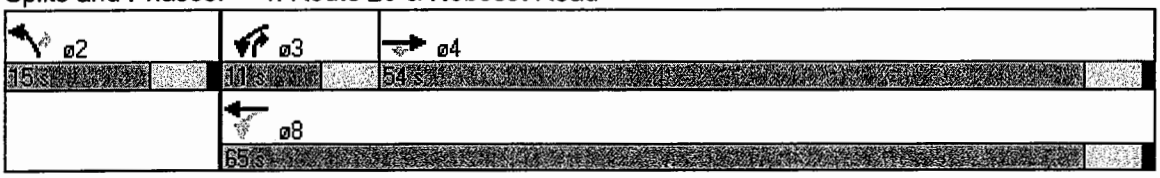
Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	707	49	201	709	102	224
Lane Group Flow (vph)	721	50	214	754	119	260
Turn Type		Perm	pm+pt			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4	8			2
Detector Phases	4	4	3	8	2	3
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	9.0	21.0	9.0	9.0
Total Split (s)	54.0	54.0	11.0	65.0	15.0	11.0
Total Split (%)	67.5%	67.5%	13.8%	81.3%	18.8%	13.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	0.0	1.0	1.0	0.0
Lead/Lag	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	Max	None
v/c Ratio	0.79	0.07	0.50	0.65	0.24	0.30
Control Delay	22.3	3.2	9.4	10.9	24.0	4.2
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	22.3	3.2	9.4	11.0	24.0	4.2
Queue Length 50th (ft)	231	0	32	165	37	4
Queue Length 95th (ft)	343	14	55	253	92	47
Internal Link Dist (ft)	444			589	1860	
Turn Bay Length (ft)						
Base Capacity (vph)	1205	930	430	1348	487	882
Starvation Cap Reductn	0	0	0	42	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.05	0.50	0.58	0.24	0.29

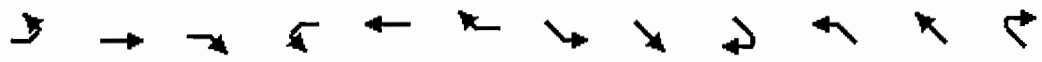
Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 65.3
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Route 20 & Nobscot Road



Route 20 at Route 27/126



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕			↕		↰	↕		↰	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	16	16	16	11	10	10	11	10	10
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.97		1.00	1.00		1.00	0.99	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1824			2059		1728	1754		1711	1744	
Flt Permitted		0.99			0.92		0.22	1.00		0.18	1.00	
Satd. Flow (perm)		1811			1907		409	1754		320	1744	
Volume (vph)	7	541	132	52	565	171	172	535	4	128	458	42
Peak-hour factor, PHF	0.94	0.94	0.94	0.96	0.96	0.96	0.94	0.94	0.94	0.95	0.95	0.95
Adj. Flow (vph)	7	576	140	54	589	178	183	569	4	135	482	44
RTOR Reduction (vph)	0	11	0	0	12	0	0	1	0	0	4	0
Lane Group Flow (vph)	0	712	0	0	809	0	183	572	0	135	522	0
Heavy Vehicles (%)	0%	1%	3%	4%	1%	1%	1%	1%	0%	2%	0%	5%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		40.0			40.0		30.0	30.0		30.0	30.0	
Effective Green, g (s)		42.0			42.0		32.0	32.0		32.0	32.0	
Actuated g/C Ratio		0.51			0.51		0.39	0.39		0.39	0.39	
Clearance Time (s)		6.0			6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		928			977		160	684		125	681	
v/s Ratio Prot								0.33			0.30	
v/s Ratio Perm		0.39			c0.42		c0.45			0.42		
v/c Ratio		0.77			0.83		1.14	0.84		1.08	0.77	
Uniform Delay, d1		16.1			16.9		25.0	22.6		25.0	21.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		6.1			8.0		115.0	11.6		103.6	8.0	
Delay (s)		22.1			25.0		140.0	34.3		128.6	29.8	
Level of Service		C			C		F	C		F	C	
Approach Delay (s)		22.1			25.0			59.9			50.0	
Approach LOS		C			C			E			D	

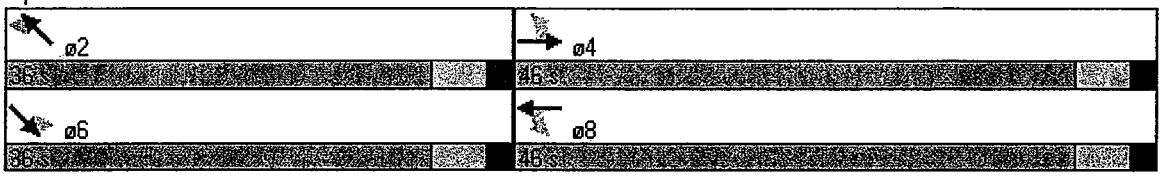
Intersection Summary				
HCM Average Control Delay	38.8	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.97			
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	120.5%	ICU Level of Service	H	
Analysis Period (min)	15			

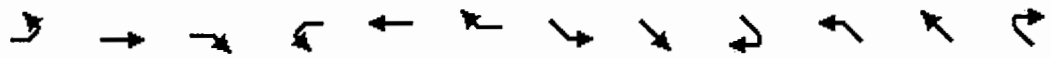
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	SEL	SET	NWL	NWT
Lane Configurations		↕		↕	↰	↑	↰	↑
Volume (vph)	7	541	52	565	172	535	128	458
Lane Group Flow (vph)	0	723	0	821	183	573	135	526
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		6		2
Permitted Phases	4		8		6		2	
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	46.0	46.0	46.0	46.0	36.0	36.0	36.0	36.0
Total Split (%)	56.1%	56.1%	56.1%	56.1%	43.9%	43.9%	43.9%	43.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag								
Lead-Lag Optimize?								
v/c Ratio		0.77		0.83	1.14	0.84	1.09	0.77
Control Delay		22.5		25.7	143.9	35.6	136.9	30.7
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		22.5		25.7	143.9	35.6	136.9	30.7
Queue Length 50th (ft)		274		329	~112	260	~79	227
Queue Length 95th (ft)		423		#564	#235	#444	#188	#365
Internal Link Dist (ft)		395		961		125		1381
Turn Bay Length (ft)								
Base Capacity (vph)		938		989	160	685	124	684
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.77		0.83	1.14	0.84	1.09	0.77

Intersection Summary
Cycle Length: 82
Actuated Cycle Length: 82
Offset: 0 (0%), Referenced to phase 2:NWTL and 6:SETL, Start of Green
Natural Cycle: 65
Control Type: Pretimed
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Route 20 & Route 27





Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	11	11	12	11	11	11	11	11	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1745	1881	1516	1678	1881	1546	1728	1817		1711	1872	
Flt Permitted	0.08	1.00	1.00	0.09	1.00	1.00	0.09	1.00		0.09	1.00	
Satd. Flow (perm)	154	1881	1516	159	1881	1546	165	1817		161	1872	
Volume (vph)	216	639	172	55	736	285	210	572	4	230	551	44
Peak-hour factor, PHF	0.94	0.94	0.94	0.96	0.96	0.96	0.94	0.94	0.94	0.95	0.95	0.95
Adj. Flow (vph)	230	680	183	57	767	297	223	609	4	242	580	46
RTOR Reduction (vph)	0	0	32	0	0	31	0	0	0	0	2	0
Lane Group Flow (vph)	230	680	151	57	767	266	223	613	0	242	624	0
Heavy Vehicles (%)	0%	1%	3%	4%	1%	1%	1%	1%	0%	2%	0%	5%
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt			pm+pt		
Protected Phases	5	2	2 3	1	6	6 7	7	4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	54.6	44.6	69.2	48.4	41.5	65.5	57.1	40.1		58.3	40.7	
Effective Green, g (s)	60.6	47.6	73.2	54.4	44.5	69.5	65.1	44.1		66.3	44.7	
Actuated g/C Ratio	0.44	0.34	0.53	0.39	0.32	0.50	0.47	0.32		0.48	0.32	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	216	643	797	170	601	772	313	576		317	601	
v/s Ratio Prot	c0.10	0.36	0.10	0.02	c0.41	0.17	0.11	c0.34		c0.12	0.33	
v/s Ratio Perm	0.36			0.11			0.23			0.24		
v/c Ratio	1.06	1.06	0.19	0.34	1.28	0.35	0.71	1.06		0.76	1.04	
Uniform Delay, d1	65.3	45.8	17.4	33.9	47.3	21.1	36.7	47.5		38.7	47.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	79.4	51.7	0.1	1.2	136.9	0.3	7.5	55.8		10.4	47.0	
Delay (s)	144.7	97.5	17.5	35.0	184.2	21.4	44.2	103.3		49.1	94.2	
Level of Service	F	F	B	D	F	C	D	F		D	F	
Approach Delay (s)		94.0			133.5			87.5			81.6	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	101.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	139.2	Sum of lost time (s)	20.0
Intersection Capacity Utilization	107.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	NWL	NWT
Lane Configurations										
Volume (vph)	216	639	172	55	736	285	210	572	230	551
Lane Group Flow (vph)	230	680	183	57	767	297	223	613	242	626
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt		pm+pt	
Protected Phases	5	2	2 3	1	6	6 7	7	4	3	8
Permitted Phases	2			6			4		8	
Detector Phases	5	2	2 3	1	6	6 7	7	4	3	8
Minimum Initial (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	13.0		11.0	13.0		14.0	14.0	14.0	14.0
Total Split (s)	17.0	47.0	75.0	17.0	47.0	75.0	28.0	48.0	28.0	48.0
Total Split (%)	12.1%	33.6%	53.6%	12.1%	33.6%	53.6%	20.0%	34.3%	20.0%	34.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	Max		None	Max		None	None	None	None
v/c Ratio	1.04	1.04	0.22	0.31	1.30	0.37	0.71	1.06	0.75	1.03
Control Delay	108.0	91.7	12.1	28.3	187.4	18.2	45.4	97.6	49.2	89.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	108.0	91.7	12.1	28.3	187.4	18.2	45.4	97.6	49.2	89.1
Queue Length 50th (ft)	~177	~718	53	30	~904	127	140	~619	156	~611
Queue Length 95th (ft)	#356	#981	102	59	#1151	195	231	#855	256	#866
Internal Link Dist (ft)		395			961			125		1381
Turn Bay Length (ft)	185		95	165		50	260		80	
Base Capacity (vph)	221	651	848	203	588	811	346	581	344	609
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.04	1.04	0.22	0.28	1.30	0.37	0.64	1.06	0.70	1.03

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 137.7

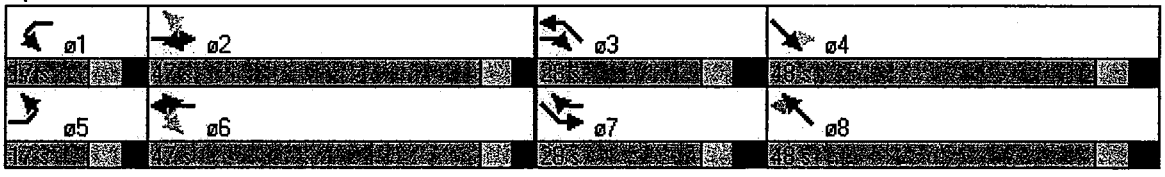
Natural Cycle: 110

Control Type: Actuated-Uncoordinated

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

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

Splits and Phases: 3: Route 20 & Route 27



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	11	11	12	11	11	11	11	11	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1745	1881	1516	1678	1881	1546	1728	1817		1711	1869	
Flt Permitted	0.08	1.00	1.00	0.09	1.00	1.00	0.09	1.00		0.09	1.00	
Satd. Flow (perm)	155	1881	1516	158	1881	1546	161	1817		164	1869	
Volume (vph)	115	653	171	55	660	193	207	571	4	176	497	44
Peak-hour factor, PHF	0.94	0.94	0.94	0.96	0.96	0.96	0.94	0.94	0.94	0.95	0.95	0.95
Adj. Flow (vph)	122	695	182	57	688	201	220	607	4	185	523	46
RTOR Reduction (vph)	0	0	32	0	0	23	0	0	0	0	2	0
Lane Group Flow (vph)	122	695	150	57	688	178	220	611	0	185	567	0
Heavy Vehicles (%)	0%	1%	3%	4%	1%	1%	1%	1%	0%	2%	0%	5%
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt			pm+pt		
Protected Phases	5	2	2 3	1	6	6 7	7	4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	53.8	44.3	66.5	48.4	41.6	65.2	57.8	41.2		55.0	39.8	
Effective Green, g (s)	59.8	47.3	70.5	54.4	44.6	69.2	65.8	45.2		63.0	43.8	
Actuated g/C Ratio	0.43	0.34	0.51	0.40	0.32	0.50	0.48	0.33		0.46	0.32	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	212	647	777	171	610	778	312	597		291	595	
v/s Ratio Prot	c0.05	c0.37	0.10	0.02	0.37	0.12	c0.11	c0.34		0.09	0.30	
v/s Ratio Perm	0.20			0.11			0.23			0.20		
v/c Ratio	0.58	1.07	0.19	0.33	1.13	0.23	0.71	1.02		0.64	0.95	
Uniform Delay, d1	61.1	45.1	18.1	33.2	46.4	19.2	35.6	46.2		32.3	45.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.7	57.0	0.1	1.2	77.0	0.2	7.1	42.9		4.5	25.5	
Delay (s)	64.8	102.1	18.2	34.4	123.4	19.3	42.7	89.1		36.8	71.4	
Level of Service	E	F	B	C	F	B	D	F		D	E	
Approach Delay (s)		82.3			96.0			76.8			62.9	
Approach LOS		F			F			E			E	

Intersection Summary			
HCM Average Control Delay	80.5	HCM Level of Service	F
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	137.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	94.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

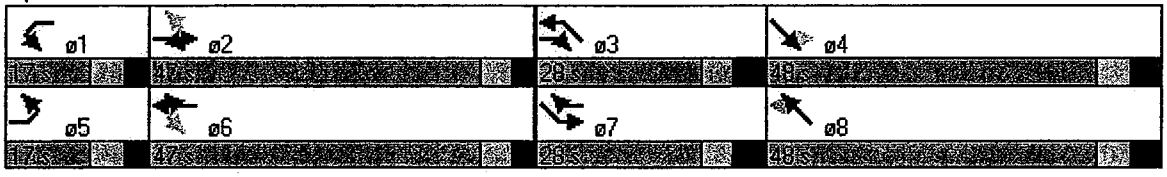
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	NWL	NWT
Lane Configurations										
Volume (vph)	115	653	171	55	660	193	207	571	176	497
Lane Group Flow (vph)	122	695	182	57	688	201	220	611	185	569
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt		pm+pt	
Protected Phases	5	2	2 3	1	6	6 7	7	4	3	8
Permitted Phases	2			6			4		8	
Detector Phases	5	2	2 3	1	6	6 7	7	4	3	8
Minimum Initial (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	13.0		11.0	13.0		14.0	14.0	14.0	14.0
Total Split (s)	17.0	47.0	75.0	17.0	47.0	75.0	28.0	48.0	28.0	48.0
Total Split (%)	12.1%	33.6%	53.6%	12.1%	33.6%	53.6%	20.0%	34.3%	20.0%	34.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	Max		None	Max		None	None	None	None
v/c Ratio	0.56	1.06	0.22	0.31	1.16	0.25	0.69	1.01	0.63	0.94
Control Delay	36.9	96.4	12.6	28.0	129.7	15.8	43.3	84.7	39.0	70.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.9	96.4	12.6	28.0	129.7	15.8	43.3	84.7	39.0	70.0
Queue Length 50th (ft)	66	~730	56	30	~740	76	131	549	106	500
Queue Length 95th (ft)	125	#1011	103	59	#996	127	227	#849	183	#749
Internal Link Dist (ft)		395			961			125		1381
Turn Bay Length (ft)	185		95	165		50	260		80	
Base Capacity (vph)	222	653	839	205	595	811	349	604	341	606
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	1.06	0.22	0.28	1.16	0.25	0.63	1.01	0.54	0.94

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 136.1
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

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

Splits and Phases: 3: Route 20 & Route 27



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	11	11	12	11	11	11	11	11	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Frt		0.97			0.97		1.00	1.00		1.00	0.99	
Flt Protected		0.99			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3447			3444		1728	1817		1711	1869	
Flt Permitted		0.60			0.74		0.12	1.00		0.12	1.00	
Satd. Flow (perm)		2076			2566		227	1817		225	1869	
Volume (vph)	115	653	171	55	660	193	207	571	4	176	497	44
Peak-hour factor, PHF	0.94	0.94	0.94	0.96	0.96	0.96	0.94	0.94	0.94	0.95	0.95	0.95
Adj. Flow (vph)	122	695	182	57	688	201	220	607	4	185	523	46
RTOR Reduction (vph)	0	19	0	0	24	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	980	0	0	922	0	220	611	0	185	566	0
Heavy Vehicles (%)	0%	1%	3%	4%	1%	1%	1%	1%	0%	2%	0%	5%
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		2			6		7	4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		44.0			44.0		38.0	30.0		38.0	30.0	
Effective Green, g (s)		46.0			46.0		42.0	32.0		42.0	32.0	
Actuated g/C Ratio		0.46			0.46		0.42	0.32		0.42	0.32	
Clearance Time (s)		6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		955			1180		245	581		243	598	
v/s Ratio Prot							c0.09	c0.34		0.08	0.30	
v/s Ratio Perm		c0.47			0.36		0.29			0.24		
v/c Ratio		1.03			0.78		0.90	1.05		0.76	0.95	
Uniform Delay, d1		27.0			22.8		23.6	34.0		23.8	33.2	
Progression Factor		1.00			1.00		1.15	1.01		1.00	1.00	
Incremental Delay, d2		36.0			5.2		26.4	47.4		13.1	24.0	
Delay (s)		63.0			27.9		53.4	81.8		36.9	57.1	
Level of Service		E			C		D	F		D	E	
Approach Delay (s)		63.0			27.9			74.3			52.2	
Approach LOS		E			C			E			D	

Intersection Summary			
HCM Average Control Delay	53.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	106.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	SEL	SET	NWL	NWT
Lane Configurations								
Volume (vph)	115	653	55	660	207	571	176	497
Lane Group Flow (vph)	0	999	0	946	220	611	185	569
Turn Type	Perm		Perm		pm+pt		pm+pt	
Protected Phases		2		6	7	4	3	8
Permitted Phases	2		6		4		8	
Detector Phases	2	2	6	6	7	4	3	8
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	13.0	13.0	13.0	13.0	14.0	14.0	14.0	14.0
Total Split (s)	50.0	50.0	50.0	50.0	14.0	36.0	14.0	36.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	14.0%	36.0%	14.0%	36.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio		1.03		0.79	0.90	1.05	0.76	0.95
Control Delay		63.0		27.4	57.2	82.2	41.3	59.6
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		63.0		27.4	57.2	82.2	41.3	59.6
Queue Length 50th (ft)		~353		249	93	~419	69	349
Queue Length 95th (ft)		#482		335	m#220	#644	#172	#565
Internal Link Dist (ft)		395		961		125		1381
Turn Bay Length (ft)					260		80	
Base Capacity (vph)		973		1205	245	581	243	602
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		1.03		0.79	0.90	1.05	0.76	0.95

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green, Master Intersection

Natural Cycle: 100

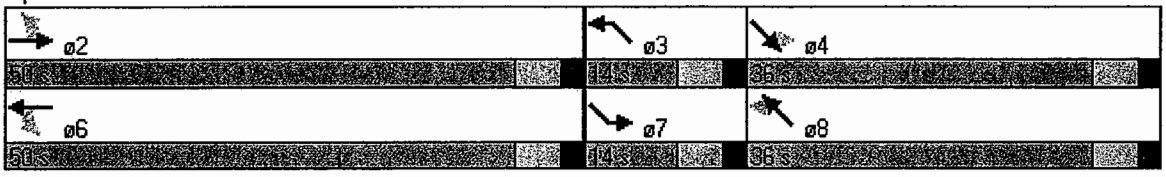
Control Type: Actuated-Coordinated

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

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

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Route 20 & Route 27



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	11	11	12	11	11	11	11	11	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1745	1881	1516	1678	1881	1546	1728	1817		1711	1869	
Flt Permitted	0.08	1.00	1.00	0.09	1.00	1.00	0.09	1.00		0.09	1.00	
Satd. Flow (perm)	154	1881	1516	159	1881	1546	164	1817		164	1869	
Volume (vph)	233	664	180	55	670	183	196	562	4	191	482	44
Peak-hour factor, PHF	0.94	0.94	0.94	0.96	0.96	0.96	0.94	0.94	0.94	0.95	0.95	0.95
Adj. Flow (vph)	248	706	191	57	698	191	209	598	4	201	507	46
RTOR Reduction (vph)	0	0	33	0	0	22	0	0	0	0	2	0
Lane Group Flow (vph)	248	706	158	57	698	169	209	602	0	201	551	0
Heavy Vehicles (%)	0%	1%	3%	4%	1%	1%	1%	1%	0%	2%	0%	5%
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt			pm+pt		
Protected Phases	5	2	2 3	1	6	6 7	7	4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	54.7	44.7	67.7	48.3	41.5	64.8	56.6	40.3		56.0	40.0	
Effective Green, g (s)	60.7	47.7	71.7	54.3	44.5	68.8	64.6	44.3		64.0	44.0	
Actuated g/C Ratio	0.44	0.35	0.52	0.39	0.32	0.50	0.47	0.32		0.46	0.32	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	218	651	789	171	607	772	307	584		301	597	
v/s Ratio Prot	c0.11	0.38	0.10	0.02	0.37	0.11	c0.10	c0.33		0.10	0.29	
v/s Ratio Perm	c0.39			0.11			0.22			0.21		
v/c Ratio	1.14	1.08	0.20	0.33	1.15	0.22	0.68	1.03		0.67	0.92	
Uniform Delay, d1	64.6	45.1	17.7	61.5	46.7	19.4	34.2	46.8		34.2	45.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	103.0	60.4	0.1	1.2	85.4	0.1	6.1	45.4		5.5	20.0	
Delay (s)	167.6	105.4	17.8	62.7	132.1	19.5	40.3	92.1		39.8	65.2	
Level of Service	F	F	B	E	F	B	D	F		D	E	
Approach Delay (s)		104.3			105.2			78.8			58.4	
Approach LOS		F			F			E			E	

Intersection Summary			
HCM Average Control Delay	89.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	137.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

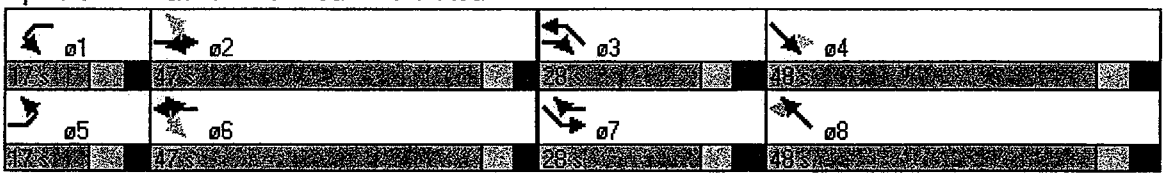
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	NWL	NWT
Lane Configurations										
Volume (vph)	233	664	180	55	670	183	196	562	191	482
Lane Group Flow (vph)	248	706	191	57	698	191	209	602	201	553
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt		pm+pt	
Protected Phases	5	2	2 3	1	6	6 7	7	4	3	8
Permitted Phases	2			6			4		8	
Detector Phases	5	2	2 3	1	6	6 7	7	4	3	8
Minimum Initial (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	13.0		11.0	13.0		14.0	14.0	14.0	14.0
Total Split (s)	17.0	47.0	75.0	17.0	47.0	75.0	28.0	48.0	28.0	48.0
Total Split (%)	12.1%	33.6%	53.6%	12.1%	33.6%	53.6%	20.0%	34.3%	20.0%	34.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	Max		None	Max		None	None	None	None
v/c Ratio	1.11	1.07	0.23	0.31	1.18	0.24	0.67	1.02	0.66	0.91
Control Delay	127.5	99.0	12.5	27.9	136.9	15.8	42.1	87.9	41.4	65.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	127.5	99.0	12.5	27.9	136.9	15.8	42.1	87.9	41.4	65.5
Queue Length 50th (ft)	~203	~741	57	29	~749	72	124	~571	118	474
Queue Length 95th (ft)	#394	#1032	107	59	#1015	121	213	#832	203	#717
Internal Link Dist (ft)		395			961			125		1381
Turn Bay Length (ft)	185		95	165		50	260		80	
Base Capacity (vph)	223	658	848	205	594	805	347	590	343	605
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.11	1.07	0.23	0.28	1.18	0.24	0.60	1.02	0.59	0.91

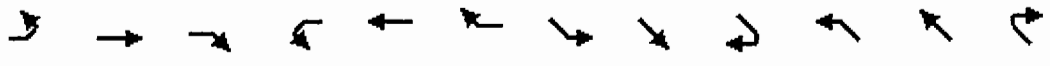
Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 136.3
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

