



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

SIGNAL WARRANTS ANALYSIS

LOCATION: TH-55 & I494 W RAMP
 COUNTY: HENNEPIN
 REF. POINT: 180.435
 DATE: 1/6/1997
 OPERATOR: DR

Speed	Approach Description	Lanes
55	Major App1: TH-55 EB, W OF I494	4
55	Major App3: TH-55 WB, E OF I494	4
0	Minor App2: N/A	0
55	Minor App4: I494 SB, N OF TH-55	2

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

HOUR	420/630				0/0		140/70		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	135	135	270	/	0	23	/	/	/
1:00 - 2:00	97	94	191	/	0	26	/	/	/
2:00 - 3:00	69	88	157	/	0	21	/	/	/
3:00 - 4:00	67	118	185	/	0	27	/	/	/
4:00 - 5:00	145	250	395	/	0	122	/	/X	/
5:00 - 6:00	477	647	1124	X/X	0	468	/	X/X	X/X
6:00 - 7:00	1080	958	2038	X/X	0	771	/	X/X	X/X
7:00 - 8:00	1665	1031	2696	X/X	0	778	/	X/X	X/X
8:00 - 9:00	1288	902	2190	X/X	0	701	/	X/X	X/X
9:00 - 10:00	967	918	1885	X/X	0	452	/	X/X	X/X
10:00 - 11:00	837	1204	2041	X/X	0	379	/	X/X	X/X
11:00 - 12:00	972	1290	2262	X/X	0	445	/	X/X	X/X
12:00 - 13:00	1085	1346	2431	X/X	0	452	/	X/X	X/X
13:00 - 14:00	1019	1492	2511	X/X	0	462	/	X/X	X/X
14:00 - 15:00	947	1845	2792	X/X	0	519	/	X/X	X/X
15:00 - 16:00	1234	2204	3438	X/X	0	375	/	X/X	X/X
16:00 - 17:00	1084	2127	3211	X/X	0	288	/	X/X	X/X
17:00 - 18:00	1051	1684	2735	X/X	0	308	/	X/X	X/X
18:00 - 19:00	790	1060	1850	X/X	0	272	/	X/X	X/X
19:00 - 20:00	574	800	1374	X/X	0	172	/	X/X	X/X
20:00 - 21:00	407	719	1126	X/X	0	151	/	X/X	X/X
21:00 - 22:00	358	551	909	X/X	0	169	/	X/X	X/X
22:00 - 23:00	346	323	669	X/X	0	162	/	X/X	X/X
23:00 - 24:00	261	169	430	X/	0	61	/	/	/

	Met (Hr)	Required (Hr)	
Warrant 1	18	8	Satisfied
Warrant 2	18	8	Satisfied
Warrant 6	19	8	Satisfied, check accident record
Warrant 8	18	8	Satisfied
Warrant 9	18	4	Satisfied
Warrant 11	16	1	Satisfied

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OPERATOR: DR

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

Speed	Approach Description	Lanes
55	Major App1: TH-55 EB, W OF I494	4
55	Major App3: TH-55 WB, E OF I494	4
0	Minor App2: N/A	0
55	Minor App4: I494 SB, N OF TH-55	2

