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GROVE STREET INTERSECTIONS WITH FORDCYE ROAD AND HINE HILL ROAD

PRELIMINARY ENGINEERING SUPPLEMENTAL REPORT

TOWN OF NEW MILFORD, CT

MARCH 2024

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1. INTRODUCTION

KS Engineers P.C (KSE) has been retained by the Town of New Milford to review traffic operating conditions and existing geometry at the intersections of Grove Street with Fordyce Road and Hine Hill Road. The scope of the project includes collecting traffic and safety data at the two intersections, hold public meetings and summarize concerns of the residents in the general project area. The scope also includes developing engineering recommendations for the locations in consultation with the Town staff. KSE submitted a preliminary engineering report along with recommendations for these two intersections on October 2023. This report is to provide supplemental data, information and analyses to support the recommendations provided.

2. PROJECT/STUDY AREA

The project/study area is depicted in Figure 1: Location Map and consists of the section of Grove Street between Fordyce Road and Hine Hill Road and the intersections of Grove Street with Fordyce Road and Hine Hill Road.

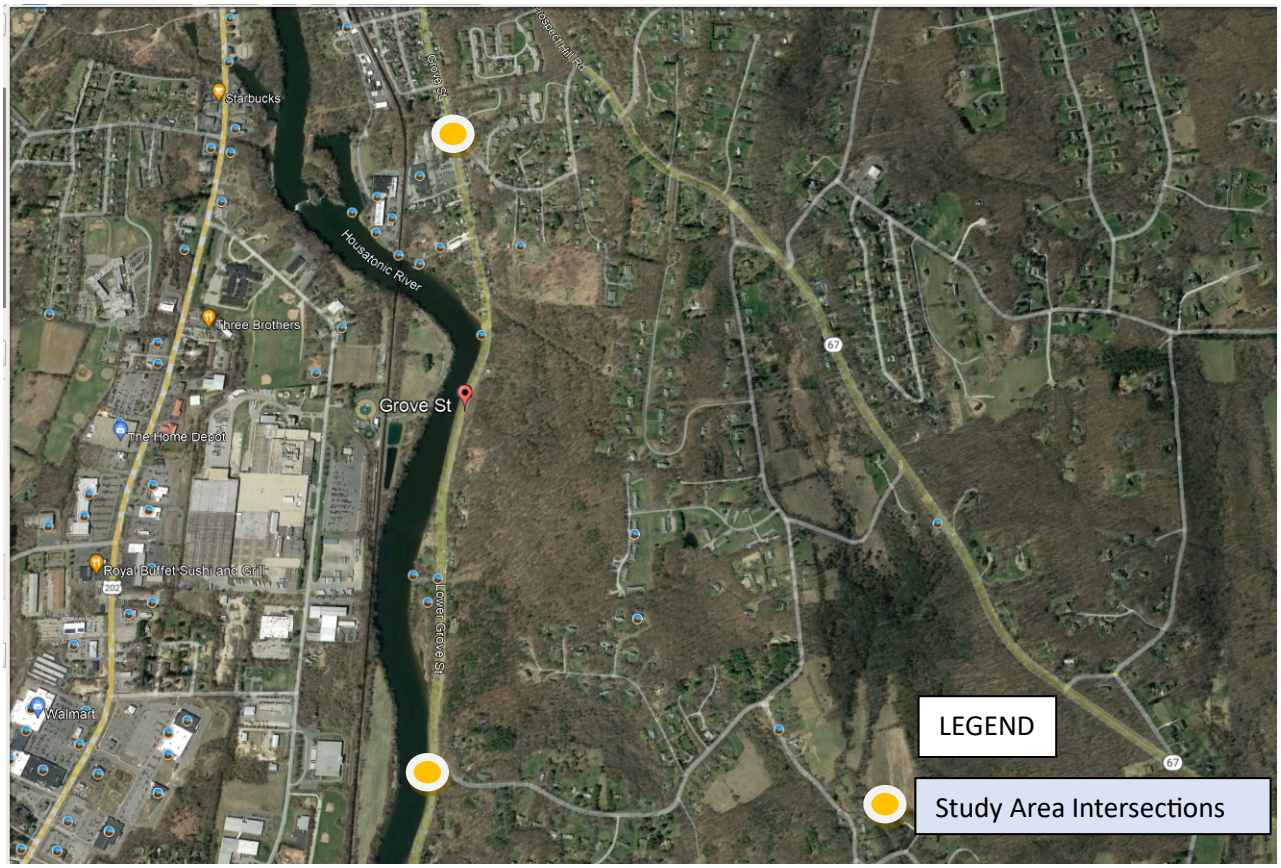


Figure 1: Location Map

3. EXISTING TRAFFIC CONDITIONS

In addition to traffic data provided in the Preliminary Engineering Report, data were collected by KSE including turning movement counts at the two intersections and continuous 24-hour traffic counts at all approaches of each intersection. These counts were conducted on Wednesday February 7th, 2024. School was in session during the traffic counting period and no unusual environmental or other conditions affecting traffic flow were observed.

The peak hours of traffic activity were identified to be 7:15 to 8:15 am in the morning and 4:30 to 5:30 pm in the afternoon.

Also, it was observed that Grove Street traffic consists of 5 to 15% truck traffic in the peak hours.

The operating speeds along the corridors in the study area were noted as follows:

- Grove Street, south of Hine Hill Road - 49 mph (approx.)
- Grove Street, north of Fordyce Road – 40 mph (approx.)
- Grove Street, south of Fordyce Road - 39 mph (approx.)
- Hine Hill Road – 40 mph (approx.)
- Fordyce Road – 29 mph (approx.)

The traffic count data is included in the Appendix.

The AM and PM peak hour traffic volumes are presented in the following figures.

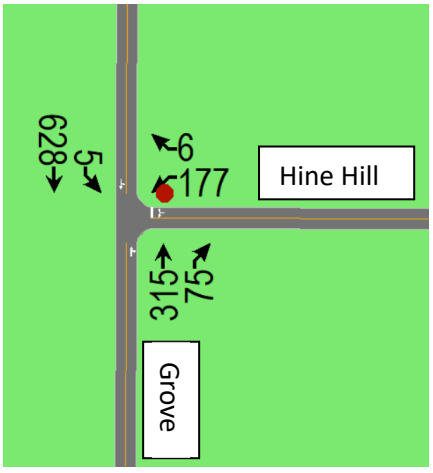


Figure 2A – Existing Traffic Volumes AM peak (Grove/Hine Hill)

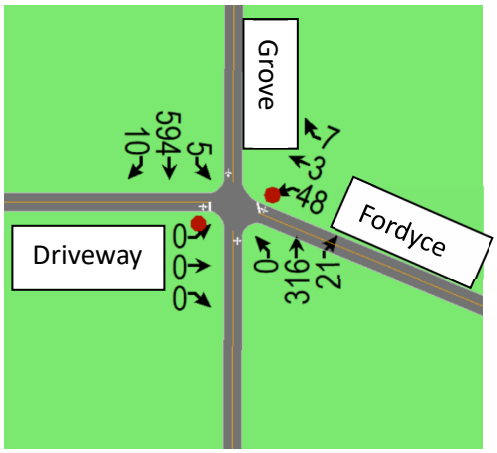


Figure 2B – Existing Traffic Volumes AM peak (Grove/Fordyce)

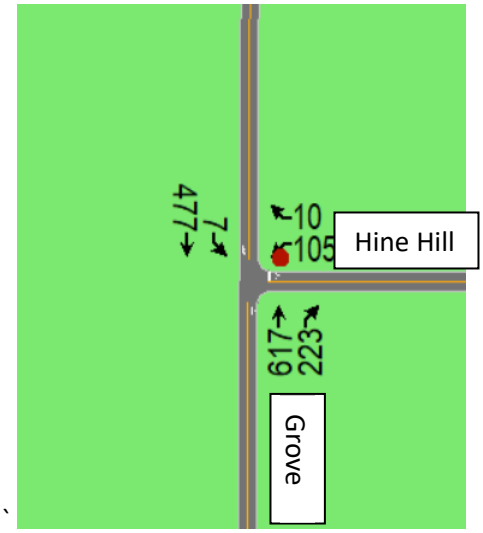


Figure 2C – Existing Traffic Volumes PM peak (Grove/Hine Hill)

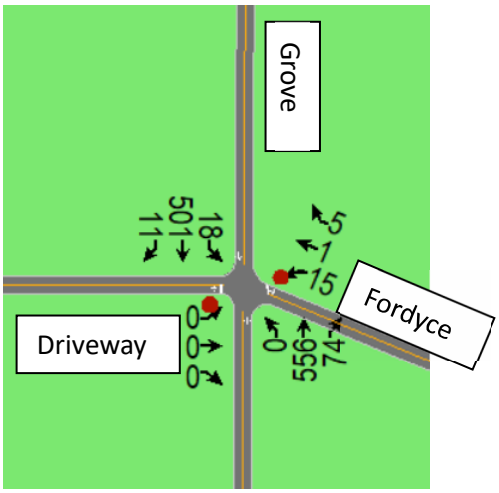


Figure 2D – Existing Traffic Volumes PM peak (Grove/Fordyce)

4. FUTURE NO-BUILD TRAFFIC CONDITIONS

The existing traffic volumes are projected to the anticipated year when the traffic signals at Fordyce Road and Hine Hill Road are expected to be operational. For the purpose of this report, it is assumed that the signals will be installed in 2025. A conservative estimate of annual growth in the area (1%) was applied to the existing traffic volumes to calculate the future No-Build traffic volumes at each intersection. The future traffic volumes for the AM and PM peak hours are presented in the following figures.

