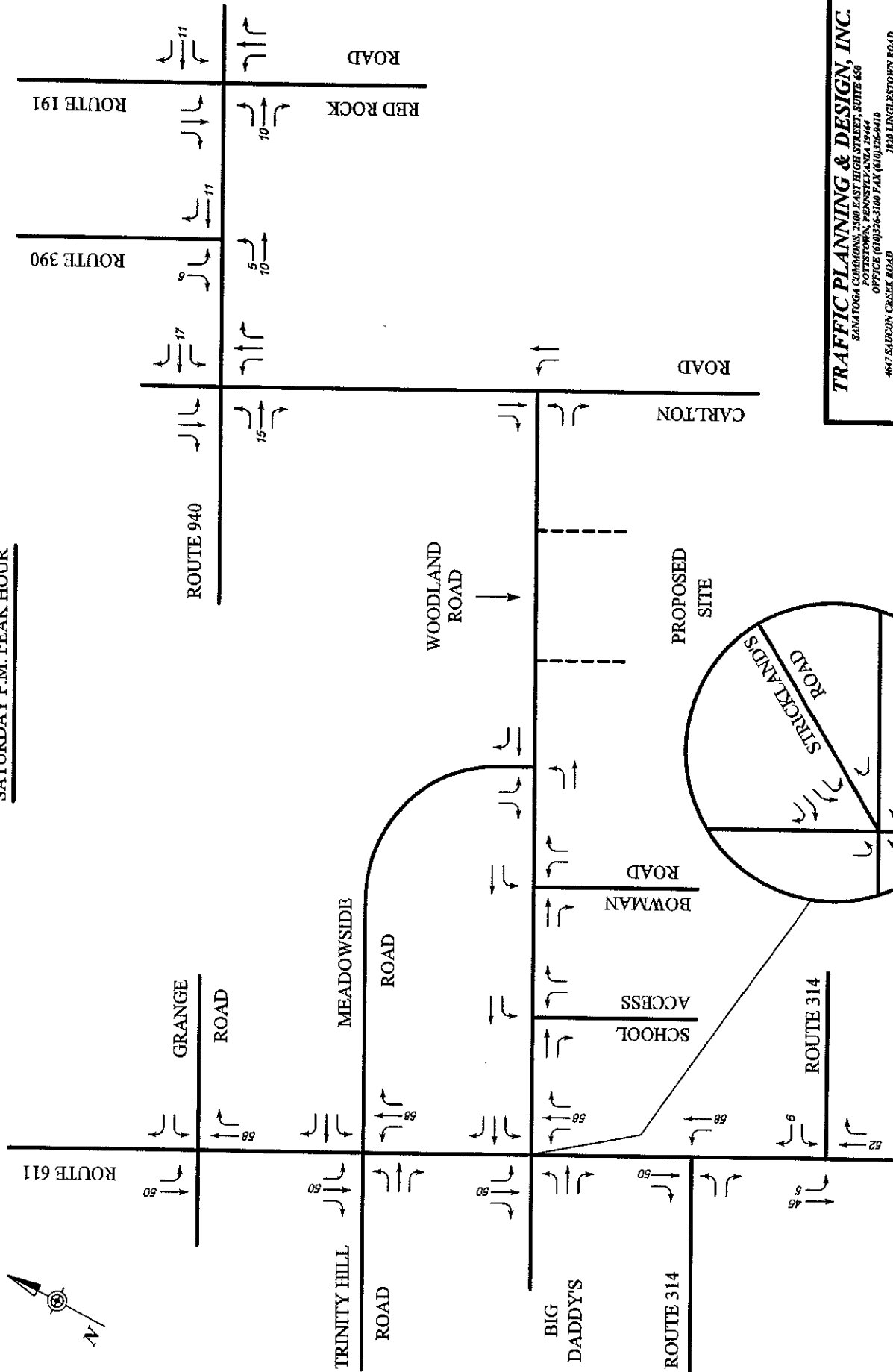


SATURDAY P.M. PEAK HOUR



LEGEND:

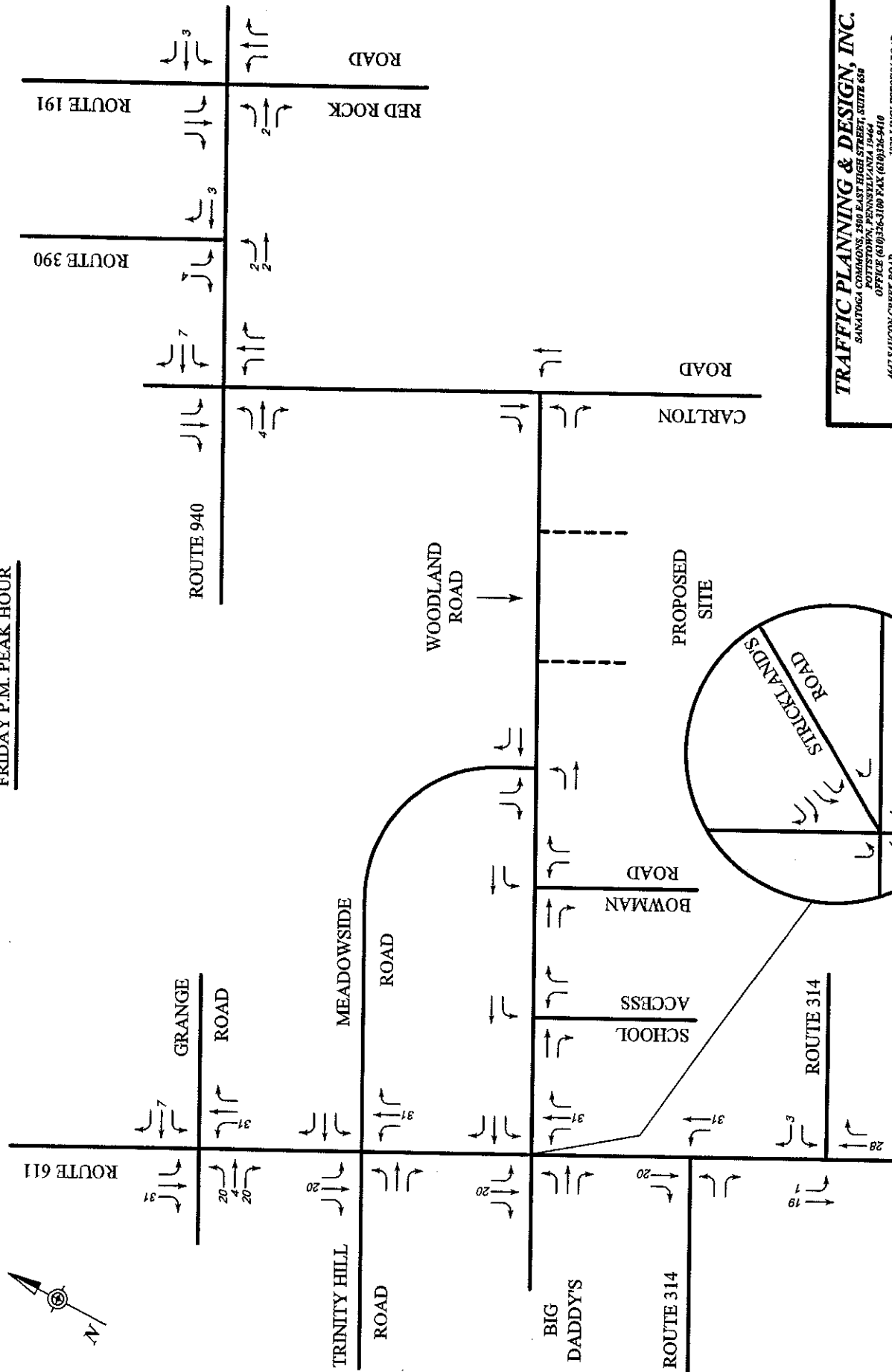
--- = PROPOSED SITE DRIVEWAY  
 SCHEMATIC DRAWING: NOT TO SCALE

**TRAFFIC PLANNING & DESIGN, INC.**  
 SANATOGA COMMONS, 2500 EAST HIGH STREET, SUITE 650  
 POTTSTOWN, PENNSYLVANIA 19464  
 OFFICE (610)336-3100 FAX (610)326-9418  
 467 SAUCON CREEK ROAD  
 CENTER VALLEY, PA 16844  
 OFFICE (717)934-1450 FAX (717)934-4990  
 E-MAIL: TRAFFICEXPERTS@TRAFFICPD.COM

FIGURE C-13

POCONO COUNTY PLACE  
 SATURDAY P.M. PEAK HOUR

FRIDAY P.M. PEAK HOUR



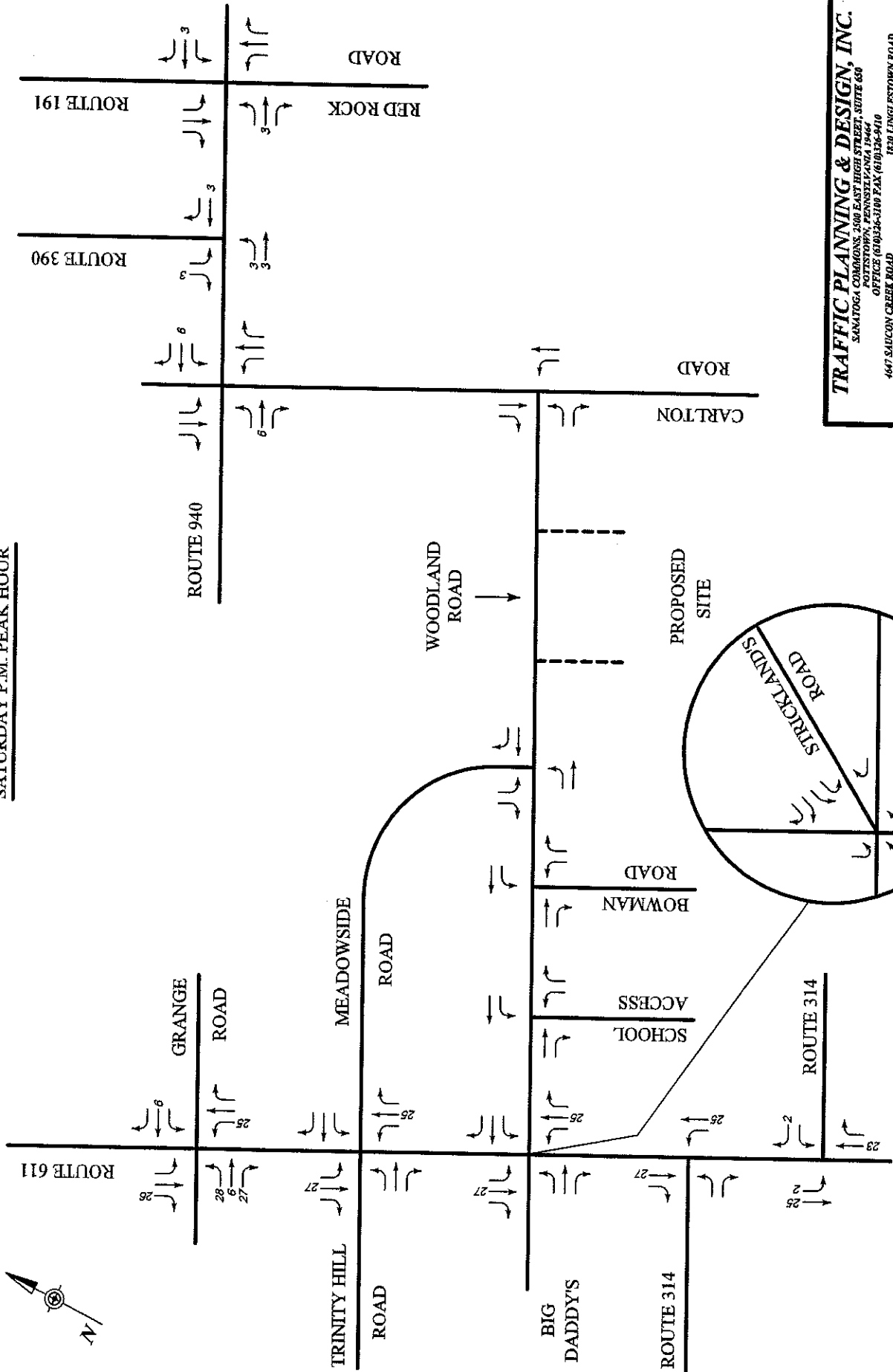
LEGEND:  
 - - - - - = PROPOSED SITE DRIVEWAY  
 SCHEMATIC DRAWING: NOT TO SCALE

**TRAFFIC PLANNING & DESIGN, INC.**  
 SANATOGA COMMONS, 1560 EAST HIGH STREET, SUITE 638  
 POTTSTOWN, PENNSYLVANIA 19444  
 OFFICE (610) 326-3100 FAX (610) 326-9410  
 467 SAUCON CREEK ROAD  
 SUITE 100  
 GREEN SPRINGS, PA 17343-1800  
 OFFICE (717) 234-1460 FAX (717) 234-4990  
 E-MAIL: TRAFFICEXPERTS@TRAFFICPD.COM

FIGURE C-14  
 GREEN SPRINGS  
 FRIDAY P.M. PEAK HOUR



SATURDAY P.M. PEAK HOUR



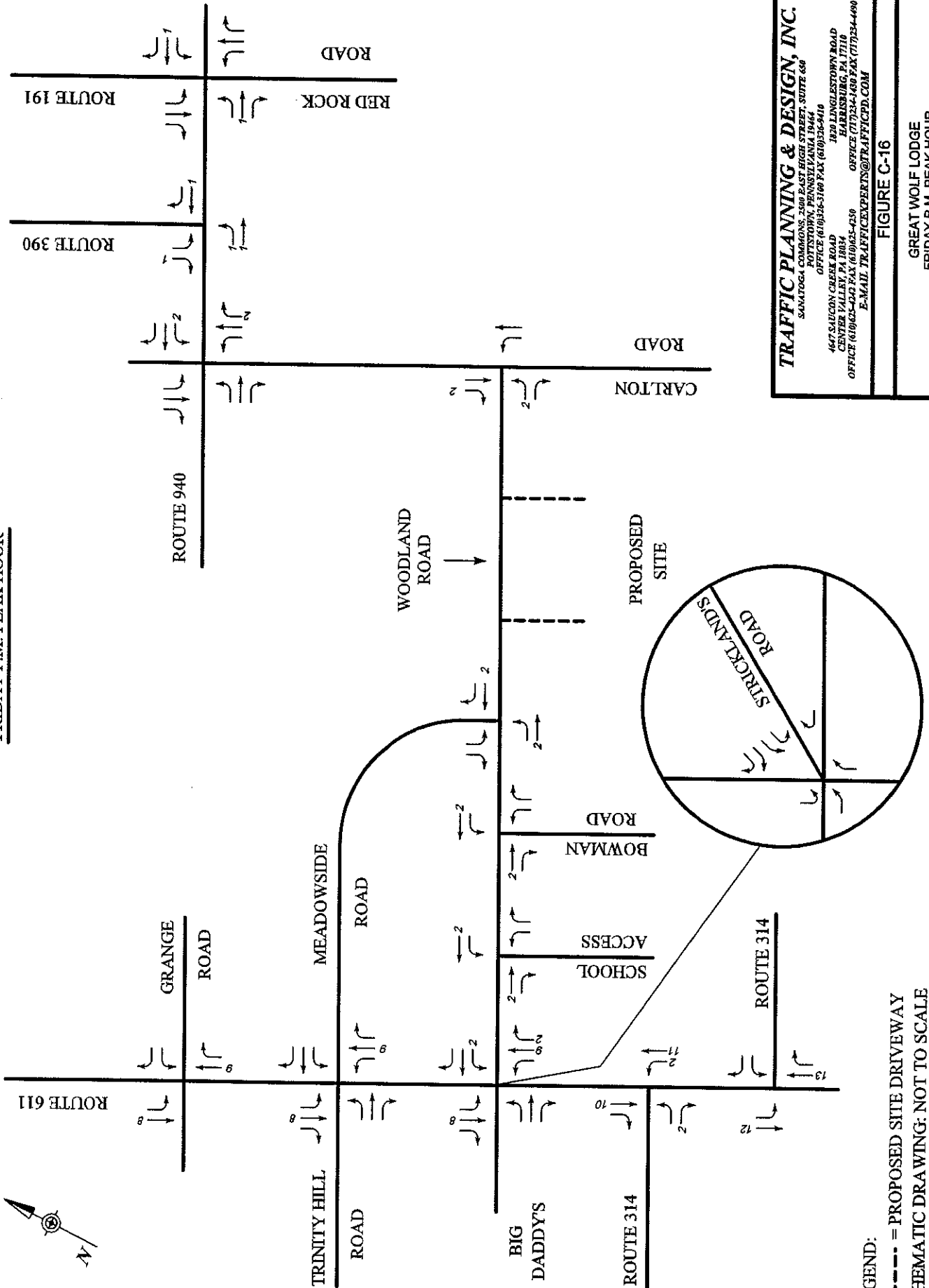
LEGEND:  
 - - - - - = PROPOSED SITE DRIVEWAY  
 SCHEMATIC DRAWING: NOT TO SCALE

**TRAFFIC PLANNING & DESIGN, INC.**  
 SANATOGA COMMONS, 2000 EAST HIGH STREET, SUITE 630  
 POTTSTOWN, PENNSYLVANIA 19444  
 OFFICE (610) 326-3100 FAX (610) 326-9410  
 467 S. HUNTON CREEK ROAD  
 GREEN SPRINGS, PA 17331  
 OFFICE (717) 254-1424 FAX (717) 254-4996  
 E-MAIL: TRAFFICEXPERTS@TRAFFICPI.COM

FIGURE C-15

GREEN SPRINGS  
 SATURDAY P.M. PEAK HOUR

FRIDAY P.M. PEAK HOUR



LEGEND:

- - - - - = PROPOSED SITE DRIVEWAY  
 SCHEMATIC DRAWING: NOT TO SCALE

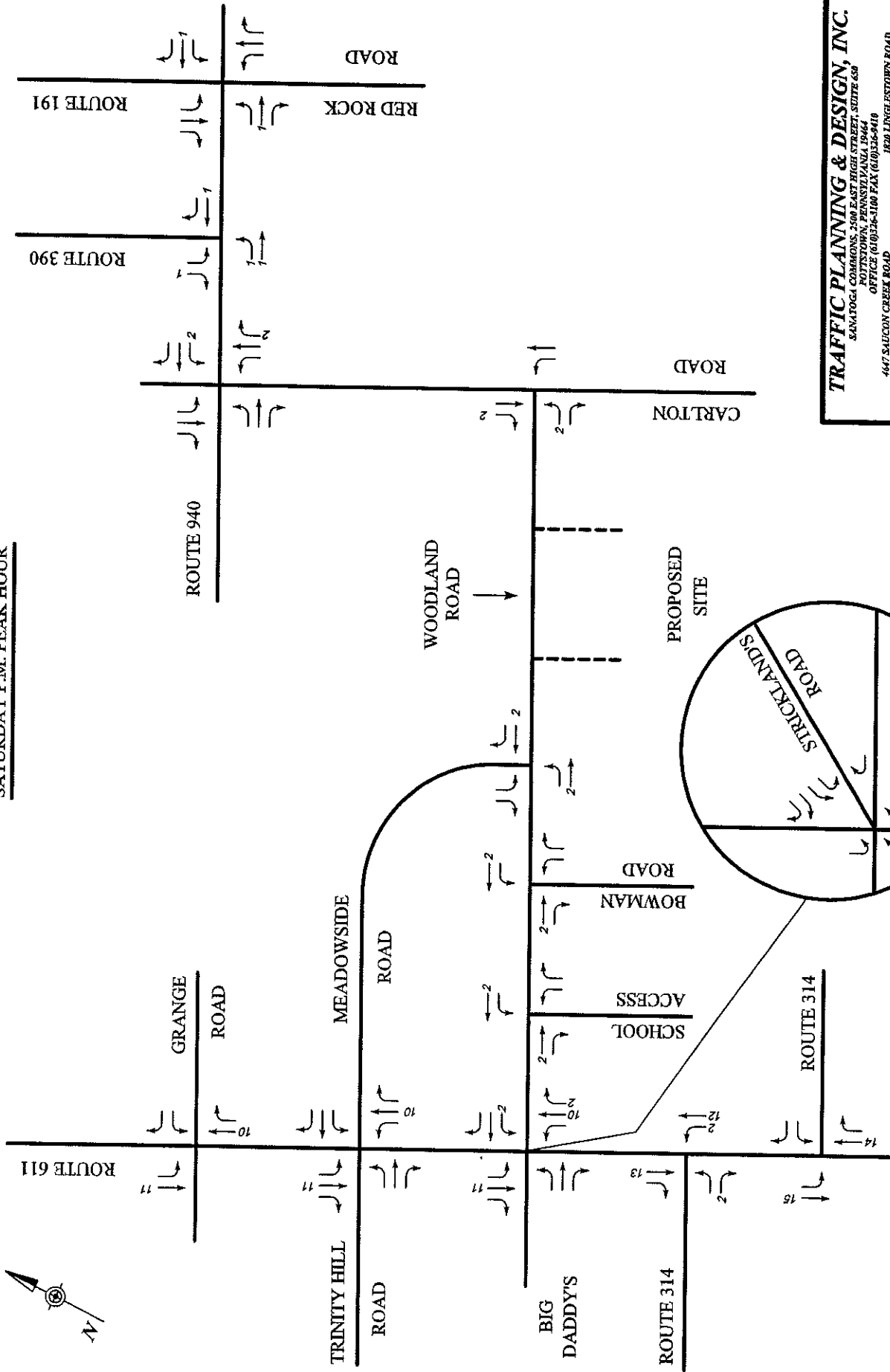
**TRAFFIC PLANNING & DESIGN, INC.**  
 5444 TOWERS COMMONS, 200 EAST HIGH STREET, SUITE 630  
 HARRISBURG, PA 17101  
 OFFICE (610) 324-3100 FAX (610) 324-9410

4675 SALICON CREEK ROAD  
 3RD FLOOR  
 CENTER VALLEY PA 16834  
 OFFICE (610) 653-4250 OFFICE (717) 334-1490 FAX (717) 334-4400  
 E-MAIL: TRAFFICEXPERTS@TRAFFICPD.COM

FIGURE C-16

GREAT WOLF LODGE  
 FRIDAY P.M. PEAK HOUR

SATURDAY P.M. PEAK HOUR



**LEGEND:**  
 - - - - - = PROPOSED SITE DRIVEWAY  
 SCHEMATIC DRAWING: NOT TO SCALE

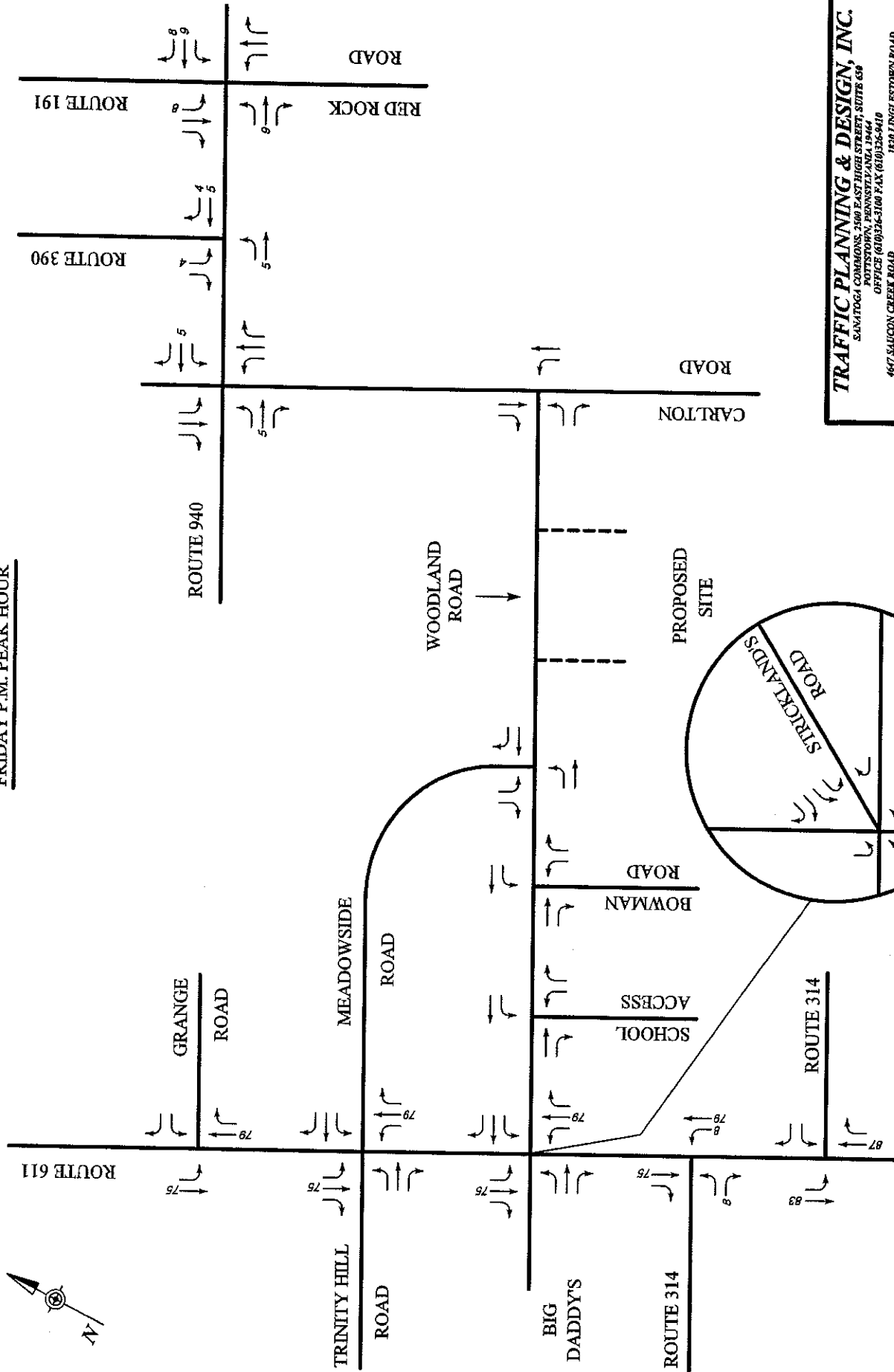
**TRAFFIC PLANNING & DESIGN, INC.**  
 SANATOGA CORPORAIONS, 2500 EAST HIGH STREET, SUITE 630  
 FORT TOWNSHIP, PENNSYLVANIA, 19444  
 OFFICE (610)254-1100 FAX (610)254-9910

4617 GILGON CREEK ROAD  
 HARRISBURG, PA 17118  
 OFFICE (610)635-2143 FAX (610)635-4230  
 E-MAIL: TRAFFICEXPERTS@TRAFFICPD.COM

**FIGURE C-17**

GREAT WOLF LODGE  
 SATURDAY P.M. PEAK HOUR

FRIDAY P.M. PEAK HOUR



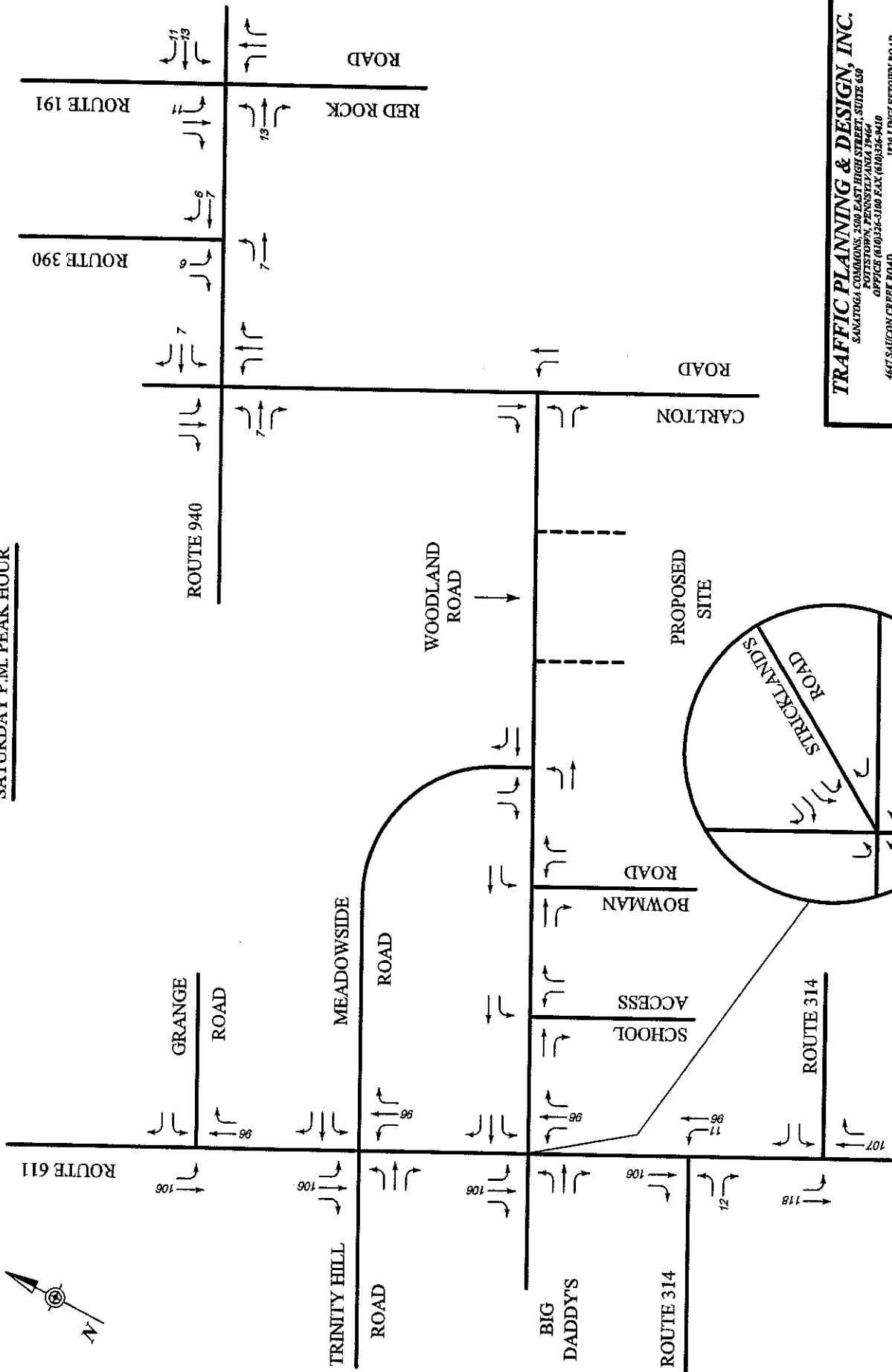
LEGEND:  
 - - - - - = PROPOSED SITE DRIVEWAY  
 SCHEMATIC DRAWING: NOT TO SCALE

**TRAFFIC PLANNING & DESIGN, INC.**  
 54 MATOGA COMMONS, 2500 EAST HIGH STREET, SUITE 630  
 POTTSVILLE, PENNSYLVANIA 19464  
 OFFICE (610)344-3100 FAX (610)326-9410  
 467 SALUCON CREEK ROAD  
 HARRISBURG, PA 17110  
 OFFICE (717)234-4480 FAX (717)234-4490  
 E-MAIL: TRAFFICPERNS@TRAFFICPD.COM

FIGURE C-18

CROSSROADS MALL  
 FRIDAY P.M. PEAK HOUR

SATURDAY P.M. PEAK HOUR



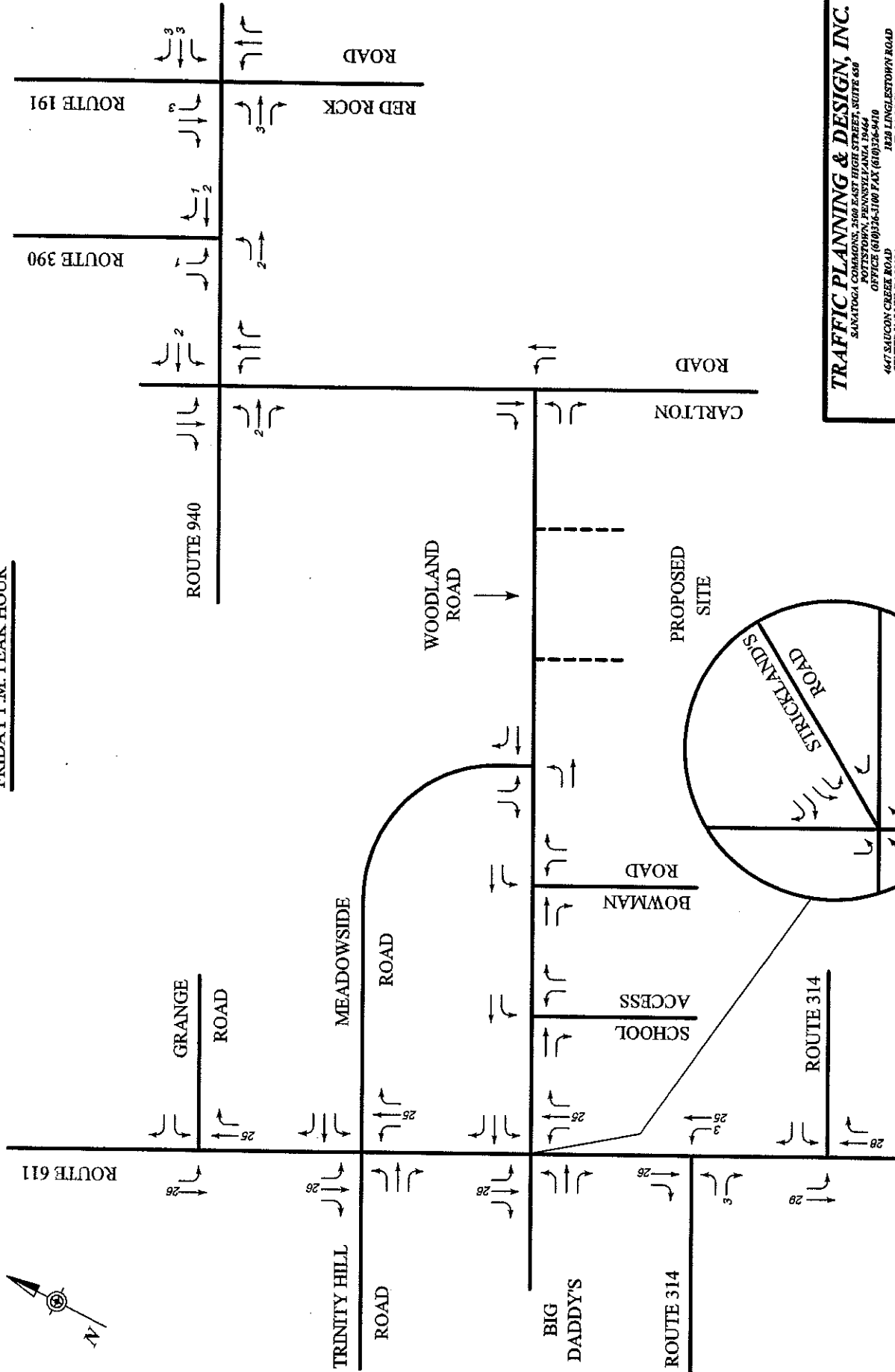
LEGEND:  
 - - - - - = PROPOSED SITE DRIVEWAY  
 SCHEMATIC DRAWING: NOT TO SCALE

**TRAFFIC PLANNING & DESIGN, INC.**  
 54047066  
 ROUTE 290 EAST HIGH STREET, SUITE G9  
 FORT MYERS, FL 33904  
 OFFICE (813) 324-3100 FAX (813) 324-9410  
 1201 LINGLSTOWN ROAD  
 HARRISBURG, PA 17110  
 4647 SAICON CREEK ROAD  
 CENTER VALLEY, PA 16834  
 OFFICE (610) 655-4250 OFFICE (717) 234-1400 FAX (717) 234-4400  
 E-MAIL: TRAFFICEXPERTS@TRAFFICPD.COM

FIGURE C-19

CROSSROADS MALL  
 SATURDAY P.M. PEAK HOUR

FRIDAY P.M. PEAK HOUR



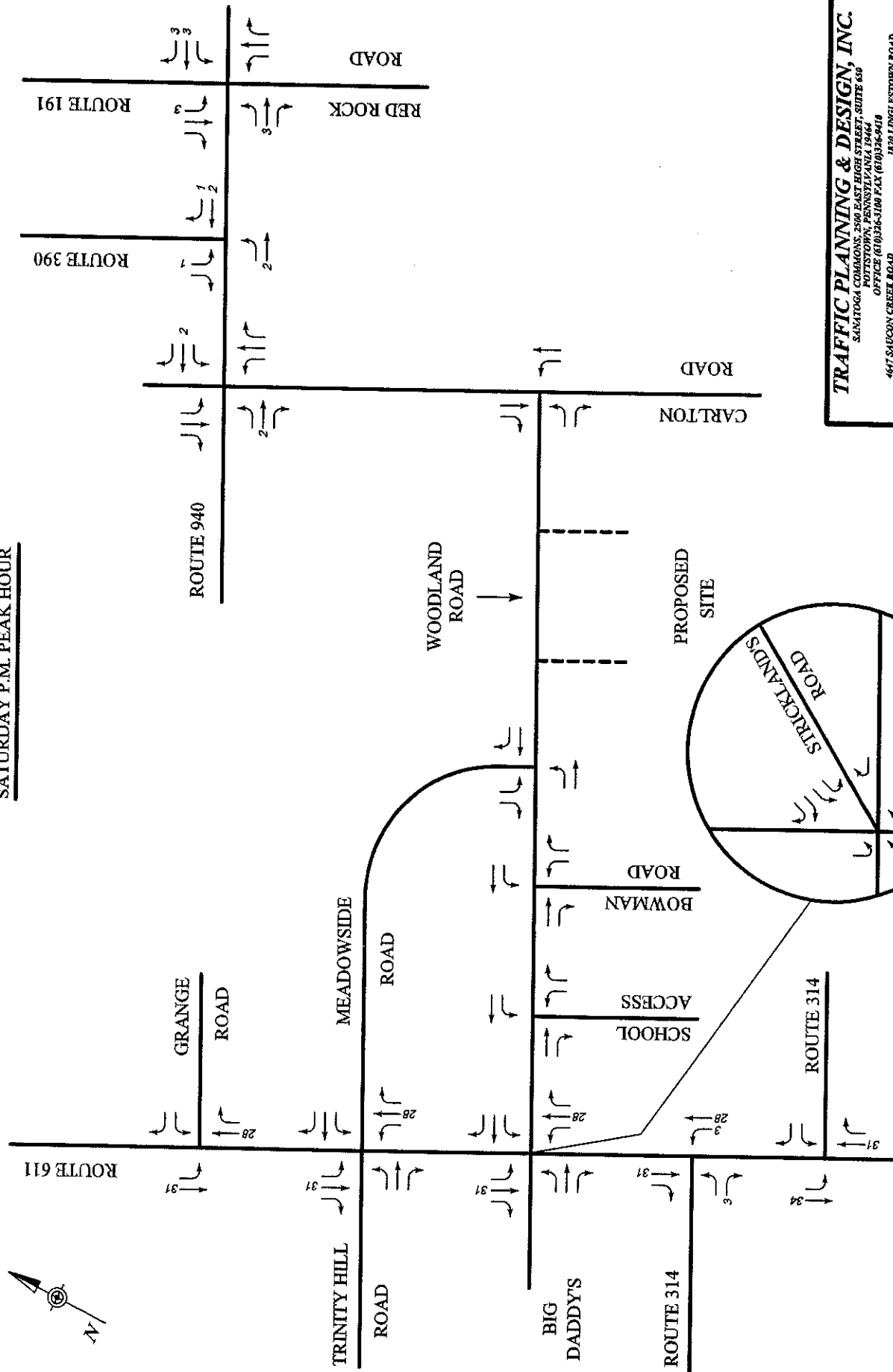
**TRAFFIC PLANNING & DESIGN, INC.**  
 SANATOGA COMMONS, 2100 EAST HIGH STREET, SUITE 600  
 POTTSTOWN, PENNSYLVANIA 19464  
 OFFICE (610)376-1100 FAX (610)376-9410  
 4647 SAUCON CREEK ROAD  
 CENTER VALLEY, PA 18854  
 OFFICE (717)244-4250 OFFICE (717)244-4248 FAX (717)244-4000  
 E-MAIL TRAFFICEXPERTS@TRAFFICPD.COM