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

Splits and Phases: 3: Route 20 & Route 27





Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	11	11	12	11	11	11	11	11	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1745	3446		1678	3459		1728	1817		1711	1869	
Flt Permitted	0.11	1.00		0.17	1.00		0.13	1.00		0.10	1.00	
Satd. Flow (perm)	210	3446		294	3459		243	1817		185	1869	
Volume (vph)	233	664	180	55	670	183	196	562	4	191	482	44
Peak-hour factor, PHF	0.94	0.94	0.94	0.96	0.96	0.96	0.94	0.94	0.94	0.95	0.95	0.95
Adj. Flow (vph)	248	706	191	57	698	191	209	598	4	201	507	46
RTOR Reduction (vph)	0	22	0	0	22	0	0	0	0	0	3	0
Lane Group Flow (vph)	248	875	0	57	867	0	209	602	0	201	550	0
Heavy Vehicles (%)	0%	1%	3%	4%	1%	1%	1%	1%	0%	2%	0%	5%
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	45.0	34.9		31.2	28.0		41.9	34.9		41.9	34.9	
Effective Green, g (s)	48.1	37.9		37.2	31.0		49.9	38.9		49.9	38.9	
Actuated g/C Ratio	0.44	0.34		0.34	0.28		0.45	0.35		0.45	0.35	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	275	1187		177	975		259	643		237	661	
v/s Ratio Prot	c0.11	0.25		0.02	0.25		0.08	c0.33		c0.09	0.29	
v/s Ratio Perm	c0.29			0.09			0.29			0.30		
v/c Ratio	0.90	0.74		0.32	0.89		0.81	0.94		0.85	0.83	
Uniform Delay, d1	28.4	31.7		26.0	37.9		23.3	34.4		26.2	32.6	
Progression Factor	1.00	1.00		1.00	1.00		1.11	1.00		1.00	1.00	
Incremental Delay, d2	30.1	4.1		1.1	11.9		13.1	17.3		23.5	8.8	
Delay (s)	58.5	35.8		27.1	49.8		38.9	51.5		49.7	41.3	
Level of Service	E	D		C	D		D	D		D	D	
Approach Delay (s)		40.7			48.4			48.3			43.6	
Approach LOS		D			D			D			D	

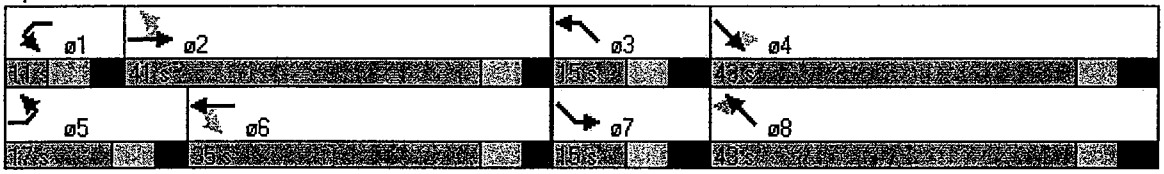
Intersection Summary				
HCM Average Control Delay	45.0	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.90			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	91.0%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

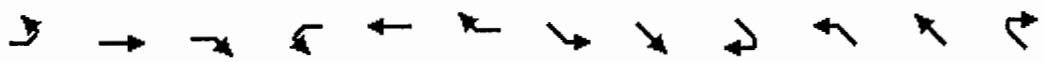
Lane Group	EBL	EBT	WBL	WBT	SEL	SET	NWL	NWT
Lane Configurations								
Volume (vph)	233	664	55	670	196	562	191	482
Lane Group Flow (vph)	248	897	57	889	209	602	201	553
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt	
Protected Phases	5	2	1	6	7	4	3	8
Permitted Phases	2		6		4		8	
Detector Phases	5	2	1	6	7	4	3	8
Minimum Initial (s)	4.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	13.0	11.0	13.0	14.0	14.0	14.0	14.0
Total Split (s)	17.0	41.0	11.0	35.0	15.0	43.0	15.0	43.0
Total Split (%)	15.5%	37.3%	10.0%	31.8%	13.6%	39.1%	13.6%	39.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
v/c Ratio	0.91	0.72	0.31	0.89	0.80	0.94	0.85	0.83
Control Delay	62.2	33.9	23.3	49.0	41.3	54.1	55.5	44.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.2	33.9	23.3	49.0	41.3	54.1	55.5	44.8
Queue Length 50th (ft)	123	284	23	307	89	398	90	351
Queue Length 95th (ft)	#275	362	48	#421	m#199	#633	#221	#535
Internal Link Dist (ft)		395		961		125		1381
Turn Bay Length (ft)	185		165		260		180	
Base Capacity (vph)	274	1252	184	997	260	644	237	666
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.72	0.31	0.89	0.80	0.93	0.85	0.83

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 80 (73%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Route 20 & Route 27





Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	16	16	16	11	10	10	11	10	10
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.96		1.00	1.00		1.00	0.99	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1838			2057		1745	1772		1728	1754	
Flt Permitted		0.99			0.96		0.12	1.00		0.28	1.00	
Satd. Flow (perm)		1829			1987		230	1772		516	1754	
Volume (vph)	5	618	128	29	627	281	169	401	3	124	610	40
Peak hour factor, PHF	0.94	0.94	0.94	0.96	0.96	0.96	0.86	0.86	0.86	0.94	0.94	0.94
Adj. Flow (vph)	5	657	136	30	653	293	197	466	3	132	649	43
RTOR Reduction (vph)	0	9	0	0	19	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	789	0	0	957	0	197	469	0	132	689	0
Heavy Vehicles (%)	20%	1%	0%	0%	0%	1%	0%	0%	0%	1%	0%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		40.0			40.0		30.0	30.0		30.0	30.0	
Effective Green, g (s)		42.0			42.0		32.0	32.0		32.0	32.0	
Actuated g/C Ratio		0.51			0.51		0.39	0.39		0.39	0.39	
Clearance Time (s)		6.0			6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		937			1018		90	692		201	684	
v/s Ratio Prot								0.26			0.39	
v/s Ratio Perm		0.43			c0.48		c0.86			0.26		
v/c Ratio		0.84			0.94		2.19	0.68		0.66	1.01	
Uniform Delay, d1		17.2			18.8		25.0	20.7		20.5	25.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		9.1			17.0		569.6	5.3		15.6	36.2	
Delay (s)		26.3			35.8		594.6	26.0		36.1	61.2	
Level of Service		C			D		F	C		D	E	
Approach Delay (s)		26.3			35.8			194.2			57.2	
Approach LOS		C			D			F			E	

Intersection Summary			
HCM Average Control Delay	71.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	124.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	SEL	SET	NWL	NWT
Lane Configurations								
Volume (vph)	5	618	29	627	169	401	124	610
Lane Group Flow (vph)	0	798	0	976	197	469	132	692
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		6		2
Permitted Phases	4		8		6		2	
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	46.0	46.0	46.0	46.0	36.0	36.0	36.0	36.0
Total Split (%)	56.1%	56.1%	56.1%	56.1%	43.9%	43.9%	43.9%	43.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag								
Lead-Lag Optimize?								
v/c Ratio		0.84		0.94	2.19	0.68	0.66	1.01
Control Delay		27.2		36.7	589.8	26.7	39.3	62.8
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		27.2		36.7	589.8	26.7	39.3	62.8
Queue Length 50th (ft)		326		432	~165	195	54	~351
Queue Length 95th (ft)		#562		#716	#239	281	#141	#586
Internal Link Dist (ft)		395		961		125		1381
Turn Bay Length (ft)								
Base Capacity (vph)		946		1037	90	692	201	688
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.84		0.94	2.19	0.68	0.66	1.01

Intersection Summary

Cycle Length: 82

Actuated Cycle Length: 82

Offset: 0 (0%), Referenced to phase 2:NWTL and 6:SETL, Start of Green

Natural Cycle: 70

Control Type: Pretimed

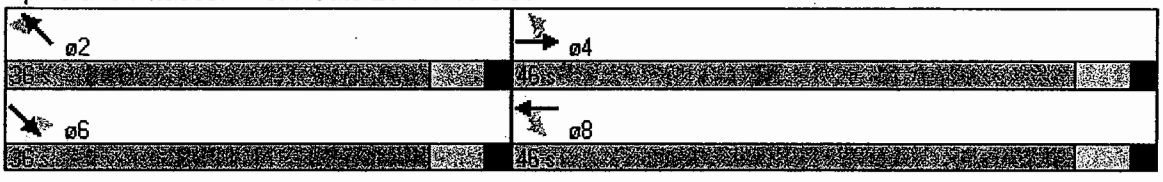
~ Volume exceeds capacity, queue is theoretically infinite.

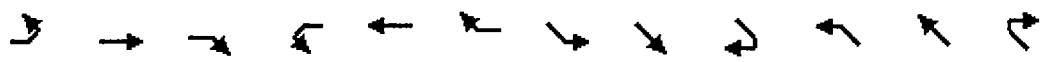
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Route 20 & Route 27





Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	11	11	12	11	11	12	12	11	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1454	1881	1561	1745	1900	1546	1745	1898		1728	1879	
Flt Permitted	0.08	1.00	1.00	0.09	1.00	1.00	0.08	1.00		0.10	1.00	
Satd. Flow (perm)	123	1881	1561	160	1900	1546	153	1898		190	1879	
Volume (vph)	216	783	234	30	737	326	274	481	3	168	657	42
Peak-hour factor, PHF	0.94	0.94	0.94	0.96	0.96	0.96	0.86	0.86	0.86	0.94	0.94	0.94
Adj. Flow (vph)	230	833	249	31	768	340	319	559	3	179	699	45
RTOR Reduction (vph)	0	0	36	0	0	30	0	0	0	0	1	0
Lane Group Flow (vph)	230	833	213	31	768	310	319	562	0	179	743	0
Heavy Vehicles (%)	20%	1%	0%	0%	0%	1%	0%	0%	0%	1%	0%	3%
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt			pm+pt		
Protected Phases	5	2	2 3	1	6	6 7	7	4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	58.2	48.2	70.4	47.4	42.8	69.8	64.8	44.8		55.2	40.0	
Effective Green, g (s)	62.8	51.2	74.4	53.4	45.8	73.8	72.0	48.8		63.2	44.0	
Actuated g/C Ratio	0.44	0.36	0.52	0.37	0.32	0.52	0.50	0.34		0.44	0.31	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	175	674	813	144	609	799	345	649		291	579	
v/s Ratio Prot	c0.12	0.44	0.14	0.01	0.40	0.20	c0.16	0.30		0.08	c0.40	
v/s Ratio Perm	c0.46			0.07			0.31			0.19		
v/c Ratio	1.31	1.24	0.26	0.22	1.26	0.39	0.92	0.87		0.62	1.28	
Uniform Delay, d1	67.1	45.8	19.0	65.2	48.5	20.8	60.5	43.9		29.9	49.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	176.0	118.7	0.2	0.8	130.4	0.3	29.7	11.7		3.8	140.0	
Delay (s)	243.1	164.5	19.1	65.9	178.9	21.2	90.2	55.6		33.7	189.4	
Level of Service	F	F	B	E	F	C	F	E		C	F	
Approach Delay (s)		150.7			128.7			68.1			159.2	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM Average Control Delay	129.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	142.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	116.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	NWL	NWT
Lane Configurations										
Volume (vph)	216	783	234	30	737	326	274	481	168	657
Lane Group Flow (vph)	230	833	249	31	768	340	319	562	179	744
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt		pm+pt	
Protected Phases	5	2	2 3	1	6	6 7	7	4	3	8
Permitted Phases	2			6			4		8	
Detector Phases	5	2	2 3	1	6	6 7	7	4	3	8
Minimum Initial (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	22.0		11.0	22.0		14.0	22.0	14.0	22.0
Total Split (s)	17.0	47.0	75.0	17.0	47.0	75.0	28.0	48.0	28.0	48.0
Total Split (%)	12.1%	33.6%	53.6%	12.1%	33.6%	53.6%	20.0%	34.3%	20.0%	34.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	Max		None	Max		None	None	None	None
v/c Ratio	1.26	1.21	0.29	0.18	1.32	0.42	0.90	0.85	0.62	1.26
Control Delay	187.6	146.8	13.8	26.6	192.6	19.0	66.9	56.1	39.2	168.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	187.6	146.8	13.8	26.6	192.6	19.0	66.9	56.1	39.2	168.9
Queue Length 50th (ft)	~219	~989	89	16	~900	152	230	474	103	~850
Queue Length 95th (ft)	#397	#1264	143	37	#1147	231	#378	#672	176	#1101
Internal Link Dist (ft)		395			961			125		1381
Turn Bay Length (ft)	185		95	165		50	260		80	
Base Capacity (vph)	182	688	886	203	584	815	355	662	337	592
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.26	1.21	0.28	0.15	1.32	0.42	0.90	0.85	0.53	1.26

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 140

Natural Cycle: 140

Control Type: Actuated-Uncoordinated

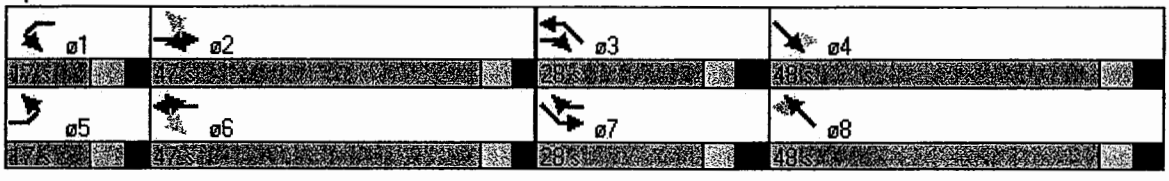
~ Volume exceeds capacity, queue is theoretically infinite.

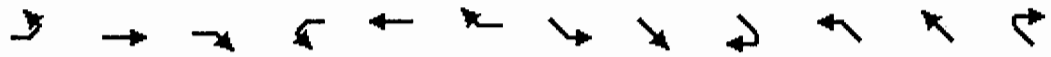
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Route 20 & Route 27





Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	11	11	12	11	11	12	12	11	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1454	1881	1561	1745	1900	1546	1745	1898		1728	1880	
Flt Permitted	0.08	1.00	1.00	0.09	1.00	1.00	0.09	1.00		0.09	1.00	
Satd. Flow (perm)	123	1881	1561	160	1900	1546	162	1898		165	1880	
Volume (vph)	116	806	228	30	717	344	223	476	3	208	676	42
Peak-hour factor, PHF	0.94	0.94	0.94	0.96	0.96	0.96	0.86	0.86	0.86	0.94	0.94	0.94
Adj. Flow (vph)	123	857	243	31	747	358	259	553	3	221	719	45
RTOR Reduction (vph)	0	0	33	0	0	37	0	0	0	0	1	0
Lane Group Flow (vph)	123	857	210	31	747	321	259	556	0	221	763	0
Heavy Vehicles (%)	20%	1%	0%	0%	0%	1%	0%	0%	0%	1%	0%	3%
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt			pm+pt		
Protected Phases	5	2	2 3	1	6	6 7	7	4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	57.9	48.1	72.0	47.5	42.9	68.2	59.7	41.4		56.9	40.0	
Effective Green, g (s)	62.7	51.1	76.0	53.5	45.9	72.2	67.7	45.4		64.9	44.0	
Actuated g/C Ratio	0.44	0.36	0.54	0.38	0.33	0.51	0.48	0.32		0.46	0.31	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	176	682	841	146	619	792	328	611		308	587	
v/s Ratio Prot	c0.06	c0.46	0.13	0.01	0.39	0.21	c0.12	0.29		0.11	c0.41	
v/s Ratio Perm	0.25			0.07			0.25			0.22		
v/c Ratio	0.70	1.26	0.25	0.21	1.21	0.41	0.79	0.91		0.72	1.30	
Uniform Delay, d1	32.7	44.9	17.3	64.2	47.6	21.2	40.3	45.8		36.6	48.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.5	127.2	0.2	0.7	107.7	0.3	11.9	17.5		7.8	146.8	
Delay (s)	44.1	172.2	17.5	65.0	155.3	21.5	52.2	63.3		44.3	195.3	
Level of Service	D	F	B	E	F	C	D	E		D	F	
Approach Delay (s)		128.5			110.7			59.8			161.5	
Approach LOS		F			F			E			F	

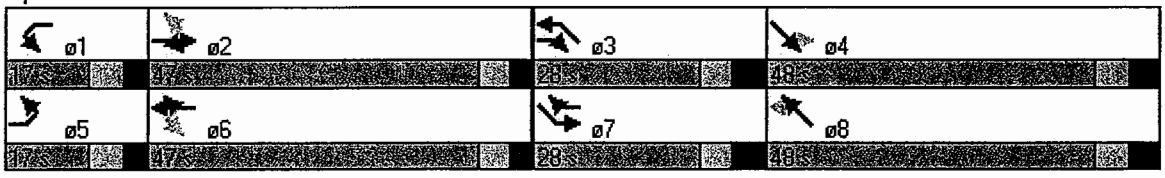
Intersection Summary					
HCM Average Control Delay	118.0	HCM Level of Service	F		
HCM Volume to Capacity ratio	1.16				
Actuated Cycle Length (s)	141.0	Sum of lost time (s)	16.0		
Intersection Capacity Utilization	109.6%	ICU Level of Service	H		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	NWL	NWT
Lane Configurations										
Volume (vph)	116	806	228	30	717	344	223	476	208	676
Lane Group Flow (vph)	123	857	243	31	747	358	259	556	221	764
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt		pm+pt	
Protected Phases	5	2	2 3	1	6	6 7	7	4	3	8
Permitted Phases	2			6			4		8	
Detector Phases	5	2	2 3	1	6	6 7	7	4	3	8
Minimum Initial (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	22.0		11.0	22.0		14.0	22.0	14.0	22.0
Total Split (s)	17.0	47.0	75.0	17.0	47.0	75.0	28.0	48.0	28.0	48.0
Total Split (%)	12.1%	33.6%	53.6%	12.1%	33.6%	53.6%	20.0%	34.3%	20.0%	34.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	Max		None	Max		None	None	None	None
v/c Ratio	0.68	1.23	0.27	0.18	1.26	0.44	0.77	0.89	0.70	1.27
Control Delay	48.1	153.6	13.0	26.4	170.5	18.9	50.5	62.4	45.4	174.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.1	153.6	13.0	26.4	170.5	18.9	50.5	62.4	45.4	174.1
Queue Length 50th (ft)	69	~1034	83	16	~860	157	171	485	138	~888
Queue Length 95th (ft)	#153	#1309	141	37	#1108	239	257	#661	228	#1141
Internal Link Dist (ft)		395			961			125		1381
Turn Bay Length (ft)	185		95	165		50	260		80	
Base Capacity (vph)	184	696	904	206	592	822	352	624	345	601
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	1.23	0.27	0.15	1.26	0.44	0.74	0.89	0.64	1.27

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 138.1
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Route 20 & Route 27



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↰↑↑↱			↰↑↑↱		↰	↱		↰	↱	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	11	11	12	11	11	12	12	11	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Frt		0.97			0.95		1.00	1.00		1.00	0.99	
Flt Protected		0.99			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3393			3424		1745	1898		1728	1880	
Flt Permitted		0.56			0.80		0.11	1.00		0.11	1.00	
Satd. Flow (perm)		1906			2759		210	1898		202	1880	
Volume (vph)	116	806	228	30	717	344	223	476	3	208	676	42
Peak-hour factor, PHF	0.94	0.94	0.94	0.96	0.96	0.96	0.86	0.86	0.86	0.94	0.94	0.94
Adj. Flow (vph)	123	857	243	31	747	358	259	553	3	221	719	45
RTOR Reduction (vph)	0	20	0	0	49	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	1203	0	0	1087	0	259	556	0	221	762	0
Heavy Vehicles (%)	20%	1%	0%	0%	0%	1%	0%	0%	0%	1%	0%	3%
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		2			6		7	4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		51.0			51.0		40.0	33.0		42.0	34.0	
Effective Green, g (s)		53.0			53.0		44.0	35.0		46.0	36.0	
Actuated g/C Ratio		0.48			0.48		0.40	0.32		0.42	0.33	
Clearance Time (s)		6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		918			1329		210	604		223	615	
v/s Ratio Prot							c0.10	0.29		0.09	c0.41	
v/s Ratio Perm		c0.63			0.39		0.39			0.32		
v/c Ratio		1.31			0.82		1.23	0.92		0.99	1.24	
Uniform Delay, d1		28.5			24.4		52.7	36.2		28.5	37.0	
Progression Factor		1.00			1.00		1.02	0.77		1.00	1.00	
Incremental Delay, d2		147.7			5.7		132.8	16.1		57.5	121.0	
Delay (s)		176.2			30.1		186.5	44.1		86.0	158.0	
Level of Service		F			C		F	D		F	F	
Approach Delay (s)		176.2			30.1			89.4			141.9	
Approach LOS		F			C			F			F	

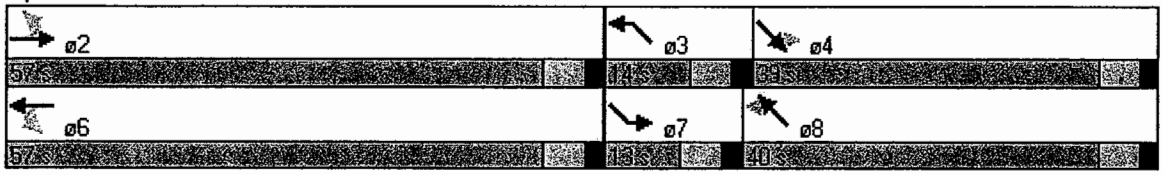
Intersection Summary			
HCM Average Control Delay	111.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	128.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

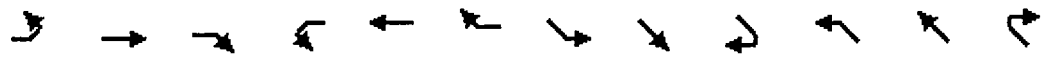
Lane Group	EBL	EBT	WBL	WBT	SEL	SET	NWL	NWT
Lane Configurations		↕		↕	↰	↑	↰	↑
Volume (vph)	116	806	30	717	223	476	208	676
Lane Group Flow (vph)	0	1223	0	1136	259	556	221	764
Turn Type	Perm		Perm		pm+pt		pm+pt	
Protected Phases		2		6	7	4	3	8
Permitted Phases	2		6		4		8	
Detector Phases	2	2	6	6	7	4	3	8
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	22.0	22.0	22.0	22.0	14.0	22.0	14.0	22.0
Total Split (s)	57.0	57.0	57.0	57.0	13.0	39.0	14.0	40.0
Total Split (%)	51.8%	51.8%	51.8%	51.8%	11.8%	35.5%	12.7%	36.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio		1.30		0.82	1.24	0.92	0.99	1.24
Control Delay		171.3		28.5	161.6	47.3	86.1	154.1
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		171.3		28.5	161.6	47.3	86.1	154.1
Queue Length 50th (ft)		~580		326	~174	304	108	~673
Queue Length 95th (ft)		#717		426	m#280	m#510	#267	#910
Internal Link Dist (ft)		395		961		125		1381
Turn Bay Length (ft)					260		80	
Base Capacity (vph)		938		1379	209	604	223	617
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		1.30		0.82	1.24	0.92	0.99	1.24

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green, Master Intersection
Natural Cycle: 110
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Route 20 & Route 27





Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	11	11	12	11	11	12	12	11	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1454	1881	1561	1745	1900	1546	1745	1898		1728	1879	
Flt Permitted	0.08	1.00	1.00	0.09	1.00	1.00	0.09	1.00		0.12	1.00	
Satd. Flow (perm)	123	1881	1561	160	1900	1546	170	1898		211	1879	
Volume (vph)	330	847	284	30	872	308	185	421	3	259	645	42
Peak hour factor, PHF	0.94	0.94	0.94	0.96	0.96	0.96	0.86	0.86	0.86	0.94	0.94	0.94
Adj. Flow (vph)	351	901	302	31	908	321	215	490	3	276	686	45
RTOR Reduction (vph)	0	0	38	0	0	26	0	0	0	0	1	0
Lane Group Flow (vph)	351	901	264	31	908	295	215	493	0	276	730	0
Heavy Vehicles (%)	20%	1%	0%	0%	0%	1%	0%	0%	0%	1%	0%	3%
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt			pm+pt		
Protected Phases	5	2	23	1	6	67	7	4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	58.4	48.4	73.4	47.4	42.9	66.7	56.0	39.2		58.4	40.4	
Effective Green, g (s)	62.9	51.4	77.4	53.4	45.9	70.7	64.0	43.2		66.4	44.4	
Actuated g/C Ratio	0.45	0.37	0.55	0.38	0.33	0.50	0.46	0.31		0.47	0.32	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	179	690	862	146	622	780	311	585		338	595	
v/s Ratio Prot	c0.18	0.48	0.17	0.01	0.48	0.19	0.10	0.26		c0.13	c0.39	
v/s Ratio Perm	c0.70			0.07			0.21			0.26		
v/c Ratio	1.96	1.31	0.31	0.21	1.46	0.38	0.69	0.84		0.82	1.23	
Uniform Delay, d1	65.7	44.3	16.9	63.9	47.1	21.2	57.9	45.3		35.5	47.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	452.0	148.0	0.2	0.7	215.7	0.3	6.5	10.7		14.1	116.2	
Delay (s)	517.8	192.3	17.1	64.6	262.8	21.6	64.4	55.9		49.6	164.0	
Level of Service	F	F	B	E	F	C	E	E		D	F	
Approach Delay (s)		231.8			196.5			58.5			132.7	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM Average Control Delay	172.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.46		
Actuated Cycle Length (s)	140.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	124.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	NWL	NWT
Lane Configurations										
Volume (vph)	330	847	284	30	872	308	185	421	259	645
Lane Group Flow (vph)	351	901	302	31	908	321	215	493	276	731
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt		pm+pt	
Protected Phases	5	2	2 3	1	6	6 7	7	4	3	8
Permitted Phases	2			6			4		8	
Detector Phases	5	2	2 3	1	6	6 7	7	4	3	8
Minimum Initial (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	22.0		11.0	22.0		14.0	22.0	14.0	22.0
Total Split (s)	17.0	47.0	75.0	17.0	47.0	75.0	28.0	48.0	28.0	48.0
Total Split (%)	12.1%	33.6%	53.6%	12.1%	33.6%	53.6%	20.0%	34.3%	20.0%	34.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	Max		None	Max		None	None	None	None
v/c Ratio	1.89	1.28	0.33	0.18	1.52	0.41	0.68	0.83	0.78	1.20
Control Delay	445.3	172.3	13.5	26.3	277.6	19.7	43.3	56.8	45.4	145.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	445.3	172.3	13.5	26.3	277.6	19.7	43.3	56.8	45.4	145.5
Queue Length 50th (ft)	~451	~1117	108	16	~1164	150	132	416	162	~801
Queue Length 95th (ft)	#655	#1394	179	37	#1420	221	204	526	#278	#1074
Internal Link Dist (ft)		395			961			125		1381
Turn Bay Length (ft)	185		95	165		50	260		80	
Base Capacity (vph)	186	705	925	207	596	808	349	605	371	609
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.89	1.28	0.33	0.15	1.52	0.40	0.62	0.81	0.74	1.20

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 137.2

Natural Cycle: 150

Control Type: Actuated-Uncoordinated

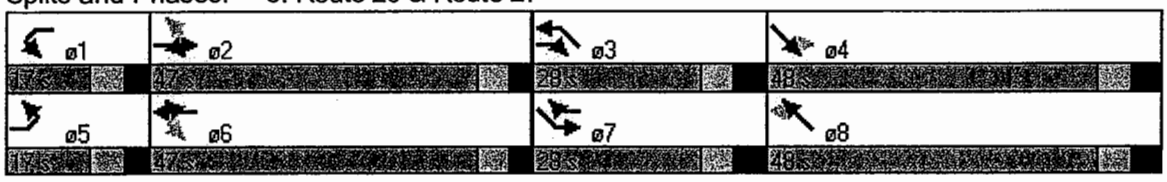
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Route 20 & Route 27



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	11	11	12	11	11	12	12	11	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.96		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1454	3448		1745	3460		1745	1898		1728	1879	
Flt Permitted	0.09	1.00		0.12	1.00		0.12	1.00		0.11	1.00	
Satd. Flow (perm)	140	3448		213	3460		223	1898		197	1879	
Volume (vph)	330	847	284	30	872	308	185	421	3	259	645	42
Peak-hour factor, PHF	0.94	0.94	0.94	0.96	0.96	0.96	0.86	0.86	0.86	0.94	0.94	0.94
Adj. Flow (vph)	351	901	302	31	908	321	215	490	3	276	686	45
RTOR Reduction (vph)	0	26	0	0	29	0	0	0	0	0	2	0
Lane Group Flow (vph)	351	1177	0	31	1200	0	215	493	0	276	729	0
Heavy Vehicles (%)	20%	1%	0%	0%	0%	1%	0%	0%	0%	1%	0%	3%
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	59.8	50.4		39.2	36.8		35.0	29.0		45.0	34.0	
Effective Green, g (s)	62.8	53.4		45.2	39.8		43.0	33.0		52.0	38.0	
Actuated g/C Ratio	0.51	0.43		0.37	0.32		0.35	0.27		0.42	0.31	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	275	1499		146	1121		202	510		270	581	
v/s Ratio Prot	c0.20	0.34		0.01	0.35		0.09	0.26		c0.12	c0.39	
v/s Ratio Perm	c0.46			0.07			0.29			0.31		
v/c Ratio	1.28	0.79		0.21	1.07		1.06	0.97		1.02	1.25	
Uniform Delay, d1	54.1	29.8		26.7	41.5		58.6	44.4		36.4	42.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	149.5	4.2		0.7	47.9		81.4	31.1		60.6	128.2	
Delay (s)	203.6	34.0		27.5	89.4		140.0	75.5		97.0	170.6	
Level of Service	F	C		C	F		F	E		F	F	
Approach Delay (s)		72.3			87.8			95.1			150.4	
Approach LOS		E			F			F			F	

Intersection Summary			
HCM Average Control Delay	97.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	122.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	112.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	SEL	SET	NWL	NWT
Lane Configurations								
Volume (vph)	330	847	30	872	185	421	259	645
Lane Group Flow (vph)	351	1203	31	1229	215	493	276	731
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt	
Protected Phases	5	2	1	6	7	4	3	8
Permitted Phases	2		6		4		8	
Detector Phases	5	2	1	6	7	4	3	8
Minimum Initial (s)	4.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	22.0	11.0	22.0	14.0	22.0	14.0	22.0
Total Split (s)	23.0	53.0	11.0	41.0	14.0	37.0	19.0	42.0
Total Split (%)	19.2%	44.2%	9.2%	34.2%	11.7%	30.8%	15.8%	35.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	None	None	None	None
v/c Ratio	1.25	0.77	0.20	1.12	1.04	0.94	1.00	1.22
Control Delay	169.7	32.1	20.1	104.1	105.2	71.0	87.3	151.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	169.7	32.1	20.1	104.1	105.2	71.0	87.3	151.6
Queue Length 50th (ft)	~298	421	12	~566	~129	375	166	~699
Queue Length 95th (ft)	#490	516	29	#706	#266	#540	#347	#940
Internal Link Dist (ft)		395		961		125		1381
Turn Bay Length (ft)	185		165		260		80	
Base Capacity (vph)	281	1560	157	1097	206	522	276	597
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.25	0.77	0.20	1.12	1.04	0.94	1.00	1.22

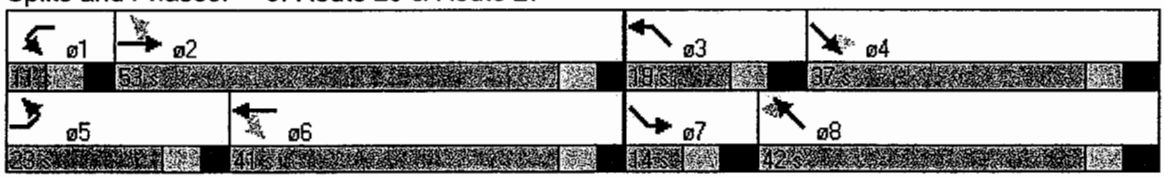
Intersection Summary

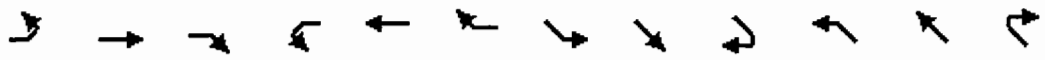
Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 120
Control Type: Semi Act-Uncoord

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

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

Splits and Phases: 3: Route 20 & Route 27





Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	16	16	16	11	10	10	11	10	10
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.97		1.00	0.99		1.00	0.98	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1798			2042		1694	1747		1728	1716	
Flt Permitted		0.99			0.90		0.38	1.00		0.38	1.00	
Satd. Flow (perm)		1787			1847		682	1747		693	1716	
Volume (vph)	6	500	213	52	488	163	175	347	12	193	309	42
Peak-hour factor, PHF	0.92	0.92	0.92	0.89	0.89	0.89	0.95	0.95	0.95	0.93	0.93	0.93
Adj. Flow (vph)	7	543	232	58	548	183	184	365	13	208	332	45
RTOR Reduction (vph)	0	19	0	0	13	0	0	2	0	0	6	0
Lane Group Flow (vph)	0	763	0	0	776	0	184	376	0	208	371	0
Heavy Vehicles (%)	0%	2%	0%	2%	2%	1%	3%	1%	0%	1%	1%	5%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		40.0			40.0		30.0	30.0		30.0	30.0	
Effective Green, g (s)		42.0			42.0		32.0	32.0		32.0	32.0	
Actuated g/C Ratio		0.51			0.51		0.39	0.39		0.39	0.39	
Clearance Time (s)		6.0			6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		915			946		266	682		270	670	
v/s Ratio Prot								0.22			0.22	
v/s Ratio Perm		c0.43			0.42		0.27			c0.30		
v/c Ratio		0.83			0.82		0.69	0.55		0.77	0.55	
Uniform Delay, d1		17.0			16.8		20.9	19.4		21.8	19.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		8.9			7.9		13.8	3.2		18.9	3.3	
Delay (s)		25.9			24.7		34.7	22.6		40.7	22.7	
Level of Service		C			C		C	C		D	C	
Approach Delay (s)		25.9			24.7			26.6			29.1	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	26.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	111.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	SEL	SET	NWL	NWT
Lane Configurations								
Volume (vph)	6	500	52	488	175	347	193	309
Lane Group Flow (vph)	0	782	0	789	184	378	208	377
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		6		2
Permitted Phases	4		8		6		2	
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	46.0	46.0	46.0	46.0	36.0	36.0	36.0	36.0
Total Split (%)	56.1%	56.1%	56.1%	56.1%	43.9%	43.9%	43.9%	43.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag								
Lead-Lag Optimize?								
v/c Ratio		0.84		0.82	0.69	0.55	0.77	0.56
Control Delay		26.4		25.4	37.3	23.1	43.7	22.8
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		26.4		25.4	37.3	23.1	43.7	22.8
Queue Length 50th (ft)		310		313	77	146	91	143
Queue Length 95th (ft)		#545		#491	#180	232	#210	230
Internal Link Dist (ft)		395		961		125		1381
Turn Bay Length (ft)								
Base Capacity (vph)		933		959	266	684	270	676
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.84		0.82	0.69	0.55	0.77	0.56

Intersection Summary

Cycle Length: 82

Actuated Cycle Length: 82

Offset: 0 (0%), Referenced to phase 2:NWTL and 6:SETL, Start of Green

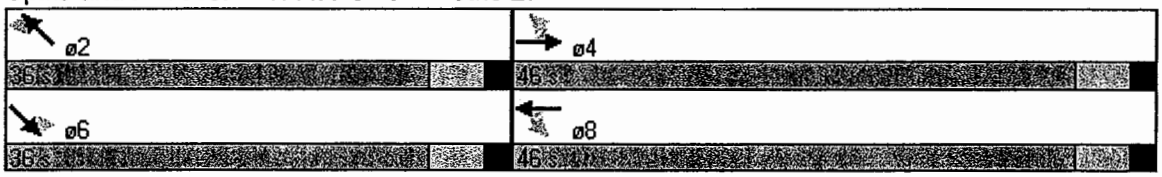
Natural Cycle: 60

Control Type: Pretimed

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Route 20 & Route 27



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	11	11	12	11	11	12	12	11	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1745	1863	1561	1711	1863	1546	1694	1873		1728	1841	
Flt Permitted	0.08	1.00	1.00	0.09	1.00	1.00	0.20	1.00		0.17	1.00	
Satd. Flow (perm)	152	1863	1561	161	1863	1546	349	1873		306	1841	
Volume (vph)	239	620	275	55	619	209	215	375	12	255	342	44
Peak hour factor, PHF	0.92	0.92	0.92	0.89	0.89	0.89	0.95	0.95	0.95	0.93	0.93	0.93
Adj. Flow (vph)	260	674	299	62	696	235	226	395	13	274	368	47
RTOR Reduction (vph)	0	0	49	0	0	25	0	1	0	0	4	0
Lane Group Flow (vph)	260	674	250	62	696	210	226	407	0	274	411	0
Heavy Vehicles (%)	0%	2%	0%	2%	2%	1%	3%	1%	0%	1%	1%	5%
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt			pm+pt		
Protected Phases	5	2	2 3	1	6	6 7	7	4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	55.3	45.2	69.3	48.5	41.8	64.3	47.4	31.9		50.6	33.5	
Effective Green, g (s)	61.3	48.2	73.3	54.5	44.8	68.3	55.4	35.9		58.6	37.5	
Actuated g/C Ratio	0.47	0.37	0.56	0.42	0.34	0.52	0.42	0.27		0.45	0.29	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	231	686	874	182	638	807	348	514		366	527	
v/s Ratio Prot	c0.11	0.36	0.16	0.03	0.37	0.14	0.10	0.22		c0.12	c0.22	
v/s Ratio Perm	c0.41			0.12			0.18			0.21		
v/c Ratio	1.13	0.98	0.29	0.34	1.09	0.26	0.65	0.79		0.75	0.78	
Uniform Delay, d1	40.4	40.9	15.1	30.1	43.1	17.3	27.7	44.0		27.2	42.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	97.1	30.4	0.2	1.1	62.9	0.2	4.1	8.2		8.1	7.4	
Delay (s)	137.5	71.3	15.3	31.2	106.0	17.5	31.8	52.2		35.3	50.3	
Level of Service	F	E	B	C	F	B	C	D		D	D	
Approach Delay (s)		71.7			80.4			44.9			44.4	
Approach LOS		E			F			D			D	

Intersection Summary				
HCM Average Control Delay	64.0	HCM Level of Service	E	
HCM Volume to Capacity ratio	0.99			
Actuated Cycle Length (s)	130.9	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	93.7%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	NWL	NWT
Lane Configurations										
Volume (vph)	239	620	275	55	619	209	215	375	255	342
Lane Group Flow (vph)	260	674	299	62	696	235	226	408	274	415
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt		pm+pt	
Protected Phases	5	2	2 3	1	6	6 7	7	4	3	8
Permitted Phases	2			6			4		8	
Detector Phases	5	2	2 3	1	6	6 7	7	4	3	8
Minimum Initial (s)	4.0	6.0		4.0	6.0		4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	22.0		11.0	22.0		12.0	22.0	12.0	22.0
Total Split (s)	17.0	47.0	75.0	17.0	47.0	75.0	28.0	48.0	28.0	48.0
Total Split (%)	12.1%	33.6%	53.6%	12.1%	33.6%	53.6%	20.0%	34.3%	20.0%	34.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	Max		None	Max		None	None	None	None
v/c Ratio	1.10	0.97	0.32	0.31	1.12	0.29	0.61	0.78	0.67	0.77
Control Delay	121.6	70.0	11.8	26.5	113.4	15.4	28.2	54.7	30.0	52.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.6	70.0	11.8	26.5	113.4	15.4	28.2	54.7	30.0	52.4
Queue Length 50th (ft)	~205	~635	83	29	~696	85	112	319	140	316
Queue Length 95th (ft)	#423	#975	163	63	#999	147	167	447	203	457
Internal Link Dist (ft)		395			961			125		1381
Turn Bay Length (ft)	185		95	165		50	260		80	
Base Capacity (vph)	236	694	944	220	623	847	411	601	431	602
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.10	0.97	0.32	0.28	1.12	0.28	0.55	0.68	0.64	0.69

Intersection Summary

Cycle Length: 140

Actuated Cycle Length: 129.5

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

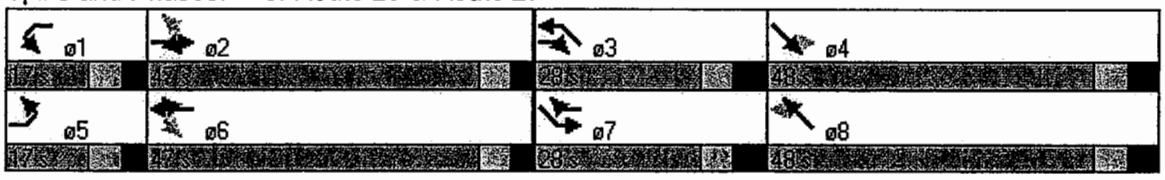
~ Volume exceeds capacity, queue is theoretically infinite.

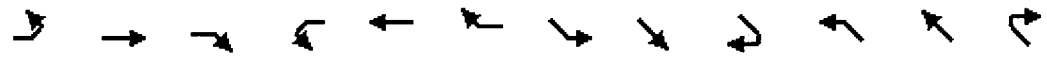
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Route 20 & Route 27





Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	11	11	12	11	11	12	12	11	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1745	1863	1561	1711	1863	1546	1694	1874		1728	1846	
Flt Permitted	0.08	1.00	1.00	0.09	1.00	1.00	0.15	1.00		0.12	1.00	
Satd. Flow (perm)	152	1863	1561	161	1863	1546	259	1874		220	1846	
Volume (vph)	130	737	327	35	750	239	243	426	12	311	397	44
Peak hour factor, PHF	0.92	0.92	0.92	0.89	0.89	0.89	0.95	0.95	0.95	0.93	0.93	0.93
Adj. Flow (vph)	141	801	355	39	843	269	256	448	13	334	427	47
RTOR Reduction (vph)	0	0	49	0	0	24	0	1	0	0	3	0
Lane Group Flow (vph)	141	801	306	39	843	245	256	460	0	334	471	0
Heavy Vehicles (%)	0%	2%	0%	2%	2%	1%	3%	1%	0%	1%	1%	5%
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt			pm+pt		
Protected Phases	5	2	2 3	1	6	6 7	7	4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	54.9	45.3	71.5	47.9	41.8	65.9	52.4	35.3		56.6	37.4	
Effective Green, g (s)	60.9	48.3	75.5	53.9	44.8	69.9	60.4	39.3		64.6	41.4	
Actuated g/C Ratio	0.45	0.36	0.56	0.40	0.33	0.51	0.44	0.29		0.48	0.30	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	216	662	867	168	614	795	338	542		362	562	
v/s Ratio Prot	c0.06	0.43	0.20	0.02	c0.45	0.16	0.12	0.25		c0.16	0.26	
v/s Ratio Perm	0.23			0.08			0.22			c0.28		
v/c Ratio	0.65	1.21	0.35	0.23	1.37	0.31	0.76	0.85		0.92	0.84	
Uniform Delay, d1	60.9	43.8	16.7	60.5	45.6	19.0	28.7	45.5		37.9	44.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.9	108.2	0.2	0.7	178.0	0.2	9.3	11.8		28.5	10.6	
Delay (s)	67.8	152.0	16.9	61.2	223.6	19.3	38.0	57.4		66.3	54.7	
Level of Service	E	F	B	E	F	B	D	E		E	D	
Approach Delay (s)		105.9			170.3			50.5			59.5	
Approach LOS		F			F			D			E	

Intersection Summary				
HCM Average Control Delay	105.1	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.12			
Actuated Cycle Length (s)	135.9	Sum of lost time (s)	20.0	
Intersection Capacity Utilization	100.4%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	NWL	NWT
Lane Configurations										
Volume (vph)	130	737	327	35	750	239	243	426	311	397
Lane Group Flow (vph)	141	801	355	39	843	269	256	461	334	474
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt		pm+pt	
Protected Phases	5	2	2 3	1	6	6 7	7	4	3	8
Permitted Phases	2			6			4		8	
Detector Phases	5	2	2 3	1	6	6 7	7	4	3	8
Minimum Initial (s)	4.0	6.0		4.0	6.0		4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	22.0		11.0	22.0		12.0	22.0	12.0	22.0
Total Split (s)	17.0	47.0	75.0	17.0	47.0	75.0	28.0	48.0	28.0	48.0
Total Split (%)	12.1%	33.6%	53.6%	12.1%	33.6%	53.6%	20.0%	34.3%	20.0%	34.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	Max		None	Max		None	None	None	None
v/c Ratio	0.64	1.20	0.38	0.21	1.41	0.33	0.74	0.84	0.85	0.83
Control Delay	41.1	141.0	13.8	26.2	228.8	17.3	39.1	59.2	49.0	56.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.1	141.0	13.8	26.2	228.8	17.3	39.1	59.2	49.0	56.9
Queue Length 50th (ft)	78	~929	124	20	~1042	113	134	381	197	391
Queue Length 95th (ft)	#149	#1215	209	44	#1285	175	232	519	#362	#549
Internal Link Dist (ft)		395			961			125		1381
Turn Bay Length (ft)	185		95	165		50	260		80	
Base Capacity (vph)	226	670	929	211	599	826	375	595	399	597
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	1.20	0.38	0.18	1.41	0.33	0.68	0.77	0.84	0.79

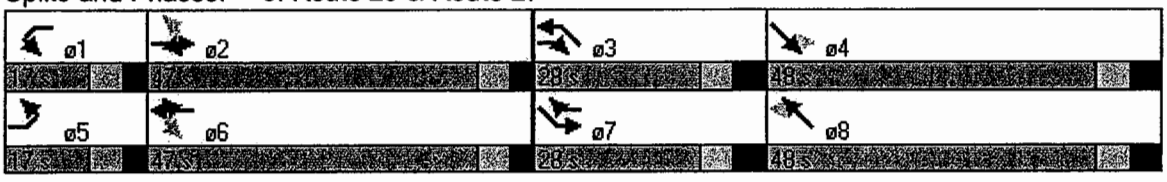
Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 134.3
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

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

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

Splits and Phases: 3: Route 20 & Route 27



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	11	11	12	11	11	12	12	11	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Frt		0.96			0.96		1.00	1.00		1.00	0.99	
Flt Protected		0.99			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3401			3417		1694	1874		1728	1846	
Flt Permitted		0.59			0.81		0.22	1.00		0.22	1.00	
Satd. Flow (perm)		2002			2786		396	1874		404	1846	
Volume (vph)	130	737	327	35	750	239	243	426	12	311	397	44
Peak-hour factor, PHF	0.92	0.92	0.92	0.89	0.89	0.89	0.95	0.95	0.95	0.93	0.93	0.93
Adj. Flow (vph)	141	801	355	39	843	269	256	448	13	334	427	47
RTOR Reduction (vph)	0	31	0	0	28	0	0	2	0	0	5	0
Lane Group Flow (vph)	0	1266	0	0	1123	0	256	459	0	334	469	0
Heavy Vehicles (%)	0%	2%	0%	2%	2%	1%	3%	1%	0%	1%	1%	5%
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		40.0			40.0		22.0	16.0		22.0	16.0	
Effective Green, g (s)		42.0			42.0		26.0	18.0		26.0	18.0	
Actuated g/C Ratio		0.52			0.52		0.32	0.22		0.32	0.22	
Clearance Time (s)		6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		1051			1463		259	422		264	415	
v/s Ratio Prot							0.10	0.25		c0.13	0.25	
v/s Ratio Perm		c0.63			0.40		0.22			c0.28		
v/c Ratio		1.20			0.77		0.99	1.09		1.27	1.13	
Uniform Delay, d1		19.0			15.1		38.2	31.0		25.5	31.0	
Progression Factor		1.00			1.00		1.01	0.96		1.00	1.00	
Incremental Delay, d2		101.3			2.5		46.8	65.8		145.9	84.9	
Delay (s)		120.3			17.6		85.2	95.5		171.4	115.9	
Level of Service		F			B		F	F		F	F	
Approach Delay (s)		120.3			17.6			91.8			138.9	
Approach LOS		F			B			F			F	

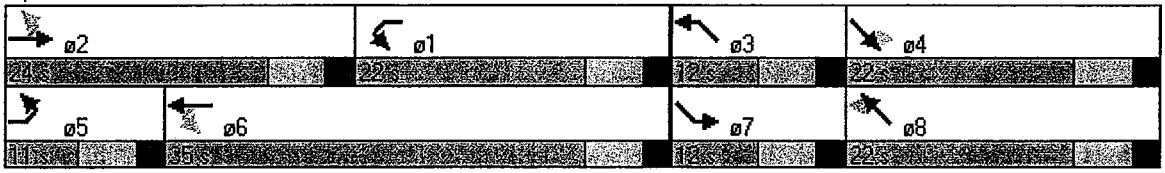
Intersection Summary				
HCM Average Control Delay	89.2	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.23			
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	117.7%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

