



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

SIGNAL WARRANTS ANALYSIS

LOCATION: TH-100 & INDIANA AVE N

COUNTY: HENNEPIN

REF. POINT: 013.085

DATE: 3/3/1999

OPERATOR: DR

Speed	Approach Description	Lanes
55	Major App1: TH-100 NB, S OF INDIANA AVE N	4
55	Major App3: TH-100 SB, N OF INDIANA AVE N	4
30	Minor App2: INDIANA AVE N EB, W OF TH-100	1
30	Minor App4: INDIANA AVE N WB, E OF TH-100	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	186	125	311	/	1	7	/	/	/
1:00 - 2:00	126	93	219	/	2	5	/	/	/
2:00 - 3:00	108	76	184	/	1	1	/	/	/
3:00 - 4:00	69	99	168	/	0	0	/	/	/
4:00 - 5:00	100	236	336	/	3	7	/	/	/
5:00 - 6:00	296	1062	1358	X/X	12	11	/	/	/
6:00 - 7:00	799	1925	2724	X/X	26	41	/	/	/
7:00 - 8:00	1532	1990	3522	X/X	26	66	/	/X	/X
8:00 - 9:00	1162	1630	2792	X/X	23	56	/	/X	/X
9:00 - 10:00	863	1237	2100	X/X	27	61	/	/X	/X
10:00 - 11:00	835	1115	1950	X/X	21	43	/	/	/
11:00 - 12:00	1053	1181	2234	X/X	18	59	/	/X	/X
12:00 - 13:00	1126	1292	2418	X/X	26	78	/	/X	/X
13:00 - 14:00	1192	1296	2488	X/X	16	61	/	/X	/X
14:00 - 15:00	1617	1500	3117	X/X	21	86	/	/X	/X
15:00 - 16:00	2028	1574	3602	X/X	20	89	/	/X	/X
16:00 - 17:00	2234	1871	4105	X/X	20	96	/	/X	/X
17:00 - 18:00	2207	1927	4134	X/X	16	100	/	/X	/X
18:00 - 19:00	1540	1432	2972	X/X	29	73	/	/X	/X
19:00 - 20:00	961	961	1922	X/X	15	33	/	/	/
20:00 - 21:00	803	810	1613	X/X	8	33	/	/	/
21:00 - 22:00	674	716	1390	X/X	6	27	/	/	/
22:00 - 23:00	493	506	999	X/X	10	17	/	/	/
23:00 - 24:00	380	227	607	X/	5	10	/	/	/

	Met (Hr)	Required (Hr)	
Warrant 1	0	8	Not satisfied
Warrant 2	11	8	Satisfied
Warrant 6	12	8	Satisfied, check accident record
Warrant 8	4	8	Not satisfied
Warrant 9	9	4	Satisfied
Warrant 11	5	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-100 NB, S OF INDIANA AVE N	4
55	Major App3: TH-100 SB, N OF INDIANA AVE N	4
30	Minor App