FIGURE C-20

DEPG STRAUD  
 FRIDAY P.M. PEAK HOUR

LEGEND:  
 - - - - - = PROPOSED SITE DRIVEWAY  
 SCHEMATIC DRAWING: NOT TO SCALE

SATURDAY P.M. PEAK HOUR



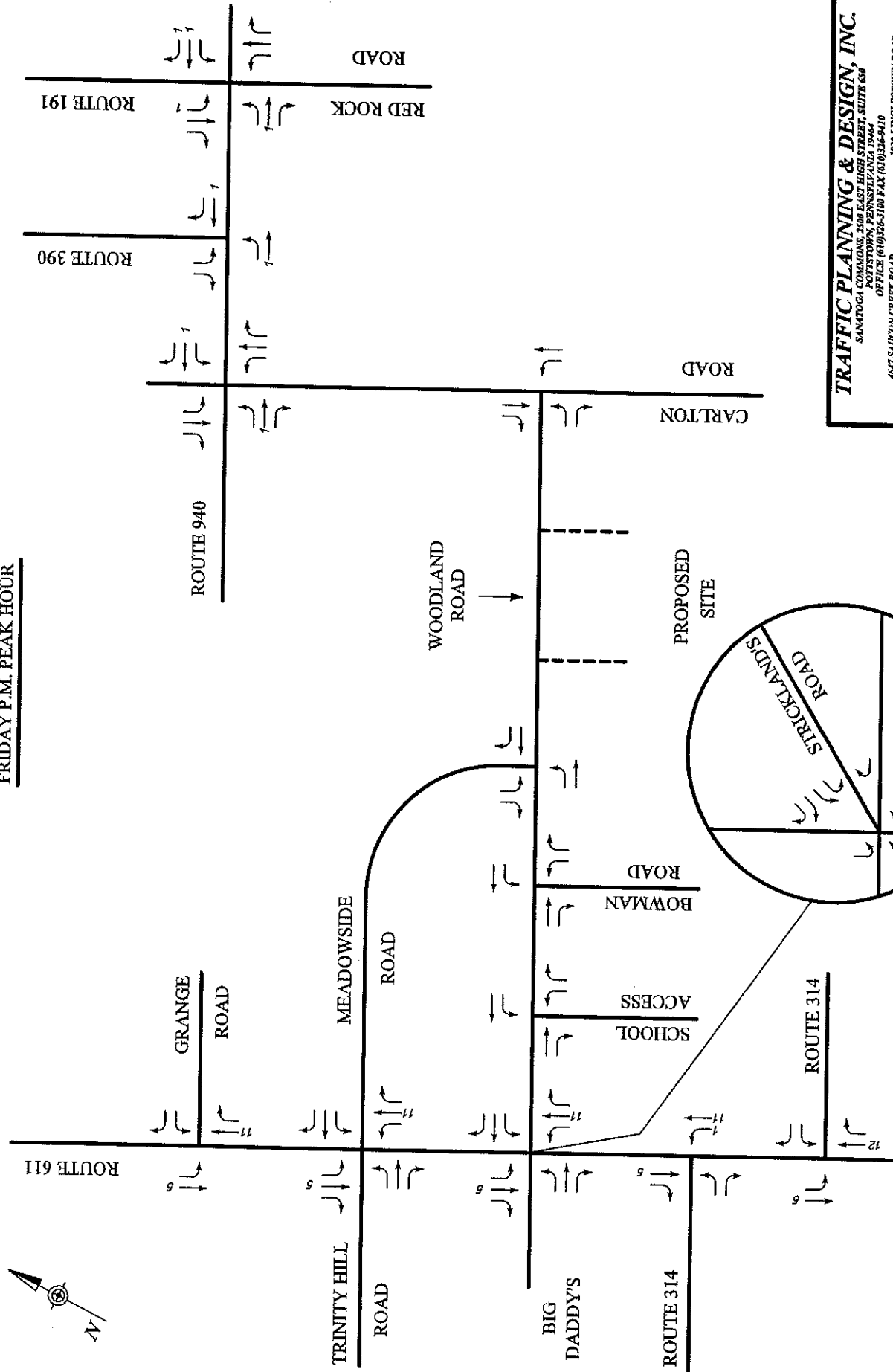
LEGEND:  
 - - - - - = PROPOSED SITE DRIVEWAY  
 SCHEMATIC DRAWING: NOT TO SCALE

**TRAFFIC PLANNING & DESIGN, INC.**  
 SANITOGA COMMONS, 290 EAST HIGH STREET, SUITE 630  
 POTTSTOWN, PENNSYLVANIA 19464  
 OFFICE (610)326-3109 FAX (610)326-9418  
 447 S HUDON CREEK ROAD  
 CHESTER, PA 19384  
 OFFICE (610)864-3473 FAX (610)864-2350  
 1829 LINGLESTOWN ROAD  
 HARRISBURG, PA 17110  
 OFFICE (717)241-1468 FAX (717)241-4090  
 E-MAIL: TRAFFICEXPERTS@TRAFFICPD.COM

FIGURE C-21

DEPG STRAUD  
 SATURDAY P.M. PEAK HOUR

FRIDAY P.M. PEAK HOUR



LEGEND:

----- = PROPOSED SITE DRIVEWAY  
 SCHEMATIC DRAWING: NOT TO SCALE

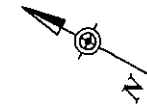
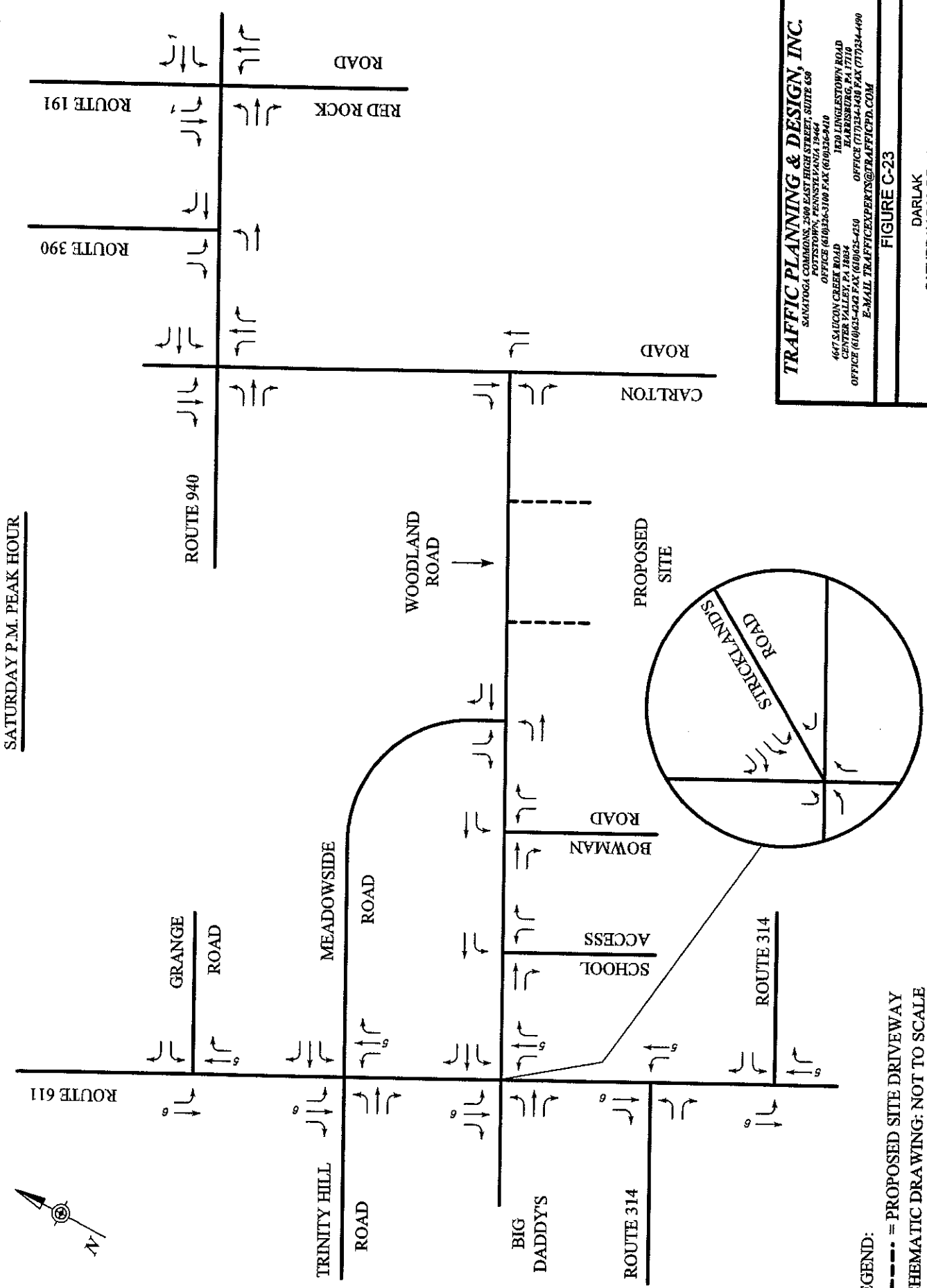
**TRAFFIC PLANNING & DESIGN, INC.**  
 SANITOG, COMMONS 1508 EAST HIGH STREET, SUITE 606  
 POTTSVILLE, PENNSYLVANIA 17854  
 OFFICE (610)326-3100 FAX (610)326-9410  
 467 SAUCON CREEK ROAD  
 CENTER VALLEY, PA 17034  
 OFFICE (717)334-1438 FAX (717)334-4490  
 E-MAIL TRAFFICEXPERTS@TRAFFICPD.COM

FIGURE C-22

DARLAK  
FRIDAY P.M. PEAK HOUR



SATURDAY P.M. PEAK HOUR



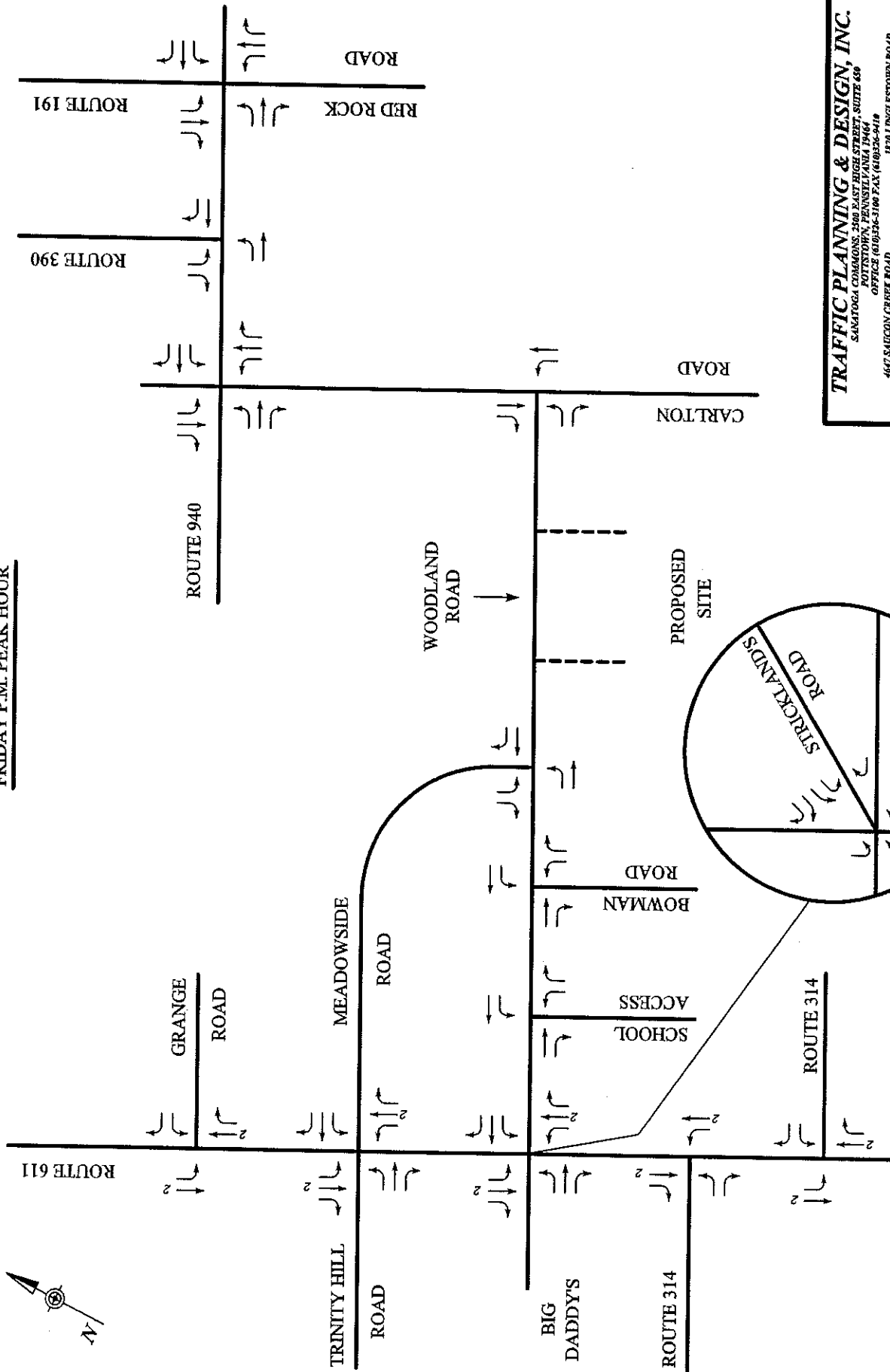
**LEGEND:**  
 - - - - - = PROPOSED SITE DRIVEWAY  
 SCHEMATIC DRAWING; NOT TO SCALE

**TRAFFIC PLANNING & DESIGN, INC.**  
 SANATOGA COMMONS 3300 EAST HIGH STREET, SUITE 200  
 POTTSVILLE, PENNSYLVANIA 17854  
 OFFICE (610)326-3100 FAX (610)326-9410  
 467 SAUCON CREEK ROAD  
 CENTER VALLEY, PA 16834  
 OFFICE (717)344-1438 FAX (717)344-4000  
 E-MAIL TRAFFICXPERTS@TRAFFICPD.COM

**FIGURE C-23**

DARLAK  
 SATURDAY P.M. PEAK HOUR

FRIDAY P.M. PEAK HOUR



LEGEND:

- - - - - = PROPOSED SITE DRIVEWAY
- SCHEMATIC DRAWING; NOT TO SCALE

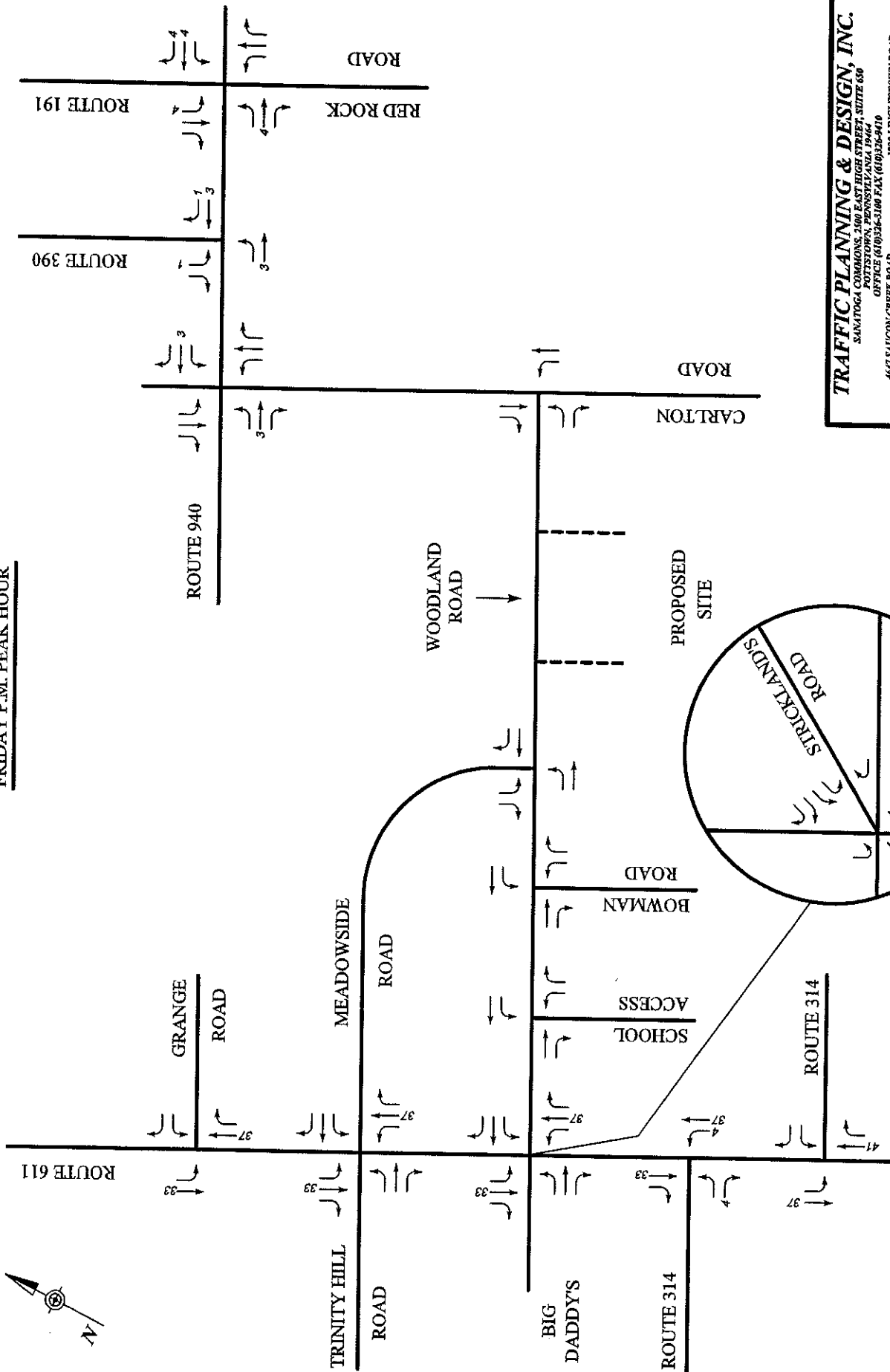
**TRAFFIC PLANNING & DESIGN, INC.**  
 200 W. MARKET STREET, SUITE 450  
 SAFFORD, PENNSYLVANIA 15488  
 OFFICE (814) 343-1100 FAX (814) 343-9418

467 SAUCON CREEK ROAD  
 1820 LINGLESTOWN ROAD  
 CENTER VALLEY, PA 18834 HARRISBURG, PA 17110  
 OFFICE (610) 625-4250 OFFICE (717) 344-4400 FAX (717) 344-4600  
 E-MAIL TRAFFICEXPERTS@TRAFFICPD.COM

FIGURE C-24

STROUDSBURG SCHOOL  
FRIDAY P.M. PEAK HOUR

FRIDAY P.M. PEAK HOUR

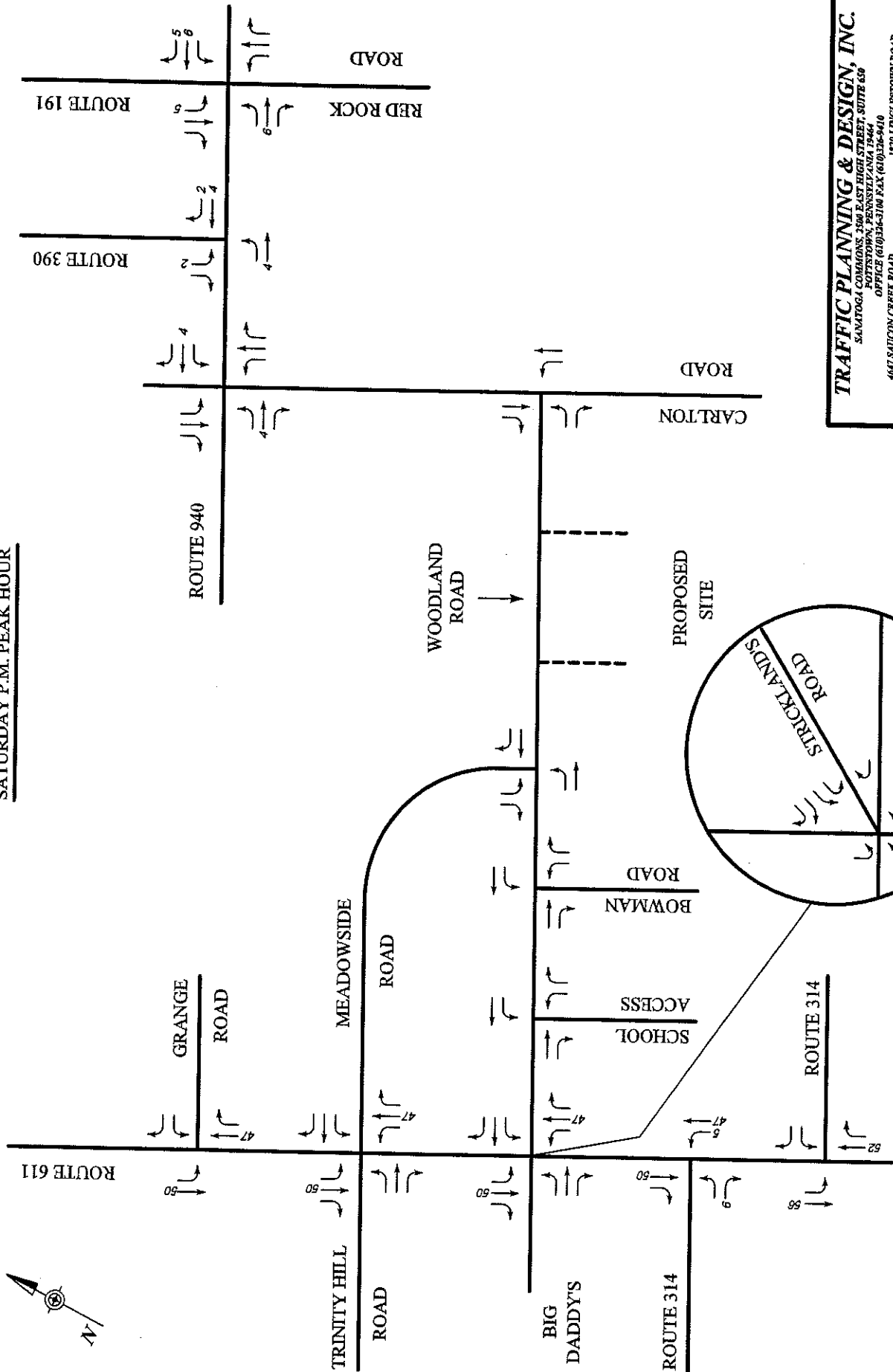


LEGEND:  
 - - - - - = PROPOSED SITE DRIVEWAY  
 SCHEMATIC DRAWING: NOT TO SCALE

**TRAFFIC PLANNING & DESIGN, INC.**  
 SAVATOGA COMMONS, 2500 EAST HIGH STREET, SUITE 600  
 POTTSTOWN, PENNSYLVANIA 19464  
 OFFICE (610)326-3100 FAX (610)326-9410  
 1820 LINGLESTOWN ROAD  
 HARRISBURG, PA 17110  
 OFFICE (610)651-4222 FAX (610)651-4250  
 E-MAIL: TRAFFICEXPERTS@TRAFFICPD.COM

FIGURE C-25  
 PARADIGM  
 FRIDAY P.M. PEAK HOUR

SATURDAY P.M. PEAK HOUR



**TRAFFIC PLANNING & DESIGN, INC.**  
 SANITOGA COMMONS 3150 EAST HIGH STREET, SUITE 606  
 POTTSTOWN, PENNSYLVANIA 19442  
 OFFICE (610)326-3100 FAX (610)326-9410  
 467 SAUCON CREEK ROAD  
 CENTER VALLEY, PA 16834  
 OFFICE (717)334-1488 FAX (717)334-4490  
 E-MAIL: TRAFFICEXPERTS@TRAFFICPD.COM

FIGURE C-26

PARADIGM  
 SATURDAY P.M. PEAK HOUR

LEGEND:  
 - - - - - = PROPOSED SITE DRIVEWAY  
 SCHEMATIC DRAWING: NOT TO SCALE

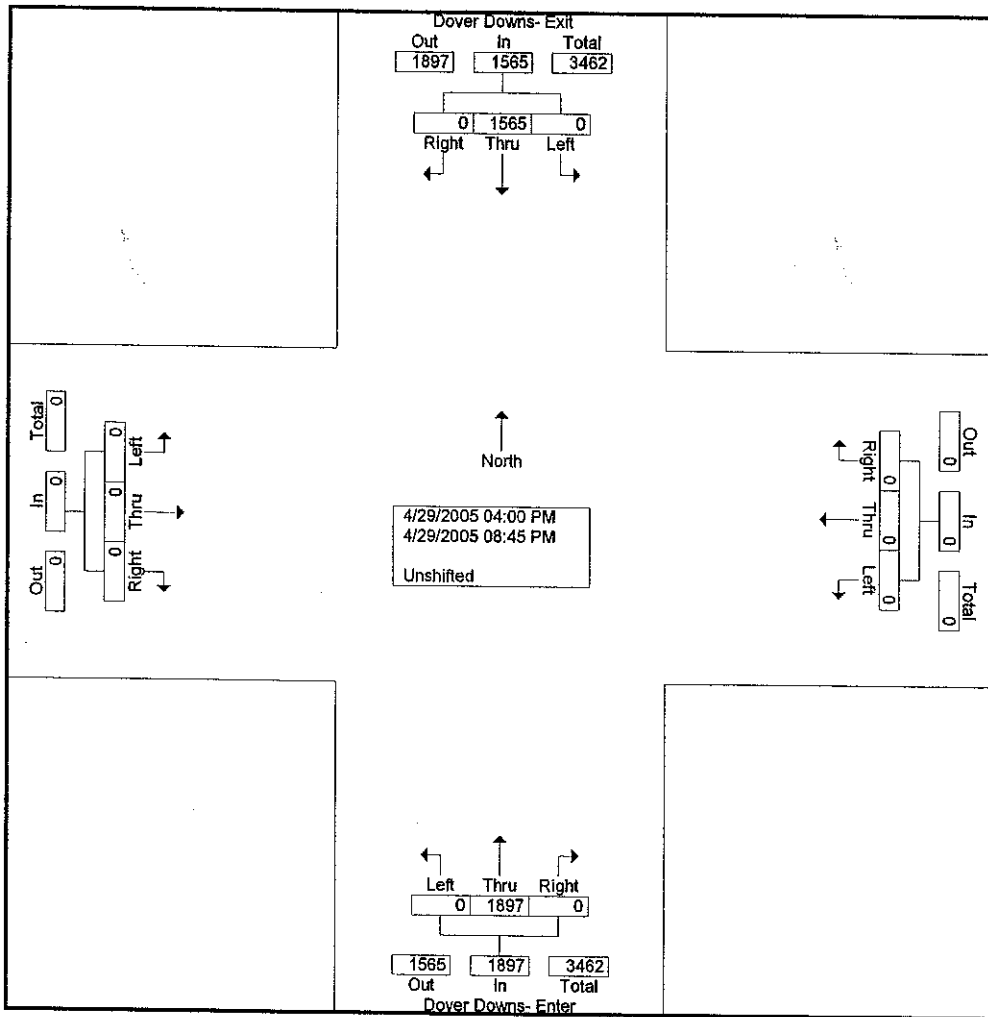
***APPENDIX D***  
***DOVER DOWNS***  
***MANUAL TRAFFIC COUNT PRINTOUTS***

Counter: 28  
 Counted By: R. Kearney  
 Weather: clear  
 Date As: FRIDD

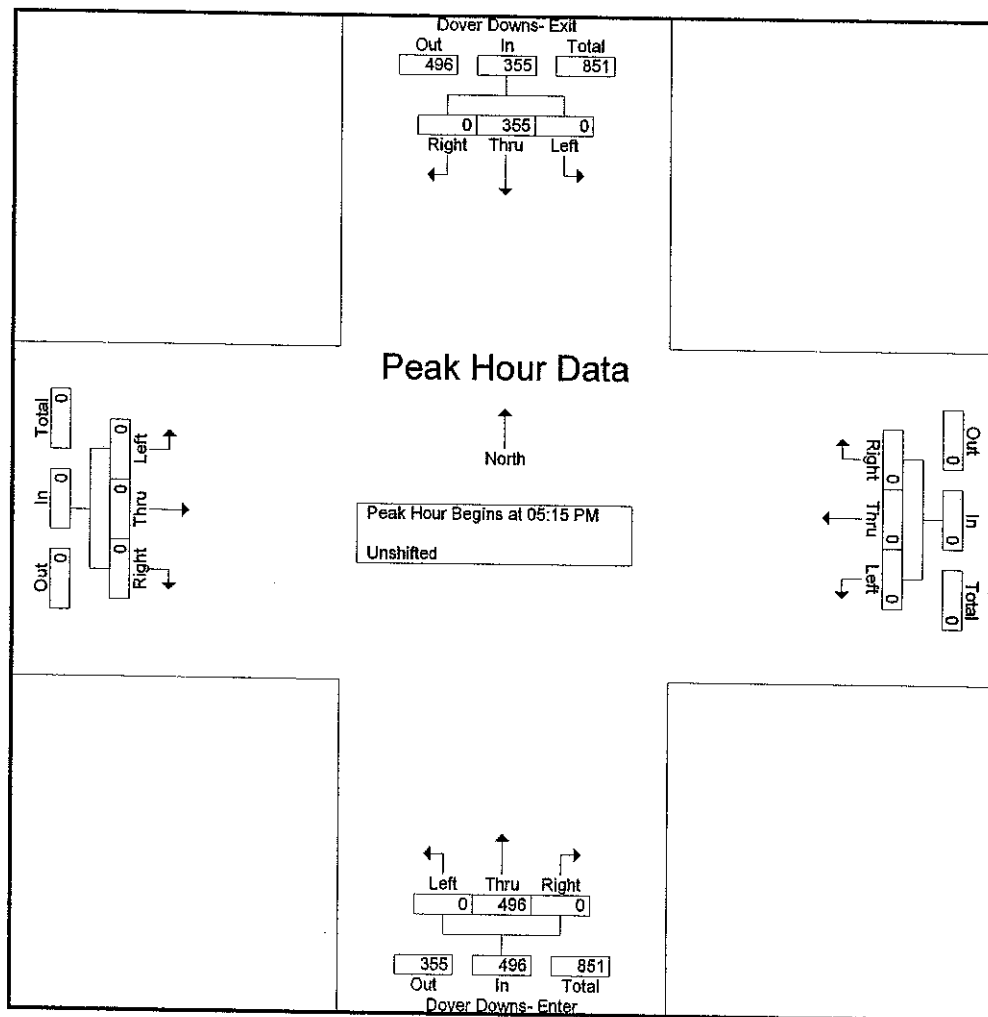
File Name : FRIDD  
 Site Code : 00000000  
 Start Date : 4/29/2005  
 Page No : 1

Groups Printed- Unshifted

Start Time	Dover Downs- Exit Southbound					Westbound					Dover Downs- Enter Northbound					Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Truck	App. Total	Left	Thru	Right	Truck	App. Total	Left	Thru	Right	Truck	App. Total	Left	Thru	Right	Truck	App. Total			
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0				
04:00 PM	0	76	0	0	76	0	0	0	0	0	0	73	0	1	73	0	0	0	0	0	1	149	150
04:15 PM	0	48	0	1	48	0	0	0	0	0	0	72	0	1	72	0	0	0	0	0	2	120	122
04:30 PM	0	69	0	1	69	0	0	0	0	0	0	81	0	1	81	0	0	0	0	0	2	150	152
04:45 PM	0	60	0	3	60	0	0	0	0	0	0	96	0	1	96	0	0	0	0	0	4	156	160
Total	0	253	0	5	253	0	0	0	0	0	0	322	0	4	322	0	0	0	0	0	9	575	584
05:00 PM	0	129	0	0	129	0	0	0	0	0	0	72	0	0	72	0	0	0	0	0	0	201	201
05:15 PM	0	97	0	1	97	0	0	0	0	0	0	106	0	1	106	0	0	0	0	0	2	203	205
05:30 PM	0	98	0	0	98	0	0	0	0	0	0	117	0	1	117	0	0	0	0	0	1	215	216
05:45 PM	0	80	0	1	80	0	0	0	0	0	0	135	0	1	135	0	0	0	0	0	2	215	217
Total	0	404	0	2	404	0	0	0	0	0	0	430	0	3	430	0	0	0	0	0	5	834	839
06:00 PM	0	80	0	0	80	0	0	0	0	0	0	138	0	1	138	0	0	0	0	0	1	218	219
06:15 PM	0	69	0	0	69	0	0	0	0	0	0	132	0	2	132	0	0	0	0	0	2	201	203
06:30 PM	0	81	0	0	81	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	0	181	181
06:45 PM	0	49	0	0	49	0	0	0	0	0	0	85	0	1	85	0	0	0	0	0	1	134	135
Total	0	279	0	0	279	0	0	0	0	0	0	455	0	4	455	0	0	0	0	0	4	734	738
07:00 PM	0	70	0	0	70	0	0	0	0	0	0	82	0	0	82	0	0	0	0	0	0	152	152
07:15 PM	0	100	0	0	100	0	0	0	0	0	0	92	0	1	92	0	0	0	0	0	1	192	193
07:30 PM	0	73	0	0	73	0	0	0	0	0	0	87	0	0	87	0	0	0	0	0	0	160	160
07:45 PM	0	67	0	0	67	0	0	0	0	0	0	83	0	0	83	0	0	0	0	0	0	150	150
Total	0	310	0	0	310	0	0	0	0	0	0	344	0	1	344	0	0	0	0	0	1	654	655
08:00 PM	0	74	0	1	74	0	0	0	0	0	0	87	0	0	87	0	0	0	0	0	1	161	162
08:15 PM	0	84	0	2	84	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	2	184	186
08:30 PM	0	78	0	0	78	0	0	0	0	0	0	85	0	0	85	0	0	0	0	0	0	163	163
08:45 PM	0	83	0	3	83	0	0	0	0	0	0	74	0	1	74	0	0	0	0	0	4	157	161
Total	0	319	0	6	319	0	0	0	0	0	0	346	0	1	346	0	0	0	0	0	7	665	672
Grand Total	0	1565	0	13	1565	0	0	0	0	0	0	1897	0	13	1897	0	0	0	0	0	26	3462	3488
Apprch %	0	100	0			0	0	0			0	100	0			0	0	0					
Total %	0	45.2	0		45.2	0	0	0			0	54.8	0		54.8	0	0	0			0.7	99.3	



Start Time	Dover Downs- Exit Southbound				Westbound				Dover Downs- Enter Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 08:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	0	97	0	97	0	0	0	0	0	106	0	106	0	0	0	0	203
05:30 PM	0	98	0	98	0	0	0	0	0	117	0	117	0	0	0	0	215
05:45 PM	0	80	0	80	0	0	0	0	0	135	0	135	0	0	0	0	215
06:00 PM	0	80	0	80	0	0	0	0	0	138	0	138	0	0	0	0	218
Total Volume	0	355	0	355	0	0	0	0	0	496	0	496	0	0	0	0	851
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.906	.000	.906	.000	.000	.000	.000	.000	.899	.000	.899	.000	.000	.000	.000	.976





Counter: 4  
 Counted By: N. Zipay/S. Gault  
 Weather: rain  
 Speed As: SATDD

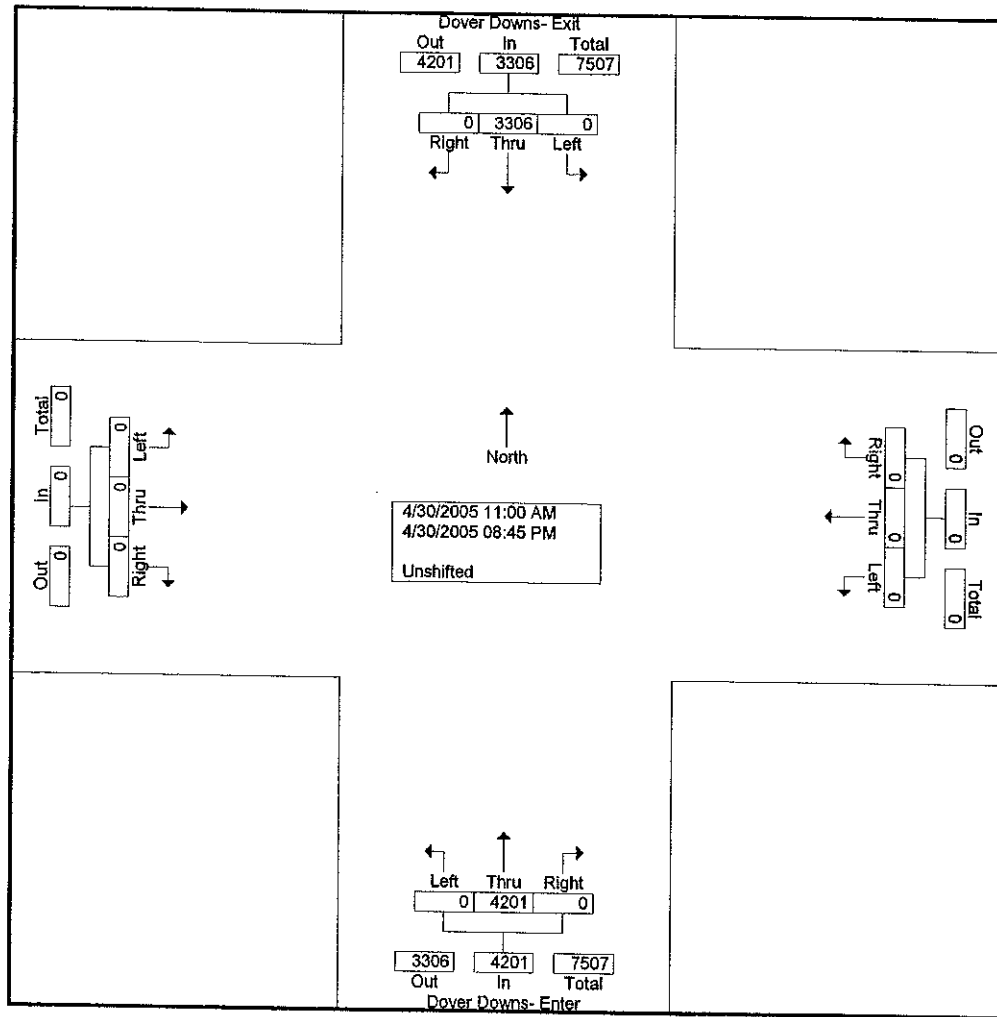
File Name : SATDD  
 Site Code : 00000000  
 Start Date : 4/30/2005  
 Page No : 1