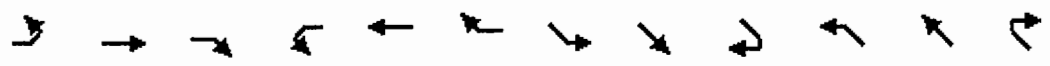
Lane Group	EBL	EBT	WBL	WBT	SEL	SET	NWL	NWT
Lane Configurations		↕		↕	↰	↑	↰	↑
Volume (vph)	130	737	35	750	243	426	311	397
Lane Group Flow (vph)	0	1297	0	1151	256	461	334	474
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt	
Protected Phases	5	2	1	6	7	4	3	8
Permitted Phases	2		6		4		8	
Detector Phases	5	2	1	6	7	4	3	8
Minimum Initial (s)	4.0	6.0	4.0	6.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	22.0	22.0	22.0	12.0	22.0	12.0	22.0
Total Split (s)	11.0	24.0	22.0	35.0	12.0	22.0	12.0	22.0
Total Split (%)	13.8%	30.0%	27.5%	43.8%	15.0%	27.5%	15.0%	27.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
v/c Ratio		1.24		0.68	0.99	1.09	1.27	1.13
Control Delay		136.8		15.9	72.8	97.3	169.7	115.2
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		136.8		15.9	72.8	97.3	169.7	115.2
Queue Length 50th (ft)		~424		198	86	~256	~162	~278
Queue Length 95th (ft)		#554		264	m#201	m#416	#325	#461
Internal Link Dist (ft)		395		961		125		1381
Turn Bay Length (ft)					260		80	
Base Capacity (vph)		1047		1685	259	423	264	420
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		1.24		0.68	0.99	1.09	1.27	1.13

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green, Master Intersection
Natural Cycle: 150
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

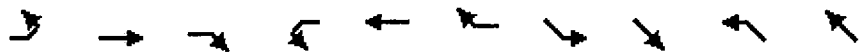
Splits and Phases: 3: Route 20 & Route 27





Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	11	11	12	11	11	12	12	11	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1745	1863	1561	1711	1863	1546	1694	1873		1728	1840	
Flt Permitted	0.08	1.00	1.00	0.09	1.00	1.00	0.27	1.00		0.16	1.00	
Satd. Flow (perm)	151	1863	1561	161	1863	1546	479	1873		294	1840	
Volume (vph)	368	780	388	35	798	191	200	365	12	378	330	44
Peak-hour factor, PHF	0.92	0.92	0.92	0.89	0.89	0.89	0.95	0.95	0.95	0.93	0.93	0.93
Adj. Flow (vph)	400	848	422	39	897	215	211	384	13	406	355	47
RTOR Reduction (vph)	0	0	53	0	0	19	0	1	0	0	3	0
Lane Group Flow (vph)	400	848	369	39	897	196	211	396	0	406	399	0
Heavy Vehicles (%)	0%	2%	0%	2%	2%	1%	3%	1%	0%	1%	1%	5%
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt			pm+pt		
Protected Phases	5	2	2 3	1	6	6 7	7	4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	55.6	45.6	72.7	47.8	41.7	63.7	46.9	31.9		57.1	37.0	
Effective Green, g (s)	61.6	48.6	76.7	53.8	44.7	67.7	54.9	35.9		64.0	41.0	
Actuated g/C Ratio	0.46	0.36	0.57	0.40	0.33	0.51	0.41	0.27		0.48	0.31	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	225	677	896	170	623	783	369	503		399	564	
v/s Ratio Prot	c0.17	0.46	0.24	0.02	0.48	0.13	0.08	0.21		c0.18	0.22	
v/s Ratio Perm	c0.65			0.08			0.15			c0.30		
v/c Ratio	1.78	1.25	0.41	0.23	1.44	0.25	0.57	0.79		1.02	0.71	
Uniform Delay, d1	62.5	42.6	15.9	31.9	44.5	18.7	28.0	45.4		35.5	41.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	367.4	125.6	0.3	0.7	207.0	0.2	2.1	8.0		49.6	4.0	
Delay (s)	430.0	168.1	16.2	32.6	251.5	18.8	30.2	53.4		85.0	45.1	
Level of Service	F	F	B	C	F	B	C	D		F	D	
Approach Delay (s)		192.5			200.6			45.3			65.1	
Approach LOS		F			F			D			E	

Intersection Summary			
HCM Average Control Delay	149.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.41		
Actuated Cycle Length (s)	133.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	116.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

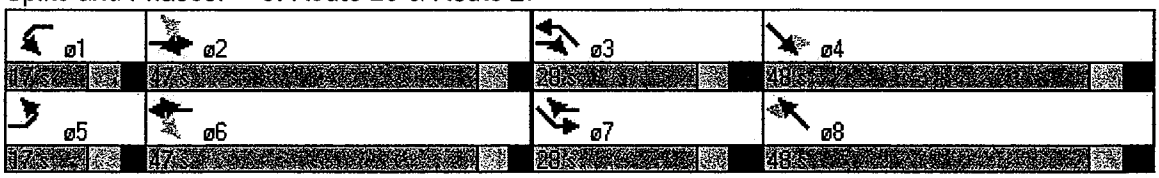


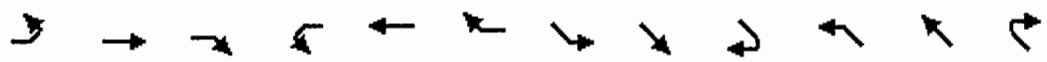
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	NWL	NWT
Lane Configurations										
Volume (vph)	368	780	388	35	798	191	200	365	378	330
Lane Group Flow (vph)	400	848	422	39	897	215	211	397	406	402
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt		pm+pt	
Protected Phases	5	2	2 3	1	6	6 7	7	4	3	8
Permitted Phases	2			6			4		8	
Detector Phases	5	2	2 3	1	6	6 7	7	4	3	8
Minimum Initial (s)	4.0	6.0		4.0	6.0		4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	22.0		11.0	22.0		12.0	22.0	12.0	22.0
Total Split (s)	17.0	47.0	75.0	17.0	47.0	75.0	28.0	48.0	28.0	48.0
Total Split (%)	12.1%	33.6%	53.6%	12.1%	33.6%	53.6%	20.0%	34.3%	20.0%	34.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	Max		None	Max		None	None	None	None
v/c Ratio	1.73	1.24	0.44	0.21	1.48	0.27	0.58	0.78	0.90	0.70
Control Delay	372.5	156.0	14.0	25.1	256.8	16.8	27.2	55.5	49.6	47.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	372.5	156.0	14.0	25.1	256.8	16.8	27.2	55.5	49.6	47.5
Queue Length 50th (ft)	~462	~945	143	19	~1068	85	104	314	229	300
Queue Length 95th (ft)	#717	#1307	262	44	#1389	140	156	434	#425	459
Internal Link Dist (ft)		395			961			125		1381
Turn Bay Length (ft)	185		95	165		50	260		80	
Base Capacity (vph)	231	685	958	214	607	820	411	589	449	604
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.73	1.24	0.44	0.18	1.48	0.26	0.51	0.67	0.90	0.67

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 132.2
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Route 20 & Route 27





Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	11	11	12	11	11	12	12	11	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.97		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1745	3385		1711	3443		1694	1873		1728	1840	
Flt Permitted	0.11	1.00		0.12	1.00		0.24	1.00		0.17	1.00	
Satd. Flow (perm)	200	3385		220	3443		431	1873		303	1840	
Volume (vph)	368	780	388	35	798	191	200	365	12	378	330	44
Peak-hour factor, PHF	0.92	0.92	0.92	0.89	0.89	0.89	0.95	0.95	0.95	0.93	0.93	0.93
Adj. Flow (vph)	400	848	422	39	897	215	211	384	13	406	355	47
RTOR Reduction (vph)	0	59	0	0	20	0	0	2	0	0	5	0
Lane Group Flow (vph)	400	1211	0	39	1092	0	211	395	0	406	397	0
Heavy Vehicles (%)	0%	2%	0%	2%	2%	1%	3%	1%	0%	1%	1%	5%
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	50.8	41.4		32.2	29.8		22.0	16.0		36.0	23.0	
Effective Green, g (s)	53.8	44.4		38.2	32.8		30.0	20.0		41.0	27.0	
Actuated g/C Ratio	0.52	0.43		0.37	0.32		0.29	0.19		0.40	0.26	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	360	1462		160	1099		249	364		356	483	
v/s Ratio Prot	c0.18	0.36		0.01	0.32		0.08	0.21		c0.19	0.22	
v/s Ratio Perm	c0.40			0.08			0.17			c0.27		
v/c Ratio	1.11	0.83		0.24	0.99		0.85	1.09		1.14	0.82	
Uniform Delay, d1	31.2	25.8		22.6	34.9		30.5	41.4		28.9	35.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	80.9	5.6		0.8	25.6		22.5	72.3		91.5	10.8	
Delay (s)	112.1	31.4		23.4	60.5		53.0	113.7		120.4	46.4	
Level of Service	F	C		C	E		D	F		F	D	
Approach Delay (s)		50.7			59.2			92.6			83.6	
Approach LOS		D			E			F			F	

Intersection Summary				
HCM Average Control Delay	65.3	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.09			
Actuated Cycle Length (s)	102.8	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	102.8%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	SEL	SET	NWL	NWT
Lane Configurations								
Volume (vph)	368	780	35	798	200	365	378	330
Lane Group Flow (vph)	400	1270	39	1112	211	397	406	402
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt	
Protected Phases	5	2	1	6	7	4	3	8
Permitted Phases	2		6		4		8	
Detector Phases	5	2	1	6	7	4	3	8
Minimum Initial (s)	4.0	6.0	4.0	6.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	22.0	11.0	22.0	12.0	22.0	12.0	22.0
Total Split (s)	21.0	44.0	11.0	34.0	14.0	24.0	21.0	31.0
Total Split (%)	21.0%	44.0%	11.0%	34.0%	14.0%	24.0%	21.0%	31.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	None	None	None	None
v/c Ratio	1.08	0.81	0.21	1.06	0.80	1.06	1.11	0.80
Control Delay	98.1	28.5	16.9	77.5	46.1	101.7	106.3	47.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	98.1	28.5	16.9	77.5	46.1	101.7	106.3	47.0
Queue Length 50th (ft)	~236	365	12	~404	89	~278	~247	235
Queue Length 95th (ft)	#423	#506	28	#525	#184	#466	#437	#383
Internal Link Dist (ft)		395		961		125		1381
Turn Bay Length (ft)	185		165		260		80	
Base Capacity (vph)	370	1559	183	1054	263	376	367	502
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.81	0.21	1.06	0.80	1.06	1.11	0.80

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Natural Cycle: 100

Control Type: Semi Act-Uncoord

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Route 20 & Route 27

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕			↕		↰	↑		↰	↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	16	16	16	11	10	10	11	10	10
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.96		1.00	1.00		1.00	0.98	
Flt Protected		1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1842			2045		1745	1765		1745	1739	
Flt Permitted		0.97			0.91		0.38	1.00		0.40	1.00	
Satd. Flow (perm)		1791			1873		706	1765		741	1739	
Volume (vph)	17	353	101	63	383	168	230	305	10	118	293	44
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.88	0.88	0.88	0.90	0.90	0.90
Adj. Flow (vph)	18	384	110	69	421	185	261	347	11	131	326	49
RTOR Reduction (vph)	0	12	0	0	17	0	0	1	0	0	7	0
Lane Group Flow (vph)	0	500	0	0	658	0	261	357	0	131	368	0
Heavy Vehicles (%)	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)		40.0			40.0		30.0	30.0		30.0	30.0	
Effective Green, g (s)		42.0			42.0		32.0	32.0		32.0	32.0	
Actuated g/C Ratio		0.51			0.51		0.39	0.39		0.39	0.39	
Clearance Time (s)		6.0			6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)		917			959		276	689		289	679	
v/s Ratio Prot								0.20			0.21	
v/s Ratio Perm		0.28			c0.35		c0.37			0.18		
v/c Ratio		0.55			0.69		0.95	0.52		0.45	0.54	
Uniform Delay, d1		13.5			15.0		24.2	19.1		18.5	19.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.3			4.0		41.9	2.8		5.1	3.1	
Delay (s)		15.9			19.0		66.0	21.9		23.6	22.4	
Level of Service		B			B		E	C		C	C	
Approach Delay (s)		15.9			19.0			40.5			22.7	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM Average Control Delay	24.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.9%	ICU Level of Service	F
Analysis Period (min)	15		

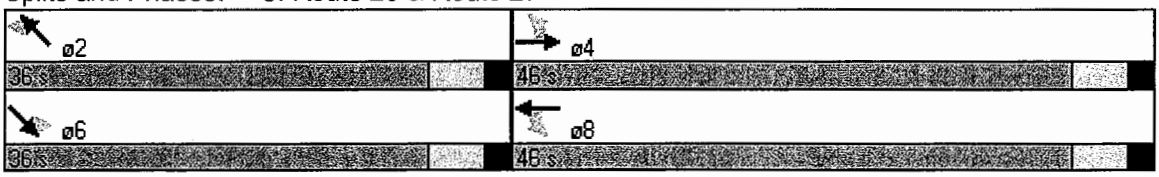
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	SEL	SET	NWL	NWT
Lane Configurations		↕		↕	↰	↑	↰	↑
Volume (vph)	17	353	63	383	230	305	118	293
Lane Group Flow (vph)	0	512	0	675	261	358	131	375
Turn Type	Perm		Perm		Perm		Perm	
Protected Phases		4		8		6		2
Permitted Phases	4		8		6		2	
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	46.0	46.0	46.0	46.0	36.0	36.0	36.0	36.0
Total Split (%)	56.1%	56.1%	56.1%	56.1%	43.9%	43.9%	43.9%	43.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag								
Lead-Lag Optimize?								
v/c Ratio		0.55		0.69	0.95	0.52	0.45	0.55
Control Delay		15.6		18.9	69.9	22.3	24.8	22.5
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		15.6		18.9	69.9	22.3	24.8	22.5
Queue Length 50th (ft)		160		235	126	136	49	141
Queue Length 95th (ft)		249		360	#268	210	102	226
Internal Link Dist (ft)		395		961		125		1381
Turn Bay Length (ft)								
Base Capacity (vph)		930		975	276	690	289	685
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.55		0.69	0.95	0.52	0.45	0.55

Intersection Summary

Cycle Length: 82
Actuated Cycle Length: 82
Offset: 0 (0%), Referenced to phase 2:NWTL and 6:SETL, Start of Green
Natural Cycle: 50
Control Type: Pretimed
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Route 20 & Route 27



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	11	11	12	11	11	12	12	11	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1745	1900	1561	1745	1881	1546	1745	1892		1745	1864	
Flt Permitted	0.12	1.00	1.00	0.22	1.00	1.00	0.16	1.00		0.31	1.00	
Satd. Flow (perm)	215	1900	1561	407	1881	1546	293	1892		565	1864	
Volume (vph)	149	448	137	66	488	205	264	328	10	158	317	46
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.88	0.88	0.88	0.90	0.90	0.90
Adj. Flow (vph)	162	487	149	73	536	225	300	373	11	176	352	51
RTOR Reduction (vph)	0	0	37	0	0	30	0	1	0	0	4	0
Lane Group Flow (vph)	162	487	112	73	536	195	300	383	0	176	399	0
Heavy Vehicles (%)	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt			pm+pt		
Protected Phases	5	2	2 3	1	6	6 7	7	4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	54.5	44.7	64.7	48.9	41.9	67.3	55.6	37.2		44.8	31.8	
Effective Green, g (s)	60.5	47.7	68.7	54.9	44.9	71.3	62.2	41.2		52.8	35.8	
Actuated g/C Ratio	0.46	0.36	0.52	0.42	0.34	0.54	0.47	0.31		0.40	0.27	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	247	687	813	271	640	836	385	591		378	506	
v/s Ratio Prot	c0.06	0.26	0.07	0.02	c0.28	0.13	c0.13	0.20		0.06	0.21	
v/s Ratio Perm	0.24			0.09			c0.24			0.13		
v/c Ratio	0.66	0.71	0.14	0.27	0.84	0.23	0.78	0.65		0.47	0.79	
Uniform Delay, d1	27.3	36.1	16.3	25.9	40.1	15.9	27.1	39.1		27.4	44.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.1	6.1	0.1	0.5	12.4	0.1	9.6	2.5		0.9	8.0	
Delay (s)	33.4	42.2	16.4	26.5	52.5	16.1	36.7	41.6		28.4	52.6	
Level of Service	C	D	B	C	D	B	D	D		C	D	
Approach Delay (s)		35.6			40.4			39.4			45.2	
Approach LOS		D			D			D			D	

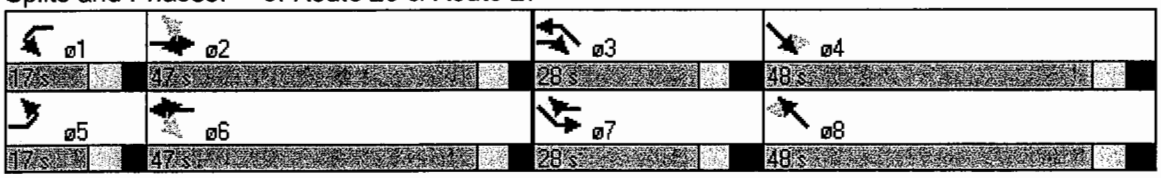
Intersection Summary			
HCM Average Control Delay	39.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	131.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	NWL	NWT
Lane Configurations										
Volume (vph)	149	448	137	66	488	205	264	328	158	317
Lane Group Flow (vph)	162	487	149	73	536	225	300	384	176	403
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt		pm+pt	
Protected Phases	5	2	2 3	1	6	6 7	7	4	3	8
Permitted Phases	2			6			4		8	
Detector Phases	5	2	2 3	1	6	6 7	7	4	3	8
Minimum Initial (s)	4.0	6.0		4.0	6.0		4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	22.0		11.0	22.0		12.0	22.0	12.0	22.0
Total Split (s)	17.0	47.0	75.0	17.0	47.0	75.0	28.0	48.0	28.0	48.0
Total Split (%)	12.1%	33.6%	53.6%	12.1%	33.6%	53.6%	20.0%	34.3%	20.0%	34.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	Max		None	Max		None	None	None	None
v/c Ratio	0.70	0.70	0.17	0.33	0.86	0.26	0.69	0.64	0.49	0.78
Control Delay	45.6	45.2	10.1	26.5	57.1	13.2	30.0	43.8	24.6	54.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.6	45.2	10.1	26.5	57.1	13.2	30.0	43.8	24.6	54.7
Queue Length 50th (ft)	84	378	33	36	439	70	156	277	84	317
Queue Length 95th (ft)	#202	#590	75	72	#694	133	217	391	130	438
Internal Link Dist (ft)		395			961			125		1381
Turn Bay Length (ft)	185		95	165		50	260		80	
Base Capacity (vph)	233	695	893	242	624	865	446	639	432	596
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.70	0.17	0.30	0.86	0.26	0.67	0.60	0.41	0.68

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 130.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Route 20 & Route 27



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	11	11	12	11	11	12	12	11	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1745	1900	1561	1745	1881	1546	1745	1892		1745	1867	
Flt Permitted	0.08	1.00	1.00	0.13	1.00	1.00	0.13	1.00		0.25	1.00	
Satd. Flow (perm)	154	1900	1561	230	1881	1546	239	1892		458	1867	
Volume (vph)	149	514	171	66	555	225	283	357	10	193	349	46
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.88	0.88	0.88	0.90	0.90	0.90
Adj. Flow (vph)	162	559	186	73	610	247	322	406	11	214	388	51
RTOR Reduction (vph)	0	0	40	0	0	29	0	1	0	0	4	0
Lane Group Flow (vph)	162	559	146	73	610	218	322	416	0	214	435	0
Heavy Vehicles (%)	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt			pm+pt		
Protected Phases	5	2	2 3	1	6	6 7	7	4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	54.5	44.6	66.5	48.9	41.8	67.9	57.3	38.2		48.9	34.0	
Effective Green, g (s)	60.5	47.6	70.5	54.9	44.8	71.9	65.1	42.2		56.9	38.0	
Actuated g/C Ratio	0.45	0.35	0.52	0.41	0.33	0.53	0.48	0.31		0.42	0.28	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	221	671	816	207	625	825	373	592		374	526	
v/s Ratio Prot	c0.07	0.29	0.09	0.03	c0.32	0.14	c0.15	0.22		0.08	0.23	
v/s Ratio Perm	0.26			0.12			c0.27			0.16		
v/c Ratio	0.73	0.83	0.18	0.35	0.98	0.26	0.86	0.70		0.57	0.83	
Uniform Delay, d1	31.9	40.0	16.9	29.0	44.5	17.1	34.3	40.8		27.5	45.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.8	11.6	0.1	1.0	30.6	0.2	18.2	3.8		2.1	10.3	
Delay (s)	43.7	51.6	17.0	30.0	75.0	17.2	52.6	44.6		29.6	55.7	
Level of Service	D	D	B	C	E	B	D	D		C	E	
Approach Delay (s)		43.1			56.2			48.1			47.1	
Approach LOS		D			E			D			D	

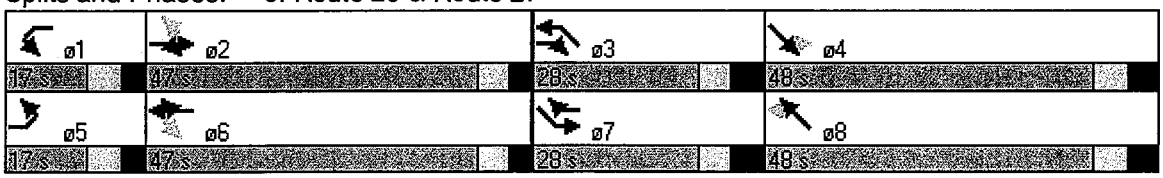
Intersection Summary			
HCM Average Control Delay	48.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	134.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	NWL	NWT
Lane Configurations										
Volume (vph)	149	514	171	66	555	225	283	357	193	349
Lane Group Flow (vph)	162	559	186	73	610	247	322	417	214	439
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt		pm+pt	
Protected Phases	5	2	2 3	1	6	6 7	7	4	3	8
Permitted Phases	2			6			4		8	
Detector Phases	5	2	2 3	1	6	6 7	7	4	3	8
Minimum Initial (s)	4.0	6.0		4.0	6.0		4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	22.0		11.0	22.0		12.0	22.0	12.0	22.0
Total Split (s)	17.0	47.0	75.0	17.0	47.0	75.0	28.0	48.0	28.0	48.0
Total Split (%)	12.1%	33.6%	53.6%	12.1%	33.6%	53.6%	20.0%	34.3%	20.0%	34.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	Max		None	Max		None	None	None	None
v/c Ratio	0.71	0.82	0.22	0.36	1.00	0.29	0.78	0.70	0.59	0.82
Control Delay	47.7	53.1	11.1	28.4	82.1	14.7	37.7	47.1	26.9	57.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	53.1	11.1	28.4	82.1	14.7	37.7	47.1	26.9	57.2
Queue Length 50th (ft)	88	475	49	37	~578	88	170	315	105	354
Queue Length 95th (ft)	#202	#734	95	72	#841	152	#274	444	157	487
Internal Link Dist (ft)		395			961			125		1381
Turn Bay Length (ft)	185		95	165		50	260		80	
Base Capacity (vph)	228	679	889	219	610	850	421	627	416	595
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.82	0.21	0.33	1.00	0.29	0.76	0.67	0.51	0.74

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 133.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Route 20 & Route 27



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	11	11	12	11	11	11	11	11	12	12
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	1.00		1.00	1.00	
Frt		0.97			0.96		1.00	1.00		1.00	0.98	
Flt Protected		0.99			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3468			3421		1745	1829		1745	1867	
Flt Permitted		0.57			0.76		0.18	1.00		0.23	1.00	
Satd. Flow (perm)		1989			2595		334	1829		426	1867	
Volume (vph)	149	514	171	66	555	225	283	357	10	193	349	46
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.88	0.88	0.88	0.90	0.90	0.90
Adj. Flow (vph)	162	559	186	73	610	247	322	406	11	214	388	51
RTOR Reduction (vph)	0	29	0	0	46	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	878	0	0	884	0	322	416	0	214	433	0
Heavy Vehicles (%)	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		2			6		7	4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		36.0			36.0		29.0	20.0		23.0	17.0	
Effective Green, g (s)		38.0			38.0		33.0	22.0		27.0	19.0	
Actuated g/C Ratio		0.48			0.48		0.41	0.28		0.34	0.24	
Clearance Time (s)		6.0			6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		945			1233		332	503		276	443	
v/s Ratio Prot							c0.13	0.23		0.08	0.23	
v/s Ratio Perm		c0.44			0.34		c0.27			0.18		
v/c Ratio		0.93			0.72		0.97	0.83		0.78	0.98	
Uniform Delay, d1		19.7			16.7		19.5	27.2		20.9	30.3	
Progression Factor		1.00			1.00		1.23	1.01		1.00	1.00	
Incremental Delay, d2		16.5			3.6		37.5	9.3		12.8	36.4	
Delay (s)		36.2			20.3		61.5	36.9		33.7	66.7	
Level of Service		D			C		E	D		C	E	
Approach Delay (s)		36.2			20.3			47.6			55.9	
Approach LOS		D			C			D			E	