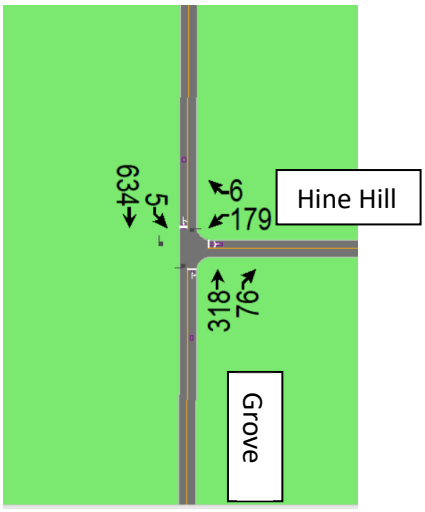


Figure 3A – Future Traffic Volumes AM peak (Grove/Hine Hill)

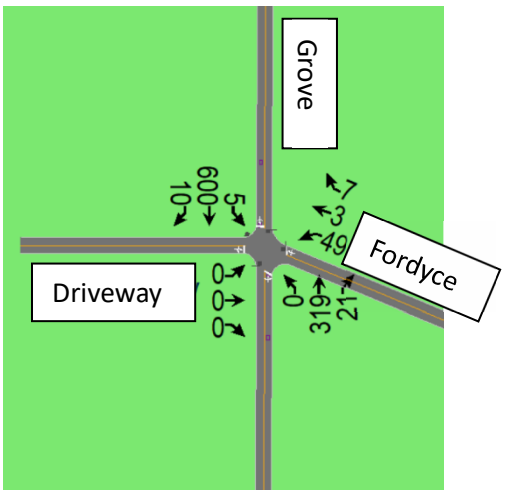


Figure 3B – Future Traffic Volumes AM peak (Grove/Fordyce)

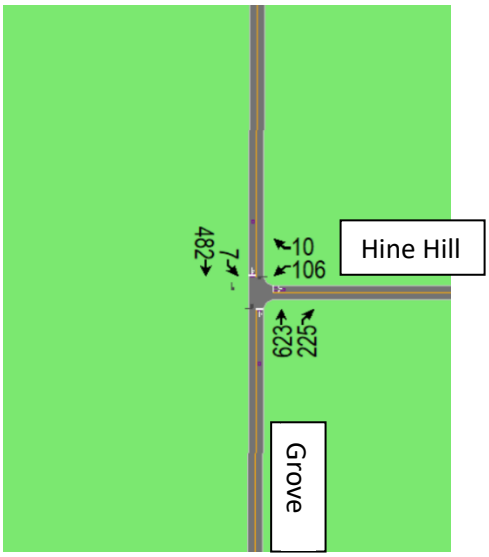


Figure 3C– Future Traffic Volumes AM peak (Grove/Hine Hill)

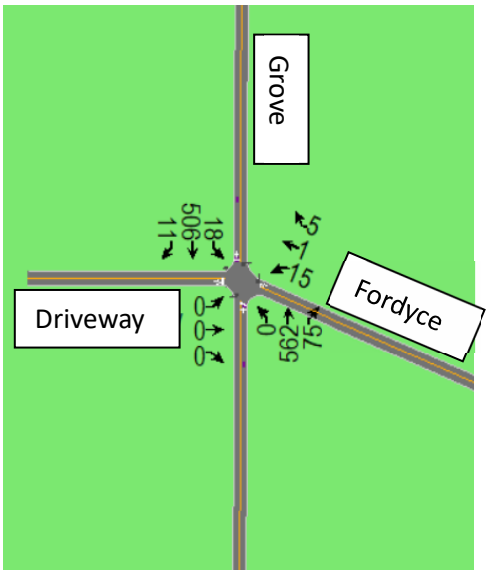


Figure 3D – Future Traffic Volumes AM peak (Grove/Fordyce)

5.TRAFFIC OPERATIONS

KSE performed capacity analyses for the existing and future traffic operating conditions at both the studied intersections. The analyses were conducted using Synchro 11 software replicating Highway Capacity Manual methodologies. The software faithfully duplicates the methods and computations found in the 6th Edition of the Highway Capacity Manual published by the Transportation Research Board. The signalized module was used for the study intersections. The level-of-service criteria are presented in Table 1 and 2 below.

Table 1. Level-of-Service Criteria for Signalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)	General Description
A	≤10	Free flow
B	>10 – 20	Stable flow (slight delays)
C	>20 – 35	Stable flow (acceptable delays)
D	>35 – 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 – 80	Unstable flow (intolerable delay)
F	>80	Forced flow (congested and queues fail to clear)

Table 2. Level-of-Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)	General Description
A	≤5	Free flow
B	>5-10	Stable flow (slight delays)
C	>10 – 20	Stable flow (acceptable delays)
D	>20-30	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>30-45	Unstable flow (intolerable delay)
F	>45	Forced flow (congested and queues fail to clear)

Table 3 and Table 4 present the results of the capacity analyses for both AM and PM peak hours. The capacity worksheets are included in the Appendix of the report.

Table 1: Existing Traffic Operating Conditions (unsignalized)

		AM		PM	
Intersection	**Approach**	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Grove Street and Fordyce Road	EB	0.0	A	0.0	A
	WB	26.5	D	27.9	D
	NB	0.0	A	0.0	A
	SB	0.0	A	0.6	A
	Intersection	1.5	A	0.7	A
Grove Street and Hine Hill Road	WB	60.5	F	62.1	F
	NB	0.0	A	0.0	A
	SB	0.0	A	0.0	A
	Intersection	9.3	A	5.1	A

Table 2: Future Traffic Operating Conditions (signalized)

Intersection	Approach	AM		PM	
		Delay (s/veh)	LOS	Delay (s/veh)	LOS
Grove Street and Fordyce Road	EB	0.0	A	0.0	A
	WB	23.0	C	20.6	C
	NB	3.2	A	1.9	A
	SB	4.4	A	1.7	A
	Intersection	5.1	A	2.1	A
Grove Street and Hine Hill Road	WB	37.4	D	37.1	D
	NB	5.5	A	7.9	A
	SB	7.8	A	4.5	A
	Intersection	11.6	B	9.1	A

6. CRASH DATA (UPDATED)

KSE collected traffic crash information for the two intersections from the University of Connecticut Crash Data Repository for the latest three-year period (2020 to 2023). The crash data revealed the following:

- During the above time-period, at the intersection of Fordyce Road and Grove Street, there were a total of 30 crashes. 33% of those crashes led to injury and 67% of the crashes led to Property Damage Only (PDO). 60% of the crashes were angle crashes, 27% of the crashes were sideswipes and 13% of the crashes were rear end. Typically, angle crashes are directly related to the limited sight distance intersections and can be corrected by a traffic signal installation.

- During the above time-period, at the intersection of Hine Hill Road and Grove Street, there were a total of 70 crashes. 40% of those crashes led to injury and 60% of the crashes led to Property Damage Only (PDO). 46% of the crashes were angle crashes and 44% of the crashes were rear-end. Typically, angle crashes are directly related to the limited sight distance intersections and rear end crashes. Typically rear-end crashes happen due to excessive speeding and/or tailgating at intersections.

7. SIGNAL WARRANT ANALYSES

KSE performed an engineering study of the traffic conditions at the intersections in the project area to determine whether installation of traffic signals are justified at these locations. For each location, each of the nine traffic signal warrants from MUTCD 2009 were investigated. The population of New Milford being

less than 10,000 and the 85th percentile speed at Grove Street being more than 40 mph, appropriate reference to relevant provisions of the MUTCD were made while performing the analyses.