Groups Printed- Unshifted

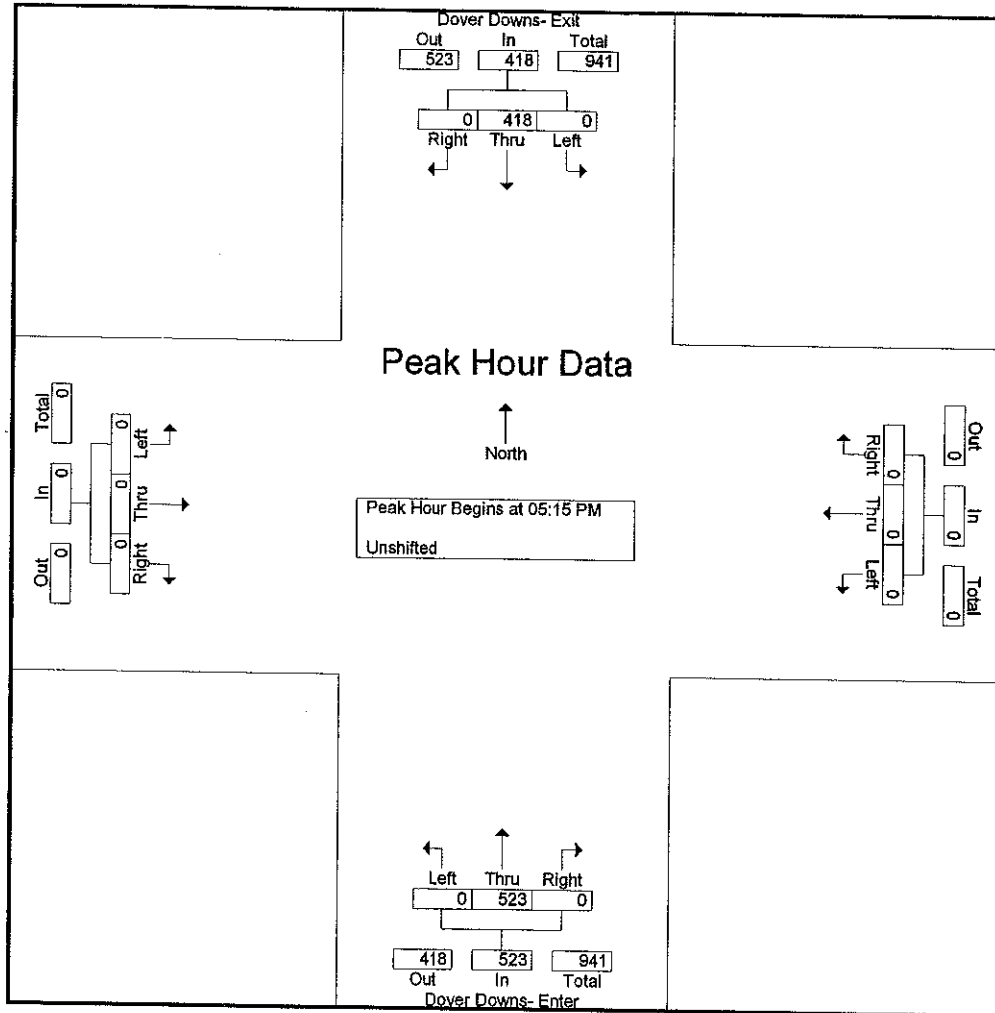
Start Time	Dover Downs- Exit Southbound					Westbound					Dover Downs- Enter Northbound					Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Truck	App. Total	Left	Thru	Right	Truck	App. Total	Left	Thru	Right	Truck	App. Total	Left	Thru	Right	Truck	App. Total			
	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0				
11:00 AM	0	42	0	2	42	0	0	0	0	0	0	94	0	1	94	0	0	0	0	0	3	136	139
11:15 AM	0	57	0	3	57	0	0	0	0	0	0	103	0	0	103	0	0	0	0	0	3	160	163
11:30 AM	0	58	0	0	58	0	0	0	0	0	0	109	0	0	109	0	0	0	0	0	0	167	167
11:45 AM	0	52	0	1	52	0	0	0	0	0	0	97	0	2	97	0	0	0	0	0	3	149	152
Total	0	209	0	6	209	0	0	0	0	0	0	403	0	3	403	0	0	0	0	0	9	612	621
12:00 PM	0	89	0	0	89	0	0	0	0	0	0	118	0	1	118	0	0	0	0	0	1	207	208
12:15 PM	0	71	0	0	71	0	0	0	0	0	0	104	0	1	104	0	0	0	0	0	1	175	176
12:30 PM	0	65	0	0	65	0	0	0	0	0	0	87	0	3	87	0	0	0	0	0	3	152	155
12:45 PM	0	63	0	0	63	0	0	0	0	0	0	93	0	0	93	0	0	0	0	0	0	156	156
Total	0	288	0	0	288	0	0	0	0	0	0	402	0	5	402	0	0	0	0	0	5	690	695
01:00 PM	0	69	0	1	69	0	0	0	0	0	0	90	0	3	90	0	0	0	0	0	4	159	163
01:15 PM	0	77	0	1	77	0	0	0	0	0	0	107	0	1	107	0	0	0	0	0	2	184	186
01:30 PM	0	50	0	0	50	0	0	0	0	0	0	99	0	0	99	0	0	0	0	0	0	149	149
01:45 PM	0	65	0	0	65	0	0	0	0	0	0	91	0	0	91	0	0	0	0	0	0	156	156
Total	0	261	0	2	261	0	0	0	0	0	0	387	0	4	387	0	0	0	0	0	6	648	654
02:00 PM	0	74	0	2	74	0	0	0	0	0	0	121	0	1	121	0	0	0	0	0	3	195	198
02:15 PM	0	62	0	1	62	0	0	0	0	0	0	91	0	0	91	0	0	0	0	0	1	153	154
02:30 PM	0	81	0	0	81	0	0	0	0	0	0	106	0	1	106	0	0	0	0	0	1	187	188
02:45 PM	0	79	0	1	79	0	0	0	0	0	0	106	0	2	106	0	0	0	0	0	3	185	188
Total	0	296	0	4	296	0	0	0	0	0	0	424	0	4	424	0	0	0	0	0	8	720	728
03:00 PM	0	86	0	1	86	0	0	0	0	0	0	102	0	1	102	0	0	0	0	0	2	188	190
03:15 PM	0	82	0	0	82	0	0	0	0	0	0	99	0	1	99	0	0	0	0	0	1	181	182
03:30 PM	0	98	0	2	98	0	0	0	0	0	0	95	0	0	95	0	0	0	0	0	2	193	195
03:45 PM	0	85	0	0	85	0	0	0	0	0	0	113	0	0	113	0	0	0	0	0	0	198	198
Total	0	351	0	3	351	0	0	0	0	0	0	409	0	2	409	0	0	0	0	0	5	760	765
04:00 PM	0	106	0	1	106	0	0	0	0	0	0	105	0	0	105	0	0	0	0	0	1	211	212
04:15 PM	0	111	0	0	111	0	0	0	0	0	0	109	0	0	109	0	0	0	0	0	0	220	220
04:30 PM	0	105	0	1	105	0	0	0	0	0	0	107	0	0	107	0	0	0	0	0	1	212	213
04:45 PM	0	66	0	0	66	0	0	0	0	0	0	92	0	0	92	0	0	0	0	0	0	158	158
Total	0	388	0	2	388	0	0	0	0	0	0	413	0	0	413	0	0	0	0	0	2	801	803
05:00 PM	0	104	0	0	104	0	0	0	0	0	0	105	0	1	105	0	0	0	0	0	1	209	210
05:15 PM	0	108	0	0	108	0	0	0	0	0	0	106	0	0	106	0	0	0	0	0	0	214	214
05:30 PM	0	91	0	0	91	0	0	0	0	0	0	143	0	0	143	0	0	0	0	0	0	234	234
05:45 PM	0	114	0	1	114	0	0	0	0	0	0	142	0	0	142	0	0	0	0	0	1	256	257
Total	0	417	0	1	417	0	0	0	0	0	0	496	0	1	496	0	0	0	0	0	2	913	915
06:00 PM	0	105	0	0	105	0	0	0	0	0	0	132	0	0	132	0	0	0	0	0	0	237	237
06:15 PM	0	73	0	1	73	0	0	0	0	0	0	102	0	1	102	0	0	0	0	0	2	175	177
06:30 PM	0	80	0	0	80	0	0	0	0	0	0	138	0	1	138	0	0	0	0	0	1	218	219
06:45 PM	0	83	0	1	83	0	0	0	0	0	0	126	0	2	126	0	0	0	0	0	3	209	212
Total	0	341	0	2	341	0	0	0	0	0	0	498	0	4	498	0	0	0	0	0	6	839	845
07:00 PM	0	87	0	1	87	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	1	187	188
07:15 PM	0	73	0	0	73	0	0	0	0	0	0	68	0	0	68	0	0	0	0	0	0	141	141
07:30 PM	0	94	0	1	94	0	0	0	0	0	0	76	0	0	76	0	0	0	0	0	1	170	171
07:45 PM	0	98	0	0	98	0	0	0	0	0	0	119	0	0	119	0	0	0	0	0	0	217	217
Total	0	352	0	2	352	0	0	0	0	0	0	363	0	0	363	0	0	0	0	0	2	715	717
08:00 PM	0	104	0	2	104	0	0	0	0	0	0	114	0	1	114	0	0	0	0	0	3	218	221
08:15 PM	0	92	0	0	92	0	0	0	0	0	0	98	0	0	98	0	0	0	0	0	0	190	190
08:30 PM	0	107	0	0	107	0	0	0	0	0	0	106	0	0	106	0	0	0	0	0	0	213	213
08:45 PM	0	100	0	1	100	0	0	0	0	0	0	88	0	1	88	0	0	0	0	0	2	188	190
Total	0	403	0	3	403	0	0	0	0	0	0	406	0	2	406	0	0	0	0	0	5	809	814

Groups Printed- Unshifted

Factor	Dover Downs- Exit Southbound					Westbound					Dover Downs- Enter Northbound					Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Truck	App. Total	Left	Thru	Right	Truck	App. Total	Left	Thru	Right	Truck	App. Total	Left	Thru	Right	Truck	App. Total			
Grand Total	0	3306	0	25	3306	0	0	0	0	0	0	4201	0	25	4201	0	0	0	0	0	50	7507	7557
Apprch %	0	100	0			0	0	0			0	100	0			0	0	0					
Total %	0	44	0		44	0	0	0			0	56	0		56	0	0	0			0.7	99.3	



Start Time	Dover Downs- Exit Southbound				Westbound				Dover Downs- Enter Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:00 AM to 08:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	0	108	0	108	0	0	0	0	0	106	0	106	0	0	0	0	214
05:30 PM	0	91	0	91	0	0	0	0	0	143	0	143	0	0	0	0	234
05:45 PM	0	114	0	114	0	0	0	0	0	142	0	142	0	0	0	0	256
06:00 PM	0	105	0	105	0	0	0	0	0	132	0	132	0	0	0	0	237
Total Volume	0	418	0	418	0	0	0	0	0	523	0	523	0	0	0	0	941
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.917	.000	.917	.000	.000	.000	.000	.000	.914	.000	.914	.000	.000	.000	.000	.919



***APPENDIX E***  
***200-MILE RADIUS GRAVITY MODEL***

Regional Gravity Model for Mount Airy Lodge<sup>1</sup> (200-mile Radius)

TPD Job #: CECO.A.00008  
Calculated by: EMM

Location	County	State	Distance to Mt. Airy (Miles)	Potential Regional Gamblers	Percentage of Regional Gamblers to Mt. Airy	Potential Regional Gamblers to Mt. Airy	Percentage To Mt. Airy From Geographic Area <sup>2</sup>	Route to Mt. Airy								
								To/From East via 80	To/From West via 80	To/From North via 380	To/From North via 390	To/From North via 196				
Local	Monroe County	PA	5	66,853	57.6%	38,507	16.6%									
	Chemung County	NY	145	16,178	4.5%	728			100%							
	Schuyler County	NY	165	3,999	0	0			100%							
	Steuben County	NY	200	15,472	0	0			100%							
	Bradford County	PA	90	6,930	6.3%	437			100%							
	Lackawanna County	PA	15	68,000	13.8%	9,384			100%							
	Sullivan County	PA	105	904	9.0%	81			100%							
	Susquehanna County	PA	70	5,784	9.3%	538			100%							
	Tioga County	PA	165	3,430	5.9%	202			100%							
	Wyoming County	PA	60	6,004	8.6%	516			100%							
	<b>Total</b>			<b>126,701</b>		<b>11,886</b>	<b>5.1%</b>	<b>0.3%</b>	<b>4.8%</b>							
North	Broome County	NY	75	30,150	5.3%	1,598			100%							
	Chenango County	NY	130	8,521	3.6%	307			100%							
	Cortland County	NY	125	10,066	2.5%	252			100%							
	Delaware County	NY	110	8,361	3.5%	293			100%							
	Oneida County	NY	160	8,770	4.0%	351			100%							
	Tioga County	NY	120	7,647	5.2%	398			100%							
	Tompkins County	NY	135	21,637	0	0			100%							
	Wayne County	PA	50	7,699	11.1%	855			100%							
		<b>Total</b>			<b>102,851</b>		<b>4,054</b>	<b>1.7%</b>		<b>1.4%</b>						
	Northeast	Fairfield County	CT	140	359,315	1.2%	4,312									
Dutchess County		NY	130	45,149	2.5%	1,129										
Greene County		NY	160	7,124	3.2%	228										
Sullivan County		NY	70	32,550	0.1%	33										
Ulster County		NY	160	41,538	2.5%	1,038										
Pike County		PA	95	9,610	24.2%	2,326										
		<b>Total</b>			<b>495,286</b>		<b>9,066</b>	<b>3.9%</b>								
East		Bergen County	NJ	85	328,257	2.3%	7,550									
		Essex County	NJ	70	277,548	2.9%	8,049									
		Hudson County	NJ	85	223,906	2.1%	4,702									
	Hunterdon County	NJ	85	43,403	6.3%	2,734										
	Mercer County	NJ	80	174,319	1.5%	2,815										
	Middlesex County	NJ	100	266,340	2.6%	6,925										
	Monmouth County	NJ	100	217,865	1.1%	2,997										
	Morris County	NJ	55	162,642	7.1%	11,548										
	Passaic County	NJ	85	170,973	3.4%	5,813										
	Somerset County	NJ	80	101,586	4.4%	4,470										
Westchester	Sussex County	NJ	55	47,105	11.4%	5,370										
	Union County	NJ	85	187,525	2.9%	5,438										
	Warren County	NJ	30	46,295	18.1%	8,379										
	Bronx County	NY	100	302,621	1.2%	3,631										
	Kings County	NY	100	632,966	1.6%	10,127										
	Nassau County	NY	130	384,707	1.0%	3,847										
	New York County	NY	90	489,111	1.8%	8,804										
	Orange County	NY	80	85,037	3.1%	2,636										
	Putnam County	NY	120	21,530	2.1%	452										
	Queens County	NY	105	644,026	0.8%	3,864										
Westchester	Richmond County	NY	100	125,647	2.2%	2,764										
	Rockland County	NY	105	108,974	2.5%	2,874										
	Suffolk County	NY	160	296,326	0	0										
	Westchester	NY	110	464,759	1.6%	7,436										
		<b>Total</b>			<b>5,803,468</b>		<b>122,225</b>	<b>52.8%</b>	<b>48.3%</b>							

1 = Regional gravity model based upon marketing study (prepared by others)  
2 = Number of potential gamblers from geographic area/total number of potential gamblers (200-mile radius)

Regional Gravity Model for Mount Airy Lodge<sup>1</sup> (200-mile Radius)

TPD Job #: CE.CO.A.00008  
 Calculated by: EMM

County	DE	200	20,747	0.1%	0	100%	6
Kent County	DE	200	20,747	0.1%	0	100%	
New Castle County	DE	160	124,604	0.1%	125	100%	
Sussex County	DE	220	9,592		0	100%	
Caroline County	MD	210	7,849		0	100%	
Cecil County	MD	170	17,840	0.7%	125	100%	
Dorchester County	MD	250	4,355		0	100%	
Harford County	MD	170	31,435		0	100%	
Kent County	MD	200	3,156		0	100%	
Queen Anne's County	MD	200	6,541		0	100%	
Talbot County	MD	210	5,925		0	100%	
Atlantic County	NJ	160	123,635		0	100%	
Burlington County	NJ	150	212,372	0.5%	1,062	100%	
Camden County	NJ	135	248,160	0.4%	883	100%	
Cape May County	NJ	210	44,529		0	100%	
Cumberland County	NJ	170	52,136		0	100%	
Gloucester County	NJ	150	123,820	0.3%	371	100%	
Ocean County	NJ	145	171,807	0.3%	515	100%	
Salem County	NJ	145	31,795	0.3%	95	100%	
<b>Total</b>			<b>1,242,298</b>		<b>3,286</b>	<b>1.4%</b>	
Baltimore City	MD	200	67,454		0	100%	
Baltimore County	MD	200	87,153		0	100%	
Carroll County	MD	150	18,154		0	100%	
Howard County	MD	200	26,972		0	100%	
Berks County	PA	95	67,675	3.5%	2,369	100%	
Bucks County	PA	70	204,400	1.5%	3,066	100%	
Chester County	PA	125	101,888	1.3%	1,325	100%	
Delaware County	PA	120	227,192	0.8%	1,363	100%	
Lehigh County	PA	50	158,150	3.1%	4,903	100%	
Montgomery County	PA	105	274,806	1.3%	3,572	100%	
Northampton County	PA	30	134,532	5.3%	7,130	100%	
Philadelphia County	PA	120	686,104	0.0%	0	100%	
<b>Total</b>			<b>2,054,480</b>		<b>23,728</b>	<b>10.3%</b>	<b>0.0%</b>
Anne Arundel County	MD	220	56,365		0	100%	
Adams County	PA	175	11,278		0	100%	
Carlton County	PA	50	12,415	16.9%	2,088	100%	
Cumberland County	PA	165	44,180		0	100%	
Dauphin County	PA	120	119,306	0.5%	597	100%	
Juniata County	PA	150	3,112		0	100%	
Lancaster County	PA	125	87,213	1.7%	1,483	100%	
Lebanon County	PA	110	44,180	1.2%	530	100%	
Perry County	PA	135	7,781	1.8%	140	100%	
Schuylkill County	PA	85	26,886	6.4%	1,721	100%	
Snyder County	PA	115	5,680	3.6%	204	100%	
York County	PA	150	70,565	1.6%	1,129	100%	
<b>Total</b>			<b>488,961</b>		<b>7,902</b>	<b>3.4%</b>	<b>2.8%</b>
Centre County	PA	150	13,700		0	100%	
Clinton County	PA	140	3,272		0	100%	
Columbia County	PA	70	10,515	7.2%	757	100%	
Lycoming County	PA	40	139,227	5.8%	8,075	100%	
Lycoming County	PA	150	13,075	6.6%	863	100%	
Mifflin County	PA	120	4,961		0	100%	
Montour County	PA	80	2,501	6.4%	160	100%	
Northumberland County	PA	95	16,712	5.3%	886	100%	
Union County	PA	120	6,074	5.2%	316	100%	
<b>Total</b>			<b>210,037</b>		<b>11,057</b>	<b>4.8%</b>	<b>4.8%</b>
<b>Total</b>			<b>10,590,935</b>		<b>231,711</b>	<b>60.6%</b>	<b>5.2%</b>
<b>Total</b>							<b>3.5%</b>

1 = Regional gravity model based upon marketing study (prepared by others)  
 2 = Number of potential gamblers from geographic area/total number of potential gamblers (200-mile radius)

Municipality	2000 Population	Percentage	Route to Mt. Airy														
			To/From East via 80	To/From East via 940	To/From West via 80	To/From West via 940	To/From North via 611	To/From North via 196	To/From North via 191	To/From North via 390	To/From South via 611						
Barret Township	3,880	2.8%															
Chestnut Hill Township	14,418	10.4%	25%														
Coolbaugh Township	15,205	11.0%						50%									
Delaware Water Gap Borough	744	0.5%	100%														
East Stroudsburg Borough	9,888	7.1%	100%														
Elged Township	2,665	1.9%	100%														
Hamilton Township	8,235	5.9%	100%														
Jackson Township	5,979	4.3%															
Middle Smithfield Township	11,495	8.3%	25%	75%													
Mount Pocono Borough	2,742	2.0%			50%												
Paradise Township	2,671	1.9%			20%					20%							10%
Pocono Township	9,607	6.9%															100%
Polk Township	6,533	4.7%	50%														50%
Price Township	2,649	1.9%															40%
Ross Township	5,435	3.9%	100%														
Smithfield Township	5,672	4.1%	90%														10%
Stroud Township	13,978	10.1%	80%														20%
Stroudsburg Borough	5,756	4.2%	100%														
Tobyhanna Township	6,152	4.4%															
Tunkhannock Township	4,983	3.6%							100%								
Total	138,687	100.0%	58755	10480	0	13040	9241	7603	993	5280	33296						
<b>Percentage of Traffic From Monroe County</b>			<b>7.0%</b>	<b>1.3%</b>	<b>0.0%</b>	<b>1.6%</b>	<b>1.1%</b>	<b>0.9%</b>	<b>0.1%</b>	<b>0.6%</b>	<b>4.0%</b>						

***APPENDIX F***  
***CAPACITY ANALYSIS WORKSHEETS***



***EXISTING CONDITIONS***

2005 Existing Conditions  
Friday P.M. Peak Hour

1: Route 314 (Eastern Leg) & Route 611



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↷	↕	↕	↷	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	13	12	11	11	11	12
Grade (%)	-6%		-2%			-5%
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.97		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1883	1631	3321		1753	3628
Flt Permitted	0.95	1.00	1.00		0.12	1.00
Satd. Flow (perm)	1883	1631	3321		221	3628
Volume (vph)	249	108	970	238	90	685
Peak-hour factor, PHF	0.78	0.78	0.98	0.98	0.83	0.83
Adj. Flow (vph)	319	138	990	243	108	825
RTOR Reduction (vph)	0	84	0	0	0	0
Lane Group Flow (vph)	319	54	1233	0	108	825
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn-Type		Perm			pm+pt	
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	16.3	16.3	25.4		36.5	36.5
Effective Green, g (s)	19.3	19.3	29.4		40.5	40.5
Actuated g/C Ratio	0.28	0.28	0.43		0.60	0.60
Clearance Time (s)	7.0	7.0	8.0		6.0	8.0
Vehicle Extension (s)	3.0	3.0	6.0		3.0	6.0
Lane Grp Cap (vph)	536	464	1440		292	2167
v/s Ratio Prot	c0.17		c0.37		0.04	c0.23
v/s Ratio Perm		0.03			0.18	
v/c Ratio	0.60	0.12	0.86		0.37	0.38
Uniform Delay, d1	20.9	17.9	17.3		10.0	7.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.8	0.1	6.0		0.8	0.3
Delay (s)	22.7	18.0	23.3		10.8	7.4
Level of Service	C	B	C		B	A
Approach Delay (s)	21.3		23.3			7.8
Approach LOS	C		C			A

Intersection Summary				
HCM Average Control Delay		17.4	HCM Level of Service	B
HCM Volume to Capacity ratio		0.72		
Actuated Cycle Length (s)		67.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization		63.2%	ICU Level of Service	B
Analysis Period (min)		15		

2005 Existing Conditions  
Friday P.M. Peak Hour

1: Route 314 (Eastern Leg) & Route 611



Lane Group	WBL	V/BR	NBT	SBL	SBT
Lane Configurations	↙	↗	↑↓	↘	↑↑
Volume (vph)	249	108	970	90	686
Lane Group Flow (vph)	319	138	1233	108	825
Turn Type		Perm		pm+pt	
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phases	8	8	2	1	6
Minimum Initial (s)	1.0	1.0	15.0	1.0	15.0
Minimum Split (s)	8.0	8.0	23.0	7.0	23.0
Total Split (s)	33.0	33.0	34.0	13.0	47.0
Total Split (%)	41.3%	41.3%	42.5%	16.3%	58.8%
Yellow Time (s)	5.0	5.0	6.0	6.0	6.0
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
v/c Ratio	0.58	0.25	0.84	0.34	0.39
Control Delay	23.2	6.3	25.5	10.2	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.2	6.3	25.5	10.2	8.7
Queue Length 50th (ft)	120	6	251	18	86
Queue Length 95th (ft)	160	30	#459	44	142
Internal Link Dist (ft)	1091		2024		1030
Turn Bay Length (ft)		72		175	
Base Capacity (vph)	726	701	1503	323	2218
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	0.44	0.20	0.82	0.33	0.37

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 66.9

Natural Cycle: 55

Control Type: Semi-Act-Uncoord

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles

Splits and Phases: 1: Route 314 (Eastern Leg) & Route 611

↙ #1 13s	↑ #2 34s		
↓ #6 47s		↘ #8 33s	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙	↗	↙	↑↑	↑↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	12	12	12	12
Grade (%)	4%			7%	-6%	
Storage Length (ft)	50	0	143			0
Storage Lanes	1	1	1			0
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Fr <sub>t</sub>		0.850			0.992	
Fr <sub>t</sub> Protected	0.950		0.950			
Satd. Flow (prot)	1587	1420	1708	3415	3581	0
Fr <sub>t</sub> Permitted	0.950		0.950			
Satd. Flow (perm)	1587	1420	1708	3415	3581	0
Headway Factor	1.12	1.12	1.05	1.05	0.96	0.96
Link Speed (mph)	40			45	45	
Link Distance (ft)	3960			1110	2283	
Travel Time (s)	67.5			16.8	34.6	
Volume (vph)	9	132	287	791	643	38
Peak Hour Factor	0.67	0.67	0.95	0.95	0.76	0.76
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%
Adj. Flow (vph)	13	197	302	833	846	50
Lane Group Flow (vph)	13	197	302	833	896	0
Sign Control	Stop			Free	Free	

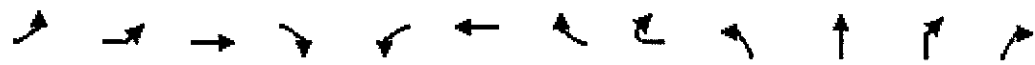
Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	48.2% ICU Level of Service A
Analysis Period (min)	15



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	↘	↗	↘	↑↑	↑↑	↘	
Sign Control	Stop			Free	Free		
Grade	4%			7%	-6%		
Volume (veh/h)	9	132	287	791	643	38	
Peak Hour Factor	0.67	0.67	0.95	0.95	0.76	0.76	
Hourly flow rate (vph)	13	197	302	833	846	50	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage (veh)							
Upstream signal (ft)	1110						
pX, platoon unblocked							
vC, conflicting volume	1892	448	896				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1892	448	896				
tC, single (s)	6.9	7.0	4.1				
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2				
p0 queue free %	63	64	60				
cM capacity (veh/h)	36	552	753				
Direction Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	13	197	302	416	416	564	332
Volume Left	13	0	302	0	0	0	0
Volume Right	0	197	0	0	0	0	50
cSH	36	552	753	1700	1700	1700	1700
Volume to Capacity	0.37	0.36	0.40	0.24	0.24	0.33	0.20
Queue Length 95th (ft)	31	40	49	0	0	0	0
Control Delay (s)	155.7	15.1	12.9	0.0	0.0	0.0	0.0
Lane LOS	F	C	B				
Approach Delay (s)	24.1		3.4			0.0	
Approach LOS	C						
<b>Intersection Summary</b>							
Average Delay	4.0						
Intersection Capacity Utilization	48.2%			ICU Level of Service	A		
Analysis Period (min)	15						



2005 Existing Conditions 3: Woodland Road/Private Driveway/Strickland's Road & Route 611  
 Friday P.M. Peak Hour



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations			↕			↕			↑	↑↓		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	15	15	15	13	13	13	13	11	12	12	12
Grade (%)			6%			5%				3%		
Total Lost time (s)			4.0			4.0			4.0	4.0		
Lane Util. Factor			1.00			1.00			1.00	0.95		
Fr <sub>t</sub>			0.96			0.94			1.00	0.99		
Flt Protected			0.98			0.98			0.95	1.00		
Satd. Flow (prot)			1866			1720			1685	3441		
Flt Permitted			0.88			0.83			0.36	1.00		
Satd. Flow (perm)			1679			1471			646	3441		
Volume (vph)	4	1	2	3	65	7	59	1	5	727	1	67
Peak-hour factor, PHF	0.56	0.56	0.56	0.56	0.89	0.89	0.89	0.89	0.99	0.99	0.99	0.99
Adj. Flow (vph)	7	2	4	5	73	8	66	1	5	734	1	68
RTOR Reduction (vph)	0	0	4	0	0	0	0	0	0	5	0	0
Lane Group Flow (vph)	0	0	14	0	0	148	0	0	5	798	0	0
Turn Type	Perm	Perm			Perm				Perm			
Protected Phases			4			8				2		
Permitted Phases	4	4			8				2			
Actuated Green, G (s)			10.3			10.3			29.0	29.0		
Effective Green, g (s)			12.3			12.3			32.5	32.5		
Actuated g/C Ratio			0.18			0.18			0.48	0.48		
Clearance Time (s)			6.0			6.0			7.5	7.5		
Vehicle Extension (s)			3.0			3.0			5.0	5.0		
Lane Grp Cap (vph)			305			268			311	1654		
v/s Ratio Prot										c0.23		
v/s Ratio Perm			0.01			c0.10			0.01			
v/c Ratio			0.05			0.55			0.02		0.48	
Uniform Delay, d1			22.8			25.1			9.2		11.9	
Progression Factor			1.00			1.00			1.00		1.00	
Incremental Delay, d2			0.1			2.5			0.0		0.5	
Delay (s)			22.9			27.6			9.2		12.3	
Level of Service			C			C			A		B	
Approach Delay (s)			22.9			27.6				12.3		
Approach LOS			C			C				B		

Intersection Summary			
HCM Average Control Delay	11.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	67.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

2005 Existing Conditions 3: Woodland Road/Private Driveway/Strickland's Road & Route 611  
 Friday P.M. Peak Hour



Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations		↙	↕			↘		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	12	11	11	11	11
Grade (%)			-7%			-2%		
Total Lost time (s)		4.0	4.0			4.0		
Lane Util. Factor		1.00	0.95			1.00		
Frt		1.00	1.00			0.93		
Flt Protected		0.95	1.00			0.98		
Satd. Flow (prot)		1770	3657			1655		
Flt Permitted		0.25	1.00			0.98		
Satd. Flow (perm)		458	3657			1655		
Volume (vph)	1	38	613	7	1	1	1	1
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1	46	748	9	1	1	1	1
RTOR Reduction (vph)	0	0	0	0	0	1	0	0
Lane Group Flow (vph)	0	47	757	0	0	3	0	0
Turn Type		pm+pt	pm+pt			Perm		
Protected Phases		1	1	6		9		
Permitted Phases		6	6			9		
Actuated Green, G (s)		36.8	36.8			1.0		
Effective Green, g (s)		40.3	40.3			3.0		
Actuated g/C Ratio		0.60	0.60			0.04		
Clearance Time (s)		5.5	7.5			6.0		
Vehicle Extension (s)		3.0	5.0			3.0		
Lane Grp Cap (vph)		347	2180			73		
v/s Ratio Prot		0.01	0.21					
v/s Ratio Perm		0.07				0.00		
v/c Ratio		0.14	0.35			0.04		
Uniform Delay, d1		6.6	7.0			30.9		
Progression Factor		1.00	1.00			1.00		
Incremental Delay, d2		0.2	0.2			0.2		
Delay (s)		6.8	7.2			31.2		
Level of Service		A	A			C		
Approach Delay (s)			7.1			31.2		
Approach LOS			A			C		
Intersection Summary								

2005 Existing Conditions 3: Woodland Road/Private Driveway/Strickland's Road & Route 611  
 Friday P.M. Peak Hour



Lane Group	EBL2	EBL	EBT	WBL	WBT	NBL	NBT	SBL2	SBL	SBT	SWL
Lane Configurations			↔		↔	↔	↔			↔	↔
Volume (vph)	4	1	2	65	7	5	727	1	38	613	1
Lane Group Flow (vph)	0	0	18	0	148	5	803	0	47	757	4
Turn Type	Perm	Perm		Perm		Perm		pm+pt	pm+pt		
Protected Phases			4		8		2	1	1	6	9
Permitted Phases	4	4		8		2		6	6		
Detector Phases	4	4	4	8	8	2	2	1	1	6	9
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	10.0	10.0	4.0	4.0	10.0	7.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	17.5	17.5	9.5	9.5	17.5	13.0
Total Split (s)	34.0	34.0	34.0	34.0	34.0	34.5	34.5	12.5	12.5	47.0	19.0
Total Split (%)	34.0%	34.0%	34.0%	34.0%	34.0%	34.5%	34.5%	12.5%	12.5%	47.0%	19.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5	5.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
Lead/Lag						Lag	Lag	Lead	Lead		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Min	Min	None	None	Min	None
v/c Ratio			0.05		0.43	0.01	0.41		0.15	0.33	0.02
Control Delay			17.1		19.4	14.2	12.2		9.5	7.4	28.2
Queue Delay			0.0		0.0	0.0	0.0		0.0	0.0	0.0
Total Delay			17.1		19.4	14.2	12.2		9.5	7.4	28.2
Queue Length 50th (ft)			2		23	1	48		4	44	1
Queue Length 95th (ft)			12		119	9	245		26	148	11
Internal Link Dist (ft)			105		2012		2196			2319	625
Turn Bay Length (ft)						73			183		
Base Capacity (vph)			691		609	398	2123		340	2606	344
Starvation Cap Reductn			0		0	0	0		0	0	0
Spillback Cap Reductn			0		0	0	0		0	0	0
Storage Cap Reductn			0		0	0	0		0	0	0
Reduced v/c Ratio			0.03		0.24	0.01	0.38		0.14	0.29	0.01

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 59.4

Natural Cycle: 60

Control Type: Semi-Act-Uncoord

Splits and Phases: 3: Woodland Road/Private Driveway/Strickland's Road & Route 611

01	02	04	09
12.5 s	34.5 s	34 s	19 s
06	08		
47 s	34 s		



2005 Existing Conditions  
Friday P.M. Peak Hour

4: Meadowside Road/Trinity Hill Road & Route 611



Lane Group	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 (ft)	13	13	13	12	12	12	12	12	12	12	12	12
Grade (%)	2%			8%			1%			-1%		
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt	0.865			0.888								
Frt Protected				0.996								
Satd. Flow (prot)	0	1648	0	0	1582	0	0	3522	0	0	3455	0
Frt Permitted				0.996								
Satd. Flow (perm)	0	1648	0	0	1582	0	0	3522	0	0	3455	0
Headway Factor	0.97	0.97	0.97	1.05	1.05	1.05	1.01	1.01	1.01	0.99	0.99	0.99
Link Speed (mph)	35			35			45			45		
Link Distance (ft)	158			1027			2399			3261		
Travel Time (s)	3.1			20.0			36.3			49.4		
Volume (vph)	0	0	3	1	1	10	3	786	1	5	654	1
Peak Hour Factor	0.75	0.75	0.75	0.50	0.50	0.50	0.97	0.97	0.97	0.83	0.83	0.83
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	0	0	4	2	2	20	3	810	1	6	788	1
Lane Group Flow (vph)	0	4	0	0	24	0	0	814	0	0	795	0
Sign Control	Stop			Stop			Free			Free		

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	33.8%
ICU Level of Service	A
Analysis Period (min)	15

2005 Existing Conditions  
Friday P.M. Peak Hour

4: Meadowside Road/Trinity Hill Road & Route 611



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEB	SEB	SBR
Lane Configurations	↕			↕			↕			↕		
Sign Control	Stop			Stop			Free			Free		
Grade	2%			8%			1%			-1%		
Volume (veh/h)	0	0	3	1	1	10	3	786	1	5	654	1
Peak Hour Factor	0.75	0.75	0.75	0.50	0.50	0.50	0.97	0.97	0.97	0.83	0.83	0.83
Hourly flow rate (vph)	0	0	4	2	2	20	3	810	1	6	788	1
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	1233	1618	395	1227	1618	406	789			811		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1233	1618	395	1227	1618	406	789			811		
tC, single (s)	7.5	6.5	6.9	7.6	6.6	6.9	4.1			4.2		
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	99	98	98	97	100			99		
cM capacity (veh/h)	125	101	604	132	100	594	826			792		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	4	24	408	406	400	395						
Volume Left	0	2	3	0	6	0						
Volume Right	4	20	0	1	0	1						
cSH	604	349	826	1700	792	1700						
Volume to Capacity	0.01	0.07	0.00	0.24	0.01	0.23						
Queue Length 95th (ft)	0	6	0	0	1	0						
Control Delay (s)	11.0	16.1	0.1	0.0	0.2	0.0						
Lane LOS	B	C	A		A							
Approach Delay (s)	11.0	16.1	0.1		0.1							
Approach LOS	B	C										
Intersection Summary												
Average Delay			0.3									
Intersection Capacity Utilization			33.8%	ICU Level of Service	A							
Analysis Period (min)			15									



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙↘		↑↑		↙↘	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	12	12	12	12
Grade (%)	9%		2%		-5%	
Turning Speed (mph)	15	9		9	15	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.899		0.999			
Flt Protected	0.988				0.999	
Satd. Flow (prot)	1475		0		3624	
Flt Permitted	0.988				0.999	
Satd. Flow (perm)	1475		0		3624	
Headway Factor	1.16	1.16	1.01	1.01	0.97	0.97
Link Speed (mph)	35		45		45	
Link Distance (ft)	1492		3261		2754	
Travel Time (s)	29.1		49.4		41.7	
Volume (vph)	2	7	788	8	12	658
Peak Hour Factor	0.75	0.75	0.97	0.97	0.77	0.77
Adj. Flow (vph)	3	9	812	8	16	855
Lane Group Flow (vph)	12	0	820	0	0	871
Sign Control	Stop		Free		Free	

**Intersection Summary**

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization: 36.7%      ICU Level of Service: A

Analysis Period (min): 15

2005 Existing Conditions  
Friday P.M. Peak Hour

5: Grange Road & Route 611



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↕↔		↕↔	
Sign Control	Stop		Free		Free	
Grade	9%		2%		-5%	
Volume (veh/h)	2	7	788	8	12	658
Peak Hour Factor	0.75	0.75	0.97	0.97	0.77	0.77
Hourly flow rate (vph)	3	9	812	8	16	855
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	1275	410			821	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1275	410			821	
tC, single (s)	6.9	6.9			4.1	
tC, 2 stage (s)						
iF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			98	
cM capacity (veh/h)	155	590			804	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	12	542	279	300	570	
Volume Left	3	0	0	16	0	
Volume Right	9	0	8	0	0	
cSH	363	1700	1700	804	1700	
Volume to Capacity	0.03	0.32	0.16	0.02	0.34	
Queue Length 95th (ft)	3	0	0	1	0	
Control Delay (s)	15.3	0.0	0.0	0.7	0.0	
Lane LOS	C			A		
Approach Delay (s)	15.3	0.0		0.2		
Approach LOS	C					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			36.7%		ICU Level of Service	A
Analysis Period (min)			15			

2005 Existing Conditions  
Friday P.M. Peak Hour

6: Woodland Road & School Access



Lane Group	EBL	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕		↕		↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	11	11
Grade (%)	1%		-3%		0%	
Turning Speed (mph)	9		15	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.955			0.962		
Flt Protected				0.993	0.965	
Satd. Flow (prot)	1575	0	0	1686	1672	0
Flt Permitted				0.993	0.965	
Satd. Flow (perm)	1575	0	0	1686	1672	0
Headway Factor	1.10	1.10	1.07	1.07	1.04	1.04
Link Speed (mph)	40			40	25	
Link Distance (ft)	2092			650	499	
Travel Time (s)	35.7			11.1	13.6	
Volume (vph)	71	36	15	85	46	18
Peak Hour Factor	0.82	0.82	0.79	0.79	0.53	0.53
Heavy Vehicles (%)	7%	7%	6%	6%	2%	2%
Adj. Flow (vph)	87	44	19	108	87	34
Lane Group Flow (vph)	131	0	0	127	121	0
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	22.3%
	ICU Level of Service A
Analysis Period (min)	15





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔		↔	
Sign Control	Free		Free		Stop	
Grade	1%		-3%		0%	
Volume (veh/h)	71	36	15	85	46	18
Peak Hour Factor	0.82	0.82	0.79	0.79	0.53	0.53
Hourly flow rate (vph)	87	44	19	108	87	34
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			130		254	109
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			130		254	109
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		88	96
cM capacity (veh/h)			1430		725	945
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	130	127	121			
Volume Left	0	19	87			
Volume Right	44	0	34			
cSH	1700	1430	776			
Volume to Capacity	0.08	0.01	0.16			
Queue Length 95th (ft)	0	1	14			
Control Delay (s)	0.0	1.2	10.5			
Lane LOS			A			B
Approach Delay (s)	0.0	1.2	10.5			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			3.8			
Intersection Capacity Utilization			22.3%	ICU Level of Service	A	
Analysis Period (min)			15			

2005 Existing Conditions  
Friday P.M. Peak Hour

7: Woodland Road & Bowman Road



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔		↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	10	10
Grade (%)	1%			1%	-1%	
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999			0.865		
Flt Protected						
Satd. Flow (prot)	1790	0	0	1757	1511	0
Flt Permitted						
Satd. Flow (perm)	1790	0	0	1757	1511	0
Headway Factor	1.05	1.05	1.05	1.05	1.09	1.09
Link Speed (mph)	40			35		
Link Distance (ft)	650			936		
Travel Time (s)	11.1			13.7		
Volume (vph)	88	1	0	100	0	1
Peak Hour Factor	0.72	0.72	0.80	0.80	0.25	0.25
Heavy Vehicles (%)	2%	2%	4%	4%	2%	2%
Adj. Flow (vph)	122	1	0	125	0	4
Lane Group Flow (vph)	123	0	0	125	4	0
Sign Control	Free			Free Stop		

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	15.3%
	ICU Level of Service A
Analysis Period (min)	15

2005 Existing Conditions  
Friday P.M. Peak Hour

7: Woodland Road & Bowman Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↖			↗		↘
Sign Control	Free			Free	Stop	
Grade	1%			1%	-1%	
Volume (veh/h)	88	1	0	100	0	1
Peak Hour Factor	0.72	0.72	0.80	0.80	0.25	0.25
Hourly flow rate (vph)	122	1	0	125	0	4
<b>Pedestrians</b>						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume						
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol						
tC, single (s)						
tC, 2 stage (s)						
tF (s)						
p0 queue free %						
cM capacity (veh/h)						
<b>Direction Lane #</b>						
	EB 1	WB 1	NB 1			
Volume Total	124	125	4			
Volume Left	0	0	0			
Volume Right	1	0	4			
cSH	1700	1451	928			
Volume to Capacity	0.07	0.00	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	8.9			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	8.9			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay						
Intersection Capacity Utilization						
Analysis Period (min)						
ICU Level of Service						





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	10	10
Grade (%)		-4%	2%		-6%	
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.932	
Flt Protected		0.999			0.976	
Satd. Flow (prot)	0	1835	1747	0	1629	0
Flt Permitted		0.999			0.976	
Satd. Flow (perm)	0	1835	1747	0	1629	0
Headway Factor	1.02	1.02	1.06	1.06	1.05	1.05
Link Speed (mph)		40	40		35	
Link Distance (ft)		936	819		1342	
Travel Time (s)		16.0	14.0		26.1	
Volume (vph)	2	87	98	1	2	2
Peak Hour Factor	0.84	0.84	0.77	0.77	0.50	0.50
Heavy Vehicles (%)	2%	2%	4%	4%	2%	2%
Adj. Flow (vph)	2	104	127	1	4	4
Lane Group Flow (vph)	0	106	128	0	8	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other  
 Control Type: Unsignalized  
 Intersection Capacity Utilization 16.2% ICU Level of Service A  
 Analysis Period (min) 15



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Sign Control		Free	Free		Stop	
Grade		-4%	2%		-6%	
Volume (veh/h)	2	87	98	1	2	2
Peak Hour Factor	0.84	0.84	0.77	0.77	0.50	0.50
Hourly flow rate (vph)	2	104	127	1	4	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	129				236	128
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	129				236	128
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				99	100
cM capacity (veh/h)	1457				751	922
Direction Lane #	EB 1	WB 1	SB 1			
Volume Total	106	129	8			
Volume Left	2	0	4			
Volume Right	0	1	4			
cSH	1457	1700	828			
Volume to Capacity	0.00	0.08	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.2	0.0	9.4			
Lane LOS	A		A			
Approach Delay (s)	0.2	0.0	9.4			
Approach LOS			A			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization		16.2%		ICU Level of Service		A
Analysis Period (min)			15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T		T	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-3%		-5%		4%	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995			0.941		
Frt Protected	0.954		0.999			
Satd. Flow (prot)	1675	0	0	1844	1644	0
Frt Permitted	0.954		0.999			
Satd. Flow (perm)	1675	0	0	1844	1644	0
Headway Factor	1.07	1.07	1.01	1.01	1.07	1.07
Link Speed (mph)	40		45		45	
Link Distance (ft)	1794		1439		1446	
Travel Time (s)	30.6		21.8		21.9	
Volume (vph)	86	3	4	146	122	95
Peak Hour Factor	0.82	0.82	0.96	0.96	0.81	0.81
Heavy Vehicles (%)	2%	2%	2%	2%	3%	3%
Adj. Flow (vph)	105	4	4	152	151	117
Lane Group Flow (vph)	109	0	0	156	268	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	23.8%
	ICU Level of Service A
Analysis Period (min)	15

2005 Existing Conditions  
Friday P.M. Peak Hour

9: Woodland Road & Carlton Road



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Sign Control	Stop			Free	Free	
Grade	-3%			-5%	4%	
Volume (veh/h)	86	3	4	146	122	95
Peak Hour Factor	0.82	0.82	0.96	0.96	0.81	0.81
Hourly flow rate (vph)	105	4	4	152	151	117
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	209	268			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	370	209	268			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	83	100	100			
cM capacity (veh/h)	629	831	1296			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	109	156	268			
Volume Left	105	4	0			
Volume Right	4	0	117			
cSH	634	1296	1700			
Volume to Capacity	0.17	0.00	0.16			
Queue Length 95th (ft)	15	0	0			
Control Delay (s)	11.8	0.2	0.0			
Lane LOS	B	A				
Approach Delay (s)	11.8	0.2	0.0			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			2.5			
Intersection Capacity Utilization			23.8%	ICU Level of Service	A	
Analysis Period (min)			15			