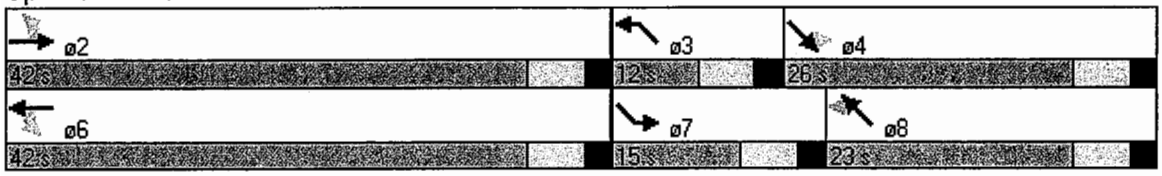
Intersection Summary			
HCM Average Control Delay	38.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	SEL	SET	NWL	NWT
Lane Configurations								
Volume (vph)	149	514	66	555	283	357	193	349
Lane Group Flow (vph)	0	907	0	930	322	417	214	439
Turn Type	Perm		Perm		pm+pt		pm+pt	
Protected Phases		2		6	7	4	3	8
Permitted Phases	2		6		4		8	
Detector Phases	2	2	6	6	7	4	3	8
Minimum Initial (s)	6.0	6.0	6.0	6.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.0	22.0	22.0	22.0	12.0	22.0	12.0	22.0
Total Split (s)	42.0	42.0	42.0	42.0	15.0	26.0	12.0	23.0
Total Split (%)	52.5%	52.5%	52.5%	52.5%	18.8%	32.5%	15.0%	28.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
v/c Ratio		0.93		0.73	0.97	0.83	0.78	0.98
Control Delay		36.8		19.2	64.1	41.7	37.8	69.1
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay		36.8		19.2	64.1	41.7	37.8	69.1
Queue Length 50th (ft)		204		170	129	169	68	215
Queue Length 95th (ft)		#343		244	#259	#335	#154	#400
Internal Link Dist (ft)		395		961		125		1381
Turn Bay Length (ft)					260		80	
Base Capacity (vph)		973		1279	332	504	276	450
Starvation Cap Reductn		0		0	0	0	0	0
Spillback Cap Reductn		0		0	0	0	0	0
Storage Cap Reductn		0		0	0	0	0	0
Reduced v/c Ratio		0.93		0.73	0.97	0.83	0.78	0.98

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 67 (84%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Route 20 & Route 27



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	11	11	12	11	11	12	12	11	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1745	1900	1561	1745	1881	1546	1745	1892		1745	1738	
Flt Permitted	0.08	1.00	1.00	0.09	1.00	1.00	0.08	1.00		0.31	1.00	
Satd. Flow (perm)	156	1900	1561	165	1881	1546	156	1892		571	1738	
Volume (vph)	215	546	206	66	592	205	264	328	10	231	317	416
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.88	0.88	0.88	0.90	0.90	0.90
Adj. Flow (vph)	234	593	224	73	651	225	300	373	11	257	352	462
RTOR Reduction (vph)	0	0	47	0	0	26	0	1	0	0	34	0
Lane Group Flow (vph)	234	593	177	73	651	199	300	383	0	257	780	0
Heavy Vehicles (%)	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt			pm+pt		
Protected Phases	5	2	2 3	1	6	6 7	7	4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	54.1	44.1	67.8	48.7	41.4	68.2	62.9	43.1		56.7	40.0	
Effective Green, g (s)	60.1	47.1	71.8	54.7	44.4	72.2	70.9	47.1		64.7	44.0	
Actuated g/C Ratio	0.43	0.33	0.51	0.39	0.31	0.51	0.50	0.33		0.46	0.31	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	213	634	794	179	591	791	346	631		434	542	
v/s Ratio Prot	c0.10	0.31	0.11	0.03	0.35	0.13	c0.15	0.20		0.09	c0.45	
v/s Ratio Perm	c0.37			0.13			0.29			0.18		
v/c Ratio	1.10	0.94	0.22	0.41	1.10	0.25	0.87	0.61		0.59	1.44	
Uniform Delay, d1	66.3	45.6	19.2	33.5	48.4	19.3	43.0	39.3		25.9	48.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	90.5	23.0	0.1	1.5	67.9	0.2	19.8	1.7		2.2	208.2	
Delay (s)	156.8	68.5	19.4	35.0	116.3	19.5	62.7	41.0		28.1	256.8	
Level of Service	F	E	B	C	F	B	E	D		C	F	
Approach Delay (s)		77.7			87.1			50.5			201.9	
Approach LOS		E			F			D			F	

Intersection Summary			
HCM Average Control Delay	110.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	141.2	Sum of lost time (s)	20.0
Intersection Capacity Utilization	113.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

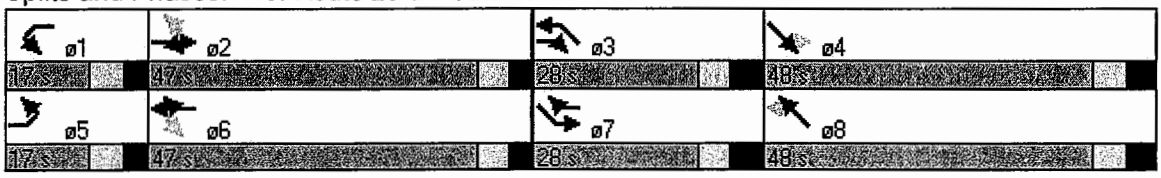
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	NWL	NWT
Lane Configurations										
Volume (vph)	215	546	206	66	592	205	264	328	231	317
Lane Group Flow (vph)	234	593	224	73	651	225	300	384	257	814
Turn Type	pm+pt		pt+ov	pm+pt		pt+ov	pm+pt		pm+pt	
Protected Phases	5	2	2 3	1	6	6 7	7	4	3	8
Permitted Phases	2			6			4		8	
Detector Phases	5	2	2 3	1	6	6 7	7	4	3	8
Minimum Initial (s)	4.0	6.0		4.0	6.0		4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	22.0		11.0	22.0		12.0	22.0	12.0	22.0
Total Split (s)	17.0	47.0	75.0	17.0	47.0	75.0	28.0	48.0	28.0	48.0
Total Split (%)	12.1%	33.6%	53.6%	12.1%	33.6%	53.6%	20.0%	34.3%	20.0%	34.3%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	Max		None	Max		None	None	None	None
v/c Ratio	1.08	0.93	0.26	0.38	1.12	0.28	0.85	0.60	0.62	1.40
Control Delay	119.5	67.3	11.9	30.1	120.9	15.8	59.7	44.0	26.9	225.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	119.5	67.3	11.9	30.1	120.9	15.8	59.7	44.0	26.9	225.7
Queue Length 50th (ft)	~186	538	63	39	~684	85	211	291	130	~964
Queue Length 95th (ft)	#365	#802	115	72	#924	141	#357	402	190	#1219
Internal Link Dist (ft)		395			961			125		1381
Turn Bay Length (ft)	185		95	165		50	260		80	
Base Capacity (vph)	217	640	863	209	579	811	354	638	444	581
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.93	0.26	0.35	1.12	0.28	0.85	0.60	0.58	1.40

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 139.8
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

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

Splits and Phases: 3: Route 20 & Route 27



Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	12	11	11	12	11	11	12	12	11	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.96		1.00	1.00		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1745	3462		1745	3437		1745	1892		1745	1738	
Flt Permitted	0.30	1.00		0.30	1.00		0.13	1.00		0.30	1.00	
Satd. Flow (perm)	548	3462		548	3437		233	1892		543	1738	
Volume (vph)	215	546	206	66	592	205	264	328	10	231	317	416
Peak-hour factor, PHF	0.92	0.92	0.92	0.91	0.91	0.91	0.88	0.88	0.88	0.90	0.90	0.90
Adj. Flow (vph)	234	593	224	73	651	225	300	373	11	257	352	462
RTOR Reduction (vph)	0	43	0	0	39	0	0	1	0	0	53	0
Lane Group Flow (vph)	234	774	0	73	837	0	300	383	0	257	761	0
Heavy Vehicles (%)	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	18.8	18.8		16.6	16.6		33.5	27.5		42.5	32.0	
Effective Green, g (s)	21.8	21.8		19.6	19.6		41.5	31.5		50.0	36.0	
Actuated g/C Ratio	0.24	0.24		0.22	0.22		0.46	0.35		0.56	0.40	
Clearance Time (s)	7.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	244	839		202	749		275	662		495	695	
v/s Ratio Prot	0.09	c0.22		0.02	c0.24		c0.12	0.20		0.08	c0.44	
v/s Ratio Perm	0.14			0.05			0.38			0.20		
v/c Ratio	0.96	0.92		0.36	1.12		1.09	0.58		0.52	1.10	
Uniform Delay, d1	37.4	33.3		29.7	35.2		42.2	23.8		12.3	27.0	
Progression Factor	0.84	0.81		1.00	1.00		0.94	0.96		1.00	1.00	
Incremental Delay, d2	22.2	6.6		1.1	70.1		76.6	1.0		0.9	63.1	
Delay (s)	53.6	33.6		30.8	105.3		116.3	23.9		13.2	90.1	
Level of Service	D	C		C	F		F	C		B	F	
Approach Delay (s)		38.1			99.5			64.4			71.7	
Approach LOS		D			F			E			E	

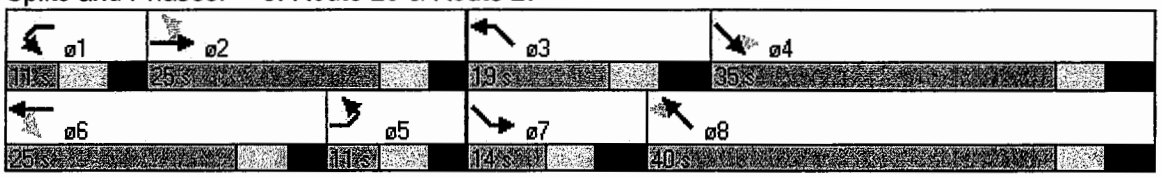
Intersection Summary				
HCM Average Control Delay	68.0	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.05			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	105.0%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBL	EBT	WBL	WBT	SEL	SET	NWL	NWT
Lane Configurations								
Volume (vph)	215	546	66	592	264	328	231	317
Lane Group Flow (vph)	234	817	73	876	300	384	257	814
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt	
Protected Phases	5	2	1	6	7	4	3	8
Permitted Phases	2		6		4		8	
Detector Phases	5	2	1	6	7	4	3	8
Minimum Initial (s)	4.0	6.0	4.0	6.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	22.0	11.0	22.0	12.0	22.0	12.0	22.0
Total Split (s)	11.0	25.0	11.0	25.0	14.0	35.0	19.0	40.0
Total Split (%)	12.2%	27.8%	12.2%	27.8%	15.6%	38.9%	21.1%	44.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	None	None	None
v/c Ratio	1.02	0.87	0.34	1.04	1.08	0.58	0.53	1.09
Control Delay	72.5	30.3	32.3	76.0	97.8	26.6	14.7	85.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.5	30.3	32.3	76.0	97.8	26.6	14.7	85.0
Queue Length 50th (ft)	~118	213	33	~274	~147	154	71	~495
Queue Length 95th (ft)	m#144	m216	70	#396	m#279	262	116	#722
Internal Link Dist (ft)		395		961		125		1381
Turn Bay Length (ft)	185		165		260		80	
Base Capacity (vph)	230	935	217	840	277	664	498	748
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.87	0.34	1.04	1.08	0.58	0.52	1.09

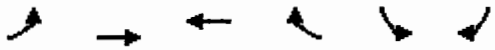
Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 35 (39%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Route 20 & Route 27



Route 20 at Site Driveway



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	11	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1845	1810	1531	1770	1583
Flt Permitted	0.14	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	259	1845	1810	1531	1770	1583
Volume (vph)	136	855	692	56	50	82
Peak-hour factor, PHF	0.89	0.89	0.86	0.86	0.92	0.92
Adj. Flow (vph)	153	961	805	65	54	89
RTOR Reduction (vph)	0	0	0	30	0	74
Lane Group Flow (vph)	153	961	805	35	54	15
Heavy Vehicles (%)	0%	3%	5%	2%	2%	2%
Turn Type	pm+pt			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	37.2	37.2	28.3	28.3	7.5	7.5
Effective Green, g (s)	39.2	39.2	30.3	30.3	9.5	9.5
Actuated g/C Ratio	0.69	0.69	0.53	0.53	0.17	0.17
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	313	1276	967	818	297	265
v/s Ratio Prot	0.04	c0.52	c0.44		c0.03	
v/s Ratio Perm	0.30			0.02		0.01
v/c Ratio	0.49	0.75	0.83	0.04	0.18	0.06
Uniform Delay, d1	8.1	5.6	11.1	6.3	20.3	19.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	2.6	6.2	0.0	0.3	0.1
Delay (s)	9.3	8.2	17.3	6.3	20.6	19.9
Level of Service	A	A	B	A	C	B
Approach Delay (s)		8.4	16.5		20.2	
Approach LOS		A	B		C	

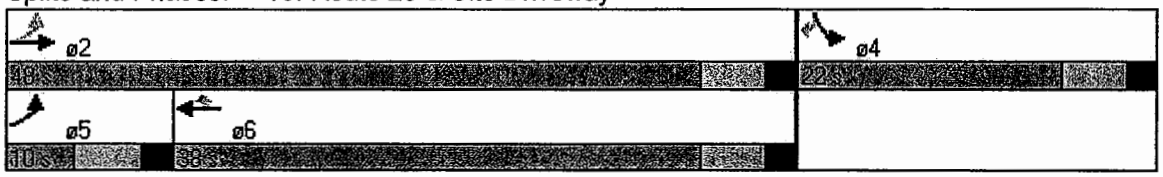
Intersection Summary			
HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	56.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

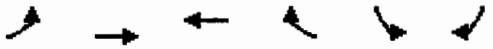
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	136	855	692	56	50	82
Lane Group Flow (vph)	153	961	805	65	54	89
Turn Type	pm+pt			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phases	5	2	6	6	4	4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	10.0	48.0	38.0	38.0	22.0	22.0
Total Split (%)	14.3%	68.6%	54.3%	54.3%	31.4%	31.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Min	Min
v/c Ratio	0.51	0.77	0.82	0.08	0.18	0.26
Control Delay	11.8	11.1	20.2	2.5	24.0	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.8	11.1	20.2	2.5	24.0	8.3
Queue Length 50th (ft)	13	157	214	0	18	0
Queue Length 95th (ft)	53	325	#388	13	45	33
Internal Link Dist (ft)		6196	2445		431	
Turn Bay Length (ft)						
Base Capacity (vph)	300	1324	1045	911	511	521
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.73	0.77	0.07	0.11	0.17

Intersection Summary

Cycle Length: 70
Actuated Cycle Length: 55.8
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: Route 20 & Site Driveway





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	11	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1845	1810	1531	1770	1583
Flt Permitted	0.12	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	223	1845	1810	1531	1770	1583
Volume (vph)	39	950	748	105	87	26
Peak-hour factor, PHF	0.89	0.89	0.86	0.86	0.92	0.92
Adj. Flow (vph)	44	1067	870	122	95	28
RTOR Reduction (vph)	0	0	0	54	0	23
Lane Group Flow (vph)	44	1067	870	68	95	5
Heavy Vehicles (%)	0%	3%	5%	2%	2%	2%
Turn Type	pm+pt			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	40.3	40.3	32.1	32.1	8.5	8.5
Effective Green, g (s)	42.3	42.3	34.1	34.1	10.5	10.5
Actuated g/C Ratio	0.70	0.70	0.56	0.56	0.17	0.17
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	264	1284	1015	859	306	273
v/s Ratio Prot	0.01	c0.58	0.48		c0.05	
v/s Ratio Perm	0.10			0.04		0.00
v/c Ratio	0.17	0.83	0.86	0.08	0.31	0.02
Uniform Delay, d1	8.4	6.7	11.3	6.1	22.0	20.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	4.7	7.3	0.0	0.6	0.0
Delay (s)	8.7	11.4	18.6	6.2	22.6	20.9
Level of Service	A	B	B	A	C	C
Approach Delay (s)		11.3	17.0		22.2	
Approach LOS		B	B		C	

Intersection Summary			
HCM Average Control Delay	14.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	60.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	39	950	748	105	87	26
Lane Group Flow (vph)	44	1067	870	122	95	28
Turn Type	pm+pt			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phases	5	2	6	6	4	4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	10.0	48.0	38.0	38.0	22.0	22.0
Total Split (%)	14.3%	68.6%	54.3%	54.3%	31.4%	31.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Min	Min
v/c Ratio	0.16	0.85	0.82	0.13	0.30	0.09
Control Delay	4.8	16.6	21.3	2.3	24.8	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.8	16.6	21.3	2.3	24.8	10.0
Queue Length 50th (ft)	4	224	264	0	32	0
Queue Length 95th (ft)	13	#595	#510	19	69	18
Internal Link Dist (ft)		6196	2445		431	
Turn Bay Length (ft)						
Base Capacity (vph)	282	1297	1073	957	490	459
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.82	0.81	0.13	0.19	0.06

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 58.3

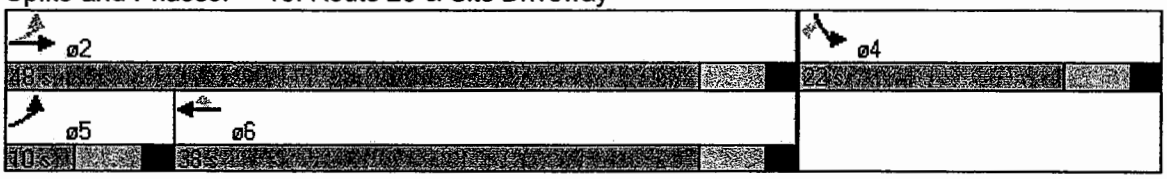
Natural Cycle: 75

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 16: Route 20 & Site Driveway



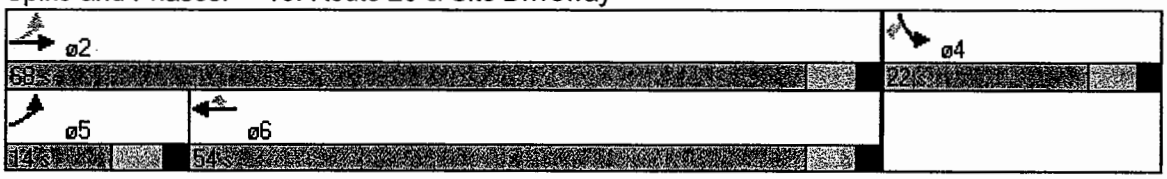
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	11	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1881	1881	1561	1770	1583
Flt Permitted	0.08	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	155	1881	1881	1561	1770	1583
Volume (vph)	228	792	877	209	212	209
Peak-hour factor, PHF	0.96	0.96	0.94	0.94	0.92	0.92
Adj. Flow (vph)	238	825	933	222	230	227
RTOR Reduction (vph)	0	0	0	102	0	184
Lane Group Flow (vph)	238	825	933	120	230	43
Heavy Vehicles (%)	0%	1%	1%	0%	2%	2%
Turn Type	pm+pt			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	57.3	57.3	43.1	43.1	13.8	13.8
Effective Green, g (s)	59.3	59.3	45.1	45.1	15.8	15.8
Actuated g/C Ratio	0.71	0.71	0.54	0.54	0.19	0.19
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	313	1342	1021	847	337	301
v/s Ratio Prot	c0.09	0.44	c0.50		c0.13	
v/s Ratio Perm	0.45			0.08		0.03
v/c Ratio	0.76	0.61	0.91	0.14	0.68	0.14
Uniform Delay, d1	22.8	6.1	17.2	9.4	31.3	28.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.4	0.8	12.2	0.1	5.6	0.2
Delay (s)	33.2	6.9	29.4	9.5	36.9	28.2
Level of Service	C	A	C	A	D	C
Approach Delay (s)		12.8	25.6		32.6	
Approach LOS		B	C		C	

Intersection Summary			
HCM Average Control Delay	21.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	83.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	228	792	877	209	212	209
Lane Group Flow (vph)	238	825	933	222	230	227
Turn Type	pm+pt			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phases	5	2	6	6	4	4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	14.0	68.0	54.0	54.0	22.0	22.0
Total Split (%)	15.6%	75.6%	60.0%	60.0%	24.4%	24.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Min	Min
v/c Ratio	0.78	0.62	0.92	0.23	0.68	0.47
Control Delay	39.3	8.8	32.9	2.1	44.0	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.3	8.8	32.9	2.1	44.0	8.1
Queue Length 50th (ft)	80	204	438	0	121	0
Queue Length 95th (ft)	#208	305	#721	30	199	59
Internal Link Dist (ft)		6196	2445		431	
Turn Bay Length (ft)						
Base Capacity (vph)	304	1370	1070	984	377	515
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.60	0.87	0.23	0.61	0.44

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 83.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: Route 20 & Site Driveway



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	11	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1881	1881	1561	1770	1583
Flt Permitted	0.08	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	149	1881	1881	1561	1770	1583
Volume (vph)	152	868	915	427	445	171
Peak-hour factor, PHF	0.96	0.96	0.94	0.94	0.92	0.92
Adj. Flow (vph)	158	904	973	454	484	186
RTOR Reduction (vph)	0	0	0	205	0	125
Lane Group Flow (vph)	158	904	973	249	484	61
Heavy Vehicles (%)	0%	1%	1%	0%	2%	2%
Turn Type	pm+pt			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	55.0	55.0	45.0	45.0	23.0	23.0
Effective Green, g (s)	57.0	57.0	47.0	47.0	25.0	25.0
Actuated g/C Ratio	0.63	0.63	0.52	0.52	0.28	0.28
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	205	1191	982	815	492	440
v/s Ratio Prot	0.05	c0.48	c0.52		c0.27	
v/s Ratio Perm	0.44			0.16		0.04
v/c Ratio	0.77	0.76	0.99	0.30	0.98	0.14
Uniform Delay, d1	22.1	11.7	21.3	12.2	32.3	24.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	16.3	2.8	26.4	0.2	36.1	0.1
Delay (s)	38.4	14.5	47.7	12.4	68.4	24.6
Level of Service	D	B	D	B	E	C
Approach Delay (s)		18.0	36.5		56.2	
Approach LOS		B	D		E	

Intersection Summary			
HCM Average Control Delay	34.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	152	868	915	427	445	171
Lane Group Flow (vph)	158	904	973	454	484	186
Turn Type	pm+pt			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phases	5	2	6	6	4	4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	10.0	61.0	51.0	51.0	29.0	29.0
Total Split (%)	11.1%	67.8%	56.7%	56.7%	32.2%	32.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Min	Min
v/c Ratio	0.77	0.76	0.99	0.44	0.98	0.33
Control Delay	40.2	17.0	49.6	3.1	71.0	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.2	17.0	49.6	3.1	71.0	6.8
Queue Length 50th (ft)	36	327	518	6	273	5
Queue Length 95th (ft)	#138	492	#809	52	#474	54
Internal Link Dist (ft)		6196	2445		431	
Turn Bay Length (ft)						
Base Capacity (vph)	204	1191	982	1021	492	565
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.76	0.99	0.44	0.98	0.33

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

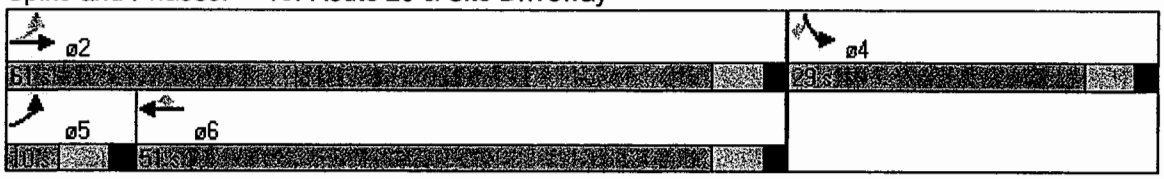
Natural Cycle: 90

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 16: Route 20 & Site Driveway



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	11	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1863	1881	1531	1770	1583
Flt Permitted	0.08	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	146	1863	1881	1531	1770	1583
Volume (vph)	308	843	901	277	252	264
Peak-hour factor, PHF	0.97	0.97	0.90	0.90	0.92	0.92
Adj. Flow (vph)	318	869	1001	308	274	287
RTOR Reduction (vph)	0	0	0	134	0	217
Lane Group Flow (vph)	318	869	1001	174	274	70
Heavy Vehicles (%)	0%	2%	1%	2%	2%	2%
Turn Type	pm+pt			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	62.0	62.0	46.0	46.0	15.3	15.3
Effective Green, g (s)	64.0	64.0	48.0	48.0	17.3	17.3
Actuated g/C Ratio	0.72	0.72	0.54	0.54	0.19	0.19
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	328	1335	1011	823	343	307
v/s Ratio Prot	c0.13	0.47	0.53		c0.15	
v/s Ratio Perm	c0.56			0.11		0.04
v/c Ratio	0.97	0.65	0.99	0.21	0.80	0.23
Uniform Delay, d1	30.1	6.7	20.4	10.8	34.3	30.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	41.0	1.1	25.8	0.1	12.2	0.4
Delay (s)	71.0	7.9	46.2	10.9	46.6	30.8
Level of Service	E	A	D	B	D	C
Approach Delay (s)		24.8	37.9		38.5	
Approach LOS		C	D		D	

