



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

SIGNAL WARRANTS ANALYSIS

LOCATION: TH-169 & SOUTH ST
 COUNTY: SCOTT
 REF. POINT: 091.400
 DATE: 10/15/1997
 OPERATOR: DR

Speed	Approach Description	Lanes
55	Major App1: TH-169 NB, S OF SOUTH ST	3
55	Major App3: TH-169 SB, N OF SOUTH ST	2
30	Minor App2: SOUTH ST EB, W OF TH-169	1
30	Minor App4: SOUTH ST WB, E OF TH-169	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	83	89	172	/	2	11	/	/	/
1:00 - 2:00	69	74	143	/	1	9	/	/	/
2:00 - 3:00	69	71	140	/	1	10	/	/	/
3:00 - 4:00	70	50	120	/	0	7	/	/	/
4:00 - 5:00	129	66	195	/	3	6	/	/	/
5:00 - 6:00	305	114	419	/	4	12	/	/	/
6:00 - 7:00	449	217	666	X/X	7	23	/	/	/
7:00 - 8:00	509	373	882	X/X	13	52	/	/X	/X
8:00 - 9:00	509	450	959	X/X	7	92	/	/X	/X
9:00 - 10:00	479	522	1001	X/X	9	79	/	/X	/X
10:00 - 11:00	515	512	1027	X/X	9	113	/	X/X	X/X
11:00 - 12:00	500	503	1003	X/X	8	138	/	X/X	X/X
12:00 - 13:00	508	494	1002	X/X	13	135	/	X/X	X/X
13:00 - 14:00	524	483	1007	X/X	15	133	/	X/X	X/X
14:00 - 15:00	545	56	601	X/	9	139	/	X/X	X/
15:00 - 16:00	531	584	1115	X/X	12	127	/	X/X	X/X
16:00 - 17:00	553	635	1188	X/X	19	117	/	X/X	X/X
17:00 - 18:00	535	604	1139	X/X	18	114	/	X/X	X/X
18:00 - 19:00	459	492	951	X/X	16	121	/	X/X	X/X
19:00 - 20:00	359	395	754	X/X	9	71	/	/X	/X
20:00 - 21:00	294	333	627	X/	4	54	/	/X	/
21:00 - 22:00	231	301	532	X/	3	35	/	/	/
22:00 - 23:00	205	214	419	/	4	27	/	/	/
23:00 - 24:00	121	146	267	/	1	15	/	/	/

	Met (Hr)	Required (Hr)	
Warrant 1	9	8	Satisfied
Warrant 2	12	8	Satisfied
Warrant 6	14	8	Satisfied, check accident record
Warrant 8	10	8	Satisfied
Warrant 9	11	4	Satisfied
Warrant 11	7	1	Satisfied

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

Speed	Approach Description	Lanes
55	Major App1: TH-169 NB, S OF SOUTH ST	3
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30	Minor App2: SOUTH ST EB, W OF TH-169	1
30	Minor App4: SOUTH ST WB, E OF TH-169	1