2005 Existing Conditions  
Friday P.M. Peak Hour

10: Route 940 & Carlton Road/Private Driveway



Lane Group	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 (ft)	11	11	11	11	11	11	11	11	11	8	8	8
Grade (%)	-4%			4%			1%			-1%		
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frts	0.987						0.884			0.966		
Flt Protected				0.984			0.993			0.993		
Satd. Flow (prot)	0	1813	0	0	1736	0	0	1542	0	0	1556	0
Flt Permitted				0.984			0.993			0.993		
Satd. Flow (perm)	0	1813	0	0	1736	0	0	1542	0	0	1556	0
Headway Factor	1.02	1.02	1.02	1.07	1.07	1.07	1.05	1.05	1.05	1.19	1.19	1.19
Link Speed (mph)	45			45			45			15		
Link Distance (ft)	1402			1150			1446			153		
Travel Time (s)	21.2			17.4			21.9			7.0		
Volume (vph)	3	388	40	170	355	1	31	2	199	2	7	3
Peak Hour Factor	0.86	0.86	0.86	0.98	0.98	0.98	0.87	0.87	0.87	0.60	0.60	0.60
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Adj. Flow (vph)	3	451	47	173	362	1	36	2	229	3	12	5
Lane Group Flow (vph)	0	501	0	0	536	0	0	267	0	0	20	0
Sign Control	Free			Free			Stop			Stop		

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	78.9%      ICU Level of Service D
Analysis Period (min)	15



2005 Existing Conditions  
Friday P.M. Peak Hour

10: Route 940 & Carlton Road/Private Driveway



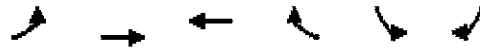
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations	↕			↕			↕			↕						
Sign Control	Free			Free			Stop			Stop						
Grade	-4%			4%			1%			-1%						
Volume (veh/h)	3	388	40	170	355	1	31	2	199	2	7	3				
Peak Hour Factor	0.86	0.86	0.86	0.98	0.98	0.98	0.87	0.87	0.87	0.60	0.60	0.60				
Hourly flow rate (vph)	3	451	47	173	362	1	36	2	229	3	12	5				
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	363		498		1202		1192		474		1421		1214		363	
vC1, stage 1 conf vol																
vC2, stage 2 conf vol																
vCu, unblocked vol	363		498		1202		1192		474		1421		1214		363	
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		84		73		99		61		94		92		99	
cM capacity (veh/h)	1195		1066		131		155		586		60		152		682	

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	501	537	267	20
Volume Left	3	173	36	3
Volume Right	47	1	229	5
cSH	1195	1066	393	143
Volume to Capacity	0.00	0.16	0.68	0.14
Queue Length 95th (ft)	0	14	121	12
Control Delay (s)	0.1	4.2	31.4	34.2
Lane LOS	A	A	D	D
Approach Delay (s)	0.1	4.2	31.4	34.2
Approach LOS			D	D

Intersection Summary			
Average Delay	8.6		
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		

2005 Existing Conditions  
Friday P.M. Peak Hour

11: Route 940 & Route 390 (Left-In & Right-Out)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑			↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Grade (%)		-2%	2%		-4%	
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>						0.865
Flt Protected		0.969				
Satd. Flow (prot)	0	1762	1783	0	0	1558
Flt Permitted		0.969				
Satd. Flow (perm)	0	1762	1783	0	0	1558
Headway Factor	1.03	1.03	1.06	1.06	1.02	1.02
Link Speed (mph)		45	45		45	
Link Distance (ft)		571	145		193	
Travel Time (s)		8.7	2.2		2.9	
Volume (vph)	374	215	214	0	0	312
Peak Hour Factor	0.89	0.89	0.93	0.93	0.80	0.80
Heavy Vehicles (%)	2%	2%	2%	2%	4%	4%
Adj. Flow (vph)	420	242	230	0	0	390
Lane Group Flow (vph)	0	662	230	0	0	390
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	49.9%
Analysis Period (min)	15
	ICU Level of Service A

2005 Existing Conditions  
Friday P.M. Peak Hour

11: Route 940 & Route 390 (Left-In & Right-Out)

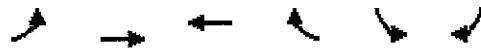


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑			↑
Sign Control		Free	Free		Stop	
Grade		-2%	2%		-4%	
Volume (veh/h)	374	215	214	0	0	312
Peak Hour Factor	0.89	0.89	0.93	0.93	0.80	0.80
Hourly flow rate (vph)	420	242	230	0	0	390
<b>Pedestrians</b>						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	230				1312	230
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	230				1312	230
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	69				100	52
cM capacity (veh/h)	1338				119	804
<b>Direction, Lane #</b>						
	EB 1	WB 1	SB 1			
Volume Total	662	230	390			
Volume Left	420	0	0			
Volume Right	0	0	390			
cSH	1338	1700	804			
Volume to Capacity	0.31	0.14	0.48			
Queue Length 95th (ft)	34	0	67			
Control Delay (s)	6.9	0.0	13.6			
Lane LOS	A		B			
Approach Delay (s)	6.9	0.0	13.6			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			7.7			
Intersection Capacity Utilization			49.9%	ICU Level of Service	A	
Analysis Period (min)			15			



2005 Existing Conditions  
Friday P.M. Peak Hour

12: Route 940 & Route 390 (Right-In & Left-Out)

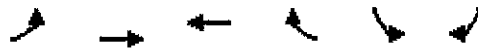


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↕		↙	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	16	12
Grade (%)		-2%	2%		-4%	
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994				
Flt Protected					0.950	
Satd. Flow (prot)	0	1819	1772	0	2006	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1819	1772	0	2006	0
Headway Factor	1.03	1.03	1.06	1.06	0.82	0.97
Link Speed (mph)		45	45		45	
Link Distance (ft)		145	1236		157	
Travel Time (s)		2.2	18.7		2.4	
Volume (vph)	0	215	214	9	5	0
Peak Hour Factor	0.89	0.89	0.93	0.93	0.80	0.80
Heavy Vehicles (%)	2%	2%	2%	2%	4%	4%
Adj. Flow (vph)	0	242	230	10	6	0
Lane Group Flow (vph)	0	242	240	0	6	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	21.8%      ICU Level of Service A
Analysis Period (min)	15

2005 Existing Conditions  
Friday P.M. Peak Hour

12: Route 940 & Route 390 (Right-In & Left-Out)



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↕		↙	
Sign Control		Free	Free		Stop	
Grade		-2%	2%		-4%	
Volume (veh/h)	0	215	214	9	5	0
Peak Hour Factor	0.89	0.89	0.93	0.93	0.80	0.80
Hourly flow rate (vph)	0	242	230	10	6	0
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	240				477	235
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	240				477	235
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				99	100
cM capacity (veh/h)	1327				544	799
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	242	240	6			
Volume Left	0	0	6			
Volume Right	0	10	0			
cSH	1700	1700	544			
Volume to Capacity	0.14	0.14	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.0	11.7			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	11.7			
Approach LOS			B			
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			21.8%		ICU Level of Service	A
Analysis Period (min)			15			

2005 Existing Conditions  
Friday P.M. Peak Hour

13: Route 940 & Route 191/Red Rock Road

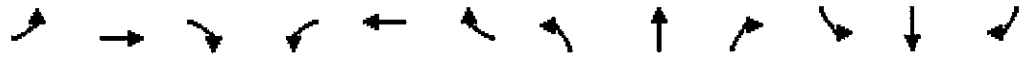


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	8	8	8	11	11	11
Grade (%)	-2%			2%			-3%			-1%		
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.959			0.986			0.971	
Frt Protected		0.992			0.999			0.987			0.964	
Satd. Flow (prot)	0	1801	0	0	1708	0	0	1595	0	0	1694	0
Frt Permitted		0.992			0.999			0.987			0.964	
Satd. Flow (perm)	0	1801	0	0	1708	0	0	1595	0	0	1694	0
Headway Factor	1.03	1.03	1.03	1.06	1.06	1.06	1.18	1.18	1.18	1.04	1.04	1.04
Link Speed (mph)		45			45			35			45	
Link Distance (ft)		1662			865			282			1220	
Travel Time (s)		25.2			13.1			5.5			18.5	
Volume (vph)	35	181	4	5	200	89	4	10	2	67	4	19
Peak Hour Factor	0.90	0.90	0.90	0.84	0.84	0.84	0.80	0.80	0.80	0.87	0.87	0.87
Adj. Flow (vph)	39	201	4	6	238	106	5	13	3	77	5	22
Lane Group Flow (vph)	0	244	0	0	350	0	0	19	0	0	104	0
Sign Control	Free			Free			Stop			Stop		

**Intersection Summary**  
 Area Type: Other  
 Control Type: Unsignalized  
 Intersection Capacity Utilization 49.0%      ICU Level of Service A  
 Analysis Period (min) 15

2005 Existing Conditions  
Friday P.M. Peak Hour

13: Route 940 & Route 191/Red Rock Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations	↕			↕			↕			↕					
Sign Control	Free			Free			Stop			Stop					
Grade	-2%			2%			-3%			-1%					
Volume (veh/h)	35	181	4	5	200	89	4	10	2	67	4	19			
Peak Hour Factor	0.90	0.90	0.90	0.84	0.84	0.84	0.80	0.80	0.80	0.87	0.87	0.87			
Hourly flow rate (vph)	39	201	4	6	238	106	5	12	2	77	5	22			
Pedestrians															
Lane Width (ft)															
Walking Speed (ft/s)															
Percent Blockage															
Right turn flare (veh)															
Median type															
Median storage (veh)															
Upstream signal (ft)															
pX, platoon unblocked															
vC, conflicting volume	344			206			608			637			291		
vC1, stage 1 conf vol															
vC2, stage 2 conf vol															
vCu, unblocked vol	344			206			608			637			291		
tC, single (s)	4.1			4.1			7.1			6.5			6.2		
tC, 2 stage (s)															
tF (s)	2.2			2.2			3.5			4.0			3.3		
p0 queue free %	97			100			99			97			100		
cM capacity (veh/h)	1215			1366			382			381			838		
Direction, Lane #															
	EB 1	WB 1	NB 1	SB 1											
Volume Total	244	350	20	103											
Volume Left	39	6	5	77											
Volume Right	4	106	2	22											
cSH	1215	1366	409	439											
Volume to Capacity	0.03	0.00	0.05	0.24											
Queue Length 95th (ft)	2	0	4	23											
Control Delay (s)	1.5	0.2	14.3	15.7											
Lane LOS	A	A	B	C											
Approach Delay (s)	1.5	0.2	14.3	15.7											
Approach LOS			B	C											
Intersection Summary															
Average Delay				3.3											
Intersection Capacity Utilization				49.0%			ICU Level of Service			A					
Analysis Period (min)				15											





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙	↗	↕		↙	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	13	12	11	11	11	12
Grade (%)	-6%		-2%			-5%
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Fr <sub>t</sub>	1.00	0.85	0.98		1.00	1.00
Fl <sub>t</sub> Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1883	1631	3375		1753	3628
Fl <sub>t</sub> Permitted	0.95	1.00	1.00		0.20	1.00
Satd. Flow (perm)	1883	1631	3375		363	3628
Volume (vph)	94	37	835	152	38	641
Peak-hour factor, PHF	0.90	0.90	0.94	0.94	0.94	0.94
Adj. Flow (vph)	104	41	888	162	40	682
RTOR Reduction (vph)	0	34	0	0	0	0
Lane Group Flow (vph)	104	7	1050	0	40	682
Turn Type		Perm			pm+pt	
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	9.0	9.0	37.9		46.7	46.7
Effective Green, g (s)	12.0	12.0	41.9		50.7	50.7
Actuated g/C Ratio	0.17	0.17	0.59		0.72	0.72
Clearance Time (s)	7.0	7.0	8.0		6.0	8.0
Vehicle Extension (s)	3.0	3.0	6.0		3.0	6.0
Lane Grp Cap (vph)	320	277	2000		355	2602
v/s Ratio Prot	c0.06		c0.31		0.01	c0.19
v/s Ratio Perm		0.00			0.07	
v/c Ratio	0.32	0.03	0.52		0.11	0.26
Uniform Delay, d <sub>1</sub>	25.8	24.5	8.5		4.1	3.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d <sub>2</sub>	0.6	0.0	0.6		0.1	0.2
Delay (s)	26.4	24.5	9.1		4.3	3.6
Level of Service	C	C	A		A	A
Approach Delay (s)	25.9		9.1			3.7
Approach LOS	C		A			A

Intersection Summary			
HCM Average Control Delay		8.3	HCM Level of Service A
HCM Volume to Capacity ratio		0.47	
Actuated Cycle Length (s)		70.7	Sum of lost time (s) 12.0
Intersection Capacity Utilization		43.5%	ICU Level of Service A
Analysis Period (min)		15	
c Critical Lane Group			



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↶	↷	↕	↷	↕
Volume (vph)	94	37	835	38	641
Lane Group Flow (vph)	104	41	1050	40	682
Turn Type		Perm		pm+pt	
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phases	8	8	2	1	6
Minimum Initial (s)	1.0	1.0	15.0	1.0	15.0
Minimum Split (s)	8.0	8.0	23.0	7.0	23.0
Total Split (s)	33.0	33.0	34.0	13.0	47.0
Total Split (%)	41.3%	41.3%	42.5%	16.3%	58.8%
Yellow Time (s)	5.0	5.0	6.0	6.0	6.0
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
v/c Ratio	0.29	0.12	0.50	0.13	0.27
Control Delay	18.7	8.1	9.9	5.8	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.7	8.1	9.9	5.8	4.3
Queue Length 50th (ft)	21	0	71	4	38
Queue Length 95th (ft)	72	21	232	13	75
Internal Link Dist (ft)	1091		2024		1031
Turn Bay Length (ft)		72		175	
Base Capacity (vph)	683	617	2142	335	2703
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.07	0.49	0.12	0.25

Intersection Summary

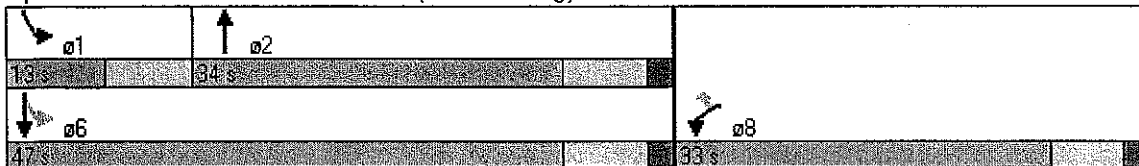
Cycle Length: 80

Actuated Cycle Length: 68.4

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Splits and Phases: 1: Route 314 (Eastern Leg) & Route 611





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑	↑↗	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	12	12	12	12
Grade (%)	4%			7%	-6%	
Storage Length (ft)	50	0	143			0
Storage Lanes	1	1	1			0
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.995	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1587	1420	1708	3415	3627	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1587	1420	1708	3415	3627	0
Headway Factor	1.12	1.12	1.05	1.05	0.96	0.96
Link Speed (mph)	40			45	45	
Link Distance (ft)	3960			1111	2283	
Travel Time (s)	67.5			16.8	34.6	
Volume (vph)	17	96	115	757	583	18
Peak Hour Factor	0.96	0.96	0.96	0.96	0.97	0.97
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%
Adj. Flow (vph)	18	100	120	789	601	19
Lane Group Flow (vph)	18	100	120	789	620	0
Sign Control	Stop			Free	Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	36.4%
	ICU Level of Service A
Analysis Period (min)	15



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	↙	↗	↙	↑↑	↑↑		
Sign Control	Stop			Free	Free		
Grade	4%			7%	-6%		
Volume (veh/h)	17	96	115	757	583	18	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.97	0.97	
Hourly flow rate (vph)	18	100	120	789	601	19	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage (veh)							
Upstream signal (ft)	1111						
pX, platoon unblocked	0.99						
vC, conflicting volume	1244	310	620				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1238	310	620				
tC, single (s)	6.9	7.0	4.1				
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2				
p0 queue free %	88	85	87				
cM capacity (veh/h)	143	680	957				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	18	100	120	394	394	401	219
Volume Left	18	0	120	0	0	0	0
Volume Right	0	100	0	0	0	0	19
cSH	143	680	957	1700	1700	1700	1700
Volume to Capacity	0.12	0.15	0.13	0.23	0.23	0.24	0.13
Queue Length 95th (ft)	10	13	11	0	0	0	0
Control Delay (s)	33.7	11.2	9.3	0.0	0.0	0.0	0.0
Lane LOS	D	B	A				
Approach Delay (s)	14.6		1.2			0.0	
Approach LOS	B						
<b>Intersection Summary</b>							
Average Delay	1.7						
Intersection Capacity Utilization	36.4%			ICU Level of Service	A		
Analysis Period (min)	15						



2005 Existing Conditions 3: Woodland Road/Private Driveway/Strickland's Road & Route 611  
 Saturday P.M. Peak Hour



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations			↕			↕			↕	↕		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	15	15	15	13	13	13	13	11	12	12	12
Grade (%)			6%				5%				3%	
Total Lost time (s)			4.0				4.0		4.0	4.0		
Lane Util. Factor			1.00				1.00		1.00	0.95		
Frt			0.92				0.98		1.00	0.99		
Flt Protected			0.98				0.96		0.95	1.00		
Satd. Flow (prot)			1792				1773		1685	3442		
Flt Permitted			0.91				0.74		0.44	1.00		
Satd. Flow (perm)			1652				1372		781	3442		
Volume (vph)	5	1	1	12	49	4	6	1	13	689	2	62
Peak-hour factor, PHF	0.61	0.61	0.61	0.61	0.92	0.92	0.92	0.92	0.98	0.98	0.98	0.98
Adj. Flow (vph)	8	2	2	20	53	4	7	1	13	713	2	63
RTOR Reduction (vph)	0	0	18	0	0	1	0	0	0	3	0	0
Lane Group Flow (vph)	0	0	14	0	0	64	0	0	13	775	0	0
Turn Type	Perm	Perm			Perm				Perm			
Protected Phases			4			8				2		
Permitted Phases	4	4			8				2			
Actuated Green, G (s)			4.9			4.9			44.8	44.8		
Effective Green, g (s)			6.9			6.9			48.3	48.3		
Actuated g/C Ratio			0.09			0.09			0.63	0.63		
Clearance Time (s)			6.0			6.0			7.5	7.5		
Vehicle Extension (s)			3.0			3.0			5.0	5.0		
Lane Grp Cap (vph)			148			123			491	2162		
v/s Ratio Prot										c0.23		
v/s Ratio Perm			0.01			c0.05			0.02			
v/c Ratio			0.09			0.52			0.03	0.36		
Uniform Delay, d1			32.1			33.4			5.4	6.9		
Progression Factor			1.00			1.00			1.00	1.00		
Incremental Delay, d2			0.3			3.9			0.0	0.2		
Delay (s)			32.4			37.2			5.5	7.1		
Level of Service			C			D			A	A		
Approach Delay (s)			32.4			37.2				7.0		
Approach LOS			C			D				A		

Intersection Summary

HCM Average Control Delay	7.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	76.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

2005 Existing Conditions 3: Woodland Road/Private Driveway/Strickland's Road & Route 611  
 Saturday P.M. Peak Hour



Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations		↑	↑↑			↑↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	12	11	11	11	11
Grade (%)			-7%			-2%		
Total Lost time (s)		4.0	4.0			4.0		
Lane Util. Factor		1.00	0.95			1.00		
Fr't		1.00	1.00			0.93		
Flt Protected		0.95	1.00			0.98		
Satd. Flow (prot)		1770	3650			1655		
Flt Permitted		0.30	1.00			0.98		
Satd. Flow (perm)		558	3650			1655		
Volume (vph)	1	4	540	13	1	1	1	1
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1	4	551	13	1	1	1	1
RTOR Reduction (vph)	0	0	1	0	0	1	0	0
Lane Group Flow (vph)	0	6	563	0	0	3	0	0
Turn Type		pm+pt	pm+pt			Perm		
Protected Phases	1	1	6			9		
Permitted Phases	6	6				9		
Actuated Green, G (s)		51.3	51.3			1.2		
Effective Green, g (s)		54.8	54.8			3.2		
Actuated g/C Ratio		0.71	0.71			0.04		
Clearance Time (s)		5.5	7.5			6.0		
Vehicle Extension (s)		3.0	5.0			3.0		
Lane Grp Cap (vph)		437	2601			69		
v/s Ratio Prot		0.00	0.15					
v/s Ratio Perm		0.01				0.00		
v/c Ratio		0.01	0.22			0.04		
Uniform Delay, d1		3.6	3.8			35.4		
Progression Factor		1.00	1.00			1.00		
Incremental Delay, d2		0.0	0.1			0.3		
Delay (s)		3.7	3.8			35.6		
Level of Service		A	A			D		
Approach Delay (s)			3.8			35.6		
Approach LOS			A			D		
Intersection Summary								

2005 Existing Conditions 3: Woodland Road/Private Driveway/Strickland's Road & Route 611  
 Saturday P.M. Peak Hour



Lane Group	EBL2	EBL	EBT	WBL	WBT	NBL	NBT	SBL2	SBL	SBT	SWL
Lane Configurations			↕		↕	↖	↗		↖	↗	↘
Volume (vph)	5	1	1	49	4	13	699	1	4	540	1
Lane Group Flow (vph)	0	0	32	0	65	13	778	0	5	564	4
Turn Type	Perm	Perm		Perm		Perm		pm+pt	pm+pt		
Protected Phases			4		8		2	1	1	6	9
Permitted Phases	4	4		8		2		6	6		
Detector Phases	4	4	4	8	8	2	2	1	1	6	9
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	10.0	10.0	4.0	4.0	10.0	7.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	17.5	17.5	9.5	9.5	17.5	13.0
Total Split (s)	34.0	34.0	34.0	34.0	34.0	34.5	34.5	12.5	12.5	47.0	19.0
Total Split (%)	34.0%	34.0%	34.0%	34.0%	34.0%	34.5%	34.5%	12.5%	12.5%	47.0%	19.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5	5.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
Lead/Lag						Lag	Lag	Lead	Lead		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Min	Min	None	None	Min	None
v/c Ratio			0.11		0.27	0.02	0.29		0.01	0.19	0.02
Control Delay			11.8		17.1	9.2	6.7		7.8	4.1	22.5
Queue Delay			0.0		0.0	0.0	0.0		0.0	0.0	0.0
Total Delay			11.8		17.1	9.2	6.7		7.8	4.1	22.5
Queue Length 50th (ft)			1		7	0	0		0	0	0
Queue Length 95th (ft)			16		61	15	203		6	100	10
Internal Link Dist (ft)			105		2012		2203			2327	625
Turn Bay Length (ft)						73			183		
Base Capacity (vph)			625		523	628	2770		368	3107	341
Starvation Cap Reductn			0		0	0	0		0	0	0
Spillback Cap Reductn			0		0	0	0		0	0	0
Storage Cap Reductn			0		0	0	0		0	0	0
Reduced v/c Ratio			0.05		0.12	0.02	0.28		0.01	0.18	0.01

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 66.4

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Splits and Phases: 3: Woodland Road/Private Driveway/Strickland's Road & Route 611

ø1	ø2	ø4	ø3
12.5 s	34.5 s	34 s	19 s
ø6	ø5	ø8	
47 s	34 s		

2005 Existing Conditions  
 Saturday P.M. Peak Hour

4: Meadowside Road/Trinity Hill Road & Route 611



Lane Group	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 (ft)	13	13	13	12	12	12	12	12	12	12	12	12
Grade (%)	2%			8%			1%			-1%		
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Fr <sub>t</sub>	0.899			0.936								
Fl <sub>t</sub> Protected	0.988			0.991								
Satd. Flow (prot)	0	1693	0	0	1659	0	0	3522	0	0	3557	0
Fl <sub>t</sub> Permitted	0.988			0.991								
Satd. Flow (perm)	0	1693	0	0	1659	0	0	3522	0	0	3557	0
Headway Factor	0.97	0.97	0.97	1.05	1.05	1.05	1.01	1.01	1.01	0.99	0.99	0.99
Link Speed (mph)	35			35			45			45		
Link Distance (ft)	158			1027			2407			3261		
Travel Time (s)	3.1			20.0			36.5			49.4		
Volume (vph)	1	0	3	3	6	8	6	705	1	1	551	1
Peak Hour Factor	0.50	0.50	0.50	0.39	0.39	0.39	0.92	0.92	0.92	0.89	0.89	0.89
Adj. Flow (vph)	2	0	6	8	15	21	7	766	1	1	619	1
Lane Group Flow (vph)	0	8	0	0	44	0	0	774	0	0	621	0
Sign Control	Stop			Stop			Free			Free		

Intersection Summary

Area Type	Other
Control Type	Unsignalized
Intersection Capacity Utilization	33.7%
ICU Level of Service	A
Analysis Period (min)	15



2005 Existing Conditions  
Saturday P.M. Peak Hour

4: Meadowside Road/Trinity Hill Road & Route 611



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBL	SBR			
Lane Configurations	↕			↕			↕			↕					
Sign Control	Stop			Stop			Free			Free					
Grade	2%			8%			1%			-1%					
Volume (veh/h)	1	0	3	3	6	8	6	705	1	1	551	1			
Peak Hour Factor	0.50	0.50	0.50	0.39	0.39	0.39	0.92	0.92	0.92	0.89	0.89	0.89			
Hourly flow rate (vph)	2	0	6	8	15	21	7	766	1	1	619	1			
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	1046	1402	310	1098	1402	384	620				767				
vC1, stage 1 conf vol															
vC2, stage 2 conf vol															
vCu, unblocked vol	1046	1402	310	1098	1402	384	620				767				
tC, single (s)	7.5	6.5	6.9	7.6	6.6	6.9	4.1				4.1				
tC, 2 stage (s)															
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2				
p0 queue free %	99	100	99	95	89	97	99				100				
cM capacity (veh/h)	160	137	686	164	137	614	956				842				
Direction Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2									
Volume Total	8	44	390	384	311	311									
Volume Left	2	8	7	0	1	0									
Volume Right	6	21	0	1	0	1									
cSH	377	226	956	1700	842	1700									
Volume to Capacity	0.02	0.19	0.01	0.23	0.00	0.18									
Queue Length 95th (ft)	2	17	1	0	0	0									
Control Delay (s)	14.8	24.7	0.2	0.0	0.0	0.0									
Lane LOS	B	C	A	A											
Approach Delay (s)	14.8	24.7	0.1	0.0											
Approach LOS	B	C													
<b>Intersection Summary</b>															
Average Delay			0.9												
Intersection Capacity Utilization			33.7%				ICU Level of Service				A				
Analysis Period (min)	15														



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙		↑↑		↘↘	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	12	12	12	12
Grade (%)	9%		2%		-5%	
Turning Speed (mph)	15	9		9	15	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.954		0.997			
Flt Protected	0.968				0.999	
Satd. Flow (prot)	1533		0		3624	
Flt Permitted	0.968				0.999	
Satd. Flow (perm)	1533		0		3624	
Headway Factor	1.16	1.16	1.01	1.01	0.97	0.97
Link Speed (mph)	35		45		45	
Link Distance (ft)	1492		3261		2754	
Travel Time (s)	29.1		49.4		41.7	
Volume (vph)	15	8	699	15	7	538
Peak Hour Factor	0.72	0.72	0.94	0.94	0.95	0.95
Adj. Flow (vph)	21	11	744	16	7	566
Lane Group Flow (vph)	32	0	760	0	0	573
Sign Control	Stop		Free		Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	29.8%
ICU Level of Service	A
Analysis Period (min)	15



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↕		↕	
Sign Control	Stop		Free		Free	
Grade	9%		2%		-5%	
Volume (veh/h)	15	8	699	15	7	538
Peak Hour Factor	0.72	0.72	0.94	0.94	0.95	0.95
Hourly flow rate (yph)	21	11	744	16	7	566
<b>Pedestrians</b>						
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	1049	380			760	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1049	380			760	
tC, single (s)	6.9	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	98			99	
cM capacity (veh/h)	220	617			848	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>NB 2</b>	<b>SB 1</b>	<b>SB 2</b>	
Volume Total	32	496	264	196	378	
Volume Left	21	0	0	7	0	
Volume Right	11	0	16	0	0	
cSH	283	1700	1700	848	1700	
Volume to Capacity	0.11	0.29	0.16	0.01	0.22	
Queue Length 95th (ft)	9	0	0	1	0	
Control Delay (s)	19.3	0.0	0.0	0.4	0.0	
Lane LOS	C			A		
Approach Delay (s)	19.3	0.0		0.1		
Approach LOS	C					
<b>Intersection Summary</b>						
Average Delay			0.5			
Intersection Capacity Utilization			29.8%	ICU Level of Service	A	
Analysis Period (min)			15			

2005 Existing Conditions  
 Saturday P.M. Peak Hour

6: Woodland Road & School Access



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↖		↗		↘	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	11	11
Grade (%)	1%			-3%	0%	
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.987					
Flt Protected				0.998	0.950	
Satd. Flow (prot)	1707	0	0	1761	1711	0
Flt Permitted				0.998	0.950	
Satd. Flow (perm)	1707	0	0	1761	1711	0
Headway Factor	1.10	1.10	1.07	1.07	1.04	1.04
Link Speed (mph)	40		40		25	
Link Distance (ft)	2092		650		499	
Travel Time (s)	35.7		11.1		13.6	
Volume (vph)	60	6	2	55	5	0
Peak Hour Factor	0.92	0.92	0.90	0.90	0.63	0.63
Adj. Flow (vph)	65	7	2	61	8	0
Lane Group Flow (vph)	72	0	0	63	8	0
Sign Control	Free		Free		Stop	

Intersection Summary	
Area Type	Other
Control Type	Unsignalized
Intersection Capacity Utilization	14.5%
ICU Level of Service	A
Analysis Period (min)	15



2005 Existing Conditions  
Saturday P.M. Peak Hour

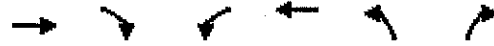
6: Woodland Road & School Access



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕			↕	↕	
Sign Control	Free			Free	Stop	
Grade	1%			-3%	0%	
Volume (veh/h)	60	6	2	55	5	0
Peak Hour Factor	0.92	0.92	0.90	0.90	0.63	0.63
Hourly flow rate (vph)	65	7	2	61	8	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			72		134	68
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			72		134	68
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		99	100
cM capacity (veh/h)			1528		858	995
Direction, Lane #						
	EB 1	WB 1	NB 1			
Volume Total	72	63	8			
Volume Left	0	2	8			
Volume Right	7	0	0			
cSH	1700	1528	858			
Volume to Capacity	0.04	0.00	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.3	9.2			
Lane LOS			A			
Approach Delay (s)	0.0	0.3	9.2			
Approach LOS			A			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			14.5%	ICU Level of Service	A	
Analysis Period (min)			15			

2005 Existing Conditions  
 Saturday P.M. Peak Hour

7: Woodland Road & Bowman Road



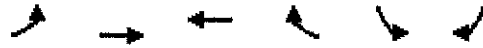
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔		↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	10	10
Grade (%)	1%			1%	-1%	
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.996			0.910		
Frt Protected				0.997	0.984	
Satd. Flow (prot)	1784	0	0	1786	1565	0
Frt Permitted				0.997	0.984	
Satd. Flow (perm)	1784	0	0	1786	1565	0
Headway Factor	1.05	1.05	1.05	1.05	1.09	1.09
Link Speed (mph)	40			40	35	
Link Distance (ft)	650			936	704	
Travel Time (s)	11.1			16.0	13.7	
Volume (vph)	58	2	3	55	2	4
Peak Hour Factor	0.81	0.81	0.85	0.85	0.50	0.50
Adj. Flow (vph)	72	2	4	65	4	8
Lane Group Flow (vph)	74	0	0	69	12	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	15.3%
ICU Level of Service	A
Analysis Period (min)	15



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕			↕	↕	
Sign Control	Free			Free	Stop	
Grade	1%			1%	-1%	
Volume (veh/h)	58	2	3	55	2	4
Peak Hour Factor	0.81	0.81	0.85	0.85	0.50	0.50
Hourly flow rate (vph)	72	2	4	65	4	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			74		145	73
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			74		145	73
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	99
cM capacity (veh/h)			1525		846	989
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	74	68	12			
Volume Left	0	4	4			
Volume Right	2	0	8			
cSH	1700	1525	936			
Volume to Capacity	0.04	0.00	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.4	8.9			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.4	8.9			
Approach LOS		A	A			
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			15.3%	ICU Level of Service	A	
Analysis Period (min)			15			

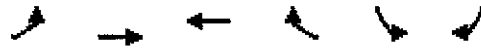


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	10	10
Grade (%)		-4%	2%		-6%	
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.982		0.949	
Fl <sub>t</sub> Protected		0.998			0.970	
Satd. Flow (prot)	0	1833	1751	0	1648	0
Fl <sub>t</sub> Permitted		0.998			0.970	
Satd. Flow (perm)	0	1833	1751	0	1648	0
Headway Factor	1.02	1.02	1.06	1.06	1.05	1.05
Link Speed (mph)		40	40		35	
Link Distance (ft)		936	819		1342	
Travel Time (s)		16.0	14.0		26.1	
Volume (vph)	2	60	56	8	3	2
Peak Hour Factor	0.95	0.95	0.93	0.93	0.63	0.63
Adj. Flow (vph)	2	63	60	9	5	3
Lane Group Flow (vph)	0	65	69	0	8	0
Sign Control		Free	Free		Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	14.8%
ICU Level of Service	A
Analysis Period (min)	15





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Sign Control		Free	Free		Stop	
Grade		-4%	2%		-6%	
Volume (veh/h)	2	60	56	8	3	2
Peak Hour Factor	0.95	0.95	0.93	0.93	0.63	0.63
Hourly flow rate (vph)	2	63	60	9	5	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		69			132	65
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol		69			132	65
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			99	100
cM capacity (veh/h)		1532			861	1000

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	65	69	8
Volume Left	2	0	5
Volume Right	0	9	3
cSH	1532	1700	912
Volume to Capacity	0.00	0.04	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.2	0.0	9.0
Lane LOS	A		A
Approach Delay (s)	0.2	0.0	9.0
Approach LOS			A

Intersection Summary			
Average Delay		0.6	
Intersection Capacity Utilization		14.8%	ICU Level of Service A
Analysis Period (min)		15	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘		↙		↑	↓
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-3%		-5%		4%	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.998			0.948		
Flt Protected	0.953		0.999			
Satd. Flow (prot)	1678	0	0	1844	1673	0
Flt Permitted	0.953		0.999			
Satd. Flow (perm)	1678	0	0	1844	1673	0
Headway Factor	1.07	1.07	1.01	1.01	1.07	1.07
Link Speed (mph)	40			45	45	
Link Distance (ft)	1794			1439	1446	
Travel Time (s)	30.6			21.8	21.9	
Volume (vph)	62	1	3	105	98	61
Peak Hour Factor	0.82	0.82	0.75	0.75	0.86	0.86
Adj. Flow (vph)	76	1	4	140	114	71
Lane Group Flow (vph)	77	0	0	144	185	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type	Other
Control Type	Unsignalized
Intersection Capacity Utilization	19.0%
ICU Level of Service	A
Analysis Period (min)	15



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			4	4	
Sign Control	Stop			Free	Free	
Grade	-3%			-5%	4%	
Volume (veh/h)	62	1	3	106	98	61
Peak Hour Factor	0.82	0.82	0.75	0.75	0.86	0.86
Hourly flow rate (vph)	76	1	4	140	114	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	297	149	185			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	297	149	185			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	100	100			
cM capacity (veh/h)	692	897	1390			
Direction Lane #	EB 1	NB 1	SB 1			
Volume Total	77	144	185			
Volume Left	76	4	0			
Volume Right	1	0	71			
cSH	695	1390	1700			
Volume to Capacity	0.11	0.00	0.11			
Queue Length 95th (ft)	9	0	0			
Control Delay (s)	10.8	0.2	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.8	0.2	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			2.1			
Intersection Capacity Utilization			19.0%	ICU Level of Service	A	
Analysis Period (min)			15			



2005 Existing Conditions  
 Saturday P.M. Peak Hour

10: Route 940 & Carlton Road/Private Driveway



Lane Group	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 (ft)	11	11	11	11	11	11	11	11	11	8	8	8
Grade (%)		-4%			4%			1%			-1%	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993						0.879			0.882	
Flt Protected		0.999			0.984			0.995			0.994	
Satd. Flow (prot)	0	1822	0	0	1736	0	0	1567	0	0	1422	0
Flt Permitted		0.999			0.984			0.995			0.994	
Satd. Flow (perm)	0	1822	0	0	1736	0	0	1567	0	0	1422	0
Headway Factor	1.02	1.02	1.02	1.07	1.07	1.07	1.05	1.05	1.05	1.19	1.19	1.19
Link Speed (mph)		45			45			45			15	
Link Distance (ft)		1402			1150			1446			153	
Travel Time (s)		21.2			17.4			21.9			7.0	
Volume (vph)	3	273	16	143	291	0	16	1	150	1	0	6
Peak Hour Factor	0.84	0.84	0.84	0.93	0.93	0.93	0.71	0.71	0.71	0.88	0.88	0.88
Adj. Flow (vph)	4	325	19	154	313	0	23	1	211	1	0	7
Lane Group Flow (vph)	0	348	0	0	467	0	0	235	0	0	8	0
Sign Control		Free			Free			Stop			Stop	

**Intersection Summary**  
 Area Type: Other  
 Control Type: Unsignalized  
 Intersection Capacity Utilization 61.1%      ICU Level of Service B  
 Analysis Period (min) 15

2005 Existing Conditions  
Saturday P.M. Peak Hour

10: Route 940 & Carlton Road/Private Driveway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Sign Control	Free			Free			Stop			Stop		
Grade	-4%			4%			1%			-1%		
Volume (veh/h)	3	273	16	143	291	0	16	1	150	1	0	6
Peak Hour Factor	0.84	0.84	0.84	0.93	0.93	0.93	0.71	0.71	0.71	0.88	0.88	0.88
Hourly flow rate (vph)	4	325	19	154	313	0	23	1	211	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	313		344		969		962		335		1174		972		313	
vC1, stage 1 conf vol																
vC2, stage 2 conf vol																
vCu, unblocked vol	313		344		969		962		335		1174		972		313	
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		87		89		99		70		99		100		99	
cM capacity (veh/h)	1247		1215		208		223		707		106		220		727	

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	348	467	235	8
Volume Left	4	154	23	1
Volume Right	19	0	211	7
cSH	1247	1215	569	396
Volume to Capacity	0.00	0.13	0.41	0.02
Queue Length 95th (ft)	0	11	50	2
Control Delay (s)	0.1	3.6	15.7	14.3
Lane LOS	A	A	C	B
Approach Delay (s)	0.1	3.6	15.7	14.3
Approach LOS			C	B

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBR	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑			↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Grade (%)		-2%	2%		-4%	
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frts						0.865
Frt Protected		0.973				
Satd. Flow (prot)	0	1752	1783	0	0	1589
Frt Permitted		0.973				
Satd. Flow (perm)	0	1752	1783	0	0	1589
Headway Factor	1.03	1.03	1.06	1.06	1.02	1.02
Link Speed (mph)		45	45		45	
Link Distance (ft)		571	145		193	
Travel Time (s)		8.7	2.2		2.9	
Volume (vph)	232	192	187	0	0	247
Peak Hour Factor	0.79	0.79	0.84	0.84	0.81	0.81
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	294	243	223	0	0	305
Lane Group Flow (vph)	0	537	223	0	0	305
Sign Control		Free	Free		Stop	

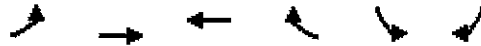
Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	39.5%      ICU Level of Service A
Analysis Period (min)	15



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑			↗
Sign Control		Free	Free		Stop	
Grade		-2%	2%		-4%	
Volume (veh/h)	232	192	187	0	0	247
Peak Hour Factor	0.79	0.79	0.84	0.84	0.81	0.81
Hourly flow rate (vph)	294	243	223	0	0	305
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	223				1053	223
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	223				1053	223
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	78				100	63
cM capacity (veh/h)	1340				196	817

Direction Lane #	EB 1	WB 1	SB 1
Volume Total	537	223	305
Volume Left	294	0	0
Volume Right	0	0	305
cSH	1340	1700	817
Volume to Capacity	0.22	0.13	0.37
Queue Length 95th (ft)	21	0	43
Control Delay (s)	5.6	0.0	12.0
Lane LOS	A		B
Approach Delay (s)	5.6	0.0	12.0
Approach LOS			B

Intersection Summary			
Average Delay		6.3	
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		



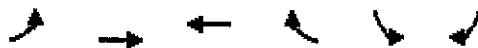
Lane Group	EBL	EBT	WBT	WBR	SBL	SBF
Lane Configurations		↑	↑		↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	16	12
Grade (%)		-2%	2%		-4%	
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.994				
Flt Protected					0.950	
Satd. Flow (prot)	0	1819	1772	0	2046	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1819	1772	0	2046	0
Headway Factor	1.03	1.03	1.06	1.06	0.82	0.97
Link Speed (mph)		45	45		45	
Link Distance (ft)		145	1236		157	
Travel Time (s)		2.2	18.7		2.4	
Volume (vph)	0	192	187	8	28	0
Peak Hour Factor	0.79	0.79	0.84	0.84	0.81	0.81
Adj. Flow (vph)	0	243	223	10	35	0
Lane Group Flow (vph)	0	243	233	0	35	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	20.3%
ICU Level of Service	A
Analysis Period (min)	15



2005 Existing Conditions  
Saturday P.M. Peak Hour

12: Route 940 & Route 390 (Right-In & Left-Out)



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Sign Control		Free	Free		Stop	
Grade		-2%	2%		-4%	
Volume (veh/h)	0	192	187	8	28	0
Peak Hour Factor	0.79	0.79	0.84	0.84	0.81	0.81
Hourly flow rate (vph)	0	243	223	10	35	0
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	232				470	227
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	232				470	227
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				94	100
cM capacity (veh/h)	1336				552	812
Direction, Lane #						
	EB 1	WB 1	SB 1			
Volume Total	243	232	35			
Volume Left	0	0	35			
Volume Right	0	10	0			
cSH	1700	1700	552			
Volume to Capacity	0.14	0.14	0.06			
Queue Length 95th (ft)	0	0	5			
Control Delay (s)	0.0	0.0	12.0			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	12.0			
Approach LOS			B			
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization		20.3%		ICU Level of Service	A	
Analysis Period (min)			15			