Following are the results of the traffic signal warrant analysis.

- **Grove Street and Fordyce Road**

  Warrant 1, Eight-Hour Vehicular Volume

  The eight-hour vehicular volume warrant is met. Detailed warrant analysis worksheets are presented in the Appendix.

  Warrant 2, Four-Hour Vehicular Volume

  The four-hour vehicular volume warrant is met. Detailed warrant analysis worksheets are presented in the Appendix.

  Warrant 3, Peak Hour Warrant

  The peak hour warrant is not met. Detailed warrant analysis worksheets are presented in the Appendix.

  Warrant 4, Pedestrian Volume

  Not considered due to low volume of pedestrians.

  Warrant 5, School Crossing

  Not applicable.

  Warrant 6, Coordinated Signal System

  Not applicable.

  Warrant 7, Crash Experience

  The crash experience warrant criteria is not met.

  Warrant 8, Roadway Network

  The roadway network warrant criteria is not met.

  Warrant 9, Intersection Near a Grade Crossing

  The warrant criteria for intersection near a grade crossing is not met.

Based on the above analysis, a traffic signal at Grove Street and Fordyce Road is warranted.

- **Grove Street and Hine Hill Road**

  Warrant 1, Eight-Hour Vehicular Volume

  The eight-hour vehicular volume warrant is met. Detailed warrant analysis worksheets are presented in the Appendix.

  Warrant 2, Four-Hour Vehicular Volume

  The four-hour vehicular volume warrant is met. Detailed warrant analysis worksheets are presented in the Appendix.

  Warrant 3, Peak Hour Warrant

  The peak hour warrant is met. Detailed warrant analysis worksheets are presented in the Appendix.

  Warrant 4, Pedestrian Volume

  Not considered due to low volume of pedestrians.

  Warrant 5, School Crossing

  Not applicable.

  Warrant 6, Coordinated Signal System

  Not applicable.

  Warrant 7, Crash Experience

  The crash experience warrant criteria is not met.

  Warrant 8, Roadway Network

  The roadway network warrant criteria is not met.

  Warrant 9, Intersection Near a Grade Crossing

  The warrant criteria for intersection near a grade crossing is not met.

Based on the above analysis, a traffic signal at Grove Street and Hine Hill Road is warranted.

8. NEXT STEPS

KSE recommends the following as sequential next steps:

- Exploration of funding sources for design and construction.
- Funding applications.
- Procurement for preliminary and final design.
- Completion of preliminary and final design plans, specifications and estimates.
- Procurement for construction.
- Construction.

APPENDIX

File Name: E:\1499-2W.ppd
Start Date: 2/7/2024
Start Time: 7:00:00 AM
Site Code: 00000002
Comment 1: TRAFFIC COUNTS
Comment 2: PEAK HOUR
Comment 3:
Comment 4:

	GROVE ST. SOUTHBOUND				FORDYCE RD. WESTBOUND				GROVE ST. NORTHBOUND				NEW MILFORD FITNESS & AQUATIC CLUB DRIVEWAY			
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
7:00:00 AM	2	125	3	0	1	1	11	0	2	51	0	0	0	0	0	0
7:15:00 AM	1	146	0	0	2	0	13	0	5	62	0	0	0	0	0	0
7:30:00 AM	2	157	4	0	1	1	13	0	3	107	0	0	0	0	0	0
7:45:00 AM	5	148	1	0	2	2	11	0	6	88	0	0	0	0	0	0
8:00:00 AM	2	143	0	0	2	0	11	0	7	59	0	0	0	0	0	0
8:15:00 AM	2	109	0	0	3	0	5	0	3	74	0	0	0	0	0	0
8:30:00 AM	4	139	0	0	3	0	7	0	1	95	0	0	0	0	0	0
8:45:00 AM	5	105	0	0	1	2	7	0	0	90	0	0	0	0	0	0
4:00:00 PM	2	115	2	0	4	0	2	0	16	139	0	0	0	0	0	0
4:15:00 PM	4	133	4	0	4	0	7	0	13	152	0	0	0	0	0	0
4:30:00 PM	3	124	6	0	0	0	4	0	19	140	0	0	0	0	0	0
4:45:00 PM	2	113	4	0	2	1	5	0	19	138	0	0	0	0	0	0
5:00:00 PM	3	126	6	0	1	0	3	0	12	124	0	0	0	0	0	0
5:15:00 PM	3	138	2	0	2	0	3	0	24	154	0	0	0	0	0	0
5:30:00 PM	2	108	1	0	1	1	3	0	30	147	0	0	0	0	0	0
5:45:00 PM	4	97	3	0	4	2	5	0	16	136	0	0	0	0	0	0

File Name: E:\1499-1W.ppd
Start Date: 2/7/2024
Start Time: 7:00:00 AM
Site Code: 00000001
Comment 1: TRAFFIC COUNTS
Comment 2: PEAK HOUR
Comment 3:
Comment 4:

	GROVE ST. SOUTHBOUND				HINE HILL RD. WESTBOUND				GROVE ST. NORTHBOUND				EASTBOUND			
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
7:00:00 AM	0	131	0	0	0	0	51	0	20	48	0	0	0	0	0	0
7:15:00 AM	0	166	2	0	0	0	56	0	19	77	0	0	0	0	0	0
7:30:00 AM	0	162	1	0	2	0	49	0	17	88	0	0	0	0	0	0
7:45:00 AM	0	151	1	0	2	0	33	0	25	82	0	0	0	0	0	0
8:00:00 AM	0	149	1	0	2	0	39	0	14	68	0	0	0	0	0	0
8:15:00 AM	0	95	1	0	0	0	28	0	16	77	0	0	0	0	0	0
8:30:00 AM	0	157	2	0	2	0	47	0	14	92	0	0	0	0	0	0
8:45:00 AM	0	107	0	0	3	0	23	0	18	81	0	0	0	0	0	0
4:00:00 PM	0	115	2	0	2	0	25	0	58	140	0	0	0	0	0	0
4:15:00 PM	0	123	2	0	1	0	17	0	48	161	0	0	0	0	0	0
4:30:00 PM	0	128	1	0	2	0	36	0	47	140	0	0	0	0	0	0
4:45:00 PM	0	113	3	0	3	0	27	0	64	157	0	0	0	0	0	0
5:00:00 PM	0	115	1	0	1	0	16	0	53	148	0	0	0	0	0	0
5:15:00 PM	0	121	2	0	4	0	26	0	59	172	0	0	0	0	0	0
5:30:00 PM	0	106	0	0	4	0	19	0	49	151	0	0	0	0	0	0
5:45:00 PM	0	100	3	0	2	0	19	0	57	144	0	0	0	0	0	0

Daily Vehicle Volume Report

Study Date:

Unit ID: Location:

Wednesday, 02/07/2024

Fordyce Road in New Milford, CT

	Eastbound Volume	Westbound Volume	Total Volume
00:00 - 00:59	1	0	**1**
01:00 - 01:59	0	2	**2**
02:00 - 02:59	24	26	**50**
03:00 - 03:59	17	20	**37**
04:00 - 04:59	8	13	**21**
05:00 - 05:59	5	18	**23**
06:00 - 06:59	10	39	**49**
07:00 - 07:59	24	85	**109**
08:00 - 08:59	11	88	**99**
09:00 - 09:59	15	26	**41**
10:00 - 10:59	16	35	**51**
11:00 - 11:59	23	84	**107**
12:00 - 12:59	27	90	**117**
13:00 - 13:59	31	87	**118**
14:00 - 14:59	50	25	**75**
15:00 - 15:59	44	84	**128**
16:00 - 16:59	22	96	**118**
17:00 - 17:59	45	86	**131**
18:00 - 18:59	32	91	**123**
19:00 - 19:59	28	14	**42**
20:00 - 20:59	42	16	**58**
21:00 - 21:59	26	10	**36**
22:00 - 22:59	10	3	**13**
23:00 - 23:59	5	3	**8**
Totals	**516**	**1041**	**1557**
AM Peak Time	**02:39 - 03:38**	**07:10 - 08:09**	**07:03 - 08:02**
AM Peak Volume	**35**	**62**	**87**
PM Peak Time	**16:41 - 17:40**	**17:38 - 18:37**	**17:15 - 18:14**
PM Peak Volume	**99**	**37**	**123**

Daily Vehicle Volume Report

Study Date: Wednesday, 02/07/2024
Unit ID: 1
Location: Hine Hill Road in New Milford, CT