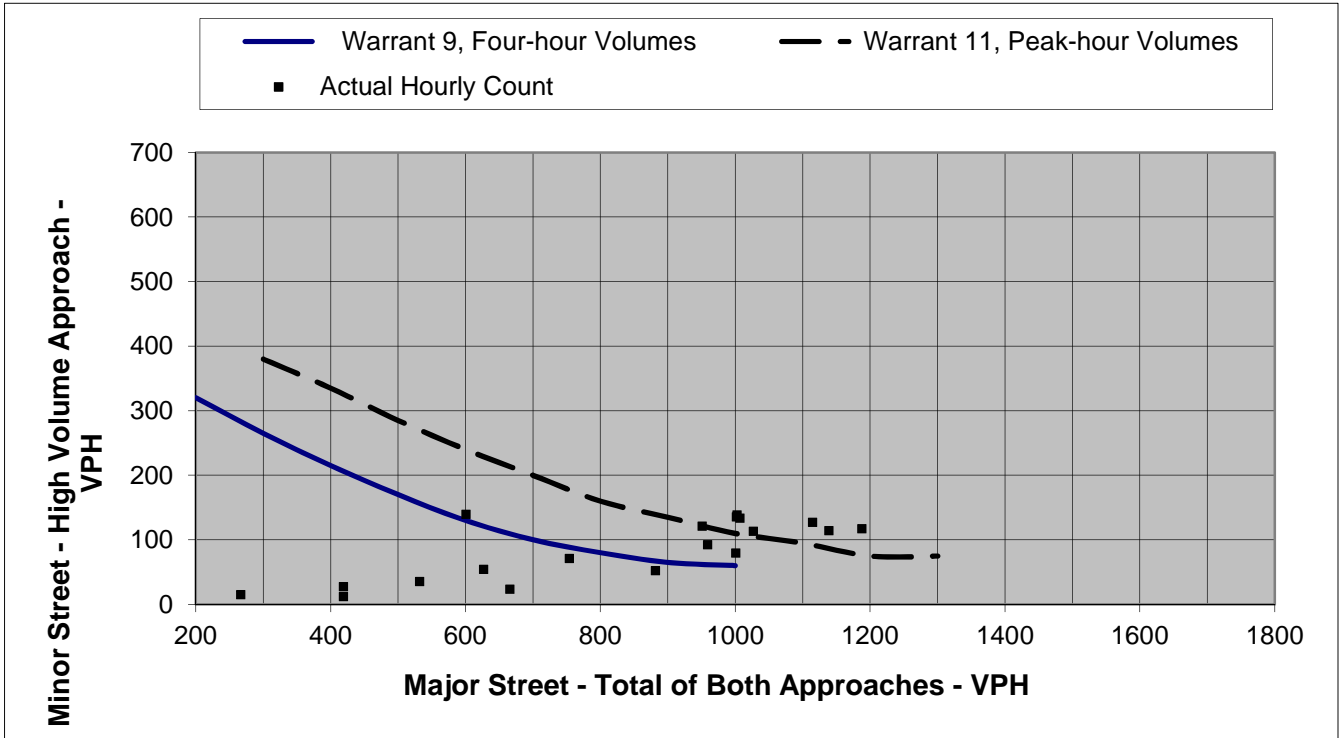


Figure 1. Four Hour and Peak Hour Warrant Analysis

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		172	11
300	265	380	143	9
400	215	335	140	10
500	170	285	120	7
600	130	240	195	6
700	100	200	419	12
800	80	160	666	23
900	65	135	882	52
1000	60	110	959	92
1100		95	1001	79
1200		75	1027	113
1300		75	1003	138
1400			1002	135
1500			1007	133
1600			601	139
1700			1115	127
1800			1188	117
			1139	114
			951	121
			754	71
			627	54
			532	35
			419	27
			267	15

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-169 & SOUTH ST

COUNTY: SCOTT

REF. POINT: 091.400

DATE: 10/15/1997

OPERATOR: DR

Speed	Approach Description	Lanes
55	Major App1: TH-169 NB, S OF SOUTH ST	3
55	Major App3: TH-169 SB, N OF SOUTH ST	2
30	Minor App2: SOUTH ST EB, W OF TH-169	1
30	Minor App4: SOUTH ST WB, E OF TH-169	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	83	89	2	11	185	13	/
1:00 - 2:00	69	74	1	9	153	10	/
2:00 - 3:00	69	71	1	10	151	11	/
3:00 - 4:00	70	50	0	7	127	7	/
4:00 - 5:00	129	66	3	6	204	9	/
5:00 - 6:00	305	114	4	12	435	16	X/
6:00 - 7:00	449	217	7	23	696	30	X/
7:00 - 8:00	509	373	13	52	947	65	X/
8:00 - 9:00	509	450	7	92	1058	99	X/
9:00 - 10:00	479	522	9	79	1089	88	X/
10:00 - 11:00	515	512	9	113	1149	122	X/
11:00 - 12:00	500	503	8	138	1149	146	X/X
12:00 - 13:00	508	494	13	135	1150	148	X/X
13:00 - 14:00	524	483	15	133	1155	148	X/X
14:00 - 15:00	545	56	9	139	749	148	X/X
15:00 - 16:00	531	584	12	127	1254	139	X/
16:00 - 17:00	553	635	19	117	1324	136	X/
17:00 - 18:00	535	604	18	114	1271	132	X/
18:00 - 19:00	459	492	16	121	1088	137	X/
19:00 - 20:00	359	395	9	71	834	80	X/
20:00 - 21:00	294	333	4	54	685	58	X/
21:00 - 22:00	231	301	3	35	570	38	X/
22:00 - 23:00	205	214	4	27	450	31	X/
23:00 - 24:00	121	146	1	15	283	16	/

Allway Stop Warrant: Met (Hr) 4 Required (Hr) 8 Not satisfied

REMARKS: _____