2005 Existing Conditions  
Saturday P.M. Peak Hour

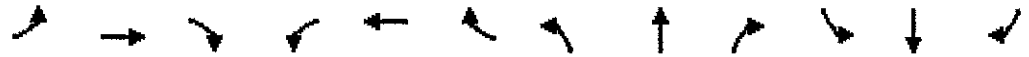
13: Route 940 & Route 191/Red Rock Road



Lane Group	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 (ft)	11	11	11	11	11	11	8	8	8	11	11	11
Grade (%)	-2%			2%			-3%			-1%		
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.998			0.962			0.973			0.964		
Flt Protected	0.992			0.999			0.983			0.969		
Satd. Flow (prot)	0	1783	0	0	1713	0	0	1567	0	0	1690	0
Flt Permitted	0.992			0.999			0.983			0.969		
Satd. Flow (perm)	0	1783	0	0	1713	0	0	1567	0	0	1690	0
Headway Factor	1.03	1.03	1.03	1.06	1.06	1.06	1.18	1.18	1.18	1.04	1.04	1.04
Link Speed (mph)	45			45			35			45		
Link Distance (ft)	1662			865			282			1220		
Travel Time (s)	25.2			13.1			5.5			18.5		
Volume (vph)	35	181	4	4	165	66	3	4	2	64	11	27
Peak Hour Factor	0.89	0.89	0.89	0.81	0.81	0.81	0.45	0.45	0.45	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	39	203	4	5	204	81	7	9	4	73	13	31
Lane Group Flow (vph)	0	246	0	0	290	0	0	20	0	0	116	0
Sign Control	Free			Free			Stop			Stop		

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	45.0%
	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	Free			Free			Stop			Stop		
Grade	-2%			2%			-3%			-1%		
Volume (veh/h)	35	181	4	4	165	66	3	4	2	64	11	27
Peak Hour Factor	0.89	0.89	0.89	0.81	0.81	0.81	0.45	0.45	0.45	0.88	0.88	0.88
Hourly flow rate (vph)	39	203	4	5	204	81	7	9	4	73	12	31
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	285			208			576	579	206	547	541	244
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	285			208			576	579	206	547	541	244
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 %	97			100			98	98	99	83	97	96
cM capacity (veh/h)	1271			1363			393	412	835	426	433	794
Direction Lane #												
	EB 1	WB 1	NB 1	SB 1								
Volume Total	247	290	20	116								
Volume Left	39	5	7	73								
Volume Right	4	81	4	31								
cSH	1271	1363	456	487								
Volume to Capacity	0.03	0.00	0.04	0.24								
Queue Length 95th (ft)	2	0	3	23								
Control Delay (s)	1.5	0.2	13.3	14.7								
Lane LOS	A	A	B	B								
Approach Delay (s)	1.5	0.2	13.3	14.7								
Approach LOS			B	B								
Intersection Summary												
Average Delay	3.5											
Intersection Capacity Utilization	45.0%											
ICU Level of Service	A											
Analysis Period (min)	15											

***2007 BASE CONDITIONS***



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↵	↶	↕	↗	↵	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	13	12	11	11	11	12
Grade (%)	-6%		-2%			-5%
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Fr <sub>t</sub>	1.00	0.85	0.97		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1883	1631	3332		1753	3628
Flt Permitted	0.95	1.00	1.00		0.12	1.00
Satd. Flow (perm)	1883	1631	3332		213	3628
Volume (vph)	302	142	1334	283	119	994
Peak-hour factor, PHF	0.83	0.83	0.98	0.98	0.83	0.83
Adj. Flow (vph)	364	171	1361	289	143	1198
RTOR Reduction (vph)	0	91	0	0	0	0
Lane Group Flow (vph)	364	80	1650	0	143	1198
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type		Perm			pm+pt	
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	18.2	18.2	26.7		37.9	37.9
Effective Green, g (s)	21.2	21.2	30.7		41.9	41.9
Actuated g/C Ratio	0.30	0.30	0.43		0.59	0.59
Clearance Time (s)	7.0	7.0	8.0		6.0	8.0
Vehicle Extension (s)	3.0	3.0	6.0		3.0	6.0
Lane Grp Cap (vph)	561	486	1439		281	2138
v/s Ratio Prot	c0.19		c0.50		0.05	c0.33
v/s Ratio Perm		0.05			0.25	
v/c Ratio	0.65	0.17	1.15		0.51	0.56
Uniform Delay, d1	21.7	18.4	20.2		15.0	9.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.6	0.2	74.6		1.5	0.7
Delay (s)	24.3	18.6	94.8		16.4	9.7
Level of Service	C	B	F		B	A
Approach Delay (s)	22.5		94.8			10.4
Approach LOS	C		F			B

Intersection Summary			
HCM Average Control Delay		51.7	HCM Level of Service D
HCM Volume to Capacity ratio		0.91	
Actuated Cycle Length (s)		71.1	Sum of lost time (s) 12.0
Intersection Capacity Utilization		79.2%	ICU Level of Service D
Analysis Period (min)		15	

c Critical Lane Group



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↙	↗	↕	↙	↕
Volume (vph)	302	142	1334	119	994
Lane Group Flow (vph)	364	171	1650	143	1198
Turn Type	Perm		pm+pt		
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phases	8	8	2	1	6
Minimum Initial (s)	1.0	1.0	15.0	1.0	15.0
Minimum Split (s)	8.0	8.0	23.0	7.0	23.0
Total Split (s)	33.0	33.0	34.0	13.0	47.0
Total Split (%)	41.3%	41.3%	42.5%	16.3%	58.8%
Yellow Time (s)	5.0	5.0	6.0	6.0	6.0
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
v/c Ratio	0.64	0.29	1.13	0.47	0.57
Control Delay	24.2	7.1	90.2	14.0	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	24.2	7.1	90.2	14.0	11.3
Queue Length 50th (ft)	141	13	~487	26	156
Queue Length 95th (ft)	200	45	#702	59	232
Internal Link Dist (ft)	1091		2024		1031
Turn Bay Length (ft)		72		175	
Base Capacity (vph)	709	694	1466	312	2160
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	0.51	0.25	1.13	0.46	0.55

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 70.1

Natural Cycle: 65

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: 1: Route 314 (Eastern Leg) & Route 611**

↙ ø1	↕ ø2	
13 s	34 s	
↙ ø5		↙ ø8
47 s		33 s



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↶	↷	↶	↷↷	↷↷	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	12	12	12	12
Grade (%)	4%			7%	-6%	
Storage Length (ft)	50	0	143			0
Storage Lanes	1	1	1			0
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Fr <sub>t</sub>		0.850			0.994	
Fl <sub>t</sub> Protected	0.950		0.950			
Satd. Flow (prot)	1587	1420	1708	3415	3588	0
Fl <sub>t</sub> Permitted	0.950		0.950			
Satd. Flow (perm)	1587	1420	1708	3415	3588	0
Headway Factor	1.12	1.12	1.05	1.05	0.96	0.96
Link Speed (mph)	40			45	45	
Link Distance (ft)	3960			1111	2283	
Travel Time (s)	67.5			16.8	34.6	
Volume (vph)	11	164	328	1148	949	42
Peak Hour Factor	0.67	0.67	0.95	0.95	0.76	0.76
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%
Adj. Flow (vph)	16	245	345	1208	1249	55
Lane Group Flow (vph)	16	245	345	1208	1304	0
Sign Control	Stop			Free	Free	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	59.1%
	ICU Level of Service B
Analysis Period (min)	15





Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	↖	↗	↖	↑↑	↑↑		
Sign Control	Stop			Free	Free		
Grade	4%			7%	-6%		
Volume (veh/h)	11	164	328	1148	949	42	
Peak Hour Factor	0.67	0.67	0.95	0.95	0.76	0.76	
Hourly flow rate (vph)	16	245	345	1208	1249	55	
<b>Pedestrians</b>							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage (veh)							
Upstream signal (ft)	1111						
pX, platoon unblocked	0.86						
vC, conflicting volume	2571	652	1304				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	2662	652	1304				
tC, single (s)	6.9	7.0	4.1				
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2				
p0 queue free %	0	40	34				
cM capacity (veh/h)	5	406	527				
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>NB 1</b>	<b>NB 2</b>	<b>NB 3</b>	<b>SB 1</b>	<b>SB 2</b>
Volume Total	16	245	345	604	604	832	471
Volume Left	16	0	345	0	0	0	0
Volume Right	0	245	0	0	0	0	55
cSH	5	406	527	1700	1700	1700	1700
Volume to Capacity	3.13	0.60	0.66	0.36	0.36	0.49	0.28
Queue Length 95th (ft)	Err	96	118	0	0	0	0
Control Delay (s)	Err	26.5	23.9	0.0	0.0	0.0	0.0
Lane LOS	F	D	C				
Approach Delay (s)	653.3		5.3		0.0		
Approach LOS	F						
<b>Intersection Summary</b>							
Average Delay	57.4						
Intersection Capacity Utilization	59.1%			ICU Level of Service			B
Analysis Period (min)	15						

2007 Base Conditions  
Friday P.M. Peak Hour

3: Woodland Road/Private Driveway/Stricklands Road & Route 611



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations			↕			↕			↕	↕		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	15	15	15	13	13	13	13	11	12	12	12
Grade (%)			6%			5%				3%		
Total Lost time (s)			4.0			4.0			4.0	4.0		
Lane Util. Factor			1.00			1.00			1.00	0.95		
Fr <sub>t</sub>			0.96			0.94			1.00	0.99		
Fl <sub>t</sub> Protected			0.98			0.98			0.95	1.00		
Satd. Flow (prot)			1866			1719			1685	3445		
Fl <sub>t</sub> Permitted			0.88			0.83			0.25	1.00		
Satd. Flow (perm)			1678			1463			439	3445		
Volume (vph)	4	1	2	3	91	7	79	1	5	1063	1	90
Peak-hour factor, PHF	0.56	0.56	0.56	0.56	0.89	0.89	0.89	0.89	0.99	0.99	0.99	0.99
Adj. Flow (vph)	7	2	4	5	102	8	89	1	5	1074	1	91
RTOR Reduction (vph)	0	0	4	0	0	0	0	0	0	5	0	0
Lane Group Flow (vph)	0	0	14	0	0	200	0	0	5	1161	0	0
Turn Type	Perm	Perm			Perm				Perm			
Protected Phases			4			8				2		
Permitted Phases	4	4			8				2			
Actuated Green, G (s)			14.0			14.0			33.2	33.2		
Effective Green, g (s)			16.0			16.0			36.7	36.7		
Actuated g/C Ratio			0.21			0.21			0.48	0.48		
Clearance Time (s)			6.0			6.0			7.5	7.5		
Vehicle Extension (s)			3.0			3.0			5.0	5.0		
Lane Grp Cap (vph)			349			304			210	1644		
v/s Ratio Prot										c0.34		
v/s Ratio Perm			0.01			c0.14			0.01			
v/c Ratio			0.04			0.66			0.02	0.71		
Uniform Delay, d1			24.3			27.9			10.6	15.8		
Progression Factor			1.00			1.00			1.00	1.00		
Incremental Delay, d2			0.0			5.1			0.1	1.8		
Delay (s)			24.4			33.0			10.7	17.6		
Level of Service			C			C			B	B		
Approach Delay (s)			24.4			33.0				17.6		
Approach LOS			C			C				B		
<b>Intersection Summary</b>												
HCM Average Control Delay			15.1			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			76.9			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			67.8%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												



2007 Base Conditions      3: Woodland Road/Private Driveway/Stricklands Road & Route 611  
 Friday P.M. Peak Hour



Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations		↑	↑↑			↑↑		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	12	11	11	11	11
Grade (%)			-7%			-2%		
Total Lost time (s)		4.0	4.0			4.0		
Lane Util. Factor		1.00	0.95			1.00		
Fr <sub>t</sub>		1.00	1.00			0.93		
Fl <sub>t</sub> Protected		0.95	1.00			0.98		
Satd. Flow (prot)		1770	3659			1655		
Fl <sub>t</sub> Permitted		0.12	1.00			0.98		
Satd. Flow (perm)		221	3659			1655		
Volume (vph)	1	54	897	7	1	1	1	1
Peak-hour factor, PHF	0.82	0.82	0.82	0.82	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1	66	1094	9	1	1	1	1
RTOR Reduction (vph)	0	0	0	0	0	1	0	0
Lane Group Flow (vph)	0	67	1103	0	0	3	0	0
Turn Type	pm+pt	pm+pt			Perm			
Protected Phases	1	1	6			9		
Permitted Phases	6	6			9			
Actuated Green, G (s)		42.4	42.4			1.0		
Effective Green, g (s)		45.9	45.9			3.0		
Actuated g/C Ratio		0.60	0.60			0.04		
Clearance Time (s)		5.5	7.5			6.0		
Vehicle Extension (s)		3.0	5.0			3.0		
Lane Grp Cap (vph)		237	2184			65		
v/s Ratio Prot		0.02	0.30					
v/s Ratio Perm		0.15				0.00		
v/c Ratio		0.28	0.50			0.05		
Uniform Delay, d1		9.8	8.9			35.6		
Progression Factor		1.00	1.00			1.00		
Incremental Delay, d2		0.7	0.4			0.3		
Delay (s)		10.5	9.3			35.9		
Level of Service		B	A			D		
Approach Delay (s)			9.4			35.9		
Approach LOS			A			D		
<b>Intersection Summary</b>								



Lane Group	EBL2	EBL	EBT	WBL	WBT	NBL	NBT	SBL2	SBL	SBT	SWL
Lane Configurations			↔		↔	↖	↗		↖	↗	↖
Volume (vph)	4	1	2	91	7	5	1063	1	54	897	1
Lane Group Flow (vph)	0	0	18	0	200	5	1166	0	67	1103	4
Turn Type	Perm	Perm		Perm		Perm		pm+pt	pm+pt		
Protected Phases			4		8		2	1	1	6	9
Permitted Phases	4	4		8		2		6	6		
Detector Phases	4	4	4	8	8	2	2	1	1	6	9
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	10.0	10.0	4.0	4.0	10.0	7.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	17.5	17.5	9.5	9.5	17.5	13.0
Total Split (s)	27.0	27.0	27.0	27.0	27.0	41.0	41.0	13.0	13.0	54.0	19.0
Total Split (%)	27.0%	27.0%	27.0%	27.0%	27.0%	41.0%	41.0%	13.0%	13.0%	54.0%	19.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5	5.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
Lead/Lag						Lag	Lag	Lead	Lead		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Min	Min	None	None	Min	None
v/c Ratio			0.05		0.59	0.03	0.64		0.24	0.49	0.02
Control Delay			21.2		28.5	15.2	17.2		9.6	9.2	34.8
Queue Delay			0.0		0.0	0.0	0.0		0.0	0.0	0.0
Total Delay			21.2		28.5	15.2	17.2		9.6	9.2	34.8
Queue Length 50th (ft)			4		77	1	195		9	107	1
Queue Length 95th (ft)			13		175	10	#417		35	242	12
Internal Link Dist (ft)			105		2012		2203			2327	625
Turn Bay Length (ft)						73			183		
Base Capacity (vph)			510		450	205	1895		297	2414	295
Starvation Cap Reductn			0		0	0	0		0	0	0
Spillback Cap Reductn			0		0	0	0		0	0	0
Storage Cap Reductn			0		0	0	0		0	0	0
Reduced v/c Ratio			0.04		0.44	0.02	0.62		0.23	0.46	0.01

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 70.1

Natural Cycle: 70

Control Type: Semi Act-Uncoord

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Woodland Road/Private Driveway/Stricklands Road & Route 611

01	02	04	09
13 s	41 s	27 s	19 s
06	08		
54 s	27 s		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	12	12	12	11	12	12	11	12	12
Grade (%)		2%			8%			1%				-1%
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.865			0.887							
Flt Protected					0.996		0.950			0.950		
Satd. Flow (prot)	0	1648	0	0	1580	0	1702	3522	0	1670	3455	0
Flt Permitted					0.996		0.950			0.950		
Satd. Flow (perm)	0	1648	0	0	1580	0	1702	3522	0	1670	3455	0
Headway Factor	0.97	0.97	0.97	1.05	1.05	1.05	1.05	1.01	1.01	1.04	0.99	0.99
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		158			1027			2407			3261	
Travel Time (s)		3.1			20.0			36.5			49.4	
Volume (vph)	0	0	3	1	1	10	3	1142	1	5	954	1
Peak Hour Factor	0.75	0.75	0.75	0.50	0.50	0.50	0.97	0.97	0.97	0.83	0.83	0.83
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	0	0	4	2	2	20	3	1177	1	6	1149	1
Lane Group Flow (vph)	0	4	0	0	24	0	3	1178	0	6	1150	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	41.6% 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		2%			8%			1%			-1%	
Volume (veh/h)	0	0	3	1	1	10	3	1142	1	5	954	1
Peak Hour Factor	0.75	0.75	0.75	0.50	0.50	0.50	0.97	0.97	0.97	0.83	0.83	0.83
Hourly flow rate (vph)	0	0	4	2	2	20	3	1177	1	6	1149	1
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	1778	2347	575	1775	2347	589	1151			1178		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1778	2347	575	1775	2347	589	1151			1178		
tC, single (s)	7.5	6.5	6.9	7.6	6.6	6.9	4.1			4.2		
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	99	96	94	96	99			99		
cM capacity (veh/h)	47	35	461	51	35	451	603			572		
Direction-Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3				
Volume Total	4	24	3	785	393	6	766	384				
Volume Left	0	2	3	0	0	6	0	0				
Volume Right	4	20	0	0	1	0	0	1				
cSH	461	170	603	1700	1700	572	1700	1700				
Volume to Capacity	0.01	0.14	0.01	0.46	0.23	0.01	0.45	0.23				
Queue Length 95th (ft)	1	12	0	0	0	1	0	0				
Control Delay (s)	12.9	29.6	11.0	0.0	0.0	11.4	0.0	0.0				
Lane LOS	B	D	B			B						
Approach Delay (s)	12.9	29.6	0.0			0.1						
Approach LOS	B	D										
<b>Intersection Summary</b>												
Average Delay			0.4									
Intersection Capacity Utilization			41.6%			ICU Level of Service				A		
Analysis Period (min)			15									



2007 Base Conditions  
Friday P.M. Peak Hour

5: Grange Road/Green Springs Driveway & Route 611



Lane Group	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 (ft)	12	12	12	10	10	10	11	12	12	11	12	12
Grade (%)		0%			9%			2%				-5%
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.938			0.937			0.998			0.996	
Flt Protected		0.978			0.983		0.950			0.950		
Satd. Flow (prot)	0	1709	0	0	1529	0	1694	3497	0	1753	3613	0
Flt Permitted		0.978			0.983		0.950			0.950		
Satd. Flow (perm)	0	1709	0	0	1529	0	1694	3497	0	1753	3613	0
Headway Factor	1.00	1.00	1.00	1.16	1.16	1.16	1.06	1.01	1.01	1.01	0.97	0.97
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		294			1492			3261			2754	
Travel Time (s)		6.7			33.9			49.4			41.7	
Volume (vph)	20	4	20	12	7	16	31	1103	18	19	928	31
Peak Hour Factor	0.90	0.90	0.90	0.75	0.90	0.75	0.90	0.97	0.97	0.77	0.77	0.90
Adj. Flow (vph)	22	4	22	16	8	21	34	1137	19	25	1205	34
Lane Group Flow (vph)	0	48	0	0	45	0	34	1156	0	25	1239	0
Sign Control		Stop			Stop			Free			Free	

**Intersection Summary**

Area Type: Other

Control Type: Unsignalized

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		Stop			Stop			Free			Free	
Grade		0%			9%			2%			-5%	
Volume (veh/h)	20	4	20	12	7	16	31	1103	18	19	928	31
Peak Hour Factor	0.90	0.90	0.90	0.75	0.90	0.75	0.90	0.97	0.97	0.77	0.77	0.90
Hourly flow rate (vph)	22	4	22	16	8	21	34	1137	19	25	1205	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	1934	2496	620	1892	2504	578	1240			1156		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1934	2496	620	1892	2504	578	1240			1156		
tC, single (s)	7.5	6.5	6.9	7.6	6.6	6.9	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 %	17	83	95	50	69	95	94			96		
cM capacity (veh/h)	27	26	431	32	25	459	558			600		
Direction Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3				
Volume Total	49	45	34	758	398	25	803	436				
Volume Left	22	16	34	0	0	25	0	0				
Volume Right	22	21	0	0	19	0	0	34				
cSH	46	53	558	1700	1700	600	1700	1700				
Volume to Capacity	1.06	0.85	0.06	0.45	0.23	0.04	0.47	0.26				
Queue Length 95th (ft)	111	91	5	0	0	3	0	0				
Control Delay (s)	289.8	205.4	11.9	0.0	0.0	11.3	0.0	0.0				
Lane LOS	F	F	B			B						
Approach Delay (s)	289.8	205.4	0.3			0.2						
Approach LOS	F	F										
Intersection Summary												
Average Delay			9.5									
Intersection Capacity Utilization			41.5%			ICU Level of Service			A			
Analysis Period (min)			15									





Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕		↕		↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	11	11
Grade (%)	1%			-3%	0%	
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.965			0.962		
Flt Protected				0.995	0.965	
Satd. Flow (prot)	1591	0	0	1690	1672	0
Flt Permitted				0.995	0.965	
Satd. Flow (perm)	1591	0	0	1690	1672	0
Headway Factor	1.10	1.10	1.07	1.07	1.04	1.04
Link Speed (mph)	40			40	25	
Link Distance (ft)	2092			650	499	
Travel Time (s)	35.7			11.1	13.6	
Volume (vph)	108	38	16	129	48	19
Peak Hour Factor	0.82	0.82	0.79	0.79	0.53	0.53
Heavy Vehicles (%)	7%	7%	6%	6%	2%	2%
Adj. Flow (vph)	132	46	20	163	91	36
Lane Group Flow (vph)	178	0	0	183	127	0
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	29.5%
	ICU Level of Service A
Analysis Period (min)	15



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕			↕	↕	
Sign Control	Free			Free	Stop	
Grade	1%			-3%	0%	
Volume (veh/h)	108	38	16	129	48	19
Peak Hour Factor	0.82	0.82	0.79	0.79	0.53	0.53
Hourly flow rate (vph)	132	46	20	163	91	36
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			178		359	155
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			178		359	155
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		86	96
cM capacity (veh/h)			1374		630	891
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	178	184	126			
Volume Left	0	20	91			
Volume Right	46	0	36			
cSH	1700	1374	687			
Volume to Capacity	0.10	0.01	0.18			
Queue Length 95th (ft)	0	1	17			
Control Delay (s)	0.0	1.0	11.4			
Lane LOS			A			B
Approach Delay (s)	0.0	1.0	11.4			
Approach LOS			B			
Intersection Summary						
Average Delay			3.3			
Intersection Capacity Utilization			29.5%	ICU Level of Service	A	
Analysis Period (min)			15			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔		↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	10	10
Grade (%)	1%			1%	-1%	
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.965			0.964		
Flt Protected				0.996	0.965	
Satd. Flow (prot)	1729	0	0	1750	1625	0
Flt Permitted				0.996	0.965	
Satd. Flow (perm)	1729	0	0	1750	1625	0
Headway Factor	1.05	1.05	1.05	1.05	1.09	1.09
Link Speed (mph)	40			40	35	
Link Distance (ft)	650			936	704	
Travel Time (s)	11.1			16.0	13.7	
Volume (vph)	94	33	10	107	38	14
Peak Hour Factor	0.72	0.72	0.80	0.80	0.25	0.25
Heavy Vehicles (%)	2%	2%	4%	4%	2%	2%
Adj. Flow (vph)	131	46	13	134	152	56
Lane Group Flow (vph)	177	0	0	146	208	0
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	23.9%
	ICU Level of Service A
Analysis Period (min)	15



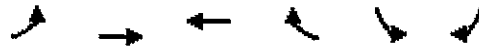
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕			↕		↕
Sign Control	Free			Free	Stop	
Grade	1%			1%	-1%	
Volume (veh/h)	94	33	10	107	38	14
Peak Hour Factor	0.72	0.72	0.80	0.80	0.25	0.25
Hourly flow rate (vph)	131	46	12	134	152	56
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			176		312	153
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			176		312	153
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		77	94
cM capacity (veh/h)			1388		674	893
Direction Lane #	EB 1	WB 1	NB 1			
Volume Total	176	146	208			
Volume Left	0	12	152			
Volume Right	46	0	56			
cSH	1700	1388	722			
Volume to Capacity	0.10	0.01	0.29			
Queue Length 95th (ft)	0	1	30			
Control Delay (s)	0.0	0.7	12.0			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.7	12.0			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			4.9			
Intersection Capacity Utilization			23.9%	ICU Level of Service	A	
Analysis Period (min)			15			





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	10	10
Grade (%)		-4%	2%		-6%	
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.999		0.932	
Fr <sub>t</sub> Protected		0.999			0.976	
Satd. Flow (prot)	0	1835	1747	0	1629	0
Fr <sub>t</sub> Permitted		0.999			0.976	
Satd. Flow (perm)	0	1835	1747	0	1629	0
Headway Factor	1.02	1.02	1.06	1.06	1.05	1.05
Link Speed (mph)		40	40		35	
Link Distance (ft)		936	819		1342	
Travel Time (s)		16.0	14.0		26.1	
Volume (vph)	2	106	115	1	2	2
Peak Hour Factor	0.84	0.84	0.77	0.77	0.50	0.50
Heavy Vehicles (%)	2%	2%	4%	4%	2%	2%
Adj. Flow (vph)	2	126	149	1	4	4
Lane Group Flow (vph)	0	128	150	0	8	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	17.2%
	ICU Level of Service A
Analysis Period (min)	15



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Sign Control		Free	Free		Stop	
Grade		-4%	2%		-6%	
Volume (veh/h)	2	106	115	1	2	2
Peak Hour Factor	0.84	0.84	0.77	0.77	0.50	0.50
Hourly flow rate (vph)	2	126	149	1	4	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	151				281	150
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	151				281	150
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				99	100
cM capacity (veh/h)	1430				709	897
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	129	151	8			
Volume Left	2	0	4			
Volume Right	0	1	4			
cSH	1430	1700	792			
Volume to Capacity	0.00	0.09	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.2	0.0	9.6			
Lane LOS	A		A			
Approach Delay (s)	0.2	0.0	9.6			
Approach LOS			A			
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			17.2%		ICU Level of Service	A
Analysis Period (min)			15			





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↕		↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-3%		-5%		4%	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.993			0.937		
Frt Protected	0.955			0.998		
Satd. Flow (prot)	1673			1842		
Frt Permitted	0.955			0.998		
Satd. Flow (perm)	1673			1842		
Headway Factor	1.07	1.07	1.01	1.01	1.07	1.07
Link Speed (mph)	40			45		45
Link Distance (ft)	1794			1439	1446	
Travel Time (s)	30.6			21.8	21.9	
Volume (vph)	102	6	6	152	127	110
Peak Hour Factor	0.82	0.82	0.96	0.96	0.81	0.81
Heavy Vehicles (%)	2%	2%	2%	2%	3%	3%
Adj. Flow (vph)	124	7	6	158	157	136
Lane Group Flow (vph)	131	0	0	164	293	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	26.1%
	ICU Level of Service A
Analysis Period (min)	15



Movement	EB	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			↑	↑	
Sign Control	Stop			Free	Free	
Grade	-3%			-5%	4%	
Volume (veh/h)	102	6	6	152	127	110
Peak Hour Factor	0.82	0.82	0.96	0.96	0.81	0.81
Hourly flow rate (vph)	124	7	6	158	157	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	396	225	293			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	396	225	293			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
fF (s)	3.5	3.3	2.2			
p0 queue free %	80	99	100			
cM capacity (veh/h)	607	815	1269			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	132	165	293			
Volume Left	124	6	0			
Volume Right	7	0	136			
cSH	616	1269	1700			
Volume to Capacity	0.21	0.00	0.17			
Queue Length 95th (ft)	20	0	0			
Control Delay (s)	12.4	0.3	0.0			
Lane LOS	B	A				
Approach Delay (s)	12.4	0.3	0.0			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			2.9			
Intersection Capacity Utilization			26.1%	ICU Level of Service	A	
Analysis Period (min)			15			

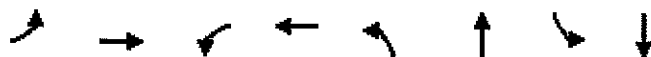
2007 Base Conditions  
Friday P.M. Peak Hour

10: Route 940 & Carlton Road/Private Driveway



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NET	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11	11	11	11	8	8	8
Grade (%)		-4%			4%			1%			-1%	
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Fr <sub>t</sub>		0.99			1.00			0.88			0.97	
Fl <sub>t</sub> Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		1816			1738			1542			1556	
Fl <sub>t</sub> Permitted		1.00			0.59			0.95			0.88	
Satd. Flow (perm)		1812			1048			1480			1377	
Volume (vph)	3	478	43	187	433	1	33	2	219	2	7	3
Peak-hour factor, PHF	0.86	0.86	0.86	0.98	0.98	0.98	0.87	0.87	0.87	0.60	0.60	0.60
Adj. Flow (vph)	3	566	50	191	442	1	38	2	252	3	12	5
RTOR Reduction (vph)	0	4	0	0	0	0	0	211	0	0	4	0
Lane Group Flow (vph)	0	605	0	0	634	0	0	81	0	0	16	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Perm		pm+pt		Perm		Perm		Perm		Perm	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		6		8		4		4		4	
Actuated Green, G (s)		27.2			43.0			9.2			9.2	
Effective Green, g (s)		29.2			45.0			10.2			10.2	
Actuated g/C Ratio		0.46			0.71			0.16			0.16	
Clearance Time (s)		6.0			6.0			5.0			5.0	
Vehicle Extension (s)		6.0			6.0			3.0			3.0	
Lane Grp Cap (vph)		837			875			239			222	
v/s Ratio Prot					c0.14							
v/s Ratio Perm		0.33			c0.38			c0.05			0.01	
v/c Ratio		0.72			0.72			0.34			0.07	
Uniform Delay, d1		13.7			5.4			23.5			22.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.3			4.2			0.8			0.1	
Delay (s)		18.1			9.6			24.3			22.6	
Level of Service		B			A			C			C	
Approach Delay (s)		18.1			9.6			24.3			22.6	
Approach LOS		B			A			C			C	
<b>Intersection Summary</b>												
HCM Average Control Delay		15.9			HCM Level of Service			B				
HCM Volume to Capacity ratio		0.65										
Actuated Cycle Length (s)		63.2			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		90.5%			ICU Level of Service			E				
Analysis Period (min)		15										

c Critical Lane Group



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Volume (vph)	3	478	187	433	33	2	2	7
Lane Group Flow (vph)	0	609	0	634	0	292	0	20
Turn Type	Perm		pm+pt		Perm		Perm	
Protected Phases		2	1	6		8		4
Permitted Phases	2		6		8		4	
Detector Phases	2	2	1	6	1	8	4	4
Minimum Initial (s)	10.0	10.0	4.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	16.0	16.0	10.0	16.0	11.0	11.0	11.0	11.0
Total Split (s)	49.0	49.0	17.0	66.0	21.0	21.0	21.0	21.0
Total Split (%)	56.3%	56.3%	19.5%	75.9%	24.1%	24.1%	24.1%	24.1%
Yellow Time (s)	4.5	4.5	4.0	4.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5	1.5	1.5
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	Min	Min	None	Min	None	None	None	None
v/c Ratio		0.74		0.74		0.65		0.08
Control Delay		16.7		8.0		10.7		24.9
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		16.7		8.0		10.7		24.9
Queue Length 50th (ft)		171		72		13		5
Queue Length 95th (ft)		314		201		84		16
Internal Link Dist (ft)		1322		1070		1366		73
Turn Bay Length (ft)								
Base Capacity (vph)		1042		1034		563		378
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		0.58		0.61		0.52		0.05

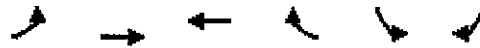
Intersection Summary

Cycle Length: 87  
 Actuated Cycle Length: 64.1  
 Natural Cycle: 60  
 Control Type: Semi-Act-Uncoord

Splits and Phases: 10: Route 940 & Carlton Road/Private Driveway

01	02	04
17 s	49 s	21 s
06		08
66 s		21 s





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	14	14
Grade (%)		-2%	2%		-4%	
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		1.00	1.00		1.00	
Fr <sub>t</sub>		1.00	0.99		0.87	
Fl <sub>t</sub> Protected		0.97	1.00		1.00	
Satd. Flow (prot)		1766	1770		1725	
Fl <sub>t</sub> Permitted		0.52	1.00		1.00	
Satd. Flow (perm)		954	1770		1725	
Volume (vph)	418	283	272	15	11	349
Peak-hour factor, PHF	0.89	0.89	0.93	0.93	0.80	0.80
Adj. Flow (vph)	470	318	292	16	14	436
RTOR Reduction (vph)	0	0	2	0	378	0
Lane Group Flow (vph)	0	788	306	0	72	0
Heavy Vehicles (%)	2%	2%	2%	2%	4%	4%
Turn Type	pm+pt					
Protected Phases	5	2	6		4	
Permitted Phases	2					
Actuated Green, G (s)		67.0	41.7		9.7	
Effective Green, g (s)		69.0	43.7		11.7	
Actuated g/C Ratio		0.78	0.49		0.13	
Clearance Time (s)		6.0	6.0		6.0	
Vehicle Extension (s)		6.0	6.0		3.0	
Lane Grp Cap (vph)		937	872		228	
v/s Ratio Prot		c0.20	0.17		c0.04	
v/s Ratio Perm		c0.45				
v/c Ratio		0.84	0.35		0.31	
Uniform Delay, d1		6.3	13.8		34.9	
Progression Factor		1.00	1.00		1.00	
Incremental Delay, d2		7.9	0.7		0.8	
Delay (s)		14.3	14.5		35.7	
Level of Service		B	B		D	
Approach Delay (s)		14.3	14.5		35.7	
Approach LOS		B	B		D	
<b>Intersection Summary</b>						
HCM Average Control Delay			20.5		HCM Level of Service	G
HCM Volume to Capacity ratio			0.76			
Actuated Cycle Length (s)			88.7		Sum of lost time (s)	8.0
Intersection Capacity Utilization			85.5%		ICU Level of Service	E
Analysis Period (min)			15			

c Critical Lane Group



Lane Group	EBL	EBT	WBT	SBL
Lane Configurations		↕	↕	↕
Volume (vph)	418	283	272	11
Lane Group Flow (vph)	0	788	308	450
Turn Type	pm+pt			
Protected Phases	5	2	6	4
Permitted Phases	2			
Detector Phases	5	2 5	6	4
Minimum Initial (s)	4.0	10.0	10.0	7.0
Minimum Split (s)	10.0	16.0	16.0	13.0
Total Split (s)	32.0	81.0	49.0	22.0
Total Split (%)	31.1%	78.6%	47.6%	21.4%
Yellow Time (s)	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	Min	Min	None
v/c Ratio		0.87	0.36	0.74
Control Delay		12.0	16.5	9.8
Queue Delay		0.0	0.0	0.0
Total Delay		12.0	16.5	9.8
Queue Length 50th (ft)		109	91	8
Queue Length 95th (ft)		#328	204	52
Internal Link Dist (ft)		491	1298	1263
Turn Bay Length (ft)				
Base Capacity (vph)		1000	925	686
Starvation Cap Reductn		0	0	0
Spillback Cap Reductn		0	0	0
Storage Cap Reductn		0	0	0
Reduced v/c Ratio		0.79	0.33	0.66

**Intersection Summary**

Cycle Length: 103

Actuated Cycle Length: 89.3

Natural Cycle: 90

Control Type: Semi Act-Uncoord

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 11: Route 940 & Route 390

↗ 02	↘ 04
21 s	22 s
↖ 05	← 06
32 s	49 s

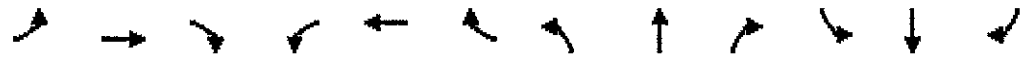




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕			↕		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	8	8	8	11	11	11
Grade (%)	-2%			2%			-3%			-1%		
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.998			0.961			0.986			0.975		
Frt Protected	0.994			0.999			0.987			0.963		
Satd. Flow (prot)	0	1804	0	0	1711	0	0	1595	0	0	1699	0
Frt Permitted	0.994			0.999			0.987			0.963		
Satd. Flow (perm)	0	1804	0	0	1711	0	0	1595	0	0	1699	0
Headway Factor	1.03	1.03	1.03	1.06	1.06	1.06	1.18	1.18	1.18	1.04	1.04	1.04
Link Speed (mph)	45			45			35			45		
Link Distance (ft)	1662			865			282			1220		
Travel Time (s)	25.2			13.1			5.5			18.5		
Volume (vph)	38	252	4	5	262	109	4	10	2	86	4	21
Peak Hour Factor	0.90	0.90	0.90	0.84	0.84	0.84	0.80	0.80	0.80	0.87	0.87	0.87
Adj. Flow (vph)	42	280	4	6	312	130	5	13	3	99	5	24
Lane Group Flow (vph)	0	326	0	0	448	0	0	19	0	0	128	0
Sign Control	Free			Free			Stop			Stop		

Intersection Summary

Area Type	Other
Control Type	Unsignalized
Intersection Capacity Utilization	56.9%
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	-2%			2%			-3%			-1%		
Volume (veh/h)	38	252	4	5	262	109	4	10	2	86	4	21
Peak Hour Factor	0.90	0.90	0.90	0.84	0.84	0.84	0.80	0.80	0.80	0.87	0.87	0.87
Hourly flow rate (vph)	42	280	4	6	312	130	5	12	2	99	5	24
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	442			284			782			820		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	442			284			782			820		
tC, single (s)	4.1			4.1			7.1			6.5		
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5			4.0		
p0 queue free %	96			100			98			96		
cM capacity (veh/h)	1118			1278			288			297		

Direction Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	327	448	20	128
Volume Left	42	6	5	99
Volume Right	4	130	2	24
cSH	1118	1278	319	335
Volume to Capacity	0.04	0.00	0.06	0.38
Queue Length 95th (ft)	3	0	5	43
Control Delay (s)	1.4	0.2	17.0	22.2
Lane LOS	A	A	C	C
Approach Delay (s)	1.4	0.2	17.0	22.2
Approach LOS			C	C

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙	↗	↑↓	↙	↗	↑↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	13	12	11	11	11	12
Grade (%)	-6%		-2%			-5%
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Fr <sub>t</sub>	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1883	1631	3396		1753	3628
Flt Permitted	0.95	1.00	1.00		0.09	1.00
Satd. Flow (perm)	1883	1631	3396		168	3628
Volume (vph)	98	66	1219	159	70	1036
Peak-hour factor, PHF	0.90	0.90	0.94	0.94	0.94	0.94
Adj. Flow (vph)	109	73	1297	169	74	1102
RTOR Reduction (vph)	0	61	0	0	0	0
Lane Group Flow (vph)	109	12	1466	0	74	1102
Turn Type		Perm			pm+pt	
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	9.2	9.2	38.8		49.3	49.3
Effective Green, g (s)	12.2	12.2	42.8		53.3	53.3
Actuated g/C Ratio	0.17	0.17	0.58		0.73	0.73
Clearance Time (s)	7.0	7.0	8.0		6.0	8.0
Vehicle Extension (s)	3.0	3.0	6.0		3.0	6.0
Lane Grp Cap (vph)	313	271	1978		262	2631
v/s Ratio Prot	c0.06		c0.43		0.02	c0.30
v/s Ratio Perm		0.01			0.18	
v/c Ratio	0.35	0.04	0.74		0.28	0.42
Uniform Delay, d1	27.1	25.8	11.3		7.5	4.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.7	0.1	2.1		0.6	0.3
Delay (s)	27.8	25.8	13.3		8.1	4.3
Level of Service	C	C	B		A	A
Approach Delay (s)	27.0		13.3			4.5
Approach LOS	C		B			A

Intersection Summary			
HCM Average Control Delay	10.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	73.5	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	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↙	↗	↕	↙	↕
Volume (vph)	98	66	1219	70	1036
Lane Group Flow (vph)	109	73	1466	74	1102
Turn Type	Perm		pm+pt		
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phases	8	8	2	1	6
Minimum Initial (s)	1.0	1.0	15.0	1.0	15.0
Minimum Split (s)	8.0	8.0	23.0	7.0	23.0
Total Split (s)	33.0	33.0	34.0	13.0	47.0
Total Split (%)	41.3%	41.3%	42.5%	16.3%	58.8%
Yellow Time (s)	5.0	5.0	6.0	6.0	6.0
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
v/c Ratio	0.32	0.21	0.71	0.22	0.42
Control Delay	21.3	6.6	16.0	5.7	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.3	6.6	16.0	5.7	5.1
Queue Length 50th (ft)	36	0	247	8	80
Queue Length 95th (ft)	75	28	#443	21	138
Internal Link Dist (ft)	1091		2024		1031
Turn Bay Length (ft)		72		175	
Base Capacity (vph)	646	607	2057	341	2688
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	0.17	0.12	0.71	0.22	0.41

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 72.1

Natural Cycle: 55

Control Type: Semi Act-Uncoord

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Route 314 (Eastern Leg) & Route 611