	Westbound Volume	Eastbound Volume	Total Volume
00:00 - 00:59	1	6	**7**
01:00 - 01:59	0	1	**1**
02:00 - 02:59	1	1	**2**
03:00 - 03:59	3	2	**5**
04:00 - 04:59	20	1	**21**
05:00 - 05:59	52	10	**62**
06:00 - 06:59	124	23	**147**
07:00 - 07:59	187	80	**267**
08:00 - 08:59	149	65	**214**
09:00 - 09:59	105	111	**216**
10:00 - 10:59	103	58	**161**
11:00 - 11:59	89	87	**176**
12:00 - 12:59	107	97	**204**
13:00 - 13:59	80	99	**179**
14:00 - 14:59	89	144	**233**
15:00 - 15:59	93	170	**263**
16:00 - 16:59	117	218	**335**
17:00 - 17:59	97	229	**326**
18:00 - 18:59	83	137	**220**
19:00 - 19:59	38	96	**134**
20:00 - 20:59	27	82	**109**
21:00 - 21:59	17	72	**89**
22:00 - 22:59	7	29	**36**
23:00 - 23:59	3	8	**11**
Totals	**1592**	**1826**	**3418**
AM Peak Time	**06:53 - 07:52**	**09:01 - 10:00**	**06:57 - 07:56**
AM Peak Volume	**189**	**112**	**269**
PM Peak Time	**16:31 - 17:30**	**16:24 - 17:23**	**16:30 - 17:29**
PM Peak Volume	**127**	**235**	**358**

Daily Vehicle Volume Report

Study Date: Wednesday, 02/07/2024

Unit ID:

Location: Grove Street South of Hine Hill Road in New Milford, CT

	Northbound Volume	Southbound Volume	Total Volume
00:00 - 00:59	33	9	**42**
01:00 - 01:59	14	1	**15**
02:00 - 02:59	7	4	**11**
03:00 - 03:59	12	6	**18**
04:00 - 04:59	15	11	**26**
05:00 - 05:59	37	211	**248**
06:00 - 06:59	129	419	**548**
07:00 - 07:59	347	768	**1115**
08:00 - 08:59	360	641	**1001**
09:00 - 09:59	350	439	**789**
10:00 - 10:59	290	336	**626**
11:00 - 11:59	337	313	**650**
12:00 - 12:59	363	295	**658**
13:00 - 13:59	385	272	**657**
14:00 - 14:59	536	327	**863**
15:00 - 15:59	664	368	**1032**
16:00 - 16:59	785	542	**1327**
17:00 - 17:59	799	475	**1274**
18:00 - 18:59	535	273	**808**
19:00 - 19:59	342	200	**542**
20:00 - 20:59	316	119	**435**
21:00 - 21:59	224	78	**302**
22:00 - 22:59	120	28	**148**
23:00 - 23:59	62	29	**91**
Totals	**7062**	**6164**	**13226**
AM Peak Time	**08:19 - 09:18**	**07:09 - 08:08**	**07:09 - 08:08**
AM Peak Volume	**391**	**799**	**1148**
PM Peak Time	**16:47 - 17:46**	**16:02 - 17:01**	**16:31 - 17:30**
PM Peak Volume	**819**	**550**	**1345**

Daily Vehicle Volume Report

Study Date: Wednesday, 02/07/2024
Unit ID:
Location: Grove Street North of Hine Hill Road

	Southbound Volume	Northbound Volume	Total Volume
00:00 - 00:59	11	27	**38**
01:00 - 01:59	7	13	**20**
02:00 - 02:59	15	6	**21**
03:00 - 03:59	19	10	**29**
04:00 - 04:59	51	15	**66**
05:00 - 05:59	193	31	**224**
06:00 - 06:59	434	117	**551**
07:00 - 07:59	597	271	**868**
08:00 - 08:59	512	315	**827**
09:00 - 09:59	379	256	**635**
10:00 - 10:59	304	236	**540**
11:00 - 11:59	293	267	**560**
12:00 - 12:59	316	293	**609**
13:00 - 13:59	278	296	**574**
14:00 - 14:59	337	402	**739**
15:00 - 15:59	330	515	**845**
16:00 - 16:59	480	589	**1069**
17:00 - 17:59	428	597	**1025**
18:00 - 18:59	260	421	**681**
19:00 - 19:59	179	262	**441**
20:00 - 20:59	121	243	**364**
21:00 - 21:59	71	153	**224**
22:00 - 22:59	36	93	**129**
23:00 - 23:59	27	55	**82**
Totals	**5678**	**5483**	**11161**
AM Peak Time	**07:08 - 08:07**	**08:13 - 09:12**	**07:08 - 08:07**
AM Peak Volume	**638**	**319**	**916**
PM Peak Time	**16:02 - 17:01**	**16:47 - 17:46**	**16:07 - 17:06**
PM Peak Volume	**491**	**618**	**1085**

Daily Vehicle Volume Report

Study Date: Wednesday, 02/07/2024

Unit ID:

Location: Grove Street South of Fordyce Road in New Milford CT

	Southbound Volume	Northbound Volume	Total Volume
00:00 - 00:59	12	27	**39**
01:00 - 01:59	7	12	**19**
02:00 - 02:59	16	7	**23**
03:00 - 03:59	23	12	**35**
04:00 - 04:59	69	17	**86**
05:00 - 05:59	194	24	**218**
06:00 - 06:59	441	132	**573**
07:00 - 07:59	605	295	**900**
08:00 - 08:59	513	324	**837**
09:00 - 09:59	374	259	**633**
10:00 - 10:59	319	258	**577**
11:00 - 11:59	271	295	**566**
12:00 - 12:59	315	302	**617**
13:00 - 13:59	284	308	**592**
14:00 - 14:59	339	396	**735**
15:00 - 15:59	347	480	**827**
16:00 - 16:59	466	589	**1055**
17:00 - 17:59	444	595	**1039**
18:00 - 18:59	257	444	**701**
19:00 - 19:59	169	309	**478**
20:00 - 20:59	120	262	**382**
21:00 - 21:59	71	174	**245**
22:00 - 22:59	36	101	**137**
23:00 - 23:59	26	51	**77**
Totals	**5718**	**5673**	**11391**
AM Peak Time	**07:05 - 08:04**	**07:25 - 08:24**	**07:12 - 08:11**
AM Peak Volume	**637**	**336**	**946**
PM Peak Time	**16:29 - 17:28**	**17:08 - 18:07**	**16:21 - 17:20**
PM Peak Volume	**481**	**609**	**1067**

Daily Vehicle Volume Report

Study Date: Wednesday, 02/07/2024

Unit ID:

Location: Grove Street North of Fordyce Road in New Milford, CT

	Southbound Volume	Northbound Volume	Total Volume
00:00 - 00:59	11	25	**36**
01:00 - 01:59	6	14	**20**
02:00 - 02:59	17	7	**24**
03:00 - 03:59	25	19	**44**
04:00 - 04:59	63	15	**78**
05:00 - 05:59	193	26	**219**
06:00 - 06:59	426	127	**553**
07:00 - 07:59	572	277	**849**
08:00 - 08:59	490	322	**812**
09:00 - 09:59	375	258	**633**
10:00 - 10:59	318	261	**579**
11:00 - 11:59	265	286	**551**
12:00 - 12:59	326	287	**613**
13:00 - 13:59	284	286	**570**
14:00 - 14:59	362	376	**738**
15:00 - 15:59	355	444	**799**
16:00 - 16:59	476	532	**1008**
17:00 - 17:59	462	537	**999**
18:00 - 18:59	261	405	**666**
19:00 - 19:59	164	294	**458**
20:00 - 20:59	116	232	**348**
21:00 - 21:59	76	163	**239**
22:00 - 22:59	34	94	**128**
23:00 - 23:59	27	49	**76**
Totals	**5704**	**5336**	**11040**
AM Peak Time	**07:05 - 08:04**	**08:21 - 09:20**	**07:12 - 08:11**
AM Peak Volume	**601**	**334**	**885**
PM Peak Time	**16:23 - 17:22**	**17:17 - 18:16**	**16:14 - 17:13**
PM Peak Volume	**496**	**547**	**1025**

Daily Total Speeds (MPH)

Study Date: Wednesday, 02/07/2024
Unit ID: 1
Location: Hine Hill Road in New Milford, CT
Posted Speed: 25