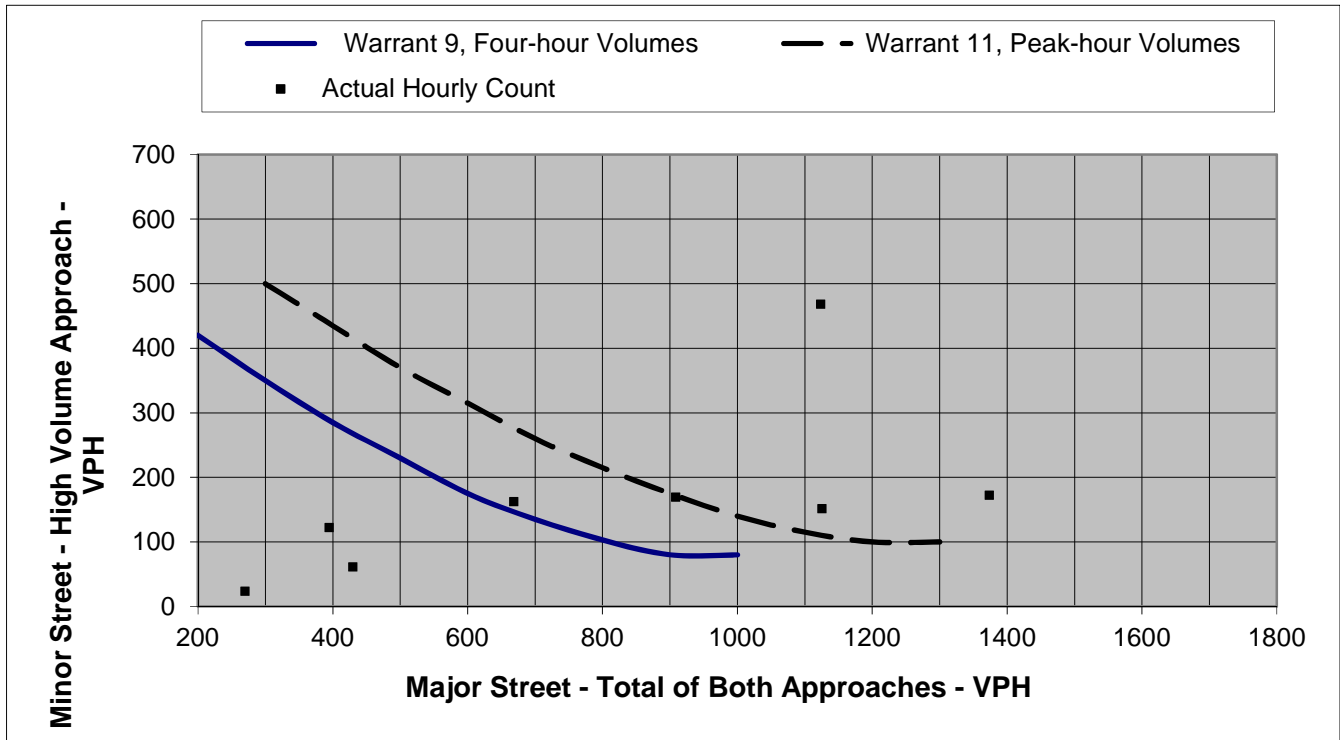


Figure 1. Four Hour and Peak Hour Warrant Analysis

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	420		270	23
300	350	500	191	26
400	285	435	157	21
500	230	370	185	27
600	175	315	395	122
700	135	260	1124	468
800	103	215	2038	771
900	80	175	2696	778
1000	80	140	2190	701
1100		115	1885	452
1200		100	2041	379
1300		100	2262	445
1400			2431	452
1500			2511	462
1600			2792	519
1700			3438	375
1800			3211	288
			2735	308
			1850	272
			1374	172
			1126	151
			909	169
			669	162
			430	61

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-55 & I494 W RAMP

COUNTY: HENNEPIN

REF. POINT: 180.435

DATE: 1/6/1997

OPERATOR: DR

Speed	Approach Description	Lanes
55	Major App1: TH-55 EB, W OF I494	4
55	Major App3: TH-55 WB, E OF I494	4
0	Minor App2: N/A	0
55	Minor App4: I494 SB, N OF TH-55	2

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	135	135	0	23	293	23	/
1:00 - 2:00	97	94	0	26	217	26	/
2:00 - 3:00	69	88	0	21	178	21	/
3:00 - 4:00	67	118	0	27	212	27	/
4:00 - 5:00	145	250	0	122	517	122	X/
5:00 - 6:00	477	647	0	468	1592	468	X/X
6:00 - 7:00	1080	958	0	771	2809	771	X/X
7:00 - 8:00	1665	1031	0	778	3474	778	X/X
8:00 - 9:00	1288	902	0	701	2891	701	X/X
9:00 - 10:00	967	918	0	452	2337	452	X/X
10:00 - 11:00	837	1204	0	379	2420	379	X/X
11:00 - 12:00	972	1290	0	445	2707	445	X/X
12:00 - 13:00	1085	1346	0	452	2883	452	X/X
13:00 - 14:00	1019	1492	0	462	2973	462	X/X
14:00 - 15:00	947	1845	0	519	3311	519	X/X
15:00 - 16:00	1234	2204	0	375	3813	375	X/X
16:00 - 17:00	1084	2127	0	288	3499	288	X/X
17:00 - 18:00	1051	1684	0	308	3043	308	X/X
18:00 - 19:00	790	1060	0	272	2122	272	X/X
19:00 - 20:00	574	800	0	172	1546	172	X/X
20:00 - 21:00	407	719	0	151	1277	151	X/X
21:00 - 22:00	358	551	0	169	1078	169	X/X
22:00 - 23:00	346	323	0	162	831	162	X/X
23:00 - 24:00	261	169	0	61	491	61	X/

Met (Hr) Required (Hr)

Allway Stop Warrant: **18** 8 **Satisfied**

REMARKS: _____