↙ ø1 13 s	↕ ø2 34 s		
↙ ø6 47 s		↙ ø8 33 s	





Lane Group	EB	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑	↑↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	12	12	12	12
Grade (%)	4%			7%	-6%	
Storage Length (ft)	50	0	143			0
Storage Lanes	1	1	1			0
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.997	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1587	1420	1708	3415	3634	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1587	1420	1708	3415	3634	0
Headway Factor	1.12	1.12	1.05	1.05	0.96	0.96
Link Speed (mph)	40			45	45	
Link Distance (ft)	3960			1111	2283	
Travel Time (s)	67.5			16.8	34.6	
Volume (vph)	18	135	158	1127	971	19
Peak Hour Factor	0.96	0.96	0.96	0.96	0.97	0.97
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%
Adj. Flow (vph)	19	141	165	1174	1001	20
Lane Group Flow (vph)	19	141	165	1174	1021	0
Sign Control	Stop			Free	Free	

Intersection Summary

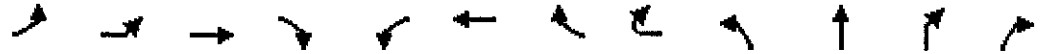
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	49.5%
	ICU Level of Service A
Analysis Period (min)	15





Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	↖	↗	↖	↑↑	↑↑		
Sign Control	Stop			Free	Free		
Grade	4%			7%	-6%		
Volume (veh/h)	18	135	158	1127	971	19	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.97	0.97	
Hourly flow rate (vph)	19	141	165	1174	1001	20	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage (veh)							
Upstream signal (ft)	1111						
pX, platoon unblocked	0.75						
vC, conflicting volume	1927	510	1021				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1903	510	1021				
tC, single (s)	6.9	7.0	4.1				
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2				
p0 queue free %	44	72	76				
cM capacity (veh/h)	34	503	676				
Direction Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	19	141	165	587	587	667	353
Volume Left	19	0	165	0	0	0	0
Volume Right	0	141	0	0	0	0	20
cSH	34	503	676	1700	1700	1700	1700
Volume to Capacity	0.56	0.28	0.24	0.35	0.35	0.39	0.21
Queue Length 95th (ft)	47	28	24	0	0	0	0
Control Delay (s)	203.9	14.9	12.0	0.0	0.0	0.0	0.0
Lane LOS	F	B	B				
Approach Delay (s)	37.1		1.5			0.0	
Approach LOS	E						
Intersection Summary							
Average Delay	3.1						
Intersection Capacity Utilization	49.5%			ICU Level of Service			A
Analysis Period (min)	15						

2007 Base Conditions 3: Woodland Road/Private Driveway/Stricklands Road & Route 611  
 Saturday P.M. Peak Hour



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2
Lane Configurations			↕			↕			↕	↕		
Ideal Flow (vohpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	15	15	15	13	13	13	13	11	12	12	12
Grade (%)			6%				5%				3%	
Total Lost time (s)			4.0				4.0		4.0		4.0	
Lane Util. Factor			1.00				1.00		1.00		0.95	
Frts			0.91				0.98		1.00		0.99	
Flt Protected			0.99				0.96		0.95		1.00	
Satd. Flow (prot)			1790				1774		1685		3454	
Flt Permitted			0.90				0.74		0.30		1.00	
Satd. Flow (perm)			1634				1367		531		3454	
Volume (vph)	5	1	1	13	53	4	6	1	14	1062	2	67
Peak-hour factor, PHF	0.61	0.61	0.61	0.61	0.92	0.92	0.92	0.92	0.98	0.98	0.98	0.98
Adj. Flow (vph)	8	2	2	21	58	4	7	1	14	1084	2	68
RTOR Reduction (vph)	0	0	18	0	0	1	0	0	0	2	0	0
Lane Group Flow (vph)	0	0	15	0	0	69	0	0	14	1152	0	0
Turn Type	Perm	Perm			Perm				Perm			
Protected Phases			4			8				2		
Permitted Phases	4	4			8				2			
Actuated Green, G (s)			8.9			8.9			47.0	47.0		
Effective Green, g (s)			10.9			10.9			50.5	50.5		
Actuated g/C Ratio			0.13			0.13			0.60	0.60		
Clearance Time (s)			6.0			6.0			7.5	7.5		
Vehicle Extension (s)			3.0			3.0			5.0	5.0		
Lane Grp Cap (vph)			213			178			321	2089		
v/s Ratio Prot										c0.33		
v/s Ratio Perm			0.01			c0.05			0.03			
v/c Ratio			0.07			0.39			0.04	0.55		
Uniform Delay, d1			31.8			33.2			6.7	9.8		
Progression Factor			1.00			1.00			1.00	1.00		
Incremental Delay, d2			0.1			1.4			0.1	0.5		
Delay (s)			32.0			34.7			6.8	10.3		
Level of Service			C			C			A	B		
Approach Delay (s)			32.0			34.7				10.3		
Approach LOS			C			C				B		
<b>Intersection Summary</b>												
HCM Average Control Delay			9.5			HCM Level of Service			A			
HCM Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			83.5			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			55.8%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

2007 Base Conditions      3: Woodland Road/Private Driveway/Stricklands Road & Route 611  
 Saturday P.M. Peak Hour



Movement	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Lane Configurations		↖	↗			↖		↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	12	12	11	11	11	11
Grade (%)			-7%			-2%		
Total Lost time (s)		4.0	4.0			4.0		
Lane Util. Factor		1.00	0.95			1.00		
Frt		1.00	1.00			0.93		
Flt Protected		0.95	1.00			0.98		
Satd. Flow (prot)		1770	3655			1655		
Flt Permitted		0.17	1.00			0.98		
Satd. Flow (perm)		317	3655			1655		
Volume (vph)	1	4	924	14	1	1	1	1
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1	4	943	14	1	1	1	1
RTOR Reduction (vph)	0	0	1	0	0	1	0	0
Lane Group Flow (vph)	0	5	956	0	0	3	0	0
Turn Type		pm+pt	pm+pt			Perm		
Protected Phases		1	1	6		9		
Permitted Phases		6	6			9		
Actuated Green, G (s)		53.7	53.7			1.4		
Effective Green, g (s)		57.2	57.2			3.4		
Actuated g/C Ratio		0.69	0.69			0.04		
Clearance Time (s)		5.5	7.5			6.0		
Vehicle Extension (s)		3.0	5.0			3.0		
Lane Grp Cap (vph)		264	2504			67		
v/s Ratio Prot		0.00	0.26					
v/s Ratio Perm		0.01				0.00		
v/c Ratio		0.02	0.38			0.05		
Uniform Delay, d1		5.9	5.6			38.5		
Progression Factor		1.00	1.00			1.00		
Incremental Delay, d2		0.0	0.2			0.3		
Delay (s)		5.9	5.8			38.8		
Level of Service		A	A			D		
Approach Delay (s)			5.8			38.8		
Approach LOS			A			D		
Intersection Summary								

2007 Base Conditions 3: Woodland Road/Private Driveway/Stricklands Road & Route 611  
 Saturday P.M. Peak Hour



Lane Group	EBL2	EBL	EBT	WBL	WBT	NBL	NBT	SBL2	SBL	SBT	SWL
Lane Configurations			↕		↕	↖	↗		↖	↗	↕
Volume (vph)	5	1	1	53	4	14	1062	1	4	924	1
Lane Group Flow (vph)	0	0	33	0	70	14	1154	0	5	957	4
Turn Type	Perm	Perm		Perm		Perm		pm+pt	pm+pt		
Protected Phases			4		8		2	1	1	6	9
Permitted Phases	4	4		8		2		6	6		
Detector Phases	4	4	4	8	8	2	2	1	1	6	9
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	10.0	10.0	4.0	4.0	10.0	7.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	17.5	17.5	9.5	9.5	17.5	13.0
Total Split (s)	36.0	36.0	36.0	36.0	36.0	33.0	33.0	12.0	12.0	45.0	19.0
Total Split (%)	36.0%	36.0%	36.0%	36.0%	36.0%	33.0%	33.0%	12.0%	12.0%	45.0%	19.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	5.5	5.5	5.5	5.5	5.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
Lead/Lag						Lag	Lag	Lead	Lead		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes		
Recall Mode	None	None	None	None	None	Min	Min	None	None	Min	None
v/c Ratio			0.11		0.30	0.05	0.49		0.02	0.37	0.02
Control Delay			12.6		20.3	10.5	10.1		8.2	5.9	24.8
Queue Delay			0.0		0.0	0.0	0.0		0.0	0.0	0.0
Total Delay			12.6		20.3	10.5	10.1		8.2	5.9	24.8
Queue Length 50th (ft)			3		19	1	74		1	55	1
Queue Length 95th (ft)			15		m63	16	#382		6	187	10
Internal Link Dist (ft)			105		2012		2203			2327	625
Turn Bay Length (ft)						73			183		
Base Capacity (vph)			612		510	277	2370		298	2703	292
Starvation Cap Reductn			0		0	0	0		0	0	0
Spillback Cap Reductn			0		0	0	0		0	0	0
Storage Cap Reductn			0		0	0	0		0	0	0
Reduced v/c Ratio			0.05		0.14	0.05	0.49		0.02	0.35	0.01

**Intersection Summary**  
 Cycle Length: 100  
 Actuated Cycle Length: 74.9  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 # 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: Woodland Road/Private Driveway/Stricklands Road & Route 611

01	02	04	09
12 s	33 s	36 s	19 s
06		08	
15 s		36 s	



2007 Base Conditions  
Saturday P.M. Peak Hour

4: Meadowside Road/Trinity Hill Road & Route 611



Lane Group	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 (ft)	13	13	13	12	12	12	11	12	12	11	12	12
Grade (%)	2%			8%			1%			-1%		
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frts	0.899			0.936								
Flt Protected	0.988			0.991			0.950			0.950		
Satd. Flow (prot)	0	1693	0	0	1659	0	1702	3522	0	1719	3557	0
Flt Permitted	0.988			0.991			0.950			0.950		
Satd. Flow (perm)	0	1693	0	0	1659	0	1702	3522	0	1719	3557	0
Headway Factor	0.97	0.97	0.97	1.05	1.05	1.05	1.05	1.01	1.01	1.04	0.99	0.99
Link Speed (mph)	35			35			45			45		
Link Distance (ft)	158			1027			2407			3261		
Travel Time (s)	3.1			20.0			36.5			49.4		
Volume (vph)	1	0	3	3	6	8	6	1070	1	1	936	1
Peak Hour Factor	0.50	0.50	0.50	0.39	0.39	0.39	0.92	0.92	0.92	0.89	0.89	0.89
Adj. Flow (vph)	2	0	6	8	15	21	7	1163	1	1	1052	1
Lane Group Flow (vph)	0	8	0	0	44	0	7	1164	0	1	1053	0
Sign Control	Stop			Stop			Free			Free		

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 39.6% ICU Level of Service A

Analysis Period (min) 15



2007 Base Conditions  
Saturday P.M. Peak Hour

4: Meadowside Road/Trinity Hill Road & Route 611



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↖	↕		↖	↕	
Sign Control	Stop			Stop			Free	Free		Free	Free	
Grade	2%			8%			1%				-1%	
Volume (veh/h)	1	0	3	3	6	8	6	1070	1	1	936	1
Peak Hour Factor	0.50	0.50	0.50	0.39	0.39	0.39	0.92	0.92	0.92	0.89	0.89	0.89
Hourly flow rate (vph)	2	0	6	8	15	21	7	1163	1	1	1052	1
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	1677	2232	526	1711	2232	582	1053			1164		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1677	2232	526	1711	2232	582	1053			1164		
tC, single (s)	7.5	6.5	6.9	7.6	6.6	6.9	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 %	95	100	99	86	63	95	99			100		
CM capacity (veh/h)	42	42	496	57	41	456	657			596		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3				
Volume Total	8	44	7	775	389	1	701	352				
Volume Left	2	8	7	0	0	1	0	0				
Volume Right	6	21	0	0	1	0	0	1				
cSH	133	79	657	1700	1700	596	1700	1700				
Volume to Capacity	0.06	0.55	0.01	0.46	0.23	0.00	0.41	0.21				
Queue Length 95th (ft)	5	60	1	0	0	0	0	0				
Control Delay (s)	33.8	96.6	10.5	0.0	0.0	11.1	0.0	0.0				
Lane LOS	D	F	B			B						
Approach Delay (s)	33.8	96.6	0.1			0.0						
Approach LOS	D	F										
Intersection Summary												
Average Delay			2.0									
Intersection Capacity Utilization			39.6%		ICU Level of Service		A					
Analysis Period (min)			15									

2007 Base Conditions  
Saturday P.M. Peak Hour

5: Grange Road/Green Springs Driveway & Route 611



Lane Group	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 (ft)	12	12	12	10	10	10	11	12	12	11	12	12
Grade (%)	0%			9%			2%			-5%		
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt	0.940			0.960			0.995			0.995		
Flt Protected	0.978			0.971			0.950			0.950		
Satd. Flow (prot)	0	1712	0	0	1548	0	1694	3486	0	1753	3610	0
Flt Permitted	0.978			0.971			0.950			0.950		
Satd. Flow (perm)	0	1712	0	0	1548	0	1694	3486	0	1753	3610	0
Headway Factor	1.00	1.00	1.00	1.16	1.16	1.16	1.06	1.01	1.01	1.01	0.97	0.97
Link Speed (mph)	30			30			45			45		
Link Distance (ft)	381			1492			3261			2754		
Travel Time (s)	8.7			33.9			49.4			41.7		
Volume (vph)	28	6	27	31	6	15	25	1021	33	14	880	26
Peak Hour Factor	0.90	0.90	0.90	0.72	0.90	0.72	0.90	0.94	0.94	0.95	0.95	0.90
Adj. Flow (vph)	31	7	30	43	7	21	28	1086	35	15	926	29
Lane Group Flow (vph)	0	68	0	0	71	0	28	1121	0	15	955	0
Sign Control	Stop			Stop			Free			Free		

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 40.1% ICU Level of Service A

Analysis Period (min) 15

2007 Base Conditions  
Saturday P.M. Peak Hour

5: Grange Road/Green Springs Driveway & Route 611



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	
Sign Control		Stop			Stop			Free			Free	
Grade		0%			9%			2%			-5%	
Volume (veh/h)	28	6	27	31	6	15	25	1021	33	14	880	26
Peak Hour Factor	0.90	0.90	0.90	0.72	0.90	0.72	0.90	0.94	0.94	0.95	0.95	0.90
Hourly flow rate (yph)	31	7	30	43	7	21	28	1086	35	15	926	29
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	1593	2147	478	1685	2144	561	955			1121		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1593	2147	478	1685	2144	561	955			1121		
tC, single (s)	7.5	6.5	6.9	7.6	6.6	6.9	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 %	46	85	94	11	85	96	96			98		
cM capacity (veh/h)	58	45	534	48	45	471	715			619		

Direction Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	68	71	28	724	397	15	618	338
Volume Left	31	43	28	0	0	15	0	0
Volume Right	30	21	0	0	35	0	0	29
cSH	91	65	715	1700	1700	619	1700	1700
Volume to Capacity	0.74	1.08	0.04	0.43	0.23	0.02	0.36	0.20
Queue Length 95th (ft)	94	137	3	0	0	2	0	0
Control Delay (s)	114.9	244.4	10.2	0.0	0.0	11.0	0.0	0.0
Lane LOS	F	F	B			B		
Approach Delay (s)	114.9	244.4	0.2			0.2		
Approach LOS	F	F						

Intersection Summary		
Average Delay		11.3
Intersection Capacity Utilization	40.1%	ICU Level of Service
Analysis Period (min)		15
		A

2007 Base Conditions  
Saturday P.M. Peak Hour

6: Woodland Road & School Access



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	11	11
Grade (%)	1%			-3%	0%	
Turning Speed (mph)		9	15		15	9
Lane Util Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	0.988					
Flt Protected				0.999	0.950	
Satd. Flow (prot)	1709	0	0	1763	1711	0
Flt Permitted				0.999	0.950	
Satd. Flow (perm)	1709	0	0	1763	1711	0
Headway Factor	1.10	1.10	1.07	1.07	1.04	1.04
Link Speed (mph)	40			40	25	
Link Distance (ft)	2092			650	499	
Travel Time (s)	35.7			11.1	13.6	
Volume (vph)	65	6	2	59	5	0
Peak Hour Factor	0.92	0.92	0.90	0.90	0.63	0.63
Adj. Flow (vph)	71	7	2	66	8	0
Lane Group Flow (vph)	78	0	0	68	8	0
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type	Other
Control Type	Unsignalized
Intersection Capacity Utilization	14.7%
	ICU Level of Service A
Analysis Period (min)	15





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Sign Control	Free			Free	Stop	
Grade	1%			-3%	0%	
Volume (veh/h)	65	6	2	59	5	0
Peak Hour Factor	0.92	0.92	0.90	0.90	0.63	0.63
Hourly flow rate (vph)	71	7	2	66	8	0
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			77		144	74
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			77		144	74
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		99	100
cM capacity (veh/h)			1521		847	988
Direction, Lane #						
	EB 1	WB 1	NB 1			
Volume Total	77	68	8			
Volume Left	0	2	8			
Volume Right	7	0	0			
cSH	1700	1521	847			
Volume to Capacity	0.05	0.00	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.3	9.3			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.3	9.3			
Approach LOS			A			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			14.7%	ICU Level of Service	A	
Analysis Period (min)			15			





Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔		↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	10	10
Grade (%)	1%			1%	-1%	
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997				0.910	
Flt Protected			0.997		0.984	
Satd. Flow (prot)	1786	0	0	1786	1565	0
Flt Permitted			0.997		0.984	
Satd. Flow (perm)	1786	0	0	1786	1565	0
Headway Factor	1.05	1.05	1.05	1.05	1.09	1.09
Link Speed (mph)	40		40		35	
Link Distance (ft)	650		936		704	
Travel Time (s)	11.1		16.0		13.7	
Volume (vph)	63	2	3	59	2	4
Peak Hour Factor	0.81	0.81	0.85	0.85	0.50	0.50
Adj. Flow (vph)	78	2	4	69	4	8
Lane Group Flow (vph)	80	0	0	73	12	0
Sign Control	Free		Free		Stop	

**Intersection Summary**

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 15.5% ICU Level of Service A

Analysis Period (min) 15



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Sign Control	Free			Free	Stop	
Grade	1%			1%	-1%	
Volume (veh/h)	63	2	3	59	2	4
Peak Hour Factor	0.81	0.81	0.85	0.85	0.50	0.50
Hourly flow rate (vph)	78	2	4	69	4	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			80		155	79
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			80		155	79
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	99
cM capacity (veh/h)			1518		834	981
Direction Lane #	EB 1	WB 1	NB 1			
Volume Total	80	73	12			
Volume Left	0	4	4			
Volume Right	2	0	8			
cSH	1700	1518	927			
Volume to Capacity	0.05	0.00	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.4	8.9			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.4	8.9			
Approach LOS		A				
<b>Intersection Summary</b>						
Average Delay			0.8			
Intersection Capacity Utilization			15.5%	ICU Level of Service	A	
Analysis Period (min)			15			



Lane Group	EBL	FBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	10	10
Grade (%)		-4%	2%		-6%	
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>			0.982		0.949	
Flt Protected		0.999			0.970	
Satd. Flow (prot)	0	1835	1751	0	1648	0
Flt Permitted		0.999			0.970	
Satd. Flow (perm)	0	1835	1751	0	1648	0
Headway Factor	1.02	1.02	1.06	1.06	1.05	1.05
Link Speed (mph)		40	40		35	
Link Distance (ft)		936	819		1342	
Travel Time (s)		16.0	14.0		26.1	
Volume (vph)	2	65	60	9	3	2
Peak Hour Factor	0.95	0.95	0.93	0.93	0.63	0.63
Adj. Flow (vph)	2	68	65	10	5	3
Lane Group Flow (vph)	0	70	75	0	8	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	15.0%
ICU Level of Service	A
Analysis Period (min)	15



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Sign Control		Free	Free		Stop	
Grade		-4%	2%		-6%	
Volume (veh/h)	2	65	60	9	3	2
Peak Hour Factor	0.95	0.95	0.93	0.93	0.63	0.63
Hourly flow rate (vph)	2	68	65	10	5	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	74				142	69
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	74				142	69
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				99	100
cM capacity (veh/h)	1525				850	994
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	71	74	8			
Volume Left	2	0	5			
Volume Right	0	10	3			
cSH	1525	1700	902			
Volume to Capacity	0.00	0.04	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.2	0.0	9.0			
Lane LOS	A		A			
Approach Delay (s)	0.2	0.0	9.0			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			0.6			
Intersection Capacity Utilization			15.0%		ICU Level of Service	A
Analysis Period (min)			15			

2007 Base Conditions  
 Saturday P.M. Peak Hour

9: Woodland Road & Carlton Road



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-3%			-5%		4%
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.998			0.947		
Flt Protected	0.953			0.999		
Satd. Flow (prot)	1678	0	0	1844	1671	0
Flt Permitted	0.953			0.999		
Satd. Flow (perm)	1678	0	0	1844	1671	0
Headway Factor	1.07	1.07	1.01	1.01	1.07	1.07
Link Speed (mph)	40			45	45	
Link Distance (ft)	1794			1439	1446	
Travel Time (s)	30.6			21.8	21.9	
Volume (vph)	67	1	3	110	102	66
Peak Hour Factor	0.82	0.82	0.75	0.75	0.86	0.86
Adj. Flow (vph)	82	1	4	147	119	77
Lane Group Flow (vph)	83	0	0	151	196	0
Sign Control	Stop			Free	Free	

**Intersection Summary**  
 Area Type: Other  
 Control Type: Unsignalized  
 Intersection Capacity Utilization 19.8% ICU Level of Service A  
 Analysis Period (min) 15





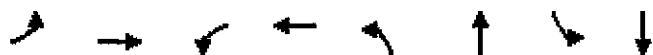
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↑	↑	
Sign Control	Stop			Free	Free	
Grade	-3%			-5%	4%	
Volume (veh/h)	67	1	3	110	102	66
Peak Hour Factor	0.82	0.82	0.75	0.75	0.86	0.86
Hourly flow rate (vph)	82	1	4	147	119	77
<b>Pedestrians</b>						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	312	157	195			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	312	157	195			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	88	100	100			
cM capacity (veh/h)	679	889	1378			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	83	151	195			
Volume Left	82	4	0			
Volume Right	1	0	77			
cSH	682	1378	1700			
Volume to Capacity	0.12	0.00	0.11			
Queue Length 95th (ft)	10	0	0			
Control Delay (s)	11.0	0.2	0.0			
Lane LOS	B	A				
Approach Delay (s)	11.0	0.2	0.0			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			2.2			
Intersection Capacity Utilization			19.8%	ICU Level of Service	A	
Analysis Period (min)			15			

2007 Base Conditions  
Saturday P.M. Peak Hour

10: Route 940 & Carlton Road/Private 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	11	11	11	11	11	11	11	11	11	8	8	8
Grade (%)	-4%			4%			1%			-1%		
Total Lost time (s)	4.0			4.0			4.0			4.0		
Lane Util. Factor	1.00			1.00			1.00			1.00		
Fr't	0.99			1.00			0.88			0.88		
Flt Protected	1.00			0.99			1.00			0.99		
Satd. Flow (prot)	1826			1741			1567			1422		
Flt Permitted	1.00			0.70			0.97			0.95		
Satd. Flow (perm)	1818			1241			1525			1353		
Volume (vph)	3	390	17	151	395	0	17	1	159	1	0	6
Peak-hour factor, PHF	0.84	0.84	0.84	0.93	0.93	0.93	0.71	0.71	0.71	0.88	0.88	0.88
Adj. Flow (vph)	4	464	20	162	425	0	24	1	224	1	0	7
RTOR Reduction (vph)	0	2	0	0	0	0	0	187	0	0	6	0
Lane Group Flow (vph)	0	486	0	0	587	0	0	62	0	0	2	0
Turn Type	Perm			pm+pt			Perm			Perm		
Protected Phases	2			1			6			8		
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	22.2			37.5			8.3			8.3		
Effective Green, g (s)	24.2			39.5			9.3			9.3		
Actuated g/C Ratio	0.43			0.70			0.16			0.16		
Clearance Time (s)	6.0			6.0			5.0			5.0		
Vehicle Extension (s)	6.0			6.0			3.0			3.0		
Lane Grp Cap (vph)	775			962			250			222		
v/s Ratio Prot				c0.12								
v/s Ratio Perm	0.27			c0.30			c0.04			0.00		
v/c Ratio	0.63			0.61			0.25			0.01		
Uniform Delay, d1	12.8			4.6			20.7			19.9		
Progression Factor	1.00			1.00			1.00			1.00		
Incremental Delay, d2	2.7			2.0			0.5			0.0		
Delay (s)	15.5			6.6			21.2			19.9		
Level of Service	B			A			C			B		
Approach Delay (s)	15.5			6.6			21.2			19.9		
Approach LOS	B			A			C			B		
<b>Intersection Summary</b>												
HCM Average Control Delay	12.7			HCM Level of Service			B					
HCM Volume to Capacity ratio	0.54											
Actuated Cycle Length (s)	56.8			Sum of lost time (s)			8.0					
Intersection Capacity Utilization	74.0%			ICU Level of Service			D					
Analysis Period (min)	15											
c Critical Lane Group												



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↕		↕		↕		↕	
Volume (vph)	3	390	151	395	17	1	1	0
Lane Group Flow (vph)	0	488	0	587	0	249	0	8
Turn Type	Perm		pm+pt		Perm		Perm	
Protected Phases		2	1	6		8		4
Permitted Phases	2		6		8		4	
Detector Phases	2	2	1	6	1	8	4	4
Minimum Initial (s)	10.0	10.0	4.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	16.0	16.0	10.0	16.0	11.0	11.0	11.0	11.0
Total Split (s)	49.0	49.0	17.0	66.0	21.0	21.0	21.0	21.0
Total Split (%)	56.3%	56.3%	19.5%	75.9%	24.1%	24.1%	24.1%	24.1%
Yellow Time (s)	4.5	4.5	4.0	4.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5	1.5	1.5
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	Min	Min	None	Min	None	None	None	None
v/c Ratio		0.64		0.62		0.57		0.03
Control Delay		15.1		6.1		8.5		16.3
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		15.1		6.1		8.5		16.3
Queue Length 50th (ft)		117		58		7		0
Queue Length 95th (ft)		224		172		33		12
Internal Link Dist (ft)		1322		1070		1366		73
Turn Bay Length (ft)								
Base Capacity (vph)		1059		1184		576		380
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		0.46		0.50		0.43		0.02

Intersection Summary

Cycle Length: 87

Actuated Cycle Length: 57.4

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Splits and Phases: 10: Route 940 & Carlton Road/Private Driveway

 17 s	 49 s	 21 s
 66 s	 21 s	 21 s

2007 Base Conditions  
Saturday P.M. Peak Hour

11: Route 940 & Route 390



Movement	EBE	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↗		↘	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	14	14
Grade (%)		-2%	2%		-4%	
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		1.00	1.00		1.00	
Fr <sub>t</sub>		1.00	0.99		0.88	
Flt Protected		0.98	1.00		0.99	
Satd. Flow (prot)		1757	1768		1775	
Flt Permitted		0.52	1.00		0.99	
Satd. Flow (perm)		936	1768		1775	
Volume (vph)	276	274	257	17	38	289
Peak-hour factor, PHF	0.79	0.79	0.84	0.84	0.81	0.81
Adj. Flow (vph)	349	347	306	20	47	357
RTOR Reduction (vph)	0	0	2	0	269	0
Lane Group Flow (vph)	0	696	324	0	135	0
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Turn Type	pm+pt					
Protected Phases	5	2	6		4	
Permitted Phases	2					
Actuated Green, G (s)		57.3	34.8		11.3	
Effective Green, g (s)		59.3	36.8		13.3	
Actuated g/C Ratio		0.74	0.46		0.17	
Clearance Time (s)		6.0	6.0		6.0	
Vehicle Extension (s)		6.0	6.0		3.0	
Lane Grp Cap (vph)		877	807		293	
v/s Ratio Prot		c0.18	0.18		c0.08	
v/s Ratio Perm		c0.40				
v/c Ratio		0.79	0.40		0.46	
Uniform Delay, d1		6.8	14.6		30.4	
Progression Factor		1.00	1.00		1.00	
Incremental Delay, d2		6.1	0.9		1.2	
Delay (s)		12.8	15.5		31.6	
Level of Service		B	B		C	
Approach Delay (s)		12.8	15.5		31.6	
Approach LOS		B	B		C	
<b>Intersection Summary</b>						
HCM Average Control Delay			18.7		HCM Level of Service	B
HCM Volume to Capacity ratio			0.73			
Actuated Cycle Length (s)			80.6		Sum of lost time (s)	8.0
Intersection Capacity Utilization			74.2%		ICU Level of Service	D
Analysis Period (min)			15			

c Critical Lane Group

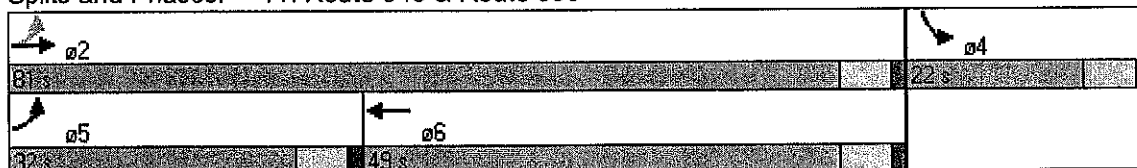




Lane Group	EBL	EBT	WBT	SBL
Lane Configurations		↕	↕	↕
Volume (vph)	276	274	257	38
Lane Group Flow (vph)	0	696	326	404
Turn Type	pm+pt			
Protected Phases	5	2	6	4
Permitted Phases	2			
Detector Phases	5	2 5	6	4
Minimum Initial (s)	4.0	10.0	10.0	7.0
Minimum Split (s)	10.0	16.0	16.0	13.0
Total Split (s)	32.0	81.0	49.0	22.0
Total Split (%)	31.1%	78.6%	47.6%	21.4%
Yellow Time (s)	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	Min	Min	None
v/c Ratio		0.82	0.42	0.72
Control Delay		8.5	17.0	14.3
Queue Delay		0.0	0.0	0.0
Total Delay		8.5	17.0	14.3
Queue Length 50th (ft)		119	101	47
Queue Length 95th (ft)		183	198	105
Internal Link Dist (ft)		491	1298	1171
Turn Bay Length (ft)				
Base Capacity (vph)		1030	932	646
Starvation Cap Reductn		0	0	0
Spillback Cap Reductn		0	0	0
Storage Cap Reductn		0	0	0
Reduced v/c Ratio		0.68	0.35	0.63

**Intersection Summary**  
 Cycle Length: 103  
 Actuated Cycle Length: 82  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord

Splits and Phases: 11: Route 940 & Route 390







Lane Group	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 (ft)	11	11	11	11	11	11	8	8	8	11	11	11
Grade (%)		-2%			2%			-3%			-1%	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.964			0.973			0.970	
Flt Protected		0.994			0.999			0.983			0.967	
Satd. Flow (prot)	0	1787	0	0	1717	0	0	1567	0	0	1697	0
Flt Permitted		0.994			0.999			0.983			0.967	
Satd. Flow (perm)	0	1787	0	0	1717	0	0	1567	0	0	1697	0
Headway Factor	1.03	1.03	1.03	1.06	1.06	1.06	1.18	1.18	1.18	1.04	1.04	1.04
Link Speed (mph)		45			45			35			45	
Link Distance (ft)		1662			865			282			1220	
Travel Time (s)		25.2			13.1			5.5			18.5	
Volume (vph)	37	271	4	4	243	89	3	4	2	87	11	28
Peak Hour Factor	0.89	0.89	0.89	0.81	0.81	0.81	0.45	0.45	0.45	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	42	304	4	5	300	110	7	9	4	99	13	32
Lane Group Flow (vph)	0	350	0	0	415	0	0	20	0	0	143	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	58.5%
	ICU Level of Service B
Analysis Period (min)	15



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEB	SEB	SBR								
Lane Configurations	↕			↕			↕			↕										
Sign Control	Free			Free			Stop			Stop										
Grade	-2%			2%			-3%			-1%										
Volume (veh/h)	37	271	4	4	243	89	3	4	2	87	11	28								
Peak Hour Factor	0.89	0.89	0.89	0.81	0.81	0.81	0.45	0.45	0.45	0.88	0.88	0.88								
Hourly flow rate (vph)	42	304	4	5	300	110	7	9	4	99	12	32								
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	410				309				793		810		307		764		757		355	
vC1, stage 1 conf vol																				
vC2, stage 2 conf vol																				
vCu, unblocked vol	410				309				793		810		307		764		757		355	
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				100				98		97		99		67		96		95	
cM capacity (veh/h)	1144				1252				275		302		733		302		324		689	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1																
Volume Total	351	415	20	143																
Volume Left	42	5	7	99																
Volume Right	4	110	4	32																
cSH	1144	1252	335	348																
Volume to Capacity	0.04	0.00	0.06	0.41																
Queue Length 95th (ft)	3	0	5	49																
Control Delay (s)	1.3	0.1	16.4	22.4																
Lane LOS	A	A	C	C																
Approach Delay (s)	1.3	0.1	16.4	22.4																
Approach LOS			C	C																
<b>Intersection Summary</b>																				
Average Delay			4.4																	
Intersection Capacity Utilization			58.5%		ICU Level of Service	B														
Analysis Period (min)			15																	

**2007 PROJECTED CONDITIONS**

2007 Projected Conditions - With Site-Related Recommendations  
 Friday P.M. Peak Hour

1: Route 314 (Eastern Leg) & Route 611



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙	↗	↕	↕	↙	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	13	12	11	11	11	12
Grade (%)	-6%		2%			-5%
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.97		1.00	1.00
Frt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1883	1631	3334		1753	3628
Frt Permitted	0.95	1.00	1.00		0.07	1.00
Satd. Flow (perm)	1883	1631	3334		127	3628
Volume (vph)	345	142	1659	343	119	1229
Peak-hour factor, PHF	0.83	0.83	0.98	0.98	0.83	0.83
Adj Flow (vph)	416	171	1693	350	143	1481
RTOR Reduction (vph)	0	58	0	0	0	0
Lane Group Flow (vph)	416	113	2043	0	143	1481
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Turn Type		Perm			pm+pt	
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	21.7	21.7	50.0		62.9	62.9
Effective Green, g (s)	24.7	24.7	54.0		66.9	66.9
Actuated g/C Ratio	0.25	0.25	0.54		0.67	0.67
Clearance Time (s)	7.0	7.0	8.0		6.0	8.0
Vehicle Extension (s)	3.0	3.0	6.0		3.0	6.0
Lane Grp Cap (vph)	467	404	1808		231	2437
v/s Ratio Prot	c0.22		c0.61		0.06	c0.41
v/s Ratio Perm		0.07			0.36	
v/c Ratio	0.89	0.28	1.13		0.62	0.61
Uniform Delay, d1	36.1	30.3	22.8		25.0	9.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	18.8	0.4	66.1		4.9	0.8
Delay (s)	54.9	30.6	88.9		29.9	9.8
Level of Service	D	C	F		C	A
Approach Delay (s)	47.8		88.9			11.6
Approach LOS	D		F			B

Intersection Summary			
HCM Average Control Delay		53.7	HCM Level of Service D
HCM Volume to Capacity ratio		1.02	
Actuated Cycle Length (s)		99.6	Sum of lost time (s) 12.0
Intersection Capacity Utilization		92.5%	ICU Level of Service F
Analysis Period (min)		15	

c Critical Lane Group

2007 Projected Conditions - With Site-Related Recommendations  
 Friday P.M. Peak Hour

1: Route 314 (Eastern Leg) & Route 611

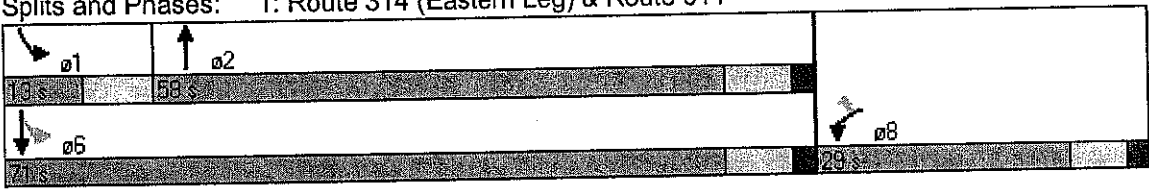


Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↙	↗	↑↑	↘	↓↓
Volume (vph)	345	142	1659	119	1229
Lane Group Flow (vph)	416	171	2043	143	1481
Turn Type	Perm		pm+pt		
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phases	8	8	2	1	6
Minimum Initial (s)	1.0	1.0	15.0	1.0	15.0
Minimum Split (s)	8.0	8.0	23.0	7.0	23.0
Total Split (s)	29.0	29.0	58.0	13.0	71.0
Total Split (%)	29.0%	29.0%	58.0%	13.0%	71.0%
Yellow Time (s)	5.0	5.0	6.0	6.0	6.0
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
v/c Ratio	0.89	0.37	1.13	0.62	0.61
Control Delay	57.9	19.5	90.3	27.6	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	57.9	19.5	90.3	27.6	10.4
Queue Length 50th (ft)	256	48	~802	36	247
Queue Length 95th (ft)	#369	94	#941	88	265
Internal Link Dist (ft)	1091		2024		1031
Turn Bay Length (ft)		72		175	
Base Capacity (vph)	472	466	1808	232	2439
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	0.88	0.37	1.13	0.62	0.61

Intersection Summary

Cycle Length: 100  
 Actuated Cycle Length: 99.6  
 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: 1: Route 314 (Eastern Leg) & Route 611





2007 Projected Conditions - With Site-Related Recommendations

Friday P.M. Peak Hour

2: Route 314 (Western Leg) & Route 611



Lane Group	EBL	EBR	NBL	NBT	SEB	SEB
Lane Configurations	↙	↗	↙	↕	↕	↘
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	12	12	12	12
Grade (%)	4%			7%	-6%	
Storage Length (ft)	50	0	143			0
Storage Lanes	1	1	1			0
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.992	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1587	1420	1708	3415	3581	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1587	1420	1708	3415	3581	0
Headway Factor	1.12	1.12	1.05	1.05	0.96	0.96
Link Speed (mph)	40			45	45	
Link Distance (ft)	3960			1111	2283	
Travel Time (s)	67.5			16.8	34.6	
Volume (vph)	41	164	328	1473	1184	64
Peak Hour Factor	0.67	0.67	0.95	0.95	0.76	0.76
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%
Adj. Flow (vph)	61	245	345	1551	1558	84
Lane Group Flow (vph)	61	245	345	1551	1642	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	66.3%
	ICU Level of Service C
Analysis Period (min)	15

2007 Projected Conditions - With Site-Related Recommendations

Friday P.M. Peak Hour

2: Route 314 (Western Leg) & Route 611



Movement	EB1	EB2	NB1	NB2	SB1	SB2	
Lane Configurations	↖	↗	↖	↑↑	↑↑		
Sign Control	Stop			Free	Free		
Grade	4%			7%	-6%		
Volume (veh/h)	41	164	328	1473	1184	64	
Peak Hour Factor	0.67	0.67	0.95	0.95	0.76	0.76	
Hourly flow rate (vph)	61	245	345	1551	1558	84	
<b>Pedestrians</b>							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage veh							
Upstream signal (ft)	1111						
pX, platoon unblocked	0.50						
vC, conflicting volume	3066	821	1642				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	4140	821	1642				
tC, single (s)	6.9	7.0	4.1				
tC, 2 stage (s)							
IF (s)	3.5	3.3	2.2				
p0 queue free %	0	22	12				
cM capacity (veh/h)	0	313	390				
<b>Direction Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>NB 1</b>	<b>NB 2</b>	<b>NB 3</b>	<b>SB 1</b>	<b>SB 2</b>
Volume Total	61	245	345	775	775	1039	604
Volume Left	61	0	345	0	0	0	0
Volume Right	0	245	0	0	0	0	84
cSH	0	313	390	1700	1700	1700	1700
Volume to Capacity	697.14	0.78	0.88	0.46	0.46	0.61	0.36
Queue Length 95th (ft)	Err	155	223	0	0	0	0
Control Delay (s)	Err	47.7	54.2	0.0	0.0	0.0	0.0
Lane LOS	F	E	F				
Approach Delay (s)	2038.0		9.9		0.0		
Approach LOS	F						
<b>Intersection Summary</b>							
Average Delay	167.1						
Intersection Capacity Utilization	66.3%			ICU Level of Service			C
Analysis Period (min)	15						

2007 Projected Conditions - With Site-Related Recommendations

Friday P.M. Peak Hour

3: Woodland Road/Private Driveway & Route 611



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	15	15	15	12	12	14	11	12	14	11	12	12
Grade (%)		6%			5%			3%				-7%
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt		0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98		0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1863		1639	1646	1647	1685	3486	1664	1770	3659	
Flt Permitted		0.98		0.95	0.95	1.00	0.26	1.00	1.00	0.14	1.00	
Satd. Flow (perm)		1863		1639	1646	1647	459	3486	1664	267	3659	
Volume (vph)	4	2	3	348	7	139	5	1064	445	137	897	7
Peak-hour factor, PHF	0.56	0.56	0.56	0.89	0.89	0.89	0.99	0.99	0.99	0.82	0.82	0.82
Adj. Flow (vph)	7	4	5	391	8	156	5	1075	449	167	1094	9
RTOR Reduction (vph)	0	5	0	0	0	109	0	0	182	0	1	0
Lane Group Flow (vph)	0	11	0	196	203	47	5	1075	267	167	1102	0
Turn Type	Split		Split		pm+ov	Perm	pm+ov		pm+pt			
Protected Phases	4	4	8		8	1	2		8	1	6	
Permitted Phases						8	2	2		6		
Actuated Green, G (s)	0.6		10.4		10.4	15.1	20.4	20.4	30.8	30.6	30.6	
Effective Green, g (s)	2.6		12.4		12.4	18.6	23.9	23.9	36.3	34.1	34.1	
Actuated g/C Ratio	0.04		0.20		0.20	0.30	0.39	0.39	0.59	0.56	0.56	
Clearance Time (s)	6.0		6.0		6.0	5.5	7.5	7.5	6.0	5.5	7.5	
Vehicle Extension (s)	3.0		3.0		3.0	3.0	5.0	5.0	3.0	3.0	5.0	
Lane Grp Cap (vph)	79		333		334	609	180	1364	989	302	2042	
v/s Ratio Prot	c0.01		0.12		c0.12	0.01		c0.31	0.05	0.06	c0.30	
v/s Ratio Perm						0.02	0.01		0.11	0.25		
v/c Ratio	0.14		0.59		0.61	0.08	0.03	0.79	0.27	0.55	0.54	
Uniform Delay, d1	28.2		22.0		22.1	15.1	11.4	16.4	6.0	9.7	8.5	
Progression Factor	1.00		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8		2.7		3.1	0.1	0.1	3.6	0.1	2.2	0.5	
Delay (s)	29.0		24.7		25.3	15.2	11.6	20.0	6.1	11.9	9.0	
Level of Service	C		C		C	B	B	B	A	B	A	
Approach Delay (s)	29.0				22.2			15.9			9.4	
Approach LOS	C				C			B			A	