	5-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-99	Total
00:00 - 00:59	0	0	0	0	2	4	0	1	0	0	0	0	0	0	0	**7**
01:00 - 01:59	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**1**
02:00 - 02:59	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	**2**
03:00 - 03:59	0	0	0	0	3	0	0	1	1	0	0	0	0	0	0	**5**
04:00 - 04:59	0	1	2	0	4	8	5	1	0	0	0	0	0	0	0	**21**
05:00 - 05:59	0	0	2	7	9	28	11	4	0	1	0	0	0	0	0	**62**
06:00 - 06:59	0	0	1	8	57	55	24	2	0	0	0	0	0	0	0	**147**
07:00 - 07:59	0	0	6	35	104	97	20	4	1	0	0	0	0	0	0	**267**
08:00 - 08:59	0	2	9	24	79	65	33	1	1	0	0	0	0	0	0	**214**
09:00 - 09:59	0	0	4	19	91	80	16	3	3	0	0	0	0	0	0	**216**
10:00 - 10:59	0	1	7	18	59	59	16	1	0	0	0	0	0	0	0	**161**
11:00 - 11:59	0	3	3	24	62	55	24	4	1	0	0	0	0	0	0	**176**
12:00 - 12:59	0	0	2	26	80	72	20	4	0	0	0	0	0	0	0	**204**
13:00 - 13:59	0	0	4	25	83	47	17	1	2	0	0	0	0	0	0	**179**
14:00 - 14:59	0	0	9	24	89	90	17	3	0	1	0	0	0	0	0	**233**
15:00 - 15:59	0	2	2	30	103	99	26	0	1	0	0	0	0	0	0	**263**
16:00 - 16:59	0	0	11	51	137	115	17	2	1	1	0	0	0	0	0	**335**
17:00 - 17:59	0	0	7	37	158	98	23	3	0	0	0	0	0	0	0	**326**
18:00 - 18:59	0	0	1	35	105	63	11	3	1	0	0	0	0	0	1	**220**
19:00 - 19:59	0	0	1	22	46	47	13	3	2	0	0	0	0	0	0	**134**
20:00 - 20:59	0	0	0	12	50	36	10	1	0	0	0	0	0	0	0	**109**
21:00 - 21:59	0	0	1	8	36	28	13	3	0	0	0	0	0	0	0	**89**
22:00 - 22:59	0	0	0	8	14	8	6	0	0	0	0	0	0	0	0	**36**
23:00 - 23:59	0	0	0	1	3	3	3	1	0	0	0	0	0	0	0	**11**
Totals	**0**	**9**	**72**	**414**	**1375**	**1158**	**326**	**46**	**14**	**3**	**0**	**0**	**0**	**0**	**1**	**3418**
Percent of Total	**0.0**	**0.3**	**2.1**	**12.1**	**40.2**	**33.9**	**9.5**	**1.3**	**0.4**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**100**
Percent of AM	**0.0**	**0.5**	**2.7**	**10.6**	**36.8**	**35.3**	**11.7**	**1.7**	**0.5**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**100**
Percent of PM	**0.0**	**0.1**	**1.8**	**13.0**	**42.3**	**33.0**	**8.2**	**1.1**	**0.3**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**100**

Standard Deviation: 5.2 MPH
Mean Speed: 34.6 MPH
Median Speed: 34.4 MPH
Modal Speed: 32.5 MPH

Ten Mile Pace: 30 to 39 MPH
Percent in Ten Mile Pace: 74.1%

85th Percentile: 39.5 MPH
15th Percentile: 30.1 MPH
90th Percentile: 40.7 MPH
95th Percentile: 43.4 MPH

Daily Northbound Speeds (MPH)

Study Date: Wednesday, 02/07/2024

Unit ID:

Location: Grove Street South of Hine Hill Road in New Milford, CT

Posted Speed: 40

	5-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-99	Total
00:00 - 00:59	0	0	0	0	0	1	11	13	5	2	1	0	0	0	0	**33**
01:00 - 01:59	0	0	0	0	1	2	2	6	1	2	0	0	0	0	0	**14**
02:00 - 02:59	0	0	0	0	0	0	1	3	1	2	0	0	0	0	0	**7**
03:00 - 03:59	0	0	0	1	1	0	2	4	3	0	1	0	0	0	0	**12**
04:00 - 04:59	0	0	0	0	0	2	4	5	4	0	0	0	0	0	0	**15**
05:00 - 05:59	0	0	0	0	3	6	8	13	4	1	1	1	0	0	0	**37**
06:00 - 06:59	0	0	1	0	4	15	48	43	11	7	0	0	0	0	0	**129**
07:00 - 07:59	0	0	0	1	13	71	115	112	28	3	2	0	2	0	0	**347**
08:00 - 08:59	0	0	0	3	10	60	153	99	30	2	1	0	0	1	1	**360**
09:00 - 09:59	0	0	0	1	0	37	181	105	18	8	0	0	0	0	0	**350**
10:00 - 10:59	0	0	0	2	5	37	138	81	21	5	1	0	0	0	0	**290**
11:00 - 11:59	0	0	0	1	4	36	152	107	30	6	1	0	0	0	0	**337**
12:00 - 12:59	1	0	0	0	6	45	149	125	33	4	0	0	0	0	0	**363**
13:00 - 13:59	3	0	0	1	5	58	165	117	28	5	0	0	0	0	0	**382**
14:00 - 14:59	1	0	0	1	1	47	230	207	47	2	0	0	0	0	0	**536**
15:00 - 15:59	0	0	2	2	3	50	267	276	56	7	0	1	0	0	0	**664**
16:00 - 16:59	0	0	1	2	27	109	368	240	34	3	0	0	0	0	1	**785**
17:00 - 17:59	0	0	1	0	24	209	434	113	15	1	0	0	1	0	0	**798**
18:00 - 18:59	0	0	1	2	17	130	275	97	10	2	0	0	0	0	1	**535**
19:00 - 19:59	0	0	0	0	2	58	171	91	13	5	1	0	0	0	1	**342**
20:00 - 20:59	0	0	0	0	2	48	135	106	18	6	1	0	0	0	0	**316**
21:00 - 21:59	0	0	0	1	3	32	107	64	14	2	1	0	0	0	0	**224**
22:00 - 22:59	0	0	0	0	1	15	38	43	19	1	3	0	0	0	0	**120**
23:00 - 23:59	0	0	0	0	1	6	19	16	16	2	1	0	1	0	0	**62**
Totals	**5**	**0**	**6**	**18**	**133**	**1074**	**3173**	**2086**	**459**	**78**	**15**	**2**	**4**	**1**	**4**	**7058**
Percent of Total	**0.1**	**0.0**	**0.1**	**0.3**	**1.9**	**15.2**	**45.0**	**29.6**	**6.5**	**1.1**	**0.2**	**0.0**	**0.1**	**0.0**	**0.1**	**100**
Percent of AM	**0.0**	**0.0**	**0.1**	**0.5**	**2.1**	**13.8**	**42.2**	**30.6**	**8.1**	**2.0**	**0.4**	**0.1**	**0.1**	**0.1**	**0.1**	**100**
Percent of PM	**0.1**	**0.0**	**0.1**	**0.2**	**1.8**	**15.7**	**46.0**	**29.2**	**5.9**	**0.8**	**0.1**	**0.0**	**0.0**	**0.0**	**0.1**	**100**

Standard Deviation: 5.2 MPH
Mean Speed: 43.9 MPH
Median Speed: 43.6 MPH
Modal Speed: 42.5 MPH

Ten Mile Pace: 40 to 49 MPH
Percent in Ten Mile Pace: 74.5%

85th Percentile: 48.8 MPH
15th Percentile: 39.2 MPH
90th Percentile: 49.7 MPH
95th Percentile: 52.3 MPH

Daily Southbound Speeds (MPH)

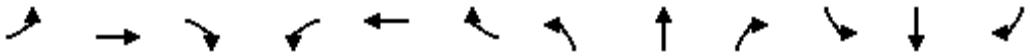
Study Date: Wednesday, 02/07/2024
Unit ID:
Location: Grove Street North of Hine Hill Road
Posted Speed: 40