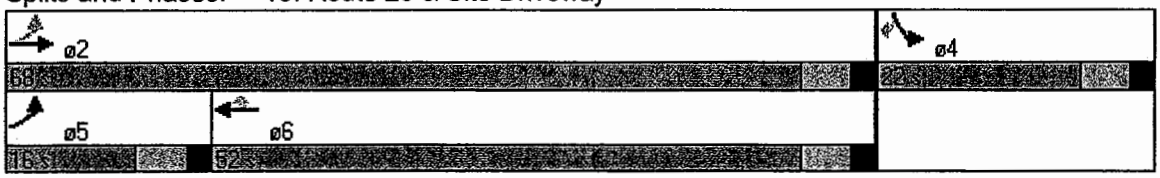
Intersection Summary			
HCM Average Control Delay	32.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	89.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	308	843	901	277	252	264
Lane Group Flow (vph)	318	869	1001	308	274	287
Turn Type	pm+pt			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phases	5	2	6	6	4	4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	16.0	68.0	52.0	52.0	22.0	22.0
Total Split (%)	17.8%	75.6%	57.8%	57.8%	24.4%	24.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Min	Min
v/c Ratio	0.97	0.65	0.99	0.32	0.80	0.55
Control Delay	68.4	9.8	48.4	2.7	53.1	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.4	9.8	48.4	2.7	53.1	9.6
Queue Length 50th (ft)	129	227	536	5	149	8
Queue Length 95th (ft)	#299	341	#831	42	#268	77
Internal Link Dist (ft)		6196	2445		431	
Turn Bay Length (ft)						
Base Capacity (vph)	328	1335	1011	957	354	532
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.65	0.99	0.32	0.77	0.54

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 89.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: Route 20 & Site Driveway



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	11	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1863	1881	1531	1770	1583
Flt Permitted	0.07	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	133	1863	1881	1531	1770	1583
Volume (vph)	221	930	960	560	507	205
Peak hour factor, PHF	0.97	0.97	0.90	0.90	0.92	0.92
Adj. Flow (vph)	228	959	1067	622	551	223
RTOR Reduction (vph)	0	0	0	231	0	49
Lane Group Flow (vph)	228	959	1067	391	551	174
Heavy Vehicles (%)	0%	2%	1%	2%	2%	2%
Turn Type	pm+pt			Perm		pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases	2			6		4
Actuated Green, G (s)	62.0	62.0	51.0	51.0	26.0	31.0
Effective Green, g (s)	64.0	64.0	53.0	53.0	28.0	35.0
Actuated g/C Ratio	0.64	0.64	0.53	0.53	0.28	0.35
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	202	1192	997	811	496	617
v/s Ratio Prot	c0.08	0.51	0.57		c0.31	0.02
v/s Ratio Perm	c0.64			0.26		0.09
v/c Ratio	1.13	0.80	1.07	0.48	1.11	0.28
Uniform Delay, d1	48.7	13.4	23.5	14.8	36.0	23.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	102.2	4.0	49.2	0.5	74.3	0.3
Delay (s)	150.9	17.4	72.7	15.3	110.3	23.7
Level of Service	F	B	E	B	F	C
Approach Delay (s)		43.0	51.6		85.4	
Approach LOS		D	D		F	

Intersection Summary			
HCM Average Control Delay	56.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	221	930	960	560	507	205
Lane Group Flow (vph)	228	959	1067	622	551	223
Turn Type	pm+pt			Perm		pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases	2			6		4
Detector Phases	5	2	6	6	4	5
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0	22.0	22.0	22.0	10.0
Total Split (s)	11.0	68.0	57.0	57.0	32.0	11.0
Total Split (%)	11.0%	68.0%	57.0%	57.0%	32.0%	11.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead		Lag	Lag		Lead
Lead-Lag Optimize?	Yes		Yes	Yes		Yes
Recall Mode	None	None	None	None	Min	None
v/c Ratio	1.13	0.80	1.07	0.60	1.11	0.34
Control Delay	126.4	20.1	74.1	5.8	109.5	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.4	20.1	74.1	5.8	109.5	15.5
Queue Length 50th (ft)	~117	412	~758	41	~405	62
Queue Length 95th (ft)	#269	612	#1003	127	#610	121
Internal Link Dist (ft)		6196	2445		431	
Turn Bay Length (ft)						
Base Capacity (vph)	202	1192	997	1042	496	663
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.13	0.80	1.07	0.60	1.11	0.34

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

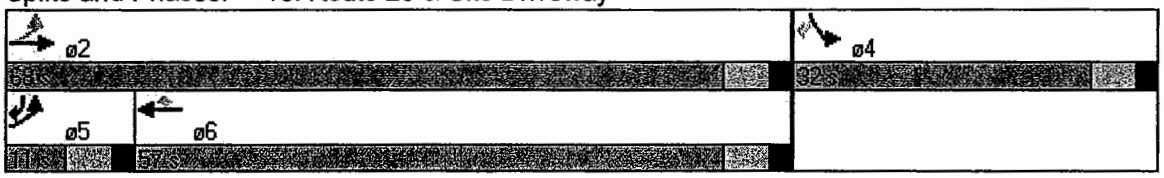
~ Volume exceeds capacity, queue is theoretically infinite.

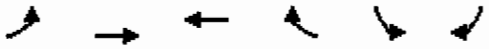
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 16: Route 20 & Site Driveway





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	11	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1863	1881	1531	1770	1583
Flt Permitted	0.14	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	265	1863	1881	1531	1770	1583
Volume (vph)	84	643	669	143	137	84
Peak-hour factor, PHF	0.97	0.97	0.90	0.90	0.92	0.92
Adj. Flow (vph)	87	663	743	159	149	91
RTOR Reduction (vph)	0	0	0	80	0	73
Lane Group Flow (vph)	87	663	743	79	149	18
Heavy Vehicles (%)	0%	2%	1%	2%	2%	2%
Turn Type	pm+pt			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	42.7	42.7	30.7	30.7	11.2	11.2
Effective Green, g (s)	44.7	44.7	32.7	32.7	13.2	13.2
Actuated g/C Ratio	0.68	0.68	0.50	0.50	0.20	0.20
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	367	1264	933	760	355	317
v/s Ratio Prot	0.03	c0.36	c0.39		c0.08	
v/s Ratio Perm	0.13			0.05		0.01
v/c Ratio	0.24	0.52	0.80	0.10	0.42	0.06
Uniform Delay, d1	8.3	5.3	13.8	8.8	23.0	21.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.4	4.8	0.1	0.8	0.1
Delay (s)	8.6	5.7	18.6	8.9	23.8	21.4
Level of Service	A	A	B	A	C	C
Approach Delay (s)		6.0	16.9		22.9	
Approach LOS		A	B		C	

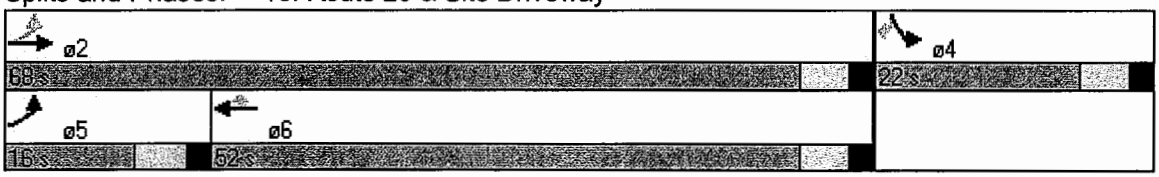
Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	65.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

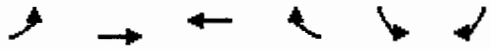
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	84	643	669	143	137	84
Lane Group Flow (vph)	87	663	743	159	149	91
Turn Type	pm+pt			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phases	5	2	6	6	4	4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	16.0	68.0	52.0	52.0	22.0	22.0
Total Split (%)	17.8%	75.6%	57.8%	57.8%	24.4%	24.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Min	Min
v/c Ratio	0.21	0.55	0.79	0.19	0.41	0.23
Control Delay	4.8	7.4	22.0	2.5	32.7	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.8	7.4	22.0	2.5	32.7	8.9
Queue Length 50th (ft)	10	109	248	0	58	0
Queue Length 95th (ft)	25	212	455	27	132	39
Internal Link Dist (ft)		6196	2445		431	
Turn Bay Length (ft)						
Base Capacity (vph)	460	1404	1136	987	489	503
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.47	0.65	0.16	0.30	0.18

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 66.5
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: Route 20 & Site Driveway





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	13	13	12	12	16	16
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1865	1963	1900	1615	2046	1830
Flt Permitted	0.10	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	196	1963	1900	1615	2046	1830
Volume (vph)	95	631	657	279	262	95
Peak-hour factor, PHF	0.96	0.96	0.89	0.89	0.25	0.25
Adj. Flow (vph)	99	657	738	313	1048	380
RTOR Reduction (vph)	0	0	0	168	0	34
Lane Group Flow (vph)	99	657	738	145	1048	346
Turn Type	pm+pt			Perm		pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases	2			6		4
Actuated Green, G (s)	44.0	44.0	34.0	34.0	44.0	48.0
Effective Green, g (s)	46.0	46.0	36.0	36.0	46.0	52.0
Actuated g/C Ratio	0.46	0.46	0.36	0.36	0.46	0.52
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	190	903	684	581	941	1025
v/s Ratio Prot	0.03	c0.33	c0.39		c0.51	0.02
v/s Ratio Perm	0.21			0.09		0.17
v/c Ratio	0.52	0.73	1.08	0.25	1.11	0.34
Uniform Delay, d1	46.7	21.9	32.0	22.5	27.0	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.6	3.0	57.7	0.2	65.7	0.2
Delay (s)	49.2	24.9	89.7	22.7	92.7	14.2
Level of Service	D	C	F	C	F	B
Approach Delay (s)		28.1	69.7		71.8	
Approach LOS		C	E		E	

Intersection Summary			
HCM Average Control Delay	60.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

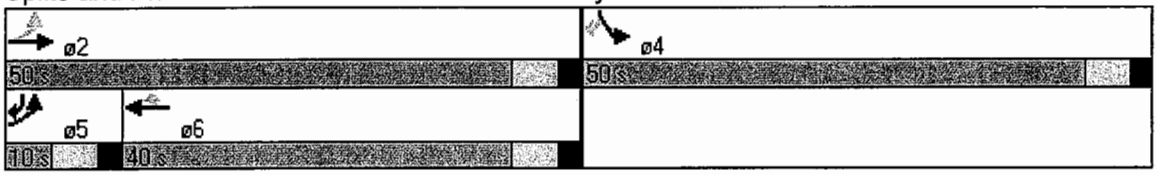
c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	95	631	657	279	262	95
Lane Group Flow (vph)	99	657	738	313	1048	380
Turn Type	pm+pt			Perm		pm+ov
Protected Phases	5	2	6		4	5
Permitted Phases	2			6		4
Detector Phases	5	2	6	6	4	5
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0	22.0	22.0	22.0	10.0
Total Split (s)	10.0	50.0	40.0	40.0	50.0	10.0
Total Split (%)	10.0%	50.0%	40.0%	40.0%	50.0%	10.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead		Lag	Lag		Lead
Lead-Lag Optimize?	Yes		Yes	Yes		Yes
Recall Mode	None	None	None	None	Min	None
v/c Ratio	0.52	0.73	1.08	0.42	1.11	0.36
Control Delay	25.5	27.7	89.9	6.8	93.4	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.5	27.7	89.9	6.8	93.4	10.8
Queue Length 50th (ft)	35	329	~528	21	~770	99
Queue Length 95th (ft)	65	469	#738	80	137	20
Internal Link Dist (ft)		6196	2445		431	
Turn Bay Length (ft)						
Base Capacity (vph)	190	903	684	749	941	1056
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.73	1.08	0.42	1.11	0.36

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 16: Route 20 & Site Driveway



INTERNAL INTERSECTIONS CAPACITY ANALYSIS WORKSHEETS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	20	162	10	0	123	14	5	0	7	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	176	11	0	134	15	5	0	8	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	149			187			361	372	141	368	368	176
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	149			187			361	372	141	368	368	176
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			99	100	99	100	100	100
cM capacity (veh/h)	1433			1387			588	550	907	576	552	867

Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	198	11	149	13
Volume Left	22	0	0	5
Volume Right	0	11	15	8
cSH	1433	1700	1700	740
Volume to Capacity	0.02	0.01	0.09	0.02
Queue Length 95th (ft)	1	0	0	1
Control Delay (s)	0.9	0.0	0.0	10.0
Lane LOS	A			A
Approach Delay (s)	0.9		0.0	10.0
Approach LOS				A

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	30.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	79	318	40	0	335	57	62	0	73	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	86	346	43	0	364	62	67	0	79	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	426			389			912	956	395	992	943	346
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	426			389			912	956	395	992	943	346
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	92			100			72	100	88	100	100	100
cM capacity (veh/h)	1133			1169			240	238	654	186	243	697

Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	432	43	426	147
Volume Left	86	0	0	67
Volume Right	0	43	62	79
cSH	1133	1700	1700	365
Volume to Capacity	0.08	0.03	0.25	0.40
Queue Length 95th (ft)	6	0	0	47
Control Delay (s)	2.3	0.0	0.0	21.4
Lane LOS	A			C
Approach Delay (s)	2.1		0.0	21.4
Approach LOS				C

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	83	442	60	0	442	60	53	0	60	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	90	480	65	0	480	65	58	0	65	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	546			546			1174	1239	513	1239	1207	480
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	546			546			1174	1239	513	1239	1207	480
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	91			100			63	100	88	100	100	100
cM capacity (veh/h)	1024			1024			157	160	561	125	167	586

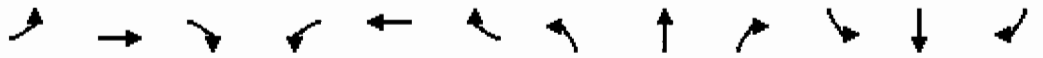
Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	571	65	546	123
Volume Left	90	0	0	58
Volume Right	0	65	65	65
cSH	1024	1700	1700	255
Volume to Capacity	0.09	0.04	0.32	0.48
Queue Length 95th (ft)	7	0	0	61
Control Delay (s)	2.3	0.0	0.0	31.6
Lane LOS	A			D
Approach Delay (s)	2.1		0.0	31.6
Approach LOS				D

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	63	204	24	0	221	46	40	0	47	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	68	222	26	0	240	50	43	0	51	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	290			248			624	650	265	675	649	222
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	290			248			624	650	265	675	649	222
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			100			89	100	93	100	100	100
cM capacity (veh/h)	1272			1318			382	367	773	329	368	818

Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	290	26	290	95
Volume Left	68	0	0	43
Volume Right	0	26	50	51
cSH	1272	1700	1700	525
Volume to Capacity	0.05	0.02	0.17	0.18
Queue Length 95th (ft)	4	0	0	16
Control Delay (s)	2.3	0.0	0.0	13.4
Lane LOS	A			B
Approach Delay (s)	2.1		0.0	13.4
Approach LOS				B

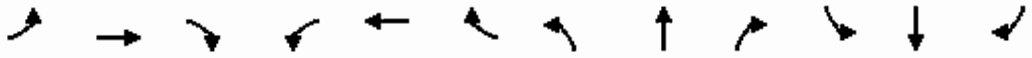
Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	157	5	3	114	0	9	0	2	3	0	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	171	5	3	124	0	10	0	2	3	0	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	124			176			330	315	173	317	317	124
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	124			176			330	315	173	317	317	124
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	100	100	99	100	98
cM capacity (veh/h)	1463			1400			610	597	870	631	595	927

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	182	127	12	18
Volume Left	5	3	10	3
Volume Right	5	0	2	15
cSH	1463	1400	645	856
Volume to Capacity	0.00	0.00	0.02	0.02
Queue Length 95th (ft)	0	0	1	2
Control Delay (s)	0.3	0.2	10.7	9.3
Lane LOS	A	A	B	A
Approach Delay (s)	0.3	0.2	10.7	9.3
Approach LOS			B	A

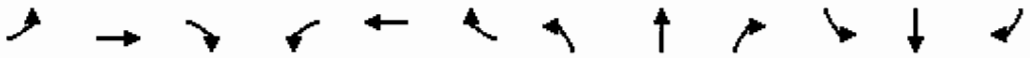
Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	20.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	25	335	20	16	321	0	65	0	18	1	0	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	364	22	17	349	0	71	0	20	1	0	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	349			386			820	813	375	833	824	349
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	349			386			820	813	375	833	824	349
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			75	100	97	100	100	99
cM capacity (veh/h)	1210			1173			283	301	671	272	297	694

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	413	366	90	8
Volume Left	27	17	71	1
Volume Right	22	0	20	7
cSH	1210	1173	324	568
Volume to Capacity	0.02	0.01	0.28	0.01
Queue Length 95th (ft)	2	1	28	1
Control Delay (s)	0.7	0.5	20.4	11.4
Lane LOS	A	A	C	B
Approach Delay (s)	0.7	0.5	20.4	11.4
Approach LOS			C	B

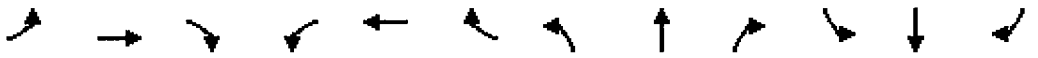
Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	24	441	30	24	409	0	83	0	20	3	0	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	26	479	33	26	445	0	90	0	22	3	0	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	445			512			1055	1045	496	1066	1061	445
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	445			512			1055	1045	496	1066	1061	445
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			98			53	100	96	98	100	98
cM capacity (veh/h)	1116			1053			193	218	574	185	213	613

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	538	471	112	14
Volume Left	26	26	90	3
Volume Right	33	0	22	11
cSH	1116	1053	221	400
Volume to Capacity	0.02	0.02	0.51	0.04
Queue Length 95th (ft)	2	2	65	3
Control Delay (s)	0.7	0.7	36.9	14.3
Lane LOS	A	A	E	B
Approach Delay (s)	0.7	0.7	36.9	14.3
Approach LOS			E	B

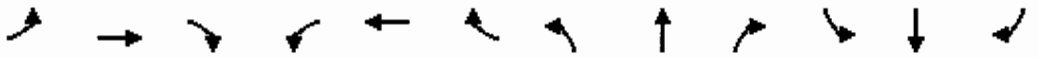
Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	22	210	12	10	243	0	12	0	10	3	0	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	228	13	11	264	0	13	0	11	3	0	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	264			241			582	568	235	579	575	264
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	264			241			582	568	235	579	575	264
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			97	100	99	99	100	98
cM capacity (veh/h)	1300			1325			409	421	804	412	417	775

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	265	275	24	16
Volume Left	24	11	13	3
Volume Right	13	0	11	13
cSH	1300	1325	527	659
Volume to Capacity	0.02	0.01	0.05	0.02
Queue Length 95th (ft)	1	1	4	2
Control Delay (s)	0.9	0.4	12.2	10.6
Lane LOS	A	A	B	B
Approach Delay (s)	0.9	0.4	12.2	10.6
Approach LOS			B	B

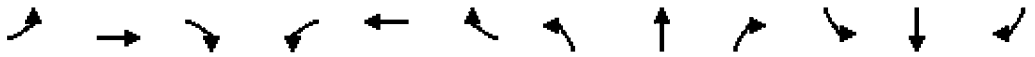
Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	30.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	8	136	18	14	87	1	12	0	9	4	0	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	148	20	15	95	1	13	0	10	4	0	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	96			167			320	301	158	310	310	95
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	96			167			320	301	158	310	310	95
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			98	100	99	99	100	98
cM capacity (veh/h)	1498			1410			612	601	888	627	594	962

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	176	111	23	24
Volume Left	9	15	13	4
Volume Right	20	1	10	20
cSH	1498	1410	706	877
Volume to Capacity	0.01	0.01	0.03	0.03
Queue Length 95th (ft)	0	1	3	2
Control Delay (s)	0.4	1.1	10.3	9.2
Lane LOS	A	A	B	A
Approach Delay (s)	0.4	1.1	10.3	9.2
Approach LOS			B	A

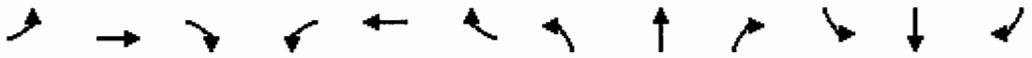
Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	19.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	30	252	72	60	222	7	78	0	68	2	0	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	274	78	65	241	8	85	0	74	2	0	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	249			352			794	758	313	828	793	245
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	249			352			794	758	313	828	793	245
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			95			69	100	90	99	100	95
cM capacity (veh/h)	1317			1207			273	311	727	245	296	794

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	385	314	159	42
Volume Left	33	65	85	2
Volume Right	78	8	74	40
cSH	1317	1207	385	712
Volume to Capacity	0.02	0.05	0.41	0.06
Queue Length 95th (ft)	2	4	49	5
Control Delay (s)	0.9	2.1	20.7	10.4
Lane LOS	A	A	C	B
Approach Delay (s)	0.9	2.1	20.7	10.4
Approach LOS			C	B

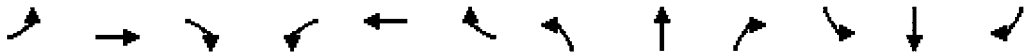
Intersection Summary			
Average Delay	5.3		
Intersection Capacity Utilization	50.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	48	300	116	82	266	6	114	0	74	3	0	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	52	326	126	89	289	7	124	0	80	3	0	58
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	296			452			1022	967	389	1045	1027	292
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	296			452			1022	967	389	1045	1027	292
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			92			31	100	88	98	100	92
cM capacity (veh/h)	1266			1108			180	224	659	165	207	747

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	504	385	204	61
Volume Left	52	89	124	3
Volume Right	126	7	80	58
cSH	1266	1108	252	628
Volume to Capacity	0.04	0.08	0.81	0.10
Queue Length 95th (ft)	3	7	157	8
Control Delay (s)	1.2	2.6	60.5	11.3
Lane LOS	A	A	F	B
Approach Delay (s)	1.2	2.6	60.5	11.3
Approach LOS			F	B

Intersection Summary			
Average Delay	12.7		
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	19	161	43	32	167	6	55	0	32	3	0	31
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	175	47	35	182	7	60	0	35	3	0	34
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	188			222			528	497	198	529	517	185
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	188			222			528	497	198	529	517	185
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			86	100	96	99	100	96
cM capacity (veh/h)	1386			1347			429	455	843	428	443	857

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	242	223	95	37
Volume Left	21	35	60	3
Volume Right	47	7	35	34
cSH	1386	1347	524	788
Volume to Capacity	0.01	0.03	0.18	0.05
Queue Length 95th (ft)	1	2	16	4
Control Delay (s)	0.8	1.4	13.4	9.8
Lane LOS	A	A	B	A
Approach Delay (s)	0.8	1.4	13.4	9.8
Approach LOS			B	A

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	36.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	139	10	10	96	6	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	151	11	11	104	7	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			162		283	157
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			162		283	157
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	99
cM capacity (veh/h)			1417		702	889

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	162	115	13
Volume Left	0	11	7
Volume Right	11	0	7
cSH	1700	1417	785
Volume to Capacity	0.10	0.01	0.02
Queue Length 95th (ft)	0	1	1
Control Delay (s)	0.0	0.8	9.7
Lane LOS		A	A
Approach Delay (s)	0.0	0.8	9.7
Approach LOS			A

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	23.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	282	40	40	245	44	44
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	307	43	43	266	48	48
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			350		682	328
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			350		682	328
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		88	93
cM capacity (veh/h)			1209		401	713

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	350	310	96
Volume Left	0	43	48
Volume Right	43	0	48
cSH	1700	1209	513
Volume to Capacity	0.21	0.04	0.19
Queue Length 95th (ft)	0	3	17
Control Delay (s)	0.0	1.4	13.6
Lane LOS		A	B
Approach Delay (s)	0.0	1.4	13.6
Approach LOS			B

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	315	62	56	299	55	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	342	67	61	325	60	54
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			410		823	376
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			410		823	376
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		82	92
cM capacity (veh/h)			1149		325	670

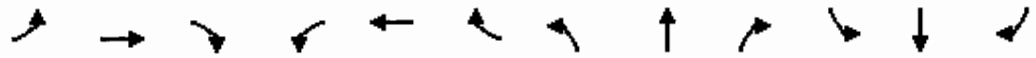
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	410	386	114
Volume Left	0	61	60
Volume Right	67	0	54
cSH	1700	1149	431
Volume to Capacity	0.24	0.05	0.26
Queue Length 95th (ft)	0	4	26
Control Delay (s)	0.0	1.8	16.3
Lane LOS		A	C
Approach Delay (s)	0.0	1.8	16.3
Approach LOS			C

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	172	24	25	170	35	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	187	26	27	185	38	27
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			213		439	200
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			213		439	200
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		93	97
cM capacity (veh/h)			1357		564	841

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	213	212	65
Volume Left	0	27	38
Volume Right	26	0	27
cSH	1700	1357	653
Volume to Capacity	0.13	0.02	0.10
Queue Length 95th (ft)	0	2	8
Control Delay (s)	0.0	1.1	11.1
Lane LOS		A	B
Approach Delay (s)	0.0	1.1	11.1
Approach LOS			B