Intersection Summary			
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	61.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

2007 Projected Conditions - With Site-Related Recommendations

Friday P.M. Peak Hour

3: Woodland Road/Private Driveway & Route 611



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔	↖	↗	↗	↖	↕	↗	↖	↕
Volume (vph)	2	348	7	139	5	1064	445	137	897
Lane Group Flow (vph)	16	196	203	156	5	1075	449	167	1103
Turn Type		Split		pm+ov	Perm		pm+ov	pm+pt	
Protected Phases	4	8	8	1		2	8	1	6
Permitted Phases				8	2		2	6	
Detector Phases	4	8	8	1	2	2	8	1	6
Minimum Initial (s)	4.0	7.0	7.0	4.0	10.0	10.0	7.0	4.0	10.0
Minimum Split (s)	10.0	13.0	13.0	9.5	17.5	17.5	13.0	9.5	17.5
Total Split (s)	10.0	17.0	17.0	12.0	31.0	31.0	17.0	12.0	43.0
Total Split (%)	14.3%	24.3%	24.3%	17.1%	44.3%	44.3%	24.3%	17.1%	61.4%
Yellow Time (s)	4.0	4.0	4.0	5.5	5.5	5.5	4.0	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0
Lead/Lag				Lead	Lag	Lag		Lead	
Lead-Lag Optimize?				Yes	Yes	Yes		Yes	
Recall Mode	None	None	None	None	Min	Min	None	None	Min
v/c Ratio	0.09	0.53	0.55	0.21	0.03	0.71	0.33	0.48	0.51
Control Delay	26.0	28.0	28.5	3.7	12.2	16.8	1.1	11.6	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.0	28.0	28.5	3.7	12.2	16.8	1.1	11.6	7.6
Queue Length 50th (ft)	4	66	69	0	1	153	0	19	86
Queue Length 95th (ft)	12	#163	#171	33	8	285	14	59	167
Internal Link Dist (ft)	105		2012			2203			2327
Turn Bay Length (ft)		250		250	73		350	183	
Base Capacity (vph)	187	397	399	758	216	1638	1361	351	2345
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.49	0.51	0.21	0.02	0.66	0.33	0.48	0.47

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 55.7

Natural Cycle: 60

Control Type: Semi Act-Uncoord

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Woodland Road/Private Driveway & Route 611

01	02	04	08
12 s	31 s	10 s	17 s
06			
49 s			



2007 Projected Conditions - With Site-Related Recommendations

Friday P.M. Peak Hour

4: Meadowside Road/Trinity Hill Road & Route 611



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEB	SET	SEB
Lane Configurations	↕			↕			↗	↕		↗	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	12	12	12	11	12	12	11	12	12
Grade (%)	2%			8%			1%		-1%			
Storage Length (ft)	0	0	0	0	0	0	100	0	0	100	0	0
Storage Lanes	0	0	0	0	0	0	1	0	0	1	0	0
Turning Speed (mph)	15	9	15	9	15	9	15	9	15	9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Fr <sub>t</sub>	0.865			0.882			0.950		0.950			
Fr <sub>t</sub> Protected	0.997			0.997			0.950		0.950			
Satd. Flow (prot)	0	1648	0	0	1572	0	1702	3522	0	1670	3455	0
Fr <sub>t</sub> Permitted	0.997			0.997			0.950		0.950			
Satd. Flow (perm)	0	1648	0	0	1572	0	1702	3522	0	1670	3455	0
Headway Factor	0.97	0.97	0.97	1.05	1.05	1.05	1.05	1.01	1.01	1.04	0.99	0.99
Link Speed (mph)	35			35			45		45			
Link Distance (ft)	158			1027			2407		3261			
Travel Time (s)	3.1			20.0			36.5		49.4			
Volume (vph)	0	0	3	1	1	14	3	1202	1	11	1037	1
Peak Hour Factor	0.75	0.75	0.75	0.50	0.50	0.50	0.97	0.97	0.97	0.83	0.83	0.83
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	0	0	4	2	2	28	3	1239	1	13	1249	1
Lane Group Flow (vph)	0	4	0	0	32	0	3	1240	0	13	1250	0
Sign Control	Stop			Stop			Free		Free			

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	43.3%
	ICU Level of Service A
Analysis Period (min)	15



2007 Projected Conditions - With Site-Related Recommendations

Friday P.M. Peak Hour

4: Meadowside Road/Trinity Hill Road & Route 611



Movement	EB	EB	EBR	WB	WB	WBR	NB	NBT	NBR	SB	SB	SB
Lane Configurations	↕			↕			↖	↕		↖	↕	↖
Sign Control	Stop			Stop			Free				Free	
Grade	2%			8%			1%				-1%	
Volume (veh/h)	0	0	3	1	1	14	3	1202	1	11	1037	1
Peak Hour Factor	0.75	0.75	0.75	0.50	0.50	0.50	0.97	0.97	0.97	0.83	0.83	0.83
Hourly flow rate (vph)	0	0	4	2	2	28	3	1239	1	13	1249	1
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	1931	2523	625	1901	2523	620	1251				1240	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1931	2523	625	1901	2523	620	1251				1240	
tC, single (s)	7.5	6.5	6.9	7.6	6.6	6.9	4.1				4.2	
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	99	95	92	93	99				98	
cM capacity (veh/h)	34	27	427	40	26	430	552				541	

Direction Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	4	32	3	826	414	13	833	418
Volume Left	0	2	3	0	0	13	0	0
Volume Right	4	28	0	0	1	0	0	1
cSH	427	168	552	1700	1700	541	1700	1700
Volume to Capacity	0.01	0.19	0.01	0.49	0.24	0.02	0.49	0.25
Queue Length 95th (ft)	1	17	0	0	0	2	0	0
Control Delay (s)	13.5	31.4	11.6	0.0	0.0	11.8	0.0	0.0
Lane LOS	B	D	B			B		
Approach Delay (s)	13.5	31.4	0.0			0.1		
Approach LOS	B	D						

Intersection Summary		
Average Delay		0.5
Intersection Capacity Utilization	43.3%	ICU Level of Service
Analysis Period (min)		15
		A

2007 Projected Conditions - With Site-Related Recommendations

Friday P.M. Peak Hour

5: Grange Road/Green Springs Driveway & Route 611



Link Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SB	SBT	SBR
Lane Configurations	↕			↕			↗	↕	↗	↗	↕	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	10	10	10	11	12	12	11	12	12
Grade (%)	0%			9%			2%			-5%		
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt	0.938			0.937			0.998			0.996		
Flt Protected	0.978			0.983			0.950			0.950		
Satd. Flow (prot)	0	1709	0	0	1529	0	1694	3497	0	1753	3613	0
Flt Permitted	0.978			0.983			0.950			0.950		
Satd. Flow (perm)	0	1709	0	0	1529	0	1694	3497	0	1753	3613	0
Headway Factor	1.00	1.00	1.00	1.16	1.16	1.16	1.06	1.01	1.01	1.01	0.97	0.97
Link Speed (mph)	30			30			45			45		
Link Distance (ft)	294			1492			3261			2754		
Travel Time (s)	6.7			33.9			49.4			41.7		
Volume (vph)	20	4	20	12	7	16	31	1167	18	19	1017	31
Peak Hour Factor	0.90	0.90	0.90	0.75	0.90	0.75	0.90	0.97	0.97	0.77	0.77	0.90
Adj. Flow (vph)	22	4	22	16	8	21	34	1208	19	25	1321	34
Lane Group Flow (vph)	0	48	0	0	45	0	34	1222	0	25	1355	0
Sign Control	Stop			Stop			Free			Free		

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 43.3% ICU Level of Service A

Analysis Period (min) 15

2007 Projected Conditions - With Site-Related Recommendations

Friday P.M. Peak Hour

5: Grange Road/Green Springs Driveway & Route 611



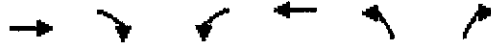
Movement	EB1	EB2	EB3	WB1	WB2	WB3	NB1	NB2	NB3	SB1	SB2	SB3
Lane Configurations	↕			↕			↖	↕		↖	↕	
Sign Control	Stop			Stop			Free		Free			
Grade	0%			9%			2%		-5%			
Volume (veh/h)	20	4	20	12	7	16	31	1167	18	19	1017	31
Peak Hour Factor	0.90	0.90	0.90	0.75	0.90	0.75	0.90	0.97	0.97	0.77	0.77	0.90
Hourly flow rate (vph)	22	4	22	16	8	21	34	1203	19	25	1321	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	2083	2678	678	2015	2686	611	1355			1222		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2083	2678	678	2015	2686	611	1355			1222		
tC, single (s)	7.5	6.5	6.9	7.6	6.6	6.9	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	77	94	34	59	95	93			96		
cM capacity (veh/h)	18	19	395	24	19	436	504			566		

Direction Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	49	45	34	802	420	25	881	475
Volume Left	22	16	34	0	0	25	0	0
Volume Right	22	21	0	0	19	0	0	34
cSH	32	40	504	1700	1700	566	1700	1700
Volume to Capacity	1.51	1.12	0.07	0.47	0.25	0.04	0.52	0.28
Queue Length 95th (ft)	136	111	5	0	0	3	0	0
Control Delay (s)	527.4	334.5	12.7	0.0	0.0	11.6	0.0	0.0
Lane LOS	F	F	B				B	
Approach Delay (s)	527.4	334.5	0.3				0.2	
Approach LOS	F	F						

Intersection Summary			
Average Delay	15.2		
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		

2007 Projected Conditions - With Site-Related Recommendations  
 Friday P.M. Peak Hour

6: Woodland Road & School Access



Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Configurations	↑	↗	↖	↑	↘	↙
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	14	11	11
Grade (%)	1%			-3%	0%	
Storage Length (ft)		250	100		0	0
Storage Lanes		1	1		1	0
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.962	
Flt Protected			0.950		0.965	
Satd. Flow (prot)	1767	1602	1728	1941	1672	0
Flt Permitted			0.950		0.965	
Satd. Flow (perm)	1767	1602	1728	1941	1672	0
Headway Factor	1.01	0.92	0.98	0.90	1.04	1.04
Link Speed (mph)	40			40	25	
Link Distance (ft)	2092			650	499	
Travel Time (s)	35.7			11.1	13.6	
Volume (vph)	546	38	16	446	48	19
Peak Hour Factor	0.82	0.82	0.79	0.79	0.53	0.53
Heavy Vehicles (%)	7%	7%	6%	6%	2%	2%
Adj. Flow (vph)	666	46	20	565	91	36
Lane Group Flow (vph)	666	46	20	565	127	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	39.2%
	ICU Level of Service A
Analysis Period (min)	15



2007 Projected Conditions - With Site-Related Recommendations  
 Friday P.M. Peak Hour

6: Woodland Road & School Access



Movement	EB1	EB2	WB1	WB2	NB1	NB2
Lane Configurations	↑	↑	↑	↑	↑	↑
Sign Control	Free			Free	Stop	
Grade	1%			-3%	0%	
Volume (veh/h)	546	38	16	446	48	19
Peak Hour Factor	0.82	0.82	0.79	0.79	0.53	0.53
Hourly flow rate (vph)	666	46	20	565	91	36

Pedestrians

Lane Width (ft)	
Walking Speed (ft/s)	
Percent Blockage	
Right turn flare (veh)	

Median type	TWLT
Median storage (veh)	1

Upstream signal (ft)	
pX, platoon unblocked	
vC, conflicting volume	712
vC1, stage 1 conf vol	1271
vC2, stage 2 conf vol	666
vCu, unblocked vol	605
tC, single (s)	712
tC, 2 stage (s)	1271
tF (s)	666
p0 queue free %	4.2
cM capacity (veh/h)	6.4
	6.2
	5.4
	2.3
	3.5
	3.3
	98
	72
	92

Direction Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	666	46	20	565	126
Volume Left	0	0	20	0	91
Volume Right	0	46	0	0	36
cSH	1700	1700	869	1700	351
Volume to Capacity	0.39	0.03	0.02	0.33	0.36
Queue Length 95th (ft)	0	0	2	0	40
Control Delay (s)	0.0	0.0	9.2	0.0	20.9
Lane LOS			A		C
Approach Delay (s)	0.0		0.3		20.9
Approach LOS					C

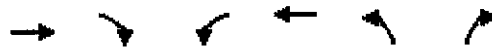
Intersection Summary

Average Delay	2.0
Intersection Capacity Utilization	39.2%
ICU Level of Service	A
Analysis Period (min)	15



2007 Projected Conditions - With Site-Related Recommendations  
 Friday P.M. Peak Hour

7: Woodland Road & Bowman Road



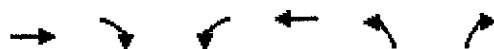
Lane Group	EBT	EBR	WBT	WBR	NBT	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	14	10	10
Grade (%)	1%			1%	-1%	
Storage Length (ft)		250	100		0	0
Storage Lanes		1	1		1	0
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.908	
Flt Protected			0.950		0.984	
Satd. Flow (prot)	1853	1680	1727	1939	1561	0
Flt Permitted			0.950		0.984	
Satd. Flow (perm)	1853	1680	1727	1939	1561	0
Headway Factor	1.01	0.92	1.01	0.92	1.09	1.09
Link Speed (mph)	40			40	35	
Link Distance (ft)	650			936	704	
Travel Time (s)	11.1			16.0	13.7	
Volume (vph)	532	33	57	424	38	80
Peak Hour Factor	0.72	0.72	0.80	0.80	0.90	0.90
Heavy Vehicles (%)	2%	2%	4%	4%	2%	2%
Adj. Flow (vph)	739	46	71	530	42	89
Lane Group Flow (vph)	739	46	71	530	131	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	48.4%
ICU Level of Service	A
Analysis Period (min)	15

2007 Projected Conditions - With Site-Related Recommendations  
 Friday P.M. Peak Hour

7: Woodland Road & Bowman Road



Movement	EB	EB2	WB1	WB2	NB1	NB2
Lane Configurations	↑	↑	↑	↑	↑	↑
Sign Control	Free			Free	Stop	
Grade	1%			1%	-1%	
Volume (veh/h)	532	33	57	424	38	80
Peak Hour Factor	0.72	0.72	0.80	0.80	0.90	0.90
Hourly flow rate (vph)	739	46	71	530	42	89
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type TWLTL						
Median storage veh 1						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume 785 1411 739						
vC1, stage 1 conf vol 739						
vC2, stage 2 conf vol 672						
vCu, unblocked vol 785 1411 739						
tC, single (s) 4.1 6.4 6.2						
tC, 2 stage (s) 5.4						
IF (s) 2.2 3.5 3.3						
p0 queue free % 91 85 79						
cM capacity (veh/h) 825 277 417						
Direction Lane #						
EB 1 EB 2 WB 1 WB 2 NB 1						
Volume Total	739	46	71	530	131	
Volume Left	0	0	71	0	42	
Volume Right	0	46	0	0	89	
cSH	1700	1700	825	1700	359	
Volume to Capacity	0.43	0.03	0.09	0.31	0.37	
Queue Length 95th (ft)	0	0	7	0	41	
Control Delay (s)	0.0	0.0	9.8	0.0	20.7	
Lane LOS			A		C	
Approach Delay (s)	0.0		1.2		20.7	
Approach LOS					C	
Intersection Summary						
Average Delay 2.2						
Intersection Capacity Utilization 48.4% ICU Level of Service A						
Analysis Period (min) 15						

2007 Projected Conditions - With Site-Related Recommendations

Friday P.M. Peak Hour

8: Woodland Road & Meadowside Road



Lane Group	EBL	EBT	WBL	WBR	SBL	SBR
Lane Configurations	↗	↖	↕		↘	↙
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	14	14	10	10
Grade (%)		-4%	2%		-6%	
Storage Length (ft)	100			0	0	0
Storage Lanes	1			0	1	0
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ft			0.999		0.973	
Flt Protected	0.950				0.962	
Satd. Flow (prot)	1805	2027	1927	0	1676	0
Flt Permitted	0.950				0.962	
Satd. Flow (perm)	1805	2027	1927	0	1676	0
Headway Factor	0.97	0.89	0.93	0.93	1.05	1.05
Link Speed (mph)		40	40		35	
Link Distance (ft)		936	400		1342	
Travel Time (s)		16.0	6.8		26.1	
Volume (vph)	2	610	479	5	8	2
Peak Hour Factor	0.84	0.84	0.77	0.77	0.50	0.50
Heavy Vehicles (%)	2%	2%	4%	4%	2%	2%
Adj. Flow (vph)	2	726	622	6	16	4
Lane Group Flow (vph)	2	726	628	0	20	0
Sign Control		Free	Free		Stop	

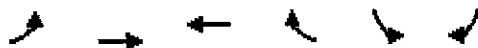
Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	42.1%
	ICU Level of Service A
Analysis Period (min)	15

2007 Projected Conditions - With Site-Related Recommendations

Friday P.M. Peak Hour

8: Woodland Road & Meadowside Road



Movement	EB1	EB2	WB1	WB2	SB1	SB2
Lane Configurations	↘	↑	↗		↘	↘
Sign Control		Free	Free		Stop	
Grade		-4%	2%		-6%	
Volume (veh/h)	2	610	479	5	8	2
Peak Hour Factor	0.84	0.84	0.77	0.77	0.50	0.50
Hourly flow rate (vph)	2	726	622	6	16	4

Pedestrians

Lane Width (ft)

Walking Speed (ft/s)

Percent Blockage

Right turn flare (veh)

Median type TWLTL

Median storage veh 1

Upstream signal (ft)

pX, platoon unblocked

vC, conflicting volume	629		1356	625
vC1, stage 1 conf vol			625	
vC2, stage 2 conf vol			731	
vCu, unblocked vol	629		1356	625
tC, single (s)	4.1		6.4	6.2
tC, 2 stage (s)			5.4	
tF (s)	2.2		3.5	3.3
p0 queue free %	100		95	99
cM capacity (veh/h)	953		305	485

Direction Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	2	726	629	20
Volume Left	2	0	0	16
Volume Right	0	0	6	4
cSH	953	1700	1700	329
Volume to Capacity	0.00	0.43	0.37	0.06
Queue Length 95th (ft)	0	0	0	5
Control Delay (s)	8.8	0.0	0.0	16.6
Lane LOS	A			C
Approach Delay (s)	0.0		0.0	16.6
Approach LOS				C

Intersection Summary

Average Delay	0.3
Intersection Capacity Utilization	42.1%
ICU Level of Service	A
Analysis Period (min)	15



2007 Projected Conditions - With Site-Related Recommendations  
 Friday P.M. Peak Hour

9: Woodland Road & Carlton Road



Lane Group	EBL	EBR	NBL	NBT	SEB	SBR
Lane Configurations	↙ ↘		↑		↘ ↙	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-3%		-5%		4%	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992			0.920		
Flt Protected	0.955			0.997		
Satd. Flow (prot)	1672	0	0	1840	1608	0
Flt Permitted	0.955			0.997		
Satd. Flow (perm)	1672	0	0	1840	1608	0
Headway Factor	1.07	1.07	1.01	1.01	1.07	1.07
Link Speed (mph)	40		45		45	
Link Distance (ft)	1794		1439		1446	
Travel Time (s)	30.6		21.8		21.9	
Volume (vph)	158	10	11	152	127	187
Peak Hour Factor	0.82	0.82	0.96	0.96	0.81	0.81
Heavy Vehicles (%)	2%	2%	2%	2%	3%	3%
Adj. Flow (vph)	193	12	11	158	157	231
Lane Group Flow (vph)	205	0	0	169	388	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	34.2%
ICU Level of Service	A
Analysis Period (min)	15



2007 Projected Conditions - With Site-Related Recommendations

Friday P.M. Peak Hour

9: Woodland Road & Carlton Road



Movement	EBL	EBR	NB	NBL	SB	SBL
Lane Configurations	T			4	4	
Sign Control	Stop			Free	Free	
Grade	-3%			-5%	4%	
Volume (veh/h)	158	10	11	152	127	187
Peak Hour Factor	0.82	0.82	0.96	0.96	0.81	0.81
Hourly flow rate (vph)	193	12	11	158	157	231
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	453	272	388			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	453	272	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 %	66	98	99			
cM capacity (veh/h)	559	767	1171			
Direction Lane #						
	EB 1	EB 1	NB 1	SB 1		
Volume Total	205	170	388			
Volume Left	193	11	0			
Volume Right	12	0	231			
cSH	568	1171	1700			
Volume to Capacity	0.36	0.01	0.23			
Queue Length 95th (ft)	41	1	0			
Control Delay (s)	14.9	0.6	0.0			
Lane LOS	B	A				
Approach Delay (s)	14.9	0.6	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			4.1			
Intersection Capacity Utilization			34.2%	ICU Level of Service	A	
Analysis Period (min)			15			

2007 Projected Conditions - With Site-Related Recommendations

Friday P.M. Peak Hour

10: Route 940 & Carlton Road/Private Driveway



Movement	EB	EBT	EBR	WB	WBT	WBR	NB	NBT	NBR	SB	SBT	SBR
Lane Configurations	↕			↕	↕		↕			↕		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	11	11	11	11	11	8	8	8
Grade (%)		-4%			4%			1%			-1%	
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	
Frts		0.98		1.00	1.00			0.89			0.97	
Flt Protected		1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)		1801		1619	1764			1552			1556	
Flt Permitted		1.00		0.27	1.00			0.93			0.89	
Satd. Flow (perm)		1798		468	1764			1454			1393	
Volume (vph)	3	478	79	228	433	1	59	2	249	2	7	3
Peak-hour factor, PHF	0.86	0.86	0.86	0.98	0.98	0.98	0.87	0.87	0.87	0.60	0.60	0.60
Adj. Flow (vph)	3	556	92	233	442	1	68	2	286	3	12	5
RTOR Reduction (vph)	0	10	0	0	0	0	0	233	0	0	4	0
Lane Group Flow (vph)	0	641	0	233	443	0	0	123	0	0	16	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	2%	2%	2%
Turn Type	Perm			pm+pl			Perm			Perm		
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		21.1		31.4	31.4			8.5			8.5	
Effective Green, g (s)		23.1		33.4	33.4			9.5			9.5	
Actuated g/C Ratio		0.45		0.66	0.66			0.19			0.19	
Clearance Time (s)		6.0		6.0	6.0			5.0			5.0	
Vehicle Extension (s)		6.0		3.0	6.0			3.0			3.0	
Lane Grp Cap (vph)		816		450	1158			271			260	
v/s Ratio Prot				c0.06	0.25							
v/s Ratio Perm		c0.36		0.28				c0.08			0.01	
v/c Ratio		0.79		0.52	0.38			0.46			0.06	
Uniform Delay, d1		11.8		6.1	4.0			18.4			17.0	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		6.2		1.0	0.6			1.2			0.1	
Delay (s)		18.0		7.1	4.6			19.6			17.1	
Level of Service		B		A	A			B			B	
Approach Delay (s)		18.0			5.5			19.6			17.1	
Approach LOS		B			A			B			B	

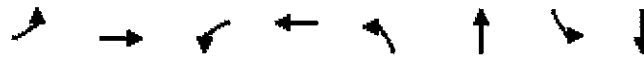
Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	50.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

2007 Projected Conditions - With Site-Related Recommendations

Friday P.M. Peak Hour

10: Route 940 & Carlton Road/Private Driveway

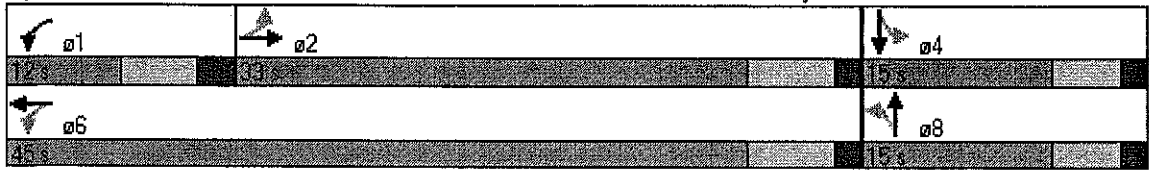


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕	↙	↘		↕		↕
Volume (vph)	3	478	228	433	59	2	2	7
Lane Group Flow (vph)	0	651	233	443	0	356	0	20
Turn Type	Perm		pm+pt		Perm		Perm	
Protected Phases		2	1	6		8		4
Permitted Phases	2		6		8		4	
Detector Phases	2	2	1	6	8	8	4	4
Minimum Initial (s)	10.0	10.0	4.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	16.0	16.0	10.0	16.0	11.0	11.0	11.0	11.0
Total Split (s)	33.0	33.0	12.0	45.0	15.0	15.0	15.0	15.0
Total Split (%)	55.0%	55.0%	20.0%	75.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	4.5	4.5	4.0	4.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5	1.5	1.5
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	Min	Min	None	Min	None	None	None	None
v/c Ratio		0.77	0.49	0.40		0.70		0.07
Control Delay		16.4	7.4	5.0		13.1		18.4
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay		16.4	7.4	5.0		13.1		18.4
Queue Length 50th (ft)		166	23	51		21		4
Queue Length 95th (ft)		266	45	91		#112		13
Internal Link Dist (ft)		1322		1070		1366		73
Turn Bay Length (ft)			100					
Base Capacity (vph)		956	474	1243		549		319
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		0.68	0.49	0.36		0.65		0.06

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 50.4  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

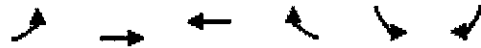
Splits and Phases: 10: Route 940 & Carlton Road/Private Driveway





2007 Projected Conditions - With Site-Related Recommendations  
 Friday P.M. Peak Hour

11: Route 940 & Route 390



Movement	EB	EB	WB	WB	SB	SB
Lane Configurations		↑	↑		↑	↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	14	14
Grade (%)		2%	2%		-4%	
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		1.00	1.00		1.00	
Frt		1.00	0.99		0.87	
Flt Protected		0.97	1.00		1.00	
Satd. Flow (prot)		1766	1771		1725	
Flt Permitted		0.53	1.00		1.00	
Satd. Flow (perm)		970	1771		1725	
Volume (vph)	439	292	285	15	11	378
Peak-hour factor, PHF	0.89	0.89	0.93	0.93	0.80	0.80
Adj. Flow (vph)	493	328	306	16	14	472
RTOR Reduction (vph)	0	0	1	0	417	0
Lane Group Flow (vph)	0	821	321	0	69	0
Heavy Vehicles (%)	2%	2%	2%	2%	4%	4%
Turn Type	pm+pt					
Protected Phases	5	2	6		4	
Permitted Phases	2					
Actuated Green, G (s)		80.8	53.8		9.9	
Effective Green, g (s)		82.8	55.8		11.9	
Actuated g/C Ratio		0.81	0.54		0.12	
Clearance Time (s)		6.0	6.0		6.0	
Vehicle Extension (s)		6.0	6.0		3.0	
Lane Grp Cap (vph)		960	962		200	
v/s Ratio Prot		c0.19	0.18		c0.04	
v/s Ratio Perm		c0.50				
v/c Ratio		0.86	0.33		0.34	
Uniform Delay, d1		6.2	13.1		41.8	
Progression Factor		1.00	1.00		1.00	
Incremental Delay, d2		8.6	0.6		1.0	
Delay (s)		14.8	13.7		42.8	
Level of Service		B	B		D	
Approach Delay (s)		14.8	13.7		42.8	
Approach LOS		B	B		D	
<b>Intersection Summary</b>						
HCM Average Control Delay		22.9		HCM Level of Service	C	
HCM Volume to Capacity ratio		0.78				
Actuated Cycle Length (s)		102.7		Sum of lost time (s)	8.0	
Intersection Capacity Utilization		89.6%		ICU Level of Service	E	
Analysis Period (min)		15				

c Critical Lane Group

2007 Projected Conditions - With Site-Related Recommendations  
 Friday P.M. Peak Hour

11: Route 940 & Route 390

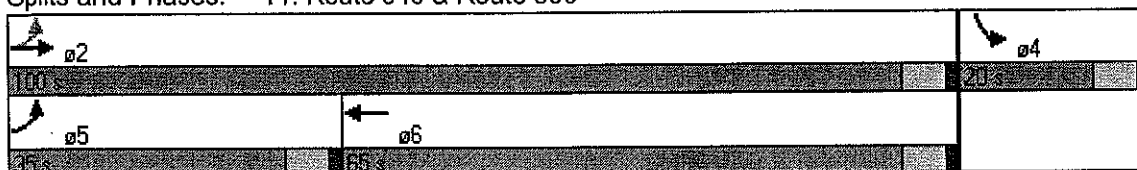


Lane Group	EB	WB	WB	SB
Lane Configurations		↕	↕	↕
Volume (vph)	439	292	285	11
Lane Group Flow (vph)	0	821	322	486
Turn Type	pm+pt			
Protected Phases	5	2	6	4
Permitted Phases	2			
Detector Phases	5	2 5	6	4
Minimum Initial (s)	4.0	10.0	10.0	7.0
Minimum Split (s)	10.0	16.0	16.0	13.0
Total Split (s)	35.0	100.0	65.0	20.0
Total Split (%)	29.2%	83.3%	54.2%	16.7%
Yellow Time (s)	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	Min	Min	None
v/c Ratio		0.88	0.34	0.79
Control Delay		10.8	15.0	12.3
Queue Delay		0.0	0.0	0.0
Total Delay		10.8	15.0	12.3
Queue Length 50th (ft)		118	100	10
Queue Length 95th (ft)		286	211	54
Internal Link Dist (ft)		491	1298	1509
Turn Bay Length (ft)				
Base Capacity (vph)		1044	1040	671
Starvation Cap Reductn		0	0	0
Spillback Cap Reductn		0	0	0
Storage Cap Reductn		0	0	0
Reduced v/c Ratio		0.79	0.31	0.72

Phase Sequence Summary

Cycle Length: 120  
 Actuated Cycle Length: 103.8  
 Natural Cycle: 90  
 Control Type: Semi Act-Uncoord

Splits and Phases: 11: Route 940 & Route 390





2007 Projected Conditions - With Site-Related Recommendations

Friday P.M. Peak Hour

12: Route 940 & Route 191/Red Rock Road



Lane Group	EB	EB	EBR	WB	WB	WBR	NB	NB	NBR	SB	SB	SB
Lane Configurations	↕			↕			↕			↕		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	8	8	8	11	11	11
Grade (%)		-2%			2%			-3%			-1%	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.998			0.962			0.986			0.975	
Fr <sub>t</sub> Protected		0.994			0.999			0.987			0.963	
Satd. Flow (prot)	0	1804	0	0	1713	0	0	1595	0	0	1699	0
Fr <sub>t</sub> Permitted		0.994			0.999			0.987			0.963	
Satd. Flow (perm)	0	1804	0	0	1713	0	0	1595	0	0	1699	0
Headway Factor	1.03	1.03	1.03	1.06	1.06	1.06	1.18	1.18	1.18	1.04	1.04	1.04
Link Speed (mph)		45			45			35			45	
Link Distance (ft)		1662			865			282			1220	
Travel Time (s)		25.2			13.1			5.5			18.5	
Volume (vph)	38	261	4	5	274	109	4	10	2	86	4	21
Peak Hour Factor	0.90	0.90	0.90	0.84	0.84	0.84	0.80	0.80	0.80	0.87	0.87	0.87
Adj. Flow (vph)	42	290	4	6	326	130	5	13	3	99	5	24
Lane Group Flow (vph)	0	336	0	0	462	0	0	19	0	0	128	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type	Other
Control Type	Unsignalized
Intersection Capacity Utilization	57.5%
ICU Level of Service	B
Analysis Period (min)	15

2007 Projected Conditions - With Site-Related Recommendations  
 Friday P.M. Peak Hour

12: Route 940 & Route 191/Red Rock Road

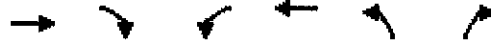


Movement	EB	WB	NB	SB	WB	EB	NB	SB	WB	EB	NB	SB
Lane Configurations	↕		↕		↕		↕		↕		↕	
Sign Control	Free		Free		Stop		Stop		Stop		Stop	
Grade	-2%		2%		-3%		-3%		-3%		-1%	
Volume (veh/h)	38	261	4	5	274	109	4	10	2	86	4	21
Peak Hour Factor	0.90	0.90	0.90	0.84	0.84	0.84	0.80	0.80	0.80	0.87	0.87	0.87
Hourly flow rate (vph)	42	290	4	6	326	130	5	12	2	99	5	24
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	456		294		806		845		292		788	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	456		294		806		845		292		788	
tC, single (s)	4.1		4.1		7.1		6.5		6.2		7.1	
tC, 2 stage (s)												
tF (s)	2.2		2.2		3.5		4.0		3.3		3.5	
p0 queue free %	96		100		98		96		100		66	
cM capacity (veh/h)	1105		1267		277		287		747		288	
Direction Lane #	EB	WB	NB	SB	WB	EB	NB	SB	WB	EB	NB	SB
Volume Total	337	462	20	128	337	462	20	128	337	462	20	128
Volume Left	42	6	5	99	42	6	5	99	42	6	5	99
Volume Right	4	130	2	24	4	130	2	24	4	130	2	24
cSH	1105	1267	308	323	1105	1267	308	323	1105	1267	308	323
Volume to Capacity	0.04	0.00	0.06	0.39	0.04	0.00	0.06	0.39	0.04	0.00	0.06	0.39
Queue Length 95th (ft)	3	0	5	46	3	0	5	46	3	0	5	46
Control Delay (s)	1.4	0.2	17.5	23.2	1.4	0.2	17.5	23.2	1.4	0.2	17.5	23.2
Lane LOS	A	A	C	C	A	A	C	C	A	A	C	C
Approach Delay (s)	1.4	0.2	17.5	23.2	1.4	0.2	17.5	23.2	1.4	0.2	17.5	23.2
Approach LOS	A		C		C		C		A		C	
Intersection Summary												
Average Delay			4.1									
Intersection Capacity Utilization			57.5%		ICU Level of Service						B	
Analysis Period (min)			15									

2007 Projected Conditions - With Site-Related Recommendations

Friday P.M. Peak Hour

13: Woodland Road & Western Site Driveway



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	14	12	14
Grade (%)	-3%			2%	0%	
Storage Length (ft)		250	100		0	0
Storage Lanes		1	1		1	1
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1891	1714	1752	1967	1770	1689
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1891	1714	1752	1967	1770	1689
Headway Factor	0.98	0.90	1.01	0.93	1.00	0.92
Link Speed (mph)	40			40	20	
Link Distance (ft)	863			1227	233	
Travel Time (s)	14.7			20.9	7.9	
Volume (vph)	238	380	24	300	184	30
Peak Hour Factor	0.82	0.90	0.90	0.75	0.90	0.90
Adj. Flow (vph)	290	422	27	400	204	33
Lane Group Flow (vph)	290	422	27	400	204	33
Sign Control	Free			Free	Stop	

**Intersection Summary**  
 Area Type: Other  
 Control Type: Unsignalized  
 Intersection Capacity Utilization 36.1%      ICU Level of Service A  
 Analysis Period (min) 15

2007 Projected Conditions - With Site-Related Recommendations

Friday P.M. Peak Hour

13: Woodland Road & Western Site Driveway



Movement	EBL	EBR	WBL	WBR	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Sign Control	Free			Free	Stop	
Grade	-3%			2%	0%	
Volume (veh/h)	238	380	24	300	184	30
Peak Hour Factor	0.82	0.90	0.90	0.75	0.90	0.90
Hourly flow rate (vph)	290	422	27	400	204	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume						
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol						
tC, single (s)						
tC, 2 stage (s)						
tF (s)						
p0 queue free %						
cM capacity (veh/h)						
Direction, Lane #	EB-1	EB-2	WB-1	WB-2	NB-1	NB-2
Volume Total	290	422	27	400	204	33
Volume Left	0	0	27	0	204	0
Volume Right	0	422	0	0	0	33
cSH	1700	1700	1272	1700	374	749
Volume to Capacity	0.17	0.25	0.02	0.24	0.55	0.04
Queue Length 95th (ft)	0	0	2	0	79	3
Control Delay (s)	0.0	0.0	7.9	0.0	25.6	10.0
Lane LOS			A		D	B
Approach Delay (s)	0.0		0.5		23.4	
Approach LOS					C	
Intersection Summary						
Average Delay						
Intersection Capacity Utilization						
Analysis Period (min)						



2007 Projected Conditions - With Site-Related Recommendations

Friday P.M. Peak Hour

14: Woodland Road & Eastern Site Driveway



Lane Group	EBT	EBB	WBT	WBT	NBT	NBS
Lane Configurations	↑	↗	↖	↑	↖	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	14	12	14
Grade (%)	-3%			2%	0%	
Storage Length (ft)		250	100		0	0
Storage Lanes		1	1		1	1
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1891	1714	1752	1967	1770	1689
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1891	1714	1752	1967	1770	1689
Headway Factor	0.98	0.90	1.01	0.93	1.00	0.92
Link Speed (mph)	40			40	20	
Link Distance (ft)	1227			2146	250	
Travel Time (s)	20.9			36.6	8.5	
Volume (vph)	138	130	58	140	184	30
Peak Hour Factor	0.82	0.90	0.90	0.75	0.90	0.90
Adj. Flow (vph)	168	144	64	187	204	33
Lane Group Flow (vph)	168	144	64	187	204	33
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	30.8%
ICU Level of Service	A
Analysis Period (min)	15



2007 Projected Conditions - With Site-Related Recommendations

Friday P.M. Peak Hour

14: Woodland Road & Eastern Site Driveway



Direction	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Lane Configurations	↑	↑	↑	↑	↑	↑
Sign Control	Free			Free	Stop	
Grade	-3%			2%	0%	
Volume (veh/h)	138	130	58	140	184	30
Peak Hour Factor	0.82	0.90	0.90	0.75	0.90	0.90
Hourly flow rate (vph)	168	144	64	187	204	33
<b>Pedestrians</b>						
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			168			168
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			168			168
tC, single (s)			4.1			6.2
tC, 2 stage (s)						
tF (s)			2.2			3.3
p0 queue free %			95			96
cM capacity (veh/h)			1409			876
<b>Direction Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>WB 1</b>	<b>WB 2</b>	<b>NB 1</b>	<b>NB 2</b>
Volume Total	168	144	64	187	204	33
Volume Left	0	0	64	0	204	0
Volume Right	0	144	0	0	0	33
cSH	1700	1700	1409	1700	517	876
Volume to Capacity	0.10	0.08	0.05	0.11	0.40	0.04
Queue Length 95th (ft)	0	0	4	0	47	3
Control Delay (s)	0.0	0.0	7.7	0.0	16.4	9.3
Lane LOS			A			A
Approach Delay (s)	0.0		2.0		15.4	
Approach LOS					C	
<b>Intersection Summary</b>						
Average Delay			5.2			
Intersection Capacity Utilization			30.8%		ICU Level of Service	
Analysis Period (min)			15		A	

2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

1: Route 314 (Eastern Leg) & Route 611



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↵	↶	↕	↕	↵	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	13	12	11	11	11	12
Grade (%)	-6%		-2%			-5%
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Fr <sub>t</sub>	1.00	0.85	0.98		1.00	1.00
Fl <sub>t</sub> Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1883	1631	3391		1753	3628
Fl <sub>t</sub> Permitted	0.95	1.00	1.00		0.07	1.00
Satd. Flow (perm)	1883	1631	3391		120	3628
Volume (vph)	148	66	1570	223	70	1312
Peak-hour factor, PHF	0.90	0.90	0.94	0.94	0.94	0.94
Adj. Flow (vph)	164	73	1670	237	74	1396
RTOR Reduction (vph)	0	63	0	0	0	0
Lane Group Flow (vph)	164	10	1907	0	74	1396
Turn Type		Perm			pm+pt	
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	8.7	8.7	53.3		63.2	63.2
Effective Green, g (s)	11.7	11.7	57.3		67.2	67.2
Actuated g/C Ratio	0.13	0.13	0.66		0.77	0.77
Clearance Time (s)	7.0	7.0	8.0		6.0	8.0
Vehicle Extension (s)	3.0	3.0	6.0		3.0	6.0
Lane Grp Cap (vph)	254	220	2236		204	2806
v/s Ratio Prot	c0.09		c0.56		0.02	c0.38
v/s Ratio Perm		0.01			0.26	
v/c Ratio	0.65	0.04	0.85		0.36	0.50
Uniform Delay, d1	35.6	32.7	11.5		12.9	3.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	5.5	0.1	3.9		1.1	0.4
Delay (s)	41.2	32.8	15.4		14.0	4.0
Level of Service	D	C	B		B	A
Approach Delay (s)	38.6		15.4			4.5
Approach LOS	D		B			A
<b>Intersection Summary</b>						
HCM Average Control Delay			12.5		HCM Level of Service	B
HCM Volume to Capacity ratio			0.80			
Actuated Cycle Length (s)			86.9		Sum of lost time (s)	12.0
Intersection Capacity Utilization			72.6%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