	5-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-99	Total
00:00 - 00:59	0	0	0	0	0	0	1	6	3	1	0	0	0	0	0	**11**
01:00 - 01:59	0	0	0	0	0	2	1	1	3	0	0	0	0	0	0	**7**
02:00 - 02:59	0	0	1	0	0	1	3	4	6	0	0	0	0	0	0	**15**
03:00 - 03:59	0	0	0	0	0	0	5	7	6	1	0	0	0	0	0	**19**
04:00 - 04:59	0	0	0	0	0	2	6	15	21	6	1	0	0	0	0	**51**
05:00 - 05:59	0	0	0	0	0	10	45	76	46	14	2	0	0	0	0	**193**
06:00 - 06:59	0	5	0	1	5	23	126	207	55	12	0	0	0	0	0	**434**
07:00 - 07:59	2	1	6	4	6	89	249	200	38	2	0	0	0	0	0	**597**
08:00 - 08:59	0	2	3	4	22	74	208	161	32	3	2	1	0	0	0	**512**
09:00 - 09:59	0	2	6	6	8	40	147	127	39	3	0	0	0	0	1	**379**
10:00 - 10:59	2	3	2	0	2	22	106	133	29	4	1	0	0	0	0	**304**
11:00 - 11:59	0	2	2	4	9	23	112	98	39	3	0	0	0	0	0	**292**
12:00 - 12:59	1	2	3	5	3	41	116	112	28	5	0	0	0	0	0	**316**
13:00 - 13:59	0	2	4	1	1	16	142	76	23	5	1	0	0	0	0	**271**
14:00 - 14:59	0	0	3	3	8	24	140	131	21	2	1	0	0	0	0	**333**
15:00 - 15:59	1	1	4	2	0	24	92	135	63	6	1	0	0	0	0	**329**
16:00 - 16:59	2	3	8	4	4	73	201	134	47	3	1	0	0	0	0	**480**
17:00 - 17:59	4	2	4	2	6	59	165	141	37	2	1	0	0	0	2	**425**
18:00 - 18:59	0	2	2	2	4	39	101	82	25	2	0	0	1	0	0	**260**
19:00 - 19:59	3	5	5	2	5	17	60	60	17	3	2	0	0	0	0	**179**
20:00 - 20:59	1	2	2	1	0	9	44	49	10	1	2	0	0	0	0	**121**
21:00 - 21:59	0	0	2	0	1	2	20	30	12	4	0	0	0	0	0	**71**
22:00 - 22:59	0	0	1	0	0	1	11	9	10	3	1	0	0	0	0	**36**
23:00 - 23:59	0	0	0	0	0	0	7	10	3	6	1	0	0	0	0	**27**
Totals	**16**	**34**	**58**	**41**	**84**	**591**	**2108**	**2004**	**613**	**91**	**17**	**1**	**1**	**0**	**3**	**5662**
Percent of Total	**0.3**	**0.6**	**1.0**	**0.7**	**1.5**	**10.4**	**37.2**	**35.4**	**10.8**	**1.6**	**0.3**	**0.0**	**0.0**	**0.0**	**0.1**	**100**
Percent of AM	**0.1**	**0.5**	**0.7**	**0.7**	**1.8**	**10.2**	**35.9**	**36.8**	**11.3**	**1.7**	**0.2**	**0.0**	**0.0**	**0.0**	**0.0**	**100**
Percent of PM	**0.4**	**0.7**	**1.3**	**0.8**	**1.1**	**10.7**	**38.6**	**34.0**	**10.4**	**1.5**	**0.4**	**0.0**	**0.0**	**0.0**	**0.1**	**100**

Standard Deviation: 6.4 MPH
Mean Speed: 44.5 MPH
Median Speed: 44.8 MPH
Modal Speed: 42.5 MPH

Ten Mile Pace: 40 to 49 MPH
Percent in Ten Mile Pace: 72.6%

85th Percentile: 49.7 MPH
15th Percentile: 40.1 MPH
90th Percentile: 51.3 MPH
95th Percentile: 53.6 MPH



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	48	3	7	0	316	21	5	594	10
Future Volume (Veh/h)	0	0	0	48	3	7	0	316	21	5	594	10
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	52	3	8	0	343	23	5	646	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1026	1028	652	1016	1022	354	657			366		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1026	1028	652	1016	1022	354	657			366		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.2			2.2		
p0 queue free %	100	100	100	75	99	99	100			100		
cM capacity (veh/h)	205	230	463	208	228	672	916			1176		

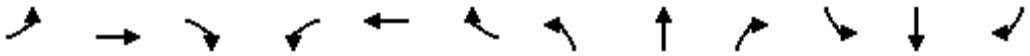
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	0	63	366	662
Volume Left	0	52	0	5
Volume Right	0	8	23	11
cSH	1700	229	916	1176
Volume to Capacity	0.00	0.27	0.00	0.00
Queue Length 95th (ft)	0	27	0	0
Control Delay (s)	0.0	26.5	0.0	0.1
Lane LOS	A	D		A
Approach Delay (s)	0.0	26.5	0.0	0.1
Approach LOS	A	D		

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	45.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	177	6	315	75	5	628
Future Volume (Veh/h)	177	6	315	75	5	628
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	192	7	342	82	5	683
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	1076	383			424	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1076	383			424	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	21	99			100	
cM capacity (veh/h)	242	664			1135	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	199	424	688
Volume Left	192	0	5
Volume Right	7	82	0
cSH	247	1700	1135
Volume to Capacity	0.80	0.25	0.00
Queue Length 95th (ft)	153	0	0
Control Delay (s)	60.5	0.0	0.1
Lane LOS	F		A
Approach Delay (s)	60.5	0.0	0.1
Approach LOS	F		

Intersection Summary			
Average Delay	9.3		
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		

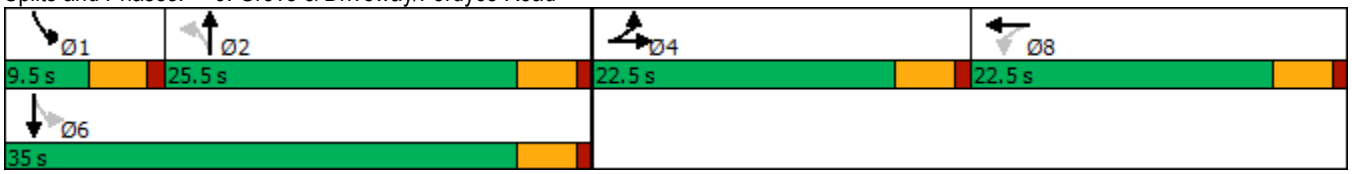


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	49	3	7	0	319	21	5	600	10
Future Volume (vph)	0	0	0	49	3	7	0	319	21	5	600	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.983			0.992			0.998	
Flt Protected					0.960							
Satd. Flow (prot)	0	1863	0	0	1758	0	0	1848	0	0	1859	0
Flt Permitted					0.950						0.998	
Satd. Flow (perm)	0	1863	0	0	1740	0	0	1848	0	0	1855	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8			4			1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		363			1819			84251			4040	
Travel Time (s)		8.3			41.3			1914.8			91.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	53	3	8	0	347	23	5	652	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	64	0	0	370	0	0	668	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	0	0		0	0		0	2		0	2	
Detector Template	Thru	Thru		Thru	Thru		Thru	Thru		Thru	Thru	
Leading Detector (ft)	0	0		50	0		50	100		50	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	0	0		0	0		0	6		0	6	
Detector 1 Type								Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type				Perm	NA			NA		pm+pt	NA	
Protected Phases	4	4			8			2		1	6	
Permitted Phases				8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	

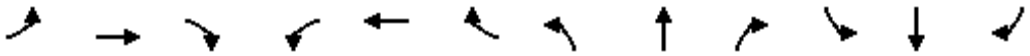
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		25.5	25.5		9.5	35.0	
Total Split (%)	28.1%	28.1%		28.1%	28.1%		31.9%	31.9%		11.9%	43.8%	
Maximum Green (s)	18.0	18.0		18.0	18.0		21.0	21.0		5.0	30.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)					7.7			46.5			46.5	
Actuated g/C Ratio					0.14			0.82			0.82	
v/c Ratio					0.26			0.24			0.44	
Control Delay					23.0			3.2			4.4	
Queue Delay					0.0			0.0			0.0	
Total Delay					23.0			3.2			4.4	
LOS					C			A			A	
Approach Delay					23.0			3.2			4.4	
Approach LOS					C			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 56.5			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay: 5.1		Intersection LOS: A	
Intersection Capacity Utilization 47.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: Grove & Driveway/Fordyce Road



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	179	6	318	76	5	634
Future Volume (vph)	179	6	318	76	5	634
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995		0.974			
Flt Protected	0.954					
Satd. Flow (prot)	1768	0	1814	0	0	1863
Flt Permitted	0.954					0.998
Satd. Flow (perm)	1768	0	1814	0	0	1859
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	2		22			
Link Speed (mph)	40		40			40
Link Distance (ft)	52783		8174			84251
Travel Time (s)	899.7		139.3			1436.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	195	7	346	83	5	689
Shared Lane Traffic (%)						
Lane Group Flow (vph)	202	0	429	0	0	694
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1		2		1	2
Detector Template	Left		Thru		Left	Thru
Leading Detector (ft)	20		100		20	100
Trailing Detector (ft)	0		0		0	0
Detector 1 Position(ft)	0		0		0	0
Detector 1 Size(ft)	20		6		20	6
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot		NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases					6	
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	5.0		5.0		5.0	5.0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	15	1	5	0	556	74	18	501	11
Future Volume (Veh/h)	0	0	0	15	1	5	0	556	74	18	501	11
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	16	1	5	0	604	80	20	545	12
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	1240	1275	551	1235	1241	644	557			684		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1240	1275	551	1235	1241	644	557			684		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.2			2.2		
p0 queue free %	100	100	100	89	99	99	100			98		
cM capacity (veh/h)	145	161	528	145	165	459	999			895		