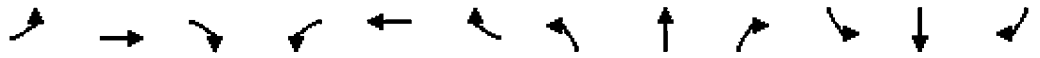
Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	34.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	129	13	5	100	4	4	0	3	2	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	140	14	5	109	4	4	0	3	2	0	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	113			154			278	278	147	279	283	111
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	113			154			278	278	147	279	283	111
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	100	100	100	100	100
cM capacity (veh/h)	1476			1426			670	626	900	668	622	942

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	158	118	8	4
Volume Left	3	5	4	2
Volume Right	14	4	3	2
cSH	1476	1426	752	782
Volume to Capacity	0.00	0.00	0.01	0.01
Queue Length 95th (ft)	0	0	1	0
Control Delay (s)	0.2	0.4	9.8	9.6
Lane LOS	A	A	A	A
Approach Delay (s)	0.2	0.4	9.8	9.6
Approach LOS			A	A

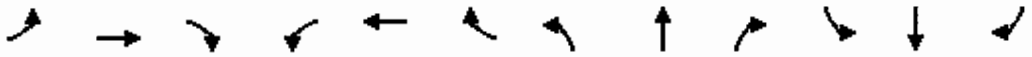
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	18.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	12	292	22	20	247	19	25	0	24	17	0	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	317	24	22	268	21	27	0	26	18	0	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	289			341			692	688	329	704	690	279
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	289			341			692	688	329	704	690	279
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			92	100	96	94	100	98
cM capacity (veh/h)	1273			1218			344	359	712	332	358	760

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	354	311	53	33
Volume Left	13	22	27	18
Volume Right	24	21	26	14
cSH	1273	1218	461	439
Volume to Capacity	0.01	0.02	0.12	0.07
Queue Length 95th (ft)	1	1	10	6
Control Delay (s)	0.4	0.7	13.8	13.9
Lane LOS	A	A	B	B
Approach Delay (s)	0.4	0.7	13.8	13.9
Approach LOS			B	B

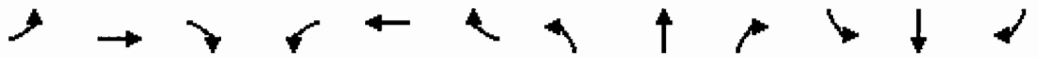
Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	18	311	36	26	309	24	29	0	28	22	0	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	338	39	28	336	26	32	0	30	24	0	18
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	362			377			821	815	358	833	822	349
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	362			377			821	815	358	833	822	349
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			98			89	100	96	91	100	97
cM capacity (veh/h)	1197			1181			277	299	687	267	297	694

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	397	390	62	42
Volume Left	20	28	32	24
Volume Right	39	26	30	18
cSH	1197	1181	392	365
Volume to Capacity	0.02	0.02	0.16	0.12
Queue Length 95th (ft)	1	2	14	10
Control Delay (s)	0.6	0.8	15.9	16.2
Lane LOS	A	A	C	C
Approach Delay (s)	0.6	0.8	15.9	16.2
Approach LOS			C	C

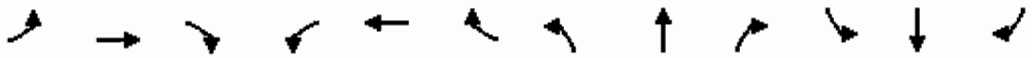
Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	37.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	7	177	13	12	176	10	12	0	12	10	0	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	192	14	13	191	11	13	0	13	11	0	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	202			207			445	443	199	451	445	197
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	202			207			445	443	199	451	445	197
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			97	100	98	98	100	99
cM capacity (veh/h)	1370			1365			513	501	842	505	500	844

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	214	215	26	18
Volume Left	8	13	13	11
Volume Right	14	11	13	8
cSH	1370	1365	637	605
Volume to Capacity	0.01	0.01	0.04	0.03
Queue Length 95th (ft)	0	1	3	2
Control Delay (s)	0.3	0.5	10.9	11.1
Lane LOS	A	A	B	B
Approach Delay (s)	0.3	0.5	10.9	11.1
Approach LOS			B	B

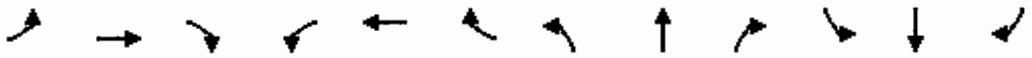
Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	24.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	134	0	6	109	5	0	0	1	10	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	146	0	7	118	5	0	0	1	11	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					858							
pX, platoon unblocked												
vC, conflicting volume	124			146			280	283	146	281	280	121
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	124			146			280	283	146	281	280	121
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	98	100	100
cM capacity (veh/h)	1463			1436			670	623	901	668	626	930

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	146	130	1	11
Volume Left	0	7	0	11
Volume Right	0	5	1	0
cSH	1463	1436	901	668
Volume to Capacity	0.00	0.00	0.00	0.02
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	0.0	0.4	9.0	10.5
Lane LOS		A	A	B
Approach Delay (s)	0.0	0.4	9.0	10.5
Approach LOS			A	B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	24.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	333	0	1	282	19	4	0	3	17	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	362	0	1	307	21	4	0	3	18	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					858							
pX, platoon unblocked												
vC, conflicting volume	327			362			681	691	362	684	681	317
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	327			362			681	691	362	684	681	317
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	100	100	95	100	100
cM capacity (veh/h)	1232			1197			364	367	683	361	372	724

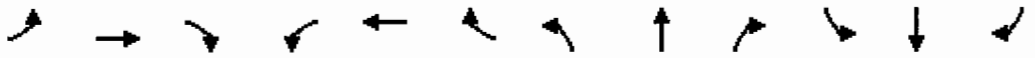
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	362	328	8	18
Volume Left	0	1	4	18
Volume Right	0	21	3	0
cSH	1232	1197	455	361
Volume to Capacity	0.00	0.00	0.02	0.05
Queue Length 95th (ft)	0	0	1	4
Control Delay (s)	0.0	0.0	13.0	15.5
Lane LOS		A	B	C
Approach Delay (s)	0.0	0.0	13.0	15.5
Approach LOS			B	C

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	361	0	1	359	25	0	0	1	23	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	392	0	1	390	27	0	0	1	25	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					858							
pX, platoon unblocked												
vC, conflicting volume	417			392			798	812	392	799	798	404
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	417			392			798	812	392	799	798	404
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	92	100	100
cM capacity (veh/h)	1142			1166			304	313	656	303	319	647

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	392	418	1	25
Volume Left	0	1	0	25
Volume Right	0	27	1	0
cSH	1142	1166	656	303
Volume to Capacity	0.00	0.00	0.00	0.08
Queue Length 95th (ft)	0	0	0	7
Control Delay (s)	0.0	0.0	10.5	18.0
Lane LOS		A	B	C
Approach Delay (s)	0.0	0.0	10.5	18.0
Approach LOS			B	C

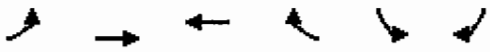
Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	35.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	199	0	0	198	14	0	0	0	14	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	216	0	0	215	15	0	0	0	15	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					858							
pX, platoon unblocked												
vC, conflicting volume	230			216			439	447	216	439	439	223
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	230			216			439	447	216	439	439	223
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	97	100	100
cM capacity (veh/h)	1337			1353			528	507	824	528	512	817

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	216	230	0	15
Volume Left	0	0	0	15
Volume Right	0	15	0	0
cSH	1337	1353	1700	528
Volume to Capacity	0.00	0.00	0.00	0.03
Queue Length 95th (ft)	0	0	0	2
Control Delay (s)	0.0	0.0	0.0	12.0
Lane LOS			A	B
Approach Delay (s)	0.0	0.0	0.0	12.0
Approach LOS			A	B

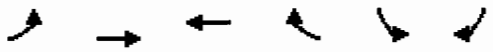
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	21.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	2	3	0	1	4	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	3	0	1	4	18
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1				8	1
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1				8	1
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	98
cM capacity (veh/h)	1622				1011	1084

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	5	1	23
Volume Left	2	0	4
Volume Right	0	1	18
cSH	1622	1700	1070
Volume to Capacity	0.00	0.00	0.02
Queue Length 95th (ft)	0	0	2
Control Delay (s)	2.9	0.0	8.4
Lane LOS	A		A
Approach Delay (s)	2.9	0.0	8.4
Approach LOS			A

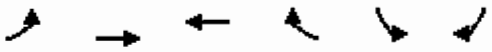
Intersection Summary			
Average Delay	7.1		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	15	0	3	2	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	16	0	3	2	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3				40	2
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3				40	2
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	99
cM capacity (veh/h)	1619				965	1083

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	27	3	10
Volume Left	11	0	2
Volume Right	0	3	8
cSH	1619	1700	1054
Volume to Capacity	0.01	0.00	0.01
Queue Length 95th (ft)	1	0	1
Control Delay (s)	2.9	0.0	8.4
Lane LOS	A		A
Approach Delay (s)	2.9	0.0	8.4
Approach LOS			A

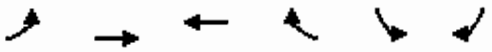
Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	18.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	14	0	5	3	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	15	0	5	3	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	5				40	3
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	5				40	3
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	99
cM capacity (veh/h)	1616				965	1081

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	26	5	17
Volume Left	11	0	3
Volume Right	0	5	14
cSH	1616	1700	1057
Volume to Capacity	0.01	0.00	0.02
Queue Length 95th (ft)	1	0	1
Control Delay (s)	3.0	0.0	8.5
Lane LOS	A		A
Approach Delay (s)	3.0	0.0	8.5
Approach LOS			A

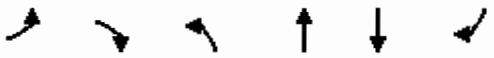
Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	18.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	9	13	0	5	3	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	14	0	5	3	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	5				36	3
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	5				36	3
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	98
cM capacity (veh/h)	1616				970	1081

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	24	5	20
Volume Left	10	0	3
Volume Right	0	5	16
cSH	1616	1700	1061
Volume to Capacity	0.01	0.00	0.02
Queue Length 95th (ft)	0	0	1
Control Delay (s)	3.0	0.0	8.5
Lane LOS	A		A
Approach Delay (s)	3.0	0.0	8.5
Approach LOS			A

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	17.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	8	17	1	2	3	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	18	1	2	3	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	9	4	5			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	9	4	5			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	98	100			
cM capacity (veh/h)	1011	1079	1616			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	27	3	5
Volume Left	9	1	0
Volume Right	18	0	2
cSH	1056	1616	1700
Volume to Capacity	0.03	0.00	0.00
Queue Length 95th (ft)	2	0	0
Control Delay (s)	8.5	2.4	0.0
Lane LOS	A	A	
Approach Delay (s)	8.5	2.4	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	6.7		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	4	8	7	13	12	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	9	8	14	13	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	46	17	21			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	46	17	21			
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	99	100			
cM capacity (veh/h)	959	1062	1595			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	13	22	21
Volume Left	4	8	0
Volume Right	9	0	8
cSH	1025	1595	1700
Volume to Capacity	0.01	0.00	0.01
Queue Length 95th (ft)	1	0	0
Control Delay (s)	8.6	2.6	0.0
Lane LOS	A	A	
Approach Delay (s)	8.6	2.6	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	16.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	6	12	6	17	18	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	13	7	18	20	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	55	23	27			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	55	23	27			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	100			
cM capacity (veh/h)	949	1053	1587			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	20	25	27
Volume Left	7	7	0
Volume Right	13	0	8
cSH	1016	1587	1700
Volume to Capacity	0.02	0.00	0.02
Queue Length 95th (ft)	1	0	0
Control Delay (s)	8.6	1.9	0.0
Lane LOS	A	A	
Approach Delay (s)	8.6	1.9	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	16.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	7	14	6	7	7	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	15	7	8	8	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	32	11	15			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	32	11	15			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	100			
cM capacity (veh/h)	978	1069	1603			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	23	14	15
Volume Left	8	7	0
Volume Right	15	0	8
cSH	1037	1603	1700
Volume to Capacity	0.02	0.00	0.01
Queue Length 95th (ft)	2	0	0
Control Delay (s)	8.5	3.4	0.0
Lane LOS	A	A	
Approach Delay (s)	8.5	3.4	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	15.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	5	2	1	8	3	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	2	1	9	3	18
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	30	5			10	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	30	5			10	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	982	1078			1610	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	8	10	22
Volume Left	5	0	3
Volume Right	2	9	0
cSH	1007	1700	1610
Volume to Capacity	0.01	0.01	0.00
Queue Length 95th (ft)	1	0	0
Control Delay (s)	8.6	0.0	1.1
Lane LOS	A		A
Approach Delay (s)	8.6	0.0	1.1
Approach LOS	A		

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	13.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	31	13	7	30	12	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	34	14	8	33	13	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	59	24			40	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	59	24			40	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	99			99	
cM capacity (veh/h)	940	1053			1569	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	48	40	22
Volume Left	34	0	13
Volume Right	14	33	0
cSH	971	1700	1569
Volume to Capacity	0.05	0.02	0.01
Queue Length 95th (ft)	4	0	1
Control Delay (s)	8.9	0.0	4.4
Lane LOS	A		A
Approach Delay (s)	8.9	0.0	4.4
Approach LOS	A		

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	17.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	44	17	6	48	18	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	48	18	7	52	20	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	85	33			59	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	85	33			59	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	98			99	
cM capacity (veh/h)	905	1041			1545	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	66	59	33
Volume Left	48	0	20
Volume Right	18	52	0
cSH	939	1700	1545
Volume to Capacity	0.07	0.03	0.01
Queue Length 95th (ft)	6	0	1
Control Delay (s)	9.1	0.0	4.5
Lane LOS	A		A
Approach Delay (s)	9.1	0.0	4.5
Approach LOS	A		

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	18.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	20	7	6	19	7	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	8	7	21	8	15
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	47	17			27	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	47	17			27	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	99			100	
cM capacity (veh/h)	958	1062			1587	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	29	27	23
Volume Left	22	0	8
Volume Right	8	21	0
cSH	983	1700	1587
Volume to Capacity	0.03	0.02	0.00
Queue Length 95th (ft)	2	0	0
Control Delay (s)	8.8	0.0	2.5
Lane LOS	A		A
Approach Delay (s)	8.8	0.0	2.5
Approach LOS	A		

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	16.9%	ICU Level of Service	A
Analysis Period (min)	15		

TRAFFIC SIGNAL WARRANTS ANALYSIS

TRAFFIC SIGNAL WARRANT ANALYSIS
ROUTE 20 AT THE PROPOSED SITE DRIVEWAY

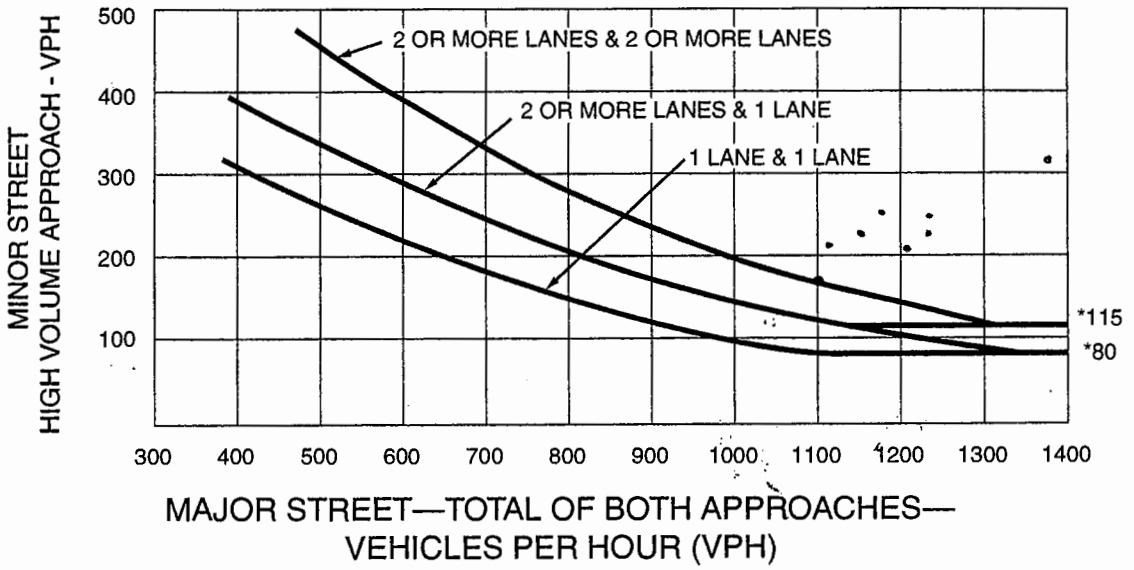
Time (Weekday)	Traffic Volumes (vph)[b]		Warrants Satisfied			
	Major Street[c]	Minor Street[d]	1	1[f]	2[g]	3[h]
6:00 AM - 7:00 AM	1100	21	NO	NO	NO	NO
7:00 AM - 8:00 AM	1410	34	NO	NO	NO	NO
8:00 AM - 9:00 AM	1402	61	NO	NO	NO	NO
9:00 AM - 10:00 AM	1144	141	NO	YES	NO	NO
10:00 AM - 11:00 AM	1098	170	YES	YES	YES	NO
11:00 AM - 12:00 PM	1153	226	YES	YES	YES	NO
12:00 PM - 1:00 PM	1185	248	YES	YES	YES	NO
1:00 PM - 2:00 PM	1117	217	YES	YES	YES	NO
2:00 PM - 3:00 PM	1202	214	YES	YES	YES	NO
3:00 PM - 4:00 PM	1232	253	YES	YES	YES	NO
4:00 PM - 5:00 PM	1378	317	YES	YES	YES	YES
5:00 PM - 6:00 PM	1470	299	YES	YES	YES	YES
6:00 PM - 7:00 PM	1230	239	YES	YES	YES	NO
SIGNAL WARRANT MET?			YES	YES	YES	YES

[a]This analysis assumes the 85th percentile speed of major street traffic is below 40 miles per hour.
[b]Vehicles per hour.
[c]The major street is Route 20 and the volumes are the totals for both eastbound and westbound traffic and analyzed under 2006 Existing traffic-volume conditions.
[d]The minor street is the proposed site driveway southtbound approach; analyzed under 2011 Build traffic-volume conditions.
[e]Warrant 1, Eight Hour Vehicular Volume (Condition A Minimum Vehicular Volume), is satisfied for any hour if the total vehicles per hour on both approaches of the major street is at least 500 and the total vehicles per hour on the minor street approach is at least 150. These thresholds must be satisfied for at least eight hours of an average day to meet Warrant 1.
[f]Warrant 1, Eight Hour Vehicular Volume (Condition B Interruption of Continuous Traffic), is satisfied for any hour if the total vehicles per hour on both approaches of the major street is at least 750 and the total vehicles per hour on the minor street approach is at least 75. These thresholds must be satisfied for at least eight hours of an average day to meet Warrant 1.
[g]Warrant 2, Four Hour Vehicular Volume, is met when, for each of any four hours of an average day, plotted traffic volumes fall above the appropriate curve shown in Figure 4C-1 or 4C-2 of the MUTCD.
[h]Warrant 3, Peak-Hour, is met when, for one hour of an average day, plotted traffic volumes fall above the appropriate curve shown in Figure 4C-3 or 4C-4 of the MUTCD.

DAILY DISTRIBUTION OF PROPOSED DEVELOPMENT

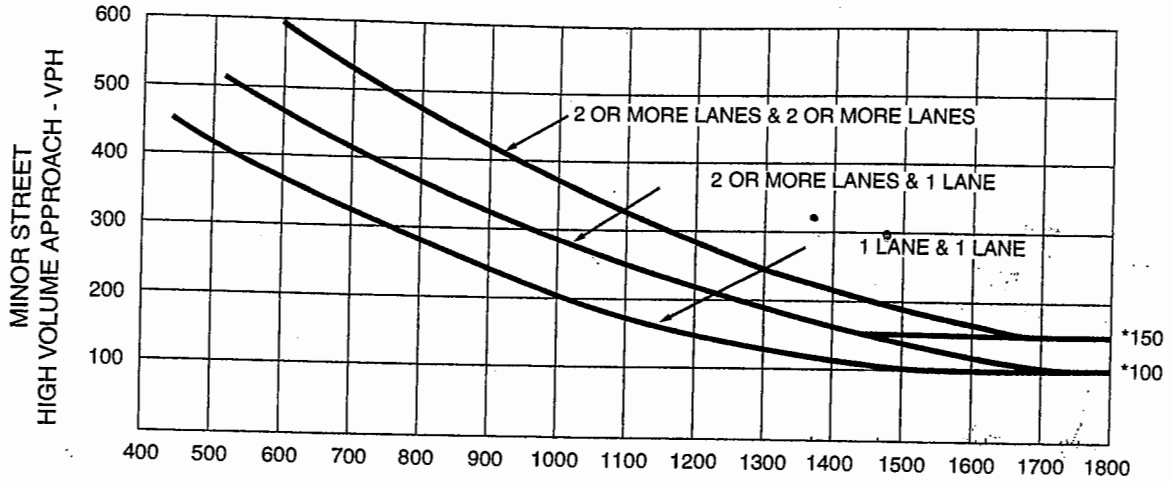
	Residential		Office/Library		Retail		Driveway Volumes Total		Route 20 Volumes
	Entering	Exiting	Entering	Exiting	Entering	Exiting	Entering	Exiting	Total
12:00 AM	3	0	0	0	0	0	3	0	65
1:00 AM	1	1	0	0	0	0	1	1	26
2:00 AM	0	0	0	0	0	0	0	0	25
3:00 AM	0	0	0	0	0	0	0	0	27
4:00 AM	0	1	0	0	0	0	0	1	81
5:00 AM	1	6	5	1	0	0	6	7	367
6:00 AM	1	17	22	4	0	0	23	21	1100
7:00 AM	4	23	25	11	0	0	29	34	1410
8:00 AM	5	27	28	9	46	25	79	61	1402
9:00 AM	7	13	74	22	128	106	209	141	1144
10:00 AM	7	10	33	22	162	138	202	170	1098
11:00 AM	9	8	29	40	162	178	200	226	1153
12:00 PM	9	9	51	65	162	174	222	248	1185
1:00 PM	9	9	50	49	147	159	206	217	1117
2:00 PM	9	9	45	40	191	165	245	214	1202
3:00 PM	13	8	55	43	204	202	272	253	1232
4:00 PM	15	8	60	88	206	221	281	317	1378
5:00 PM	25	12	81	93	175	194	281	299	1470
6:00 PM	23	13	11	50	157	176	191	239	1230
7:00 PM	18	10	5	21	115	112	138	143	833
8:00 PM	16	7	3	12	89	91	108	110	654
9:00 PM	14	5	2	7	40	39	56	51	493
10:00 PM	8	4	2	3	0	0	10	7	388
11:00 PM	5	2	2	3	0	0	7	5	209

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

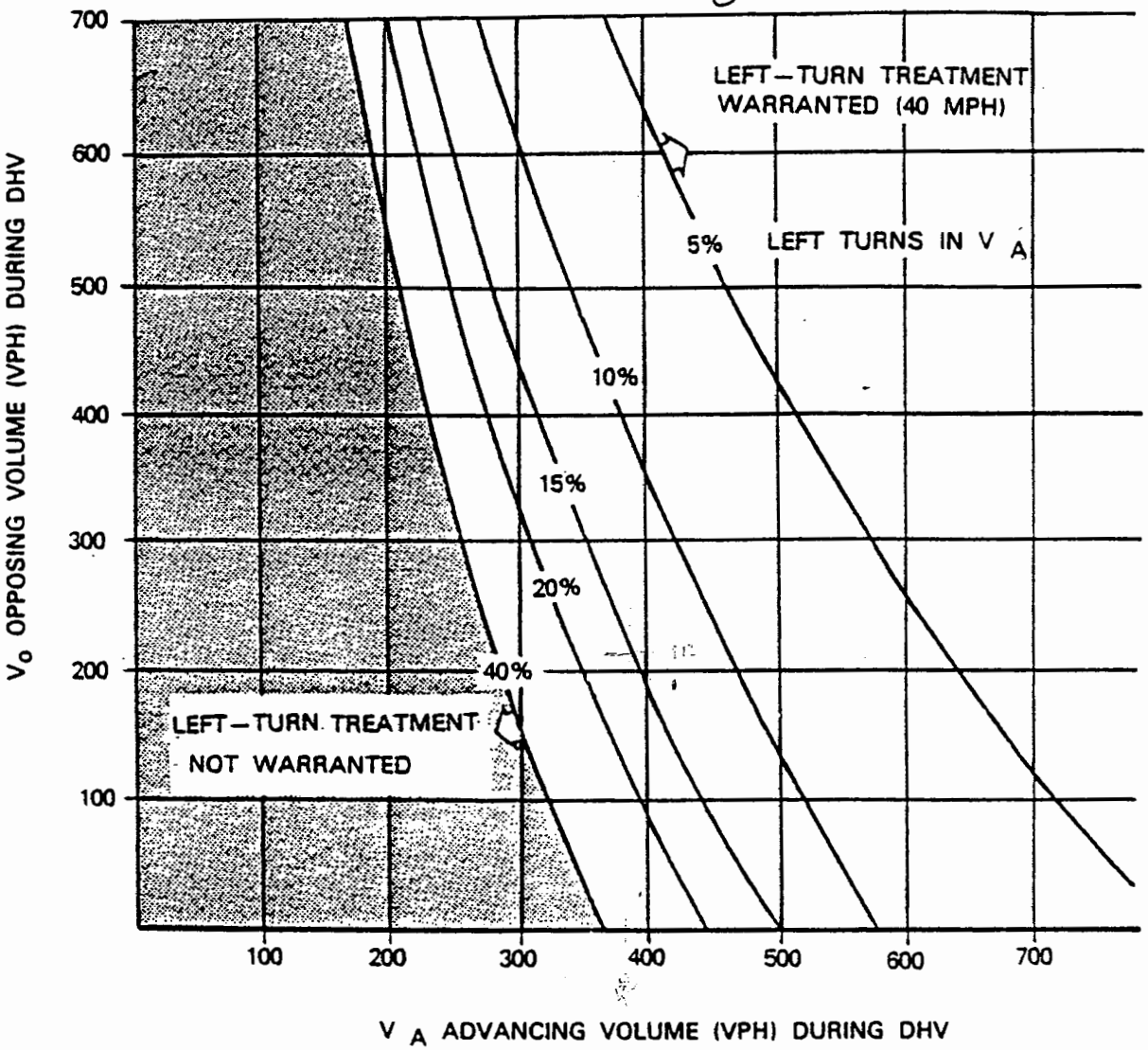
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