2007 Projected Conditions - With Site-Related Recommendations  
 Saturday P.M. Peak Hour

1: Route 314 (Eastern Leg) & Route 611



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↙	↗	↕	↙	↕
Volume (vph)	148	66	1570	70	1312
Lane Group Flow (vph)	164	73	1907	74	1396
Turn Type	Perm		pm+pt		
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phases	8	8	2	1	6
Minimum Initial (s)	1.0	1.0	15.0	1.0	15.0
Minimum Split (s)	8.0	8.0	23.0	7.0	23.0
Total Split (s)	16.0	16.0	63.0	11.0	74.0
Total Split (%)	17.8%	17.8%	70.0%	12.2%	82.2%
Yellow Time (s)	5.0	5.0	6.0	6.0	6.0
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	Min	None	Min
v/c Ratio	0.64	0.26	0.84	0.34	0.50
Control Delay	46.8	11.5	15.8	9.5	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.8	11.5	15.8	9.5	4.4
Queue Length 50th (ft)	90	0	398	8	116
Queue Length 95th (ft)	#169	38	520	31	148
Internal Link Dist (ft)	1091		2024		1031
Turn Bay Length (ft)		72		175	
Base Capacity (vph)	264	291	2294	218	2832
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	0.62	0.25	0.83	0.34	0.49

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 85.7

Natural Cycle: 60

Control Type: Semi Act-Uncoord

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles

Splits and Phases: 1: Route 314 (Eastern Leg) & Route 611

↙	↕		
11 s	63 s		
↙			↙
74 s			16 s

2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

2: Route 314 (Western Leg) & Route 611



Lane Group	EBL	ELB	NBL	NBS	SEB	SEB
Lane Configurations	↖	↗	↖	↑↑	↑↓	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	12	12	12	12
Grade (%)	4%			7%	-6%	
Storage Length (ft)	50	0	143			0
Storage Lanes	1	1	1			0
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.995	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1587	1420	1708	3415	3627	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1587	1420	1708	3415	3627	0
Headway Factor	1.12	1.12	1.05	1.05	0.96	0.96
Link Speed (mph)	40			45	45	
Link Distance (ft)	3960			1111	2283	
Travel Time (s)	67.5			16.8	34.6	
Volume (vph)	50	135	158	1478	1247	44
Peak Hour Factor	0.96	0.96	0.96	0.96	0.97	0.97
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%
Adj. Flow (vph)	52	141	165	1540	1286	45
Lane Group Flow (vph)	52	141	165	1540	1331	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	58.0%
	ICU Level of Service B
Analysis Period (min)	15



2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

2: Route 314 (Western Leg) & Route 611



Movement	EB1	EB2	NB1	NB2	SB1	SB2
Lane Configurations	↖	↗	↖	↕	↕	↗
Sign Control	Stop			Free	Free	
Grade	4%			7%	-6%	
Volume (veh/h)	50	135	158	1478	1247	44
Peak Hour Factor	0.96	0.96	0.96	0.96	0.97	0.97
Hourly flow rate (vph)	52	141	165	1540	1286	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)	1111					
pX, platoon unblocked	0.56					
vC, conflicting volume	2407	665	1331			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2730	665	1331			
tC, single (s)	6.9	7.0	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	65	68			
cM capacity (veh/h)	6	397	514			

Direction Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	52	141	165	770	770	857	474
Volume Left	52	0	165	0	0	0	0
Volume Right	0	141	0	0	0	0	45
cSH	6	397	514	1700	1700	1700	1700
Volume to Capacity	8.69	0.35	0.32	0.45	0.45	0.50	0.28
Queue Length 95th (ft)	Err	39	34	0	0	0	0
Control Delay (s)	Err	18.9	15.3	0.0	0.0	0.0	0.0
Lane LOS	F	C	C				
Approach Delay (s)	2716.3		1.5			0.0	
Approach LOS	F						

Intersection Summary			
Average Delay		162.9	
Intersection Capacity Utilization		58.0%	ICU Level of Service B
Analysis Period (min)		15	



2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

3: Woodland Road/Private Driveway & Route 611



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	15	15	15	12	12	14	11	12	14	11	12	12
Grade (%)		6%			5%			3%			-7%	
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Fr <sub>t</sub>		0.91		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Fl <sub>t</sub> Protected		0.99		0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1783		1639	1645	1647	1685	3486	1664	1770	3655	
Fl <sub>t</sub> Permitted		0.99		0.95	0.95	1.00	0.30	1.00	1.00	0.14	1.00	
Satd. Flow (perm)		1783		1639	1645	1647	531	3486	1664	265	3655	
Volume (vph)	5	1	13	354	4	77	14	1064	450	93	924	14
Peak-hour factor, PHF	0.61	0.61	0.61	0.92	0.92	0.92	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	8	2	21	385	4	84	14	1086	459	95	943	14
RTOR Reduction (vph)	0	20	0	0	0	59	0	0	188	0	1	0
Lane Group Flow (vph)	0	11	0	193	196	25	14	1086	271	95	956	0
Turn Type	Split			Split		pm+ov	Perm		pm+ov	pm+pt		
Protected Phases	4	4		8	8	1		2	8	1	6	
Permitted Phases						8	2		2	6		
Actuated Green, G (s)		1.3		10.5	10.5	15.1	20.6	20.6	31.1	30.7	30.7	
Effective Green, g (s)		3.3		12.5	12.5	18.6	24.1	24.1	36.6	34.2	34.2	
Actuated g/C Ratio		0.05		0.20	0.20	0.30	0.39	0.39	0.59	0.55	0.55	
Clearance Time (s)		6.0		6.0	6.0	5.5	7.5	7.5	6.0	5.5	7.5	
Vehicle Extension (s)		3.0		3.0	3.0	3.0	5.0	5.0	3.0	3.0	5.0	
Lane Grp Cap (vph)		95		330	332	600	206	1355	982	294	2016	
v/s Ratio Prot		c0.01		0.12	c0.12	0.00		c0.31	0.06	0.03	c0.26	
v/s Ratio Perm						0.01	0.03		0.11	0.15		
v/c Ratio		0.12		0.58	0.59	0.04	0.07	0.80	0.28	0.32	0.47	
Uniform Delay, d1		28.0		22.4	22.4	15.4	11.9	16.8	6.2	9.5	8.4	
Progression Factor		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.6		2.6	2.8	0.0	0.3	4.0	0.2	0.6	0.4	
Delay (s)		28.5		25.0	25.2	15.4	12.2	20.8	6.4	10.1	8.8	
Level of Service		C		C	C	B	B	C	A	B	A	
Approach Delay (s)		28.5			23.4			16.5			8.9	
Approach LOS		C			C			B			A	

Intersection Summary		
HCM Average Control Delay	15.1	HCM Level of Service B
HCM Volume to Capacity ratio	0.67	
Actuated Cycle Length (s)	62.0	Sum of lost time (s) 16.0
Intersection Capacity Utilization	61.1%	ICU Level of Service B
Analysis Period (min)	15	

c Critical Lane Group

2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

3: Woodland Road/Private Driveway & Route 611



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↕	↗	↖	↗	↖	↕	↗	↖	↕
Volume (vph)	1	354	4	77	14	1064	450	93	924
Lane Group Flow (vph)	31	193	196	84	14	1086	459	95	957
Turn Type		Split		pm+ov	Perm		pm+ov	pm+pt	
Protected Phases	4	8	8	1		2	8	1	6
Permitted Phases				8	2		2	6	
Detector Phases	4	8	8	1	2	2	8	1	6
Minimum Initial (s)	4.0	7.0	7.0	4.0	10.0	10.0	7.0	4.0	10.0
Minimum Split (s)	10.0	13.0	13.0	9.5	17.5	17.5	13.0	9.5	17.5
Total Split (s)	10.0	17.0	17.0	12.0	31.0	31.0	17.0	12.0	43.0
Total Split (%)	14.3%	24.3%	24.3%	17.1%	44.3%	44.3%	24.3%	17.1%	61.4%
Yellow Time (s)	4.0	4.0	4.0	5.5	5.5	5.5	4.0	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0
Lead/Lag				Lead	Lag	Lag		Lead	
Lead-Lag Optimize?				Yes	Yes	Yes		Yes	
Recall Mode	None	None	None	None	Min	Min	None	None	Min
v/c Ratio	0.16	0.54	0.54	0.12	0.06	0.74	0.35	0.28	0.46
Control Delay	19.4	29.7	29.8	4.7	14.0	18.6	1.2	8.4	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.4	29.7	29.8	4.7	14.0	18.6	1.2	8.4	8.1
Queue Length 50th (ft)	3	65	66	0	3	155	0	10	71
Queue Length 95th (ft)	16	#163	#166	26	15	290	14	37	161
Internal Link Dist (ft)	105		2012			2203			2327
Turn Bay Length (ft)		250		250	73		350	183	
Base Capacity (vph)	194	386	388	674	242	1595	1327	341	2275
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.50	0.51	0.12	0.06	0.68	0.35	0.28	0.42

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 57.7

Natural Cycle: 60

Control Type: Semi Act-Uncoord

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Woodland Road/Private Driveway & Route 611

01	02	04	08
12 s	31 s	16 s	17 s
06			
43 s			

2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

4: Meadowside Road/Trinity Hill Road & Route 611



Lane Group	EBl	EBL	EBR	WBl	WBL	WBR	NBl	NBL	NBR	SBl	SBL	SBR
Lane Configurations	↕			↕			↖	↕		↖	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	12	12	12	11	12	12	11	12	12
Grade (%)	2%			8%			1%		-1%			
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frts	0.899			0.918					0.950			
Flt Protected	0.988			0.993			0.950		0.950			
Satd. Flow (prot)	0	1693	0	0	1630	0	1702	3522	0	1719	3557	0
Flt Permitted	0.988			0.993			0.950		0.950			
Satd. Flow (perm)	0	1693	0	0	1630	0	1702	3522	0	1719	3557	0
Headway Factor	0.97	0.97	0.97	1.05	1.05	1.05	1.05	1.01	1.01	1.04	0.99	0.99
Link Speed (mph)	35			35			45		45			
Link Distance (ft)	158			1027			2407		3261			
Travel Time (s)	3.1			20.0			36.5		49.4			
Volume (vph)	1	0	3	3	6	14	6	1140	1	7	1025	1
Peak Hour Factor	0.50	0.50	0.50	0.39	0.39	0.39	0.92	0.92	0.92	0.89	0.89	0.89
Adj. Flow (vph)	2	0	6	8	15	36	7	1239	1	8	1152	1
Lane Group Flow (vph)	0	8	0	0	59	0	7	1240	0	8	1153	0
Sign Control	Stop			Stop			Free		Free			

**Intersection Summary**  
 Area Type: Other  
 Control Type: Unsignalized  
 Intersection Capacity Utilization 41.5% ICU Level of Service A  
 Analysis Period (min) 15

2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

4: Meadowside Road/Trinity Hill Road & Route 611



Movement	EB	WB	NB	SB
Lane Configurations	↔	↔	↔	↔
Sign Control	Stop	Stop	Free	Free
Grade	2%	8%	1%	-1%
Volume (veh/h)	1	0	3	3
Peak Hour Factor	0.50	0.50	0.50	0.39
Hourly flow rate (vph)	2	0	6	8

Movement	EB	WB	NB	SB
Volume (veh/h)	1	0	3	3
Peak Hour Factor	0.50	0.50	0.50	0.39
Hourly flow rate (vph)	2	0	6	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	1844	2421	576	1850
vC1, stage 1 conf vol				
vC2, stage 2 conf vol				
vCu, unblocked vol	1844	2421	576	1850
tC, single (s)	7.5	6.5	6.9	7.6
tC, 2 stage (s)				
tF (s)	3.5	4.0	3.3	3.5
p0 queue free %	92	100	99	83
CM capacity (veh/h)	25	31	460	44

Direction Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	8	59	7	826	414	8	768	385
Volume Left	2	8	7	0	0	8	0	0
Volume Right	6	36	0	0	1	0	0	1
cSH	87	78	602	1700	1700	557	1700	1700
Volume to Capacity	0.09	0.76	0.01	0.49	0.24	0.01	0.45	0.23
Queue Length 95th (ft)	7	92	1	0	0	1	0	0
Control Delay (s)	50.6	133.7	11.0	0.0	0.0	11.6	0.0	0.0
Lane LOS	F	F	B			B		
Approach Delay (s)	50.6	133.7	0.1			0.1		
Approach LOS	F	F						

Intersection Summary	
Average Delay	3.4
Intersection Capacity Utilization	41.5%
ICU Level of Service	A
Analysis Period (min)	15



2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

5: Grange Road/Green Springs Driveway & Route 611



Lane Group	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 (ft)	12	12	12	10	10	10	11	12	12	11	12	12
Grade (%)	0%			9%			2%			-5%		
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt	0.940			0.960			0.996			0.996		
Flt Protected	0.978			0.971			0.950			0.950		
Satd. Flow (prot)	0	1712	0	0	1548	0	1694	3490	0	1753	3613	0
Flt Permitted	0.978			0.971			0.950			0.950		
Satd. Flow (perm)	0	1712	0	0	1548	0	1694	3490	0	1753	3613	0
Headway Factor	1.00	1.00	1.00	1.16	1.16	1.16	1.06	1.01	1.01	1.01	0.97	0.97
Link Speed (mph)	30			30			45			45		
Link Distance (ft)	294			1492			3261			2754		
Travel Time (s)	6.7			33.9			49.4			41.7		
Volume (vph)	28	6	27	31	6	15	25	1097	33	14	975	26
Peak Hour Factor	0.90	0.90	0.90	0.72	0.90	0.72	0.90	0.94	0.94	0.95	0.95	0.90
Adj. Flow (vph)	31	7	30	43	7	21	28	1167	35	15	1026	29
Lane Group Flow (vph)	0	68	0	0	71	0	28	1202	0	15	1055	0
Sign Control	Stop			Stop			Free			Free		

**Intersection Summary**

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 42.2%      ICU Level of Service A

Analysis Period (min) 15



2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

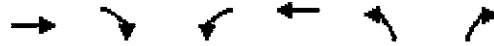
5: Grange Road/Green Springs Driveway & Route 611



Movement	EB1	EB2	EBR	WB1	WB2	WBR	NB1	NB2	NBR	SB1	SB2	SB3	
Lane Configurations	↕			↕			↗	↕↔		↖	↕↔		
Sign Control	Stop			Stop			Free				Free		
Grade	0%			9%			2%				-5%		
Volume (veh/h)	28	6	27	31	6	15	25	1097	38	14	975	26	
Peak Hour Factor	0.90	0.90	0.90	0.72	0.90	0.72	0.90	0.94	0.94	0.95	0.95	0.90	
Hourly flow rate (vph)	31	7	30	43	7	21	28	1167	35	15	1026	29	
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	1733	2328	528	1816	2325	601	1055				1202		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1733	2328	528	1816	2325	601	1055				1202		
tC, single (s)	7.5	6.5	6.9	7.6	6.6	6.9	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 %	28	80	94	0	80	95	96				97		
cM capacity (veh/h)	43	34	495	37	34	443	656				576		
Direction Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3					
Volume Total	68	71	28	778	424	15	684	371					
Volume Left	31	43	28	0	0	15	0	0					
Volume Right	30	21	0	0	35	0	0	29					
cSH	70	50	656	1700	1700	576	1700	1700					
Volume to Capacity	0.97	1.42	0.04	0.46	0.25	0.03	0.40	0.22					
Queue Length 95th (ft)	123	165	3	0	0	2	0	0					
Control Delay (s)	201.8	406.0	10.7	0.0	0.0	11.4	0.0	0.0					
Lane LOS	F	F	B				B						
Approach Delay (s)	201.8	406.0	0.2				0.2						
Approach LOS	F	F											
Intersection Summary													
Average Delay			17.6										
Intersection Capacity Utilization			42.2%					ICU Level of Service			A		
Analysis Period (min)	15												

2007 Projected Conditions - With Site-Related Recommendations  
 Saturday P.M. Peak Hour

6: Woodland Road & School Access



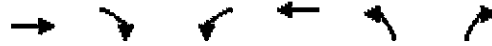
Lane Group	EB	EB	WB	WB	NB	NB
Lane Configurations	↑	↑	↑	↑	↑	↑
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	14	11	11
Grade (%)	1%			-3%	0%	
Storage Length (ft)		250	100		0	0
Storage Lanes		1	1		1	0
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ft		0.850				
Ft Protected			0.950		0.950	
Satd. Flow (prot)	1853	1680	1796	2017	1711	0
Ft Permitted			0.950		0.950	
Satd. Flow (perm)	1853	1680	1796	2017	1711	0
Headway Factor	1.01	0.92	0.98	0.90	1.04	1.04
Link Speed (mph)	40			40	25	
Link Distance (ft)	2092			650	499	
Travel Time (s)	35.7			11.1	13.6	
Volume (vph)	537	6	2	430	5	0
Peak Hour Factor	0.92	0.92	0.90	0.90	0.63	0.63
Adj. Flow (vph)	584	7	2	478	8	0
Lane Group Flow (vph)	584	7	2	478	8	0
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	38.3%
	ICU Level of Service A
Analysis Period (min)	15

2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

6: Woodland Road & School Access



Movement	EB1	EB2	WB1	WB2	NB1	NB2
Lane Configurations	↑	↗	↖	↑	↘	↙
Sign Control	Free			Free	Stop	
Grade	1%			-3%	0%	
Volume (veh/h)	537	6	2	430	5	0
Peak Hour Factor	0.92	0.92	0.90	0.90	0.63	0.63
Hourly flow rate (vph)	584	7	2	478	8	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLT		
Median storage veh				1		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			590	1066	584	
vC1, stage 1 conf vol				584		
vC2, stage 2 conf vol				482		
vCu, unblocked vol			590	1066	584	
tC, single (s)			4.1	6.4	6.2	
tC, 2 stage (s)				5.4		
tF (s)			2.2	3.5	3.3	
p0 queue free %			100	98	100	
cM capacity (veh/h)			985	379	512	
Direction Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	584	7	2	478	8	
Volume Left	0	0	2	0	8	
Volume Right	0	7	0	0	0	
cSH	1700	1700	985	1700	379	
Volume to Capacity	0.34	0.00	0.00	0.28	0.02	
Queue Length 95th (ft)	0	0	0	0	2	
Control Delay (s)	0.0	0.0	8.7	0.0	14.7	
Lane LOS			A		B	
Approach Delay (s)	0.0		0.0		14.7	
Approach LOS					B	
<b>Intersection Summary</b>						
Average Delay			0.1			
Intersection Capacity Utilization			38.3%		ICU Level of Service	A
Analysis Period (min)			15			

2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

7: Woodland Road & Bowman Road



Lane Group	EBL	EBR	WBL	WBR	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↘	↙
Ideal Flow (vohp)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	14	10	10
Grade (%)	1%			1%	1%	
Storage Length (ft)		250	100		0	0
Storage Lanes		1	1		1	0
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.869	
Flt Protected			0.950		0.999	
Satd. Flow (prot)	1853	1680	1761	1977	1517	0
Flt Permitted			0.950		0.999	
Satd. Flow (perm)	1853	1680	1761	1977	1517	0
Headway Factor	1.01	0.92	1.01	0.92	1.09	1.09
Link Speed (mph)	40			40	35	
Link Distance (ft)	650			936	704	
Travel Time (s)	11.1			16.0	13.7	
Volume (vph)	535	2	58	430	2	74
Peak Hour Factor	0.81	0.81	0.85	0.85	0.50	0.50
Adj. Flow (vph)	660	2	68	506	4	148
Lane Group Flow (vph)	660	2	68	506	152	0
Sign Control	Free			Free	Stop	

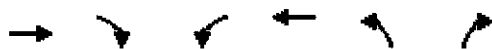
Intersection Summary

Area Type	Other
Control Type	Unsignalized
Intersection Capacity Utilization	46.2%
ICU Level of Service	A
Analysis Period (min)	15



2007 Projected Conditions - With Site-Related Recommendations  
 Saturday P.M. Peak Hour

7: Woodland Road & Bowman Road



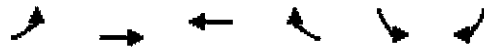
Movement	EB1	EB2	WB1	WB2	NB1	NB2
Lane Configurations	↑	↑	↑	↑	↑	↑
Sign Control	Free			Free	Stop	
Grade	1%			1%	-1%	
Volume (veh/h)	535	2	58	430	2	74
Peak Hour Factor	0.81	0.81	0.85	0.85	0.50	0.50
Hourly flow rate (vph)	660	2	68	506	4	148
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					TWLT	
Median storage (veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			663		1303	660
vC1, stage 1 conf vol					660	
vC2, stage 2 conf vol					642	
vCu, unblocked vol			663		1303	660
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			93		99	68
cM capacity (veh/h)			926		303	463
Direction Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	660	2	68	506	152	
Volume Left	0	0	68	0	4	
Volume Right	0	2	0	0	148	
cSH	1700	1700	926	1700	456	
Volume to Capacity	0.39	0.00	0.07	0.30	0.33	
Queue Length 95th (ft)	0	0	6	0	36	
Control Delay (s)	0.0	0.0	9.2	0.0	16.8	
Lane LOS			A		C	
Approach Delay (s)	0.0		1.1		16.8	
Approach LOS					C	
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			46.2%		ICU Level of Service	A
Analysis Period (min)			15			



2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

8: Woodland Road & Meadowside Road



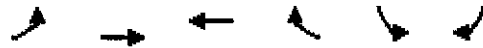
Lane Group	EB	EBT	WB	WBT	SB	SBR
Lane Configurations	↕	↑	↕	↕	↕	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	14	14	10	10
Grade (%)		-4%	2%		-6%	
Storage Length (ft)	100			0	0	0
Storage Lanes	1			0	1	0
Turning Speed (mph)	15			9	15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.996		0.976	
Frt Protected	0.950				0.960	
Satd. Flow (prot)	1805	2027	1959	0	1678	0
Frt Permitted	0.950				0.960	
Satd. Flow (perm)	1805	2027	1959	0	1678	0
Headway Factor	0.97	0.89	0.93	0.93	1.05	1.05
Link Speed (mph)		40	40		35	
Link Distance (ft)		936	400		1342	
Travel Time (s)		16.0	6.8		26.1	
Volume (vph)	2	607	486	15	9	2
Peak Hour Factor	0.95	0.95	0.93	0.93	0.63	0.63
Adj. Flow (vph)	2	639	523	16	14	3
Lane Group Flow (vph)	2	639	539	0	17	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	41.9%
ICU Level of Service	A
Analysis Period (min)	15

2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

8: Woodland Road & Meadowside Road



Movement	EBL	EBT	WBL	WBR	SBL	SBR
Lane Configurations	↖	↑	↗		↘	
Sign Control		Free	Free		Stop	
Grade		-4%	2%		-6%	
Volume (veh/h)	2	607	486	15	9	2
Peak Hour Factor	0.95	0.95	0.93	0.93	0.63	0.63
Hourly flow rate (vph)	2	639	523	16	14	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				TWLTTL		
Median storage (veh)				1		
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	539			1174	531	
vC1, stage 1 conf vol				531		
vC2, stage 2 conf vol				643		
vCu, unblocked vol	539			1174	531	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)				5.4		
tF (s)	2.2			3.5	3.3	
p0 queue free %	100			96	99	
cM capacity (veh/h)	1030			350	549	

Direction Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	2	639	539	17
Volume Left	2	0	0	14
Volume Right	0	0	16	3
cSH	1030	1700	1700	374
Volume to Capacity	0.00	0.38	0.32	0.05
Queue Length 95th (ft)	0	0	0	4
Control Delay (s)	8.5	0.0	0.0	15.1
Lane LOS	A			C
Approach Delay (s)	0.0		0.0	15.1
Approach LOS				C

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		41.9%	ICU Level of Service A
Analysis Period (min)		15	

2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

9: Woodland Road & Carlton Road



Category	EB	WB	NB	SB	EB	WB
Lane Configurations	↔		↕		↔	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-3%		-5%		4%	
Turning Speed (mph)	15	9	15			9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994			0.920		
Frt Protected	0.954		0.996			
Satd. Flow (prot)	1673	0	0	1838	1623	0
Frt Permitted	0.954		0.996			
Satd. Flow (perm)	1673	0	0	1838	1623	0
Headway Factor	1.07	1.07	1.01	1.01	1.07	1.07
Link Speed (mph)	40		45		45	
Link Distance (ft)	1794		1439		1446	
Travel Time (s)	30.6		21.8		21.9	
Volume (vph)	132	6	10	110	102	149
Peak Hour Factor	0.82	0.82	0.75	0.75	0.86	0.86
Adj. Flow (vph)	161	7	13	147	119	173
Lane Group Flow (vph)	168	0	0	160	292	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	28.8%
ICU Level of Service	A
Analysis Period (min)	15

2007 Projected Conditions - With Site-Related Recommendations  
 Saturday P.M. Peak Hour

9: Woodland Road & Carlton Road



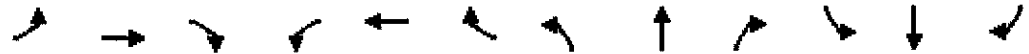
Movement	EB1	EB5	NB1	NB5	SB1	SB5
Lane Configurations	↘		↑		↙	
Sign Control	Stop			Free	Free	
Grade	-3%			-5%	4%	
Volume (veh/h)	132	6	10	110	102	149
Peak Hour Factor	0.82	0.82	0.75	0.75	0.86	0.86
Hourly flow rate (vph)	161	7	13	147	119	173
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	379	205	292			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	379	205	292			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	74	99	99			
cM capacity (veh/h)	617	835	1270			
Direction Lane #	EB 1	NB 1	SB 1			
Volume Total	168	160	292			
Volume Left	161	13	0			
Volume Right	7	0	173			
cSH	624	1270	1700			
Volume to Capacity	0.27	0.01	0.17			
Queue Length 95th (ft)	27	1	0			
Control Delay (s)	12.9	0.7	0.0			
Lane LOS	B	A				
Approach Delay (s)	12.9	0.7	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay				3.7		
Intersection Capacity Utilization				28.8%	IGU Level of Service	A
Analysis Period (min)				15		



2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

10: Route 940 & Carlton Road/Private Driveway



Approach	EB	EB	EBR	WB	WB	WB	NB	NB	NB	SB	SB	SB
Lane Configurations	↕			↖	↗		↕			↕		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	11	11	11	11	11	8	8	8
Grade (%)		-4%			4%			1%			-1%	
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	
Frnt		0.98		1.00	1.00			0.89			0.88	
Flt Protected		1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)		1806		1619	1765			1582			1422	
Flt Permitted		1.00		0.32	1.00			0.93			0.93	
Satd. Flow (perm)		1800		546	1765			1486			1328	
Volume (vph)	3	390	55	196	395	0	47	1	194	1	0	6
Peak-hour factor, PHF	0.84	0.84	0.84	0.93	0.93	0.93	0.71	0.71	0.71	0.88	0.88	0.88
Adj. Flow (vph)	4	464	65	211	425	0	66	1	273	1	0	7
RTOR Reduction (vph)	0	9	0	0	0	0	0	221	0	0	6	0
Lane Group Flow (vph)	0	524	0	211	425	0	0	119	0	0	2	0
Turn Type	Perm		pm+pt		Perm		Perm		Perm		Perm	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		6		8		8		4		4	
Actuated Green, G (s)		19.1		29.5	29.5			8.2			8.2	
Effective Green, g (s)		21.1		31.5	31.5			9.2			9.2	
Actuated g/C Ratio		0.43		0.65	0.65			0.19			0.19	
Clearance Time (s)		6.0		6.0	6.0			5.0			5.0	
Vehicle Extension (s)		6.0		3.0	6.0			3.0			3.0	
Lane Grp Cap (vph)		780		494	1142			281			251	
v/s Ratio Prot		c0.06		0.06	0.24			c0.08			0.00	
v/s Ratio Perm		c0.29		0.22	0.22			c0.08			0.00	
v/c Ratio		0.67		0.43	0.37			0.42			0.01	
Uniform Delay, d1		11.0		5.4	4.0			17.4			16.0	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		3.5		0.6	0.6			1.0			0.0	
Delay (s)		14.6		6.0	4.6			18.4			16.1	
Level of Service		B		A	A			B			B	
Approach Delay (s)		14.6		6.0	4.6			18.4			16.1	
Approach LOS		B		A	A			B			B	
<b>Intersection Summary</b>												
HCM Average Control Delay		11.4		HCM Level of Service		B						
HCM Volume to Capacity ratio		0.57		Sum of lost time (s)		12.0						
Actuated Cycle Length (s)		48.7		ICU Level of Service		D						
Intersection Capacity Utilization		76.1%		Analysis Period (min)		15						
c Critical Lane Group												



2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

10: Route 940 & Carlton Road/Private Driveway



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↕		↖		↗		↕	
Volume (vph)	3	390	196	395	47	1	1	0
Lane Group Flow (vph)	0	533	211	425	0	340	0	8
Turn Type	Perm		pm+pt		Perm		Perm	
Protected Phases		2	1	6		8		4
Permitted Phases	2		6		8		4	
Detector Phases	2	2	1	6	8	8	4	4
Minimum Initial (s)	10.0	10.0	4.0	10.0	6.0	6.0	6.0	6.0
Minimum Split (s)	16.0	16.0	10.0	16.0	11.0	11.0	11.0	11.0
Total Split (s)	33.0	33.0	12.0	45.0	15.0	15.0	15.0	15.0
Total Split (%)	55.0%	55.0%	20.0%	75.0%	25.0%	25.0%	25.0%	25.0%
Yellow Time (s)	4.5	4.5	4.0	4.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5	1.5	1.5
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	Min	Min	None	Min	None	None	None	None
v/c Ratio		0.66	0.41	0.38		0.67		0.03
Control Delay		13.8	6.1	4.9		11.9		13.6
Queue Delay		0.0	0.0	0.0		0.0		0.0
Total Delay		13.8	6.1	4.9		11.9		13.6
Queue Length 50th (ft)		118	19	44		17		0
Queue Length 95th (ft)		191	41	86		44		10
Internal Link Dist (ft)		1322		1070		1366		73
Turn Bay Length (ft)			100					
Base Capacity (vph)		959	520	1247		553		312
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		0.56	0.41	0.34		0.61		0.03

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 48

Natural Cycle: 45

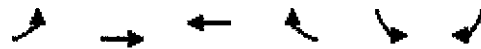
Control Type: Semi-Act-Uncoord

Splits and Phases: 10: Route 940 & Carlton Road/Private Driveway

↖ 01 12 s	↗ 02 33 s	↕ 04 15 s
↖ 06 45 s	↕ 08 15 s	

2007 Projected Conditions - With Site-Related Recommendations  
 Saturday P.M. Peak Hour

11: Route 940 & Route 390



Movement	EB	EB	WB	WB	SB	SB
Lane Configurations		↕	↕		↕	↕
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	14	14
Grade (%)		-2%	2%		-4%	
Total Lost time (s)		4.0	4.0		4.0	
Lane Util. Factor		1.00	1.00		1.00	
Frt		1.00	0.99		0.88	
Fll Protected		0.97	1.00		0.99	
Satd. Flow (prot)		1756	1769		1773	
Fll Permitted		0.51	1.00		0.99	
Satd. Flow (perm)		910	1769		1773	
Volume (vph)	301	284	270	17	38	321
Peak-hour factor, PHF	0.79	0.79	0.84	0.84	0.81	0.81
Adj. Flow (vph)	381	359	321	20	47	396
RTOR Reduction (vph)	0	0	3	0	343	0
Lane Group Flow (vph)	0	740	338	0	100	0
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Turn Type	pm+pt					
Protected Phases	5	2	6		4	
Permitted Phases	2					
Actuated Green, G (s)		51.3	30.5		7.4	
Effective Green, g (s)		53.3	32.5		9.4	
Actuated g/C Ratio		0.75	0.46		0.13	
Clearance Time (s)		6.0	6.0		6.0	
Vehicle Extension (s)		6.0	6.0		3.0	
Lane Grp Gap (vph)		887	813		236	
v/s Ratio Prot		c0.20	0.19		c0.06	
v/s Ratio Perm		c0.43				
v/c Ratio		0.83	0.42		0.42	
Uniform Delay, d1		5.8	12.8		28.2	
Progression Factor		1.00	1.00		1.00	
Incremental Delay, d2		7.9	1.0		1.2	
Delay (s)		13.7	13.7		29.4	
Level of Service		B	B		C	
Approach Delay (s)		13.7	13.7		29.4	
Approach LOS		B	B		C	

Intersection Summary

HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	70.7	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

2007 Projected Conditions - With Site-Related Recommendations  
 Saturday P.M. Peak Hour

11: Route 940 & Route 390



Lane Group	EB	WB	WB	SB
Lane Configurations		↕	↕	↕
Volume (vph)	301	284	270	38
Lane Group Flow (vph)	0	740	341	443
Turn Type	pm+pl			
Protected Phases	5	2	6	4
Permitted Phases	2			
Detector Phases	5	2 5	6	4
Minimum Initial (s)	4.0	10.0	10.0	7.0
Minimum Split (s)	10.0	16.0	16.0	13.0
Total Split (s)	25.0	67.0	42.0	13.0
Total Split (%)	31.3%	83.8%	52.5%	16.3%
Yellow Time (s)	4.5	4.5	4.5	4.5
All-Red Time (s)	1.5	1.5	1.5	1.5
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	Min	Min	None
v/c Ratio		0.83	0.43	0.76
Control Delay		9.0	14.2	16.5
Queue Delay		0.0	0.0	0.0
Total Delay		9.0	14.2	16.5
Queue Length 50th (ft)		98	93	22
Queue Length 95th (ft)		118	153	75
Internal Link Dist (ft)		491	1298	1509
Turn Bay Length (ft)				
Base Capacity (vph)		1003	897	580
Starvation Cap Reductn		0	0	0
Spillback Cap Reductn		0	0	0
Storage Cap Reductn		0	0	0
Reduced v/c Ratio		0.74	0.38	0.76

Intersection Summary

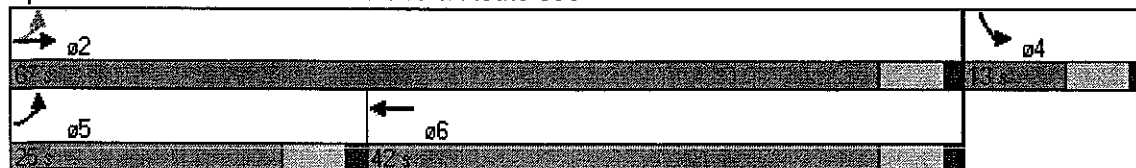
Cycle Length: 80

Actuated Cycle Length: 71.4

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Splits and Phases: 11: Route 940 & Route 390



2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

12: Route 940 & Route 191/Red Rock Road



Lane Group	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Lane Configurations	↕			↕			↕			↕		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	8	8	8	11	11	11
Grade (%)	-2%			2%			-3%			-1%		
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	0.999			0.966			0.973			0.970		
Fl <sub>t</sub> Protected	0.994			0.999			0.983			0.967		
Satd. Flow (prot)	0	1788	0	0	1720	0	0	1567	0	0	1697	0
Fl <sub>t</sub> Permitted	0.994			0.999			0.983			0.967		
Satd. Flow (perm)	0	1788	0	0	1720	0	0	1567	0	0	1697	0
Headway Factor	1.03	1.03	1.03	1.06	1.06	1.06	1.18	1.18	1.18	1.04	1.04	1.04
Link Speed (mph)	45			45			35			45		
Link Distance (ft)	1662			865			282			1220		
Travel Time (s)	25.2			13.1			5.5			18.5		
Volume (vph)	37	281	4	4	256	89	3	4	2	87	11	28
Peak Hour Factor	0.89	0.89	0.89	0.81	0.81	0.81	0.45	0.45	0.45	0.88	0.88	0.88
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	42	316	4	5	316	110	7	9	4	99	13	32
Lane Group Flow (vph)	0	362	0	0	431	0	0	20	0	0	143	0
Sign Control	Free			Free			Stop			Stop		

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 59.2%

ICU Level of Service B

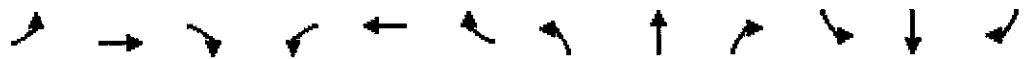
Analysis Period (min) 15



2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

12: Route 940 & Route 191/Red Rock Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR												
Lane Configurations	↕			↕			↕			↕														
Sign Control	Free			Free			Stop			Stop														
Grade	-2%			2%			-3%			-1%														
Volume (veh/h)	37	281	4	4	256	89	3	4	2	87	11	28												
Peak Hour Factor	0.89	0.89	0.89	0.81	0.81	0.81	0.45	0.45	0.45	0.88	0.88	0.88												
Hourly flow rate (vph)	42	316	4	5	316	110	7	9	4	99	12	32												
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			320			820			837			318			791			784			371		
vC1, stage 1 conf vol																								
vC2, stage 2 conf vol																								
vCu, unblocked vol	426			320			820			837			318			791			784			371		
tC, single (s)	4.1			4.1			7.1			6.5			6.2			7.1			6.5			6.2		
tC, 2 stage (s)																								
f (s)	2.2			2.2			3.5			4.0			3.3			3.5			4.0			3.3		
p0 queue free %	96			100			97			97			99			66			96			95		
cM capacity (veh/h)	1128			1240			263			291			723			289			312			675		

Direction Lane #	EB T	WB T	NB T	SB T
Volume Total	362	431	20	143
Volume Left	42	5	7	99
Volume Right	4	110	4	32
cSH	1128	1240	322	334
Volume to Capacity	0.04	0.00	0.06	0.43
Queue Length 95th (ft)	3	0	5	52
Control Delay (s)	1.3	0.1	16.9	23.6
Lane LOS	A	A	C	C
Approach Delay (s)	1.3	0.1	16.9	23.6
Approach LOS			C	C

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		



2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

13: Woodland Road & Western Site Driveway



Lane Group	EB	EB	WB	WB	NB	NB
Lane Configurations	↑	↗	↖	↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	14	12	14
Grade (%)	-3%			2%	0%	
Storage Length (ft)		250	100		0	0
Storage Lanes		1	1		1	1
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ft		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1891	1714	1752	1967	1770	1689
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1891	1714	1752	1967	1770	1689
Headway Factor	0.98	0.90	1.01	0.93	1.00	0.92
Link Speed (mph)	40			40	20	
Link Distance (ft)	863			1227	233	
Travel Time (s)	14.7			20.9	7.9	
Volume (vph)	208	408	26	285	216	35
Peak Hour Factor	0.85	0.90	0.90	0.84	0.90	0.90
Adj. Flow (vph)	245	453	29	339	240	39
Lane Group Flow (vph)	245	453	29	339	240	39
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type	Other
Control Type	Unsignalized
Intersection Capacity Utilization	36.2%
ICU Level of Service	A
Analysis Period (min)	15

2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

13: Woodland Road & Western Site Driveway



Movement	EB1	EB2	WB1	WB2	NB1	NB2
Lane Configurations	↑	↑	↑	↑	↑	↑
Sign Control	Free			Free	Stop	
Grade	-3%			2%	0%	
Volume (veh/h)	208	408	26	285	216	35
Peak Hour Factor	0.85	0.90	0.90	0.84	0.90	0.90
Hourly flow rate (vph)	245	453	29	339	240	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			245		642	245
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			245		642	245
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		44	95
cM capacity (veh/h)			1321		429	794
Direction Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	245	453	29	339	240	39
Volume Left	0	0	29	0	240	0
Volume Right	0	453	0	0	0	39
cSH	1700	1700	1321	1700	429	794
Volume to Capacity	0.14	0.27	0.02	0.20	0.56	0.05
Queue Length 95th (ft)	0	0	2	0	83	4
Control Delay (s)	0.0	0.0	7.8	0.0	23.5	9.8
Lane LOS			A		C	A
Approach Delay (s)	0.0		0.6		21.6	
Approach LOS					C	
Intersection Summary						
Average Delay	4.6					
Intersection Capacity Utilization	36.2%			ICU Level of Service		A
Analysis Period (min)	15					

2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

14: Woodland Road & Eastern Site Driveway



Direction	EBL	EBR	WBL	WBR	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	14	12	14
Grade (%)	3%			2%	0%	
Storage Length (ft)		250	100		0	0
Storage Lanes		1	1		1	1
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frts		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1891	1714	1752	1967	1770	1689
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1891	1714	1752	1967	1770	1689
Headway Factor	0.98	0.90	1.01	0.93	1.00	0.92
Link Speed (mph)	40			40	20	
Link Distance (ft)	1227			2146	250	
Travel Time (s)	20.9			36.6	8.5	
Volume (vph)	103	140	64	95	216	35
Peak Hour Factor	0.85	0.90	0.90	0.84	0.90	0.90
Adj. Flow (vph)	121	156	71	113	240	39
Lane Group Flow (vph)	121	156	71	113	240	39
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	28.8%
ICU Level of Service	A
Analysis Period (min)	15

2007 Projected Conditions - With Site-Related Recommendations

Saturday P.M. Peak Hour

14: Woodland Road & Eastern Site Driveway



Movement	EB1	EB2	WB1	WB2	NB1	NB2
Lane Configurations	↑	↑	↑	↑	↑	↑
Sign Control	Free			Free	Stop	
Grade	-3%			2%	0%	
Volume (veh/h)	103	140	64	95	216	35
Peak Hour Factor	0.85	0.90	0.90	0.84	0.90	0.90
Hourly flow rate (vph)	121	156	71	113	240	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			121		376	121
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			121		376	121
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		60	96
cM capacity (veh/h)			1466		595	930
Direction Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	121	156	71	113	240	39
Volume Left	0	0	71	0	240	0
Volume Right	0	156	0	0	0	39
cSH	1700	1700	1466	1700	595	930
Volume to Capacity	0.07	0.09	0.05	0.07	0.40	0.04
Queue Length 95th (ft)	0	0	4	0	49	3
Control Delay (s)	0.0	0.0	7.6	0.0	15.1	9.0
Lane LOS			A		C	A
Approach Delay (s)	0.0		2.9		14.2	
Approach LOS					B	
Intersection Summary						
Average Delay	6.1					
Intersection Capacity Utilization	28.8%			ICU Level of Service		A
Analysis Period (min)	15					