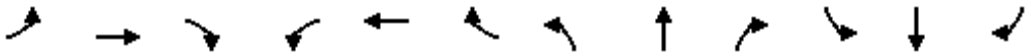
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	0	22	684	577
Volume Left	0	16	0	20
Volume Right	0	5	80	12
cSH	1700	173	999	895
Volume to Capacity	0.00	0.13	0.00	0.02
Queue Length 95th (ft)	0	11	0	2
Control Delay (s)	0.0	28.8	0.0	0.6
Lane LOS	A	D		A
Approach Delay (s)	0.0	28.8	0.0	0.6
Approach LOS	A	D		

Intersection Summary				
Average Delay	0.8			
Intersection Capacity Utilization	51.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	105	10	617	223	7	477
Future Volume (Veh/h)	105	10	617	223	7	477
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	114	11	671	242	8	518
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	1326	792			913	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1326	792			913	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	32	97			99	
cM capacity (veh/h)	167	384			734	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	125	913	526
Volume Left	114	0	8
Volume Right	11	242	0
cSH	176	1700	734
Volume to Capacity	0.71	0.54	0.01
Queue Length 95th (ft)	109	0	1
Control Delay (s)	64.2	0.0	0.3
Lane LOS	F		A
Approach Delay (s)	64.2	0.0	0.3
Approach LOS	F		

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

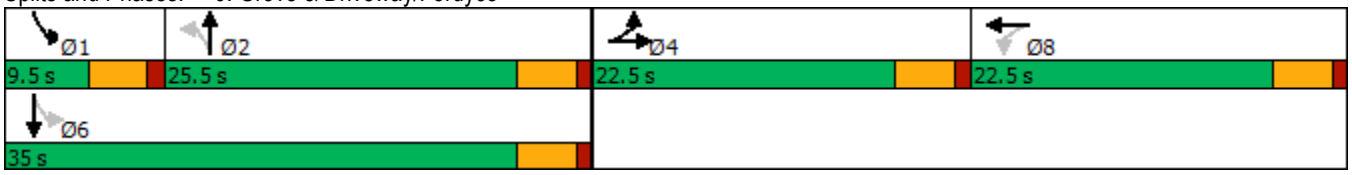


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	15	1	5	0	562	75	18	506	11
Future Volume (vph)	0	0	0	15	1	5	0	562	75	18	506	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.969			0.984			0.997	
Flt Protected					0.965						0.998	
Satd. Flow (prot)	0	1810	0	0	1615	0	0	1781	0	0	1800	0
Flt Permitted					0.950						0.975	
Satd. Flow (perm)	0	1810	0	0	1590	0	0	1781	0	0	1759	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					5			8			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		363			1819			84251			4040	
Travel Time (s)		8.3			41.3			1914.8			91.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	10%	10%	10%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	0	0	0	16	1	5	0	611	82	20	550	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	22	0	0	693	0	0	582	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	0	0		0	0		0	2		0	2	
Detector Template	Thru	Thru		Thru	Thru		Thru	Thru		Thru	Thru	
Leading Detector (ft)	0	0		50	0		50	100		50	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	0	0		0	0		0	6		0	6	
Detector 1 Type								Cl+Ex			Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type				Perm	NA			NA		pm+pt	NA	
Protected Phases	4	4			8			2		1	6	
Permitted Phases				8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		9.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		25.5	25.5		9.5	35.0	
Total Split (%)	28.1%	28.1%		28.1%	28.1%		31.9%	31.9%		11.9%	43.8%	
Maximum Green (s)	18.0	18.0		18.0	18.0		21.0	21.0		5.0	30.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)					6.2			49.7			49.7	
Actuated g/C Ratio					0.12			0.95			0.95	
v/c Ratio					0.11			0.41			0.35	
Control Delay					20.8			2.1			1.8	
Queue Delay					0.0			0.0			0.0	
Total Delay					20.8			2.1			1.8	
LOS					C			A			A	
Approach Delay					20.8			2.1			1.8	
Approach LOS					C			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 52.5			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay: 2.3		Intersection LOS: A	
Intersection Capacity Utilization 53.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: Grove & Driveway/Fordyce



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	105	10	617	223	7	477
Future Volume (Veh/h)	105	10	617	223	7	477
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	114	11	671	242	8	518
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	1326	792			913	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1326	792			913	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	32	97			99	
cM capacity (veh/h)	167	384			734	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	125	913	526
Volume Left	114	0	8
Volume Right	11	242	0
cSH	176	1700	734
Volume to Capacity	0.71	0.54	0.01
Queue Length 95th (ft)	109	0	1
Control Delay (s)	64.2	0.0	0.3
Lane LOS	F		A
Approach Delay (s)	64.2	0.0	0.3
Approach LOS	F		

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

SIGNAL WARRANT ANALYSIS

GROVE AND FORDYCE

Warrant 1

Section 4C.02 Warrant 1, Eight-Hour Vehicular Volume

Support:
01 The Minimum Vehicular Volume, Condition A, is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

02 The Interruption of Continuous Traffic, Condition B, is intended for application at locations where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

03 It is intended that Warrant 1 be treated as a single warrant. If Condition A is satisfied, then Warrant 1 is satisfied and analyses of Condition B and the combination of Conditions A and B are not needed. Similarly, if Condition B is satisfied, then Warrant 1 is satisfied and an analysis of the combination of Conditions A and B is not needed.

Standard:
04 **The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:**

- **A. The vehicles per hour given in both of the 100 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or**
- **B. The vehicles per hour given in both of the 100 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.**

In applying each condition the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112
Condition B—Interruption of Continuous Traffic									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Option:
05 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the traffic volumes in the 70 percent columns in Table 4C-1 may be used in place of the 100 percent columns.

CONDITION A				
Major Street (Grove NB)	**Major Street (Grove SB)**	**Major Street (NB+SB)**	**Minor Street (Fordyce)**	d
25	10	35	0	NO
10	6	16	2	NO
6	12	18	26	NO
6	19	25	20	NO
9	70	79	13	NO
35	192	227	18	NO
151	393	544	39	NO
283	563	846	85	YES
323	490	813	88	YES
262	377	639	26	NO
292	339	631	35	NO
283	305	588	84	YES
293	317	610	90	YES
298	347	645	87	YES
462	320	782	25	NO
518	409	927	84	YES
577	428	1005	96	YES
565	422	987	86	YES
477	256	733	91	YES
318	183	501	14	NO
260	135	395	16	NO
215	69	284	10	NO
114	40	154	3	NO
56	32	88	3	NO

Condition A met – no further analysis needed. Warrant 1 is satisfied.

Warrant 2

2009 Edition Part 4 Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

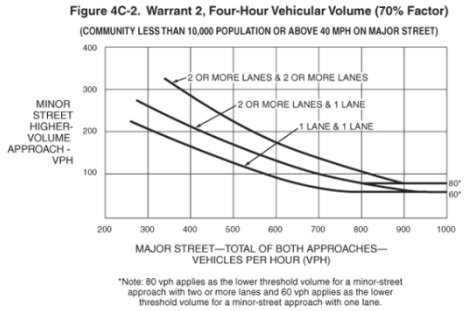


Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

This figure shows a graph depicting numerical values for Warrant 2, Four-Hour Vehicular Volume with the 70-percent factor applied if the posted or statutory speed limit or the 85th percentile speed on the major street exceeds 70 km/h (40 mph) or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000 (see Section 4C.03 for further details). The figure displays three curves-one for each existing combination of approach lanes: one lane and one lane, two or more lanes and one lane, and two or more lanes and two or more lanes. The table below shows the approximate VPH on the major street and corresponding VPH on the minor street for each combination of approach lanes.

