



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

SIGNAL WARRANTS ANALYSIS

LOCATION: TH-41 & 82ND ST W
 COUNTY: CARVER
 REF. POINT: 006.709
 DATE: 10/16/1997
 OPERATOR: DR

Speed	Approach Description	Lanes
50	Major App1: TH-41 NB, S OF 82ND ST W	3
50	Major App3: TH-41 SB, N OF 82ND ST W	3
30	Minor App2: 82ND ST EB, W OF TH-41	1
30	Minor App4: 82ND ST WB, E OF TH-41	1

0.70 FACTOR USED? YES
 POPULATION < 10,000? NO
 EXISTING SIGNAL ? NO

HOUR	420/630				105/52		105/52		MET SAME HOURS
	MAJOR APP. 1	MAJOR APP. 3	TOTAL 1+3	WARRANT MET	MINOR APP. 2	MINOR APP. 4	WARRANT MET APP. 2	WARRANT MET APP. 4	
0:00 - 1:00	65	18	83	/	47	2	/	/	/
1:00 - 2:00	49	17	66	/	39	34	/	/	/
2:00 - 3:00	30	16	46	/	30	9	/	/	/
3:00 - 4:00	32	1	33	/	32	3	/	/	/
4:00 - 5:00	45	4	49	/	100	9	/X	/	/
5:00 - 6:00	141	3	144	/	319	20	X/X	/	/
6:00 - 7:00	400	5	405	/	663	150	X/X	X/X	/
7:00 - 8:00	520	11	531	X/	1006	212	X/X	X/X	X/
8:00 - 9:00	449	11	460	X/	717	138	X/X	X/X	X/
9:00 - 10:00	419	18	437	X/	507	39	X/X	/	X/
10:00 - 11:00	451	21	472	X/	494	51	X/X	/	X/
11:00 - 12:00	564	57	621	X/	515	123	X/X	X/X	X/
12:00 - 13:00	553	37	590	X/	646	103	X/X	/X	X/
13:00 - 14:00	528	24	552	X/	600	56	X/X	/X	X/
14:00 - 15:00	602	38	640	X/X	584	68	X/X	/X	X/X
15:00 - 16:00	750	153	903	X/X	635	107	X/X	X/X	X/X
16:00 - 17:00	891	50	941	X/X	585	159	X/X	X/X	X/X
17:00 - 18:00	684	29	713	X/X	621	143	X/X	X/X	X/X
18:00 - 19:00	533	17	550	X/	499	51	X/X	/	X/
19:00 - 20:00	291	7	298	/	338	17	X/X	/	/
20:00 - 21:00	252	9	261	/	274	16	X/X	/	/
21:00 - 22:00	209	2	211	/	231	8	X/X	/	/
22:00 - 23:00	138	2	140	/	169	4	X/X	/	/
23:00 - 24:00	125	4	129	/	109	11	X/X	/	/

	Met (Hr)	Required (Hr)	
Warrant 1	12	8	Satisfied
Warrant 2	4	8	Not satisfied
Warrant 6	13	8	Satisfied, check accident record
Warrant 8	9	8	Satisfied
Warrant 9	14	4	Satisfied
Warrant 11	13	1	Satisfied

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0.70 FACTOR USED? YES
 POPULATION < 10,000? NO
 EXISTING SIGNAL ? NO

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30	Minor App4: 82ND ST WB, E OF TH-41	1