LANE WARRANTS ANALYSIS

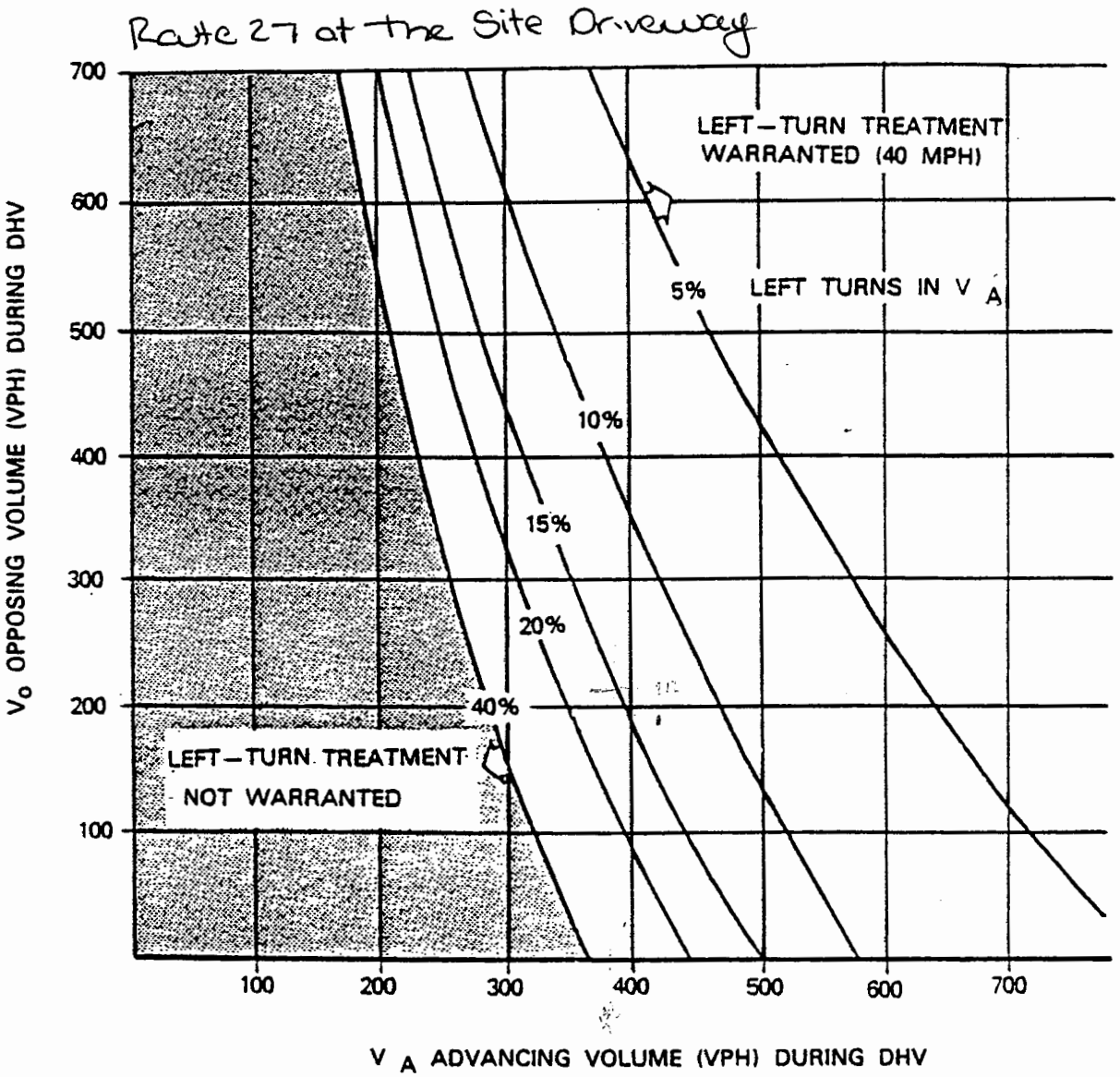
Route 20 at the Site Driveway



Reference: "Volume Warrants for Left-Turn Storage Lanes at Unsignalized Grade Intersections," Highway Research Record 211, 1967.

Am	pm	Sat	Sun
VA = 991	VA = 1020	VA = 1151	VA = 727
Vo = 748	Vo = 1080	Vo = 1178	Vo = 812
% lefts = 13.7%	% lefts = 22.4%	% lefts = 26.8%	% lefts = 11.6%
warranted	warranted	warranted	warranted

Figure 7-25(b). Volume Warrants for Left-Turn Lane at Unsignalized Intersection on 2-Lane Highways (40 mph)



Reference: "Volume Warrants for Left-Turn Storage Lanes at Unsignalized Grade Intersections," Highway Research Record 211, 1967.

Am	pm	Sat.	Sun.
VA = 294	VA = 820	VA = 555	VA = 462
Vo = 614	Vo = 430	Vo = 446	Vo = 471
% lefts = 17.0%	% lefts = 23.9%	% lefts = 43.9%	% lefts = 24.2%

Figure 7-25(b). Volume Warrants for Left-Turn Lane at Unsignalized Intersection on 2-Lane Highways (40 mph)

ROUNDABOUT ANALYSIS

```
*****************************************************************************
*                                                                           *
*  10:11:06                  RTE 20 AT SD AM ALT 1                      9   *
*                                                                           *
*****************************************************************************
*                                                *                          *
* E     (m)    5.00   5.00   5.00   5.00         * TIME PERIOD     min    60  *
* L'    (m)   10.00  10.00  10.00  10.00         * TIME SLICE      min    15  *
* V     (m)    3.70   3.70   3.70   3.70         * RESULTS PERIOD  min  0 60  *
* RAD   (m)   20.00  20.00  20.00  20.00         * TIME COST      $/hr 15.00  *
* PHI   (d)   30.00  30.00  30.00  30.00         * FLOW PERIOD     min  0 60  *
* DIA   (m)   20.00  20.00  20.00  20.00         * FLOW TYPE   pcu/veh   VEH  *
* GRAD SEP       0      0      0      0         * FLOW PEAK  am/op/pm    PM  *
*                                                *                          *
*****************************************************************************
* LEG NAME *PCU *VEH TURNS (1st exit, 2nd..U)*FLOF*CL*  FLOW RATIO   *FLOW TIME*
*          *    *                           *    *  *               *         *
*Rt 20 EB  *1.05*  5   855  136 0            *1.00*85*0.75 1.125 0.75*0 30 60  *
*Russel    *1.05*  5   5    5   0            *1.00*85*0.75 1.125 0.75*0 30 60  *
*Rt 20 WB  *1.05*  56  692  5   0            *1.00*85*0.75 1.125 0.75*0 30 60  *
*Site Drive*1.05*  82  5    50  0            *1.00*85*0.75 1.125 0.75*0 30 60  *
*          *    *                           *    *  *               *         *
*          *    *                           *    *  *               *         *
*          *    *                           *    *  *               *         *
*****************************************************************************
*                                                    *                      *
* FLOW         veh     996     15    753    137      * AVEDEL  s   27.3     *
* CAPACITY     veh    1099    511   1048    714      * LOS   SIG      C     *
* AVE DELAY   mins    0.70   0.11   0.20   0.09      * LOS UNSIG      D     *
* MAX DELAY   mins    1.46   0.16   0.33   0.14      *                      *
* AVE QUEUE    veh      12      0      3      0      * VEHIC HRS   14.4     *
* MAX QUEUE    veh      24      0      4      0      * COST    $    216     *
*                                                    *                      *
*****************************************************************************
```

```
*******************************************************************************
*                                                                             *
*  10:11:06                  RTE 20 AT SD PM ALT 1                        12  *
*                                                                             *
*******************************************************************************
*                                                *                            *
* E     (m)    5.00   5.00   5.00   5.00         * TIME PERIOD     min    60  *
* L'    (m)   10.00  10.00  10.00  10.00         * TIME SLICE      min    15  *
* V     (m)    3.70   3.70   3.70   3.70         * RESULTS PERIOD  min  0 60  *
* RAD   (m)   20.00  20.00  20.00  20.00         * TIME COST      $/hr 15.00  *
* PHI   (d)   30.00  30.00  30.00  30.00         * FLOW PERIOD     min  0 60  *
* DIA   (m)   20.00  20.00  20.00  20.00         * FLOW TYPE   pcu/veh   VEH  *
* GRAD SEP       0      0      0      0         * FLOW PEAK  am/op/pm    PM  *
*                                                *                            *
*******************************************************************************
* LEG NAME *PCU *VEH TURNS (1st exit, 2nd..U)*FLOF*CL*  FLOW RATIO   *FLOW TIME*
*          *    *                            *    *  *              *         *
*Rt 20 EB  *1.05*  20  792  228 0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*Russel    *1.05*  20  10   20  0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*Rt 20 WB  *1.05*  209 877  20  0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*Site Drive*1.05*  209 10   212 0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*          *    *                            *    *  *              *         *
*          *    *                            *    *  *              *         *
*          *    *                            *    *  *              *         *
*******************************************************************************
*                                                          *                  *
* FLOW         veh    1040     50   1106    431           * AVEDEL  s 166.9 *
* CAPACITY     veh     992    441    991    648           * LOS   SIG     F *
* AVE DELAY   mins    2.80   0.14   3.86   0.26          * LOS UNSIG     F *
* MAX DELAY   mins    5.69   0.20   8.03   0.42          *                  *
* AVE QUEUE    veh      59      0     88      2          * VEHIC HRS 121.8 *
* MAX QUEUE    veh      94      0    133      3          * COST    $  1827 *
*                                                          *                  *
*******************************************************************************
```

E	(m)	5.00	5.00	5.00	5.00
L'	(m)	10.00	10.00	10.00	10.00
V	(m)	3.70	3.70	3.70	3.70
RAD	(m)	20.00	20.00	20.00	20.00
PHI	(d)	30.00	30.00	30.00	30.00
DIA	(m)	20.00	20.00	20.00	20.00
GRAD SEP		0	0	0	0

TIME PERIOD	min 60
TIME SLICE	min 15
RESULTS PERIOD	min 0 60
TIME COST	$/hr 15.00
FLOW PERIOD	min 0 60
FLOW TYPE	pcu/veh VEH
FLOW PEAK	am/op/pm PM

LEG NAME	PCU	VEH	TURNS (1st exit, 2nd..U)			FLOF	CL	FLOW RATIO			FLOW TIME		
Rt 20 EB	1.05	20	843	308	0	1.00	85	0.75	1.125	0.75	0	30	60
Russel	1.05	20	10	20	0	1.00	85	0.75	1.125	0.75	0	30	60
Rt 20 WB	1.05	277	901	20	0	1.00	85	0.75	1.125	0.75	0	30	60
Site Drive	1.05	264	10	252	0	1.00	85	0.75	1.125	0.75	0	30	60

FLOW	veh	1171	50	1198	526
CAPACITY	veh	969	417	966	680
AVE DELAY	mins	5.57	0.15	6.11	0.38
MAX DELAY	mins	12.07	0.21	13.35	0.66
AVE QUEUE	veh	135	0	152	4
MAX QUEUE	veh	212	0	240	5

AVEDEL	s 286.3
LOS SIG	F
LOS UNSIG	F
VEHIC HRS	234.2
COST	$ 3513

```
*******************************************************************************
*                                                                             *
*  10:11:06                    RTE 20 AT SD SAT ALT #1  WITH RT 20 = 2 lanes ea  16  *
*                                                                             *
*******************************************************************************
*                                                 *                           *
* E     (m)     7.31    5.00    7.31    7.31     * TIME PERIOD      min     60  *
* L'    (m)    10.00   10.00   10.00   10.00     * TIME SLICE       min     15  *
* V     (m)     7.31    3.70    7.31    3.70     * RESULTS PERIOD   min   0 60  *
* RAD   (m)    20.00   20.00   20.00   20.00     * TIME COST       $/hr 15.00  *
* PHI   (d)    30.00   30.00   30.00   30.00     * FLOW PERIOD      min   0 60  *
* DIA   (m)    20.00   20.00   20.00   20.00     * FLOW TYPE    pcu/veh    VEH  *
* GRAD SEP         0       0       0       0     * FLOW PEAK   am/op/pm     PM  *
*                                                 *                           *
*******************************************************************************
* LEG NAME *PCU *VEH TURNS (1st exit, 2nd..U)*FLOF*CL*  FLOW RATIO    *FLOW TIME*
*          *    *                            *    *  *                *         *
*Rt 20 EB  *1.05*  20  843  308 0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*Russel    *1.05*  20  10   20  0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*Rt 20 WB  *1.05*  277 901  20  0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*Site Drive*1.05*  264 10   252 0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*          *    *                            *    *  *                *         *
*          *    *                            *    *  *                *         *
*          *    *                            *    *  *                *         *
*******************************************************************************
*                                                                 *           *
* FLOW          veh     1171     50    1198     526              * AVEDEL  s   9.9 *
* CAPACITY      veh     1696    292    1652     744              * LOS   SIG     A *
* AVE DELAY    mins     0.11   0.27    0.14    0.33              * LOS UNSIG     A *
* MAX DELAY    mins     0.19   0.47    0.23    0.62              *                 *
* AVE QUEUE     veh        2      0       3       3             * VEHIC HRS   8.1 *
* MAX QUEUE     veh        3      0       4       5             * COST    $   121 *
*                                                                 *           *
*******************************************************************************
```

E	(m)	5.00	5.00	5.00	5.00
L'	(m)	10.00	10.00	10.00	10.00
V	(m)	3.70	3.70	3.70	3.70
RAD	(m)	20.00	20.00	20.00	20.00
PHI	(d)	30.00	30.00	30.00	30.00
DIA	(m)	20.00	20.00	20.00	20.00
GRAD SEP		0	0	0	0

TIME PERIOD	min 60
TIME SLICE	min 15
RESULTS PERIOD	min 0 60
TIME COST	$/hr 15.00
FLOW PERIOD	min 0 60
FLOW TYPE	pcu/veh VEH
FLOW PEAK	am/op/pm PM

LEG NAME	PCU	VEH	TURNS (1st exit, 2nd..U)			FLOF	CL	FLOW RATIO			FLOW TIME	
Rt 20 EB	1.05	20	643	84	0	1.00	85	0.75	1.125	0.75	0 30	60
Russel	1.05	20	10	20	0	1.00	85	0.75	1.125	0.75	0 30	60
Rt 20 WB	1.05	143	669	20	0	1.00	85	0.75	1.125	0.75	0 30	60
Site Drive	1.05	84	10	137	0	1.00	85	0.75	1.125	0.75	0 30	60

FLOW	veh	747	50	832	231
CAPACITY	veh	1035	616	1067	710
AVE DELAY	mins	0.21	0.10	0.26	0.12
MAX DELAY	mins	0.34	0.14	0.46	0.18
AVE QUEUE	veh	3	0	4	0
MAX QUEUE	veh	4	0	6	1

AVEDEL	s 13.1
LOS SIG	B
LOS UNSIG	B
VEHIC HRS	6.8
COST	$ 101

```
*******************************************************************************
*                                                                             *
*  10:11:06                  RTE 20 AT SD AM ALT 2                        9   *
*                                                                             *
*******************************************************************************
*                                                 *                           *
* E     (m)    5.00   5.00   5.00   5.00          * TIME PERIOD     min    60  *
* L'    (m)   10.00  10.00  10.00  10.00          * TIME SLICE      min    15  *
* V     (m)    3.70   3.70   3.70   3.70          * RESULTS PERIOD  min  0 60  *
* RAD   (m)   20.00  20.00  20.00  20.00          * TIME COST      $/hr 15.00  *
* PHI   (d)   30.00  30.00  30.00  30.00          * FLOW PERIOD     min  0 60  *
* DIA   (m)   20.00  20.00  20.00  20.00          * FLOW TYPE   pcu/veh   VEH  *
* GRAD SEP       0      0      0      0          * FLOW PEAK  am/op/pm    PM  *
*                                                 *                           *
*******************************************************************************
* LEG NAME *PCU *VEH TURNS (1st exit, 2nd..U)*FLOF*CL*  FLOW RATIO   *FLOW TIME*
*          *    *                            *    *  *              *         *
*Rt 20 EB  *1.05*  5   950  39  0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*Russel    *1.05*  5   5    5   0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*Rt 20 WB  *1.05*  105 748  5   0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*Site Drive*1.05*  26  5    87  0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*          *    *                            *    *  *              *         *
*          *    *                            *    *  *              *         *
*          *    *                            *    *  *              *         *
*******************************************************************************
*                                                          *                  *
* FLOW         veh     994     15    858    118           * AVEDEL  s   32.6 *
* CAPACITY     veh    1077    491   1106    680           * LOS   SIG      C *
* AVE DELAY   mins    0.86   0.11   0.25   0.10           * LOS UNSIG      D *
* MAX DELAY   mins    1.81   0.17   0.42   0.14           *                  *
* AVE QUEUE    veh      15      0      4      0           * VEHIC HRS  18.0 *
* MAX QUEUE    veh      30      0      5      0           * COST    $   269 *
*                                                          *                  *
*******************************************************************************
```

```
*****************************************************************************
*                                                                           *
*  10:11:06                  RTE 20 AT SD PM ALT 2                      12  *
*                                                                           *
*****************************************************************************
*                                                *                          *
* E     (m)    5.00   5.00   5.00   5.00         * TIME PERIOD     min    60  *
* L'    (m)   10.00  10.00  10.00  10.00         * TIME SLICE      min    15  *
* V     (m)    3.70   3.70   3.70   3.70         * RESULTS PERIOD  min  0 60  *
* RAD   (m)   20.00  20.00  20.00  20.00         * TIME COST      $/hr 15.00  *
* PHI   (d)   30.00  30.00  30.00  30.00         * FLOW PERIOD     min  0 60  *
* DIA   (m)   20.00  20.00  20.00  20.00         * FLOW TYPE   pcu/veh   VEH  *
* GRAD SEP       0      0      0      0         * FLOW PEAK  am/op/pm    PM  *
*                                                *                          *
*****************************************************************************
* LEG NAME *PCU *VEH TURNS (1st exit, 2nd..U)*FLOF*CL*  FLOW RATIO   *FLOW TIME*
*          *    *                            *    *  *              *         *
*Rt 20 EB  *1.05*  20  868  152 0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*Russel    *1.05*  20  10   20  0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*Rt 20 WB  *1.05*  427 915  20  0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*Site Drive*1.05*  171 10   445 0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*          *    *                            *    *  *              *         *
*          *    *                            *    *  *              *         *
*          *    *                            *    *  *              *         *
*****************************************************************************
*                                                        *                  *
* FLOW         veh    1040     50   1362    626         * AVEDEL  s 317.9 *
* CAPACITY     veh     855    371   1043    694         * LOS   SIG     F *
* AVE DELAY   mins    5.68   0.17   7.22   0.89         * LOS UNSIG     F *
* MAX DELAY   mins   12.55   0.24  15.72   1.75         *                  *
* AVE QUEUE    veh     123      0    204     10         * VEHIC HRS 271.8 *
* MAX QUEUE    veh     196      0    324     18         * COST    $  4077 *
*                                                        *                  *
*****************************************************************************
```

```
*****************************************************************************
*                                                                           *
*  10:11:06                  RTE 20 AT SD SAT ALT 2                    10   *
*                                                                           *
*****************************************************************************
*                                                *                          *
* E     (m)    5.00   5.00   5.00   5.00         * TIME PERIOD     min    60  *
* L'    (m)   10.00  10.00  10.00  10.00         * TIME SLICE      min    15  *
* V     (m)    3.70   3.70   3.70   3.70         * RESULTS PERIOD  min  0 60  *
* RAD   (m)   20.00  20.00  20.00  20.00         * TIME COST      $/hr 15.00  *
* PHI   (d)   30.00  30.00  30.00  30.00         * FLOW PERIOD     min  0 60  *
* DIA   (m)   20.00  20.00  20.00  20.00         * FLOW TYPE   pcu/veh   VEH  *
* GRAD SEP       0      0      0      0         * FLOW PEAK  am/op/pm    PM  *
*                                                *                          *
*****************************************************************************
* LEG NAME *PCU *VEH TURNS (1st exit, 2nd..U)*FLOF*CL*  FLOW RATIO   *FLOW TIME*
*          *    *                            *    *  *              *         *
*Rt 20 EB  *1.05*  20  930  221 0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*Russel    *1.05*  20  10   20  0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*Rt 20 WB  *1.05*  560 960  20  0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*Site Drive*1.05*  205 10   507 0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*          *    *                            *    *  *              *         *
*          *    *                            *    *  *              *         *
*          *    *                            *    *  *              *         *
*****************************************************************************
*                                                      *                    *
* FLOW         veh    1171     50   1540    722       * AVEDEL  s 469.6    *
* CAPACITY     veh     828    354   1024    732       * LOS   SIG      F    *
* AVE DELAY   mins    8.78   0.17  10.16   1.83       * LOS UNSIG      F    *
* MAX DELAY   mins   18.92   0.25  21.11   3.63       *                    *
* AVE QUEUE    veh     215      0    326     25       * VEHIC HRS 454.3    *
* MAX QUEUE    veh     347      0    519     43       * COST    $  6815    *
*                                                      *                    *
*****************************************************************************
```

```
*******************************************************************************
*                                                                             *
*  10:11:06                  RTE 20 AT SD SUN ALT 2                       10  *
*                                                                             *
*******************************************************************************
*                                                *                            *
* E    (m)    5.00   5.00   5.00   5.00          * TIME PERIOD     min    60  *
* L'   (m)   10.00  10.00  10.00  10.00          * TIME SLICE      min    15  *
* V    (m)    3.70   3.70   3.70   3.70          * RESULTS PERIOD  min  0 60  *
* RAD  (m)   20.00  20.00  20.00  20.00          * TIME COST      $/hr 15.00  *
* PHI  (d)   30.00  30.00  30.00  30.00          * FLOW PERIOD     min  0 60  *
* DIA  (m)   20.00  20.00  20.00  20.00          * FLOW TYPE   pcu/veh   VEH  *
* GRAD SEP       0      0      0      0          * FLOW PEAK  am/op/pm    PM  *
*                                                *                            *
*******************************************************************************
* LEG NAME *PCU *VEH TURNS (1st exit, 2nd..U)*FLOF*CL*  FLOW RATIO   *FLOW TIME*
*          *    *                            *    *  *               *         *
*Rt 20 EB  *1.05*  20  631  95  0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*Russel    *1.05*  20  10   20  0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*Rt 20 WB  *1.05*  279 657  20  0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*Site Drive*1.05*  95  10   262 0             *1.00*85*0.75 1.125 0.75*0 30 60  *
*          *    *                            *    *  *               *         *
*          *    *                            *    *  *               *         *
*          *    *                            *    *  *               *         *
*******************************************************************************
*                                                          *                  *
* FLOW         veh     746     50    956    367            * AVEDEL  s  27.2 *
* CAPACITY     veh     960    542   1060    718            * LOS   SIG     C *
* AVE DELAY   mins    0.30   0.11   0.70   0.16            * LOS UNSIG     D *
* MAX DELAY   mins    0.53   0.17   1.46   0.25            *                  *
* AVE QUEUE    veh       4      0     12      1            * VEHIC HRS  16.0 *
* MAX QUEUE    veh       6      0     23      1            * COST    $   240 *
*                                                          *                  *
*******************************************************************************
```