Table for Figure 4C-2

One lane and one lane		Two or more lanes and one lane		Two or more lanes and two or more lanes	
VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)	VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)	VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)
1000	60	1000	60 or 80*	1000	80
900	60	900	65 or 80*	900	80
800	60	800	80	800	105
700	70	700	100	700	140
600	90	600	130	600	175
500	125	500	165	500	225
400	160	400	215	400	290
300	205	300	265	300	Not available

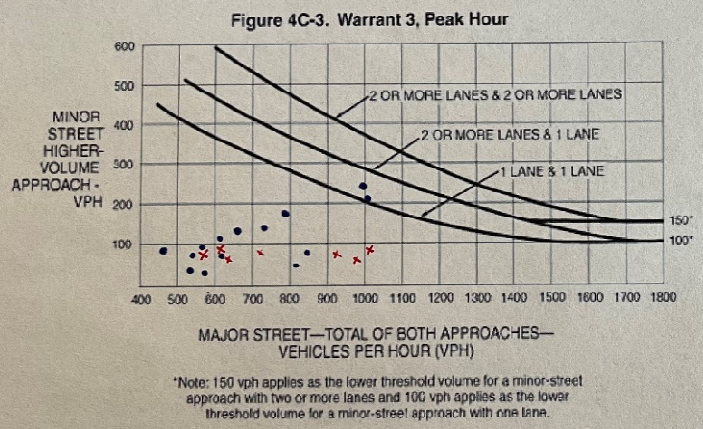
* Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Major Street (Grove NB)	Major Street (Grove S	Major Street (NB+S	Minor Street (Fordyc	70% curve
25	10	35	0	NO
10	6	16	2	NO
6	12	18	26	NO
6	19	25	20	NO
9	70	79	13	NO
35	192	227	18	NO
151	393	544	39	NO
283	563	846	85	NO
323	490	813	88	NO
262	377	639	26	NO
292	339	631	35	NO
283	305	588	84	YES
293	317	610	90	YES
298	347	645	87	YES
462	320	782	25	NO
518	409	927	84	YES
577	428	1005	96	YES
565	422	987	86	YES
477	256	733	91	YES
318	183	501	14	NO
260	135	395	16	NO
215	69	284	10	NO
114	40	154	3	NO
56	32	88	3	NO

Warrant 2 is satisfied.

Warrant 3

2009 Edition Part 4 Figure 4C-3. Warrant 3, Peak Hour



The red dots represent the volume points for Fordyce Road.

Warrant 3 is not met.

Figure 4C-3. Warrant 3, Peak Hour

This figure shows a graph depicting numerical values for Warrant 3, Peak Hour (see Section 4C.04 for further details). The figure displays three curves—one for each existing combination of approach lanes: one lane and one lane, two or more lanes and one lane, and two or more lanes and two or more lanes.

The table below shows the approximate VPH on the major street and corresponding VPH on the minor street for each combination of approach lanes.

Warrant 4

Not considered due to low volume of pedestrians.

Warrant 5

Not applicable.

Warrant 6

Not applicable.

Warrant 7

Criteria not met.

Warrant 8

Criteria not met.

Warrant 9

Not applicable.

GROVE AND HINE HILL ROAD

Warrant 1

Section 4C.02 Warrant 1, Eight-Hour Vehicular Volume

Support:
01 The Minimum Vehicular Volume, Condition A, is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

02 The Interruption of Continuous Traffic, Condition B, is intended for application at locations where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

03 It is intended that Warrant 1 be treated as a single warrant. If Condition A is satisfied, then Warrant 1 is satisfied and analyses of Condition B and the combination of Conditions A and B are not needed. Similarly, if Condition B is satisfied, then Warrant 1 is satisfied and an analysis of the combination of Conditions A and B is not needed.

Standard:
04 **The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:**

- **A. The vehicles per hour given in both of the 100 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or**
- **B. The vehicles per hour given in both of the 100 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.**

In applying each condition the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112
Condition B—Interruption of Continuous Traffic									
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Option:
05 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the traffic volumes in the 70 percent columns in Table 4C-1 may be used in place of the 100 percent columns.

CONDITION A				
Major Street (Grove NB)	**Major Street (Grove SB)**	**Major Street (NB+SB)**	**Minor Street (Hine Hill**	d
25	11	36	6	NO
14	6	20	1	NO
7	17	24	1	NO
19	25	44	2	NO
15	63	78	1	NO
26	193	219	10	NO
127	426	553	23	NO
277	572	849	80	NO
322	490	812	65	NO
258	375	633	111	YES
261	318	579	58	NO
286	265	551	87	YES
287	326	613	97	YES
286	284	570	99	YES
376	362	738	144	YES
444	355	799	170	YES
532	476	1008	218	YES
537	462	999	229	YES
405	261	666	137	YES
294	164	458	96	YES
232	116	348	82	NO
163	76	239	72	NO
94	34	128	29	NO
49	27	76	8	NO

Warrant 2

2009 Edition Part 4 Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

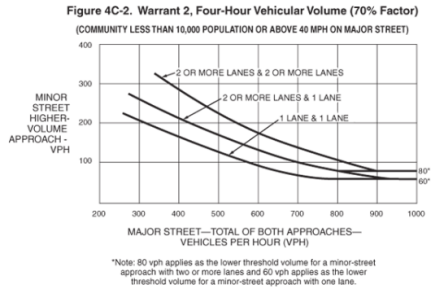


Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

This figure shows a graph depicting numerical values for Warrant 2, Four-Hour Vehicular Volume with the 70-percent factor applied if the posted or statutory speed limit or the 85th percentile speed on the major street exceeds 70 km/h (40 mph) or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000 (see Section 4C.03 for further details). The figure displays three curves-one for each existing combination of approach lanes: one lane and one lane, two or more lanes and one lane, and two or more lanes and two or more lanes. The table below shows the approximate VPH on the major street and corresponding VPH on the minor street for each combination of approach lanes.

Table for Figure 4C-2

One lane and one lane		Two or more lanes and one lane		Two or more lanes and two or more lanes	
VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)	VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)	VPH on the major street (Total of both approaches)	VPH on the minor street (Higher volume approach)
1000	60	1000	60 or 80*	1000	80
900	60	900	65 or 80*	900	80
800	60	800	80	80	105
700	70	700	100	700	140
600	90	600	130	600	175
500	125	500	165	500	225
400	160	400	215	400	290
300	205	300	265	300	Not available

* Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

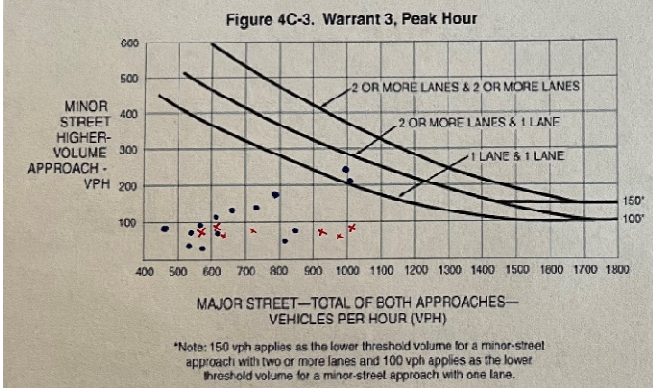
Major Street (Grove NB)	Major Street (Grove SB)	Major Street (NB+SB)	Minor Street (Hine Hill)	70% curve
25	11	36	6	NO
14	6	20	1	NO
7	17	24	1	NO
19	25	44	2	NO
15	63	78	1	NO
26	193	219	10	NO
127	426	553	23	NO
277	572	849	80	NO
322	490	812	65	NO
258	375	633	111	NO
261	318	579	58	NO
286	265	551	87	YES
287	326	613	97	YES
286	284	570	99	YES
376	362	738	144	NO
444	355	799	170	YES
532	476	1008	218	YES
537	462	999	229	YES
405	261	666	137	YES
294	164	458	96	NO
232	116	348	82	NO
163	76	239	72	NO
94	34	128	29	NO
49	27	76	8	NO

Warrant 2 is satisfied.

Warrant 3

Back to Chapter 4C

2009 Edition Part 4 Figure 4C-3. Warrant 3, Peak Hour



The blue dots represent the volume points for Hine Hill Road.

Warrant 3 is met.

Figure 4C-3. Warrant 3, Peak Hour

This figure shows a graph depicting numerical values for Warrant 3, Peak Hour (see Section 4C.04 for further details). The figure displays three curves—one for each existing combination of approach lanes: one lane and one lane, two or more lanes and one lane, and two or more lanes and two or more lanes.

The table below shows the approximate VPH on the major street and corresponding VPH on the minor street for each combination of approach lanes.

Warrant 4

Not considered due to low volume of pedestrians.

Warrant 5

Not applicable.

Warrant 6

Not applicable.

Warrant 7

Criteria not met.

Warrant 8

Criteria not met.

Warrant 9

Not applicable.