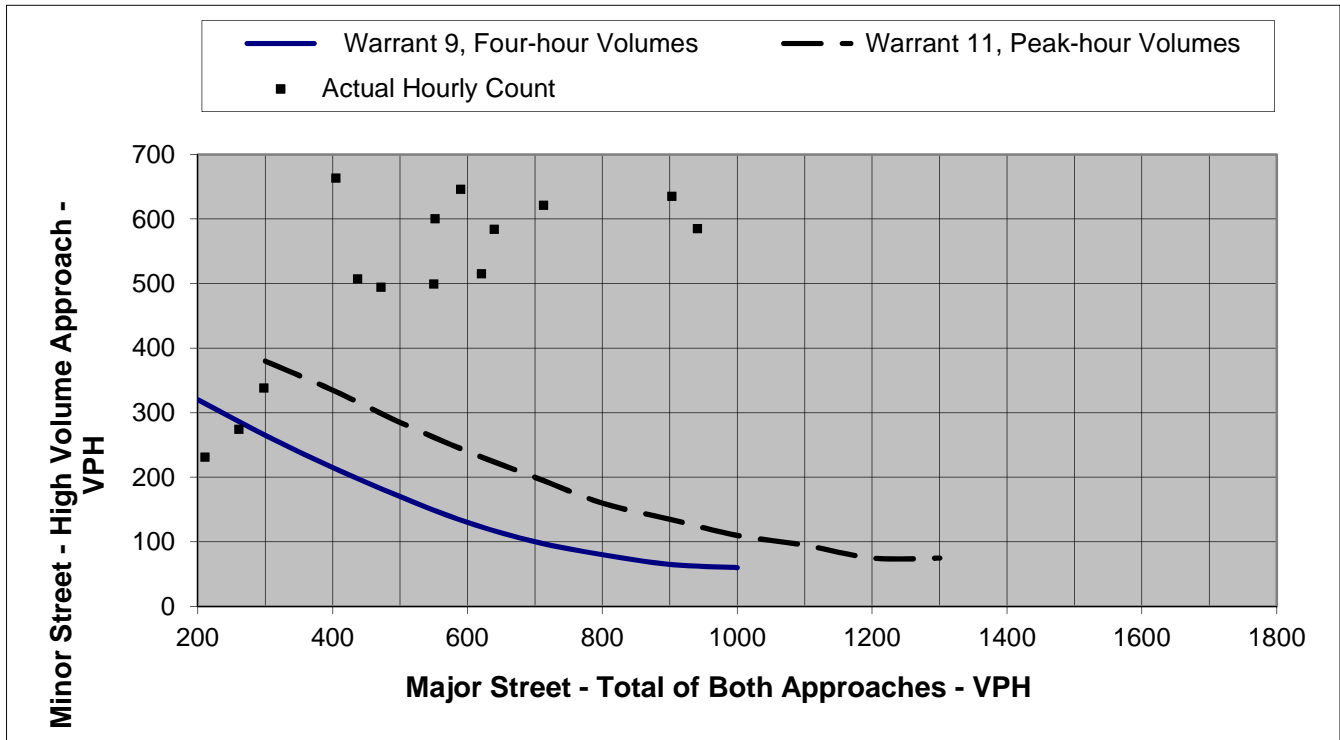


Figure 1. Four Hour and Peak Hour Warrant Analysis

Note: For data points outside the graph range, check the minor street volume against the lower thresholds

Major	Warrant Criteria		Actual Hourly Count	
	Warrant 9, F	Warrant 11, P	Major	Actual Hourly Count
200	320		83	47
300	265	380	66	39
400	215	335	46	30
500	170	285	33	32
600	130	240	49	100
700	100	200	144	319
800	80	160	405	663
900	65	135	531	1006
1000	60	110	460	717
1100		95	437	507
1200		75	472	494
1300		75	621	515
1400			590	646
1500			552	600
1600			640	584
1700			903	635
1800			941	585
			713	621
			550	499
			298	338
			261	274
			211	231
			140	169
			129	109

Four Hour Warrant

Major App	Minor App		
	1 & 1	2 & 1	2 & 2
300	360	440	590
400	310	390	530
500	260	340	460
600	215	290	390
700	180	245	330
800	150	205	280
900	125	170	235
1000	100	145	195
1100	85	120	165
1200	80	100	135
1300	80	83	110
1400	80	80	110

Peak Hour

Major App	1 & 1
400	475
500	425
600	370
700	330
800	280
900	240
1000	204
1100	175
1200	150
1300	130
1400	115
1500	100
1600	100
1700	100
1800	100

Four Hour Warrant Factored

Major App	Minor App		
	1 & 1	2 & 1	2 & 2
200	250	320	420
300	210	265	350
400	170	215	285
500	130	170	230
600	93	130	175
700	70	100	135
800	60	80	103
900	60	65	80
1000	60	60	80

Peak Hour

Major App	1 & 1
300	320
400	270
500	225
600	180
700	145
800	115
900	90
1000	75
1100	75
1200	75
1300	75

Warrant

Minor App

2 & 1	2 & 2
570	725
520	665
465	600
420	540
370	480
330	425
285	375
250	330
220	285
190	250
160	220
140	187
115	165
100	150
100	150

Warrant Factored

Minor App

2 & 1	2 & 2
380	500
335	435
285	370
240	315
200	260
160	215
135	175
110	140
95	115
75	100
75	100



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

ALL WAY STOP WARRANT

LOCATION: TH-41 & 82ND ST W

COUNTY: CARVER

REF. POINT: 006.709

DATE: 10/16/1997

OPERATOR: DR

Speed	Approach Description	Lanes
50	Major App1: TH-41 NB, S OF 82ND ST W	3
50	Major App3: TH-41 SB, N OF 82ND ST W	3
30	Minor App2: 82ND ST EB, W OF TH-41	1
30	Minor App4: 82ND ST WB, E OF TH-41	1

0.70 FACTOR USED? Yes

HOUR	MAJOR APP. 1	MAJOR APP. 3	MINOR APP. 2	MINOR APP. 4	350	140	WARRANT MET
					TOTAL Σ (APP.1 to APP. 4)	MINOR TOTAL APP. 2 + APP. 4	
0:00 - 1:00	65	18	47	2	132	49	/
1:00 - 2:00	49	17	39	34	139	73	/
2:00 - 3:00	30	16	30	9	85	39	/
3:00 - 4:00	32	1	32	3	68	35	/
4:00 - 5:00	45	4	100	9	158	109	/
5:00 - 6:00	141	3	319	20	483	339	X/X
6:00 - 7:00	400	5	663	150	1218	813	X/X
7:00 - 8:00	520	11	1006	212	1749	1218	X/X
8:00 - 9:00	449	11	717	138	1315	855	X/X
9:00 - 10:00	419	18	507	39	983	546	X/X
10:00 - 11:00	451	21	494	51	1017	545	X/X
11:00 - 12:00	564	57	515	123	1259	638	X/X
12:00 - 13:00	553	37	646	103	1339	749	X/X
13:00 - 14:00	528	24	600	56	1208	656	X/X
14:00 - 15:00	602	38	584	68	1292	652	X/X
15:00 - 16:00	750	153	635	107	1645	742	X/X
16:00 - 17:00	891	50	585	159	1685	744	X/X
17:00 - 18:00	684	29	621	143	1477	764	X/X
18:00 - 19:00	533	17	499	51	1100	550	X/X
19:00 - 20:00	291	7	338	17	653	355	X/X
20:00 - 21:00	252	9	274	16	551	290	X/X
21:00 - 22:00	209	2	231	8	450	239	X/X
22:00 - 23:00	138	2	169	4	313	173	/X
23:00 - 24:00	125	4	109	11	249	120	/

Met (Hr) Required (Hr)

Allway Stop Warrant: **17** 8 **Satisfied**

REMARKS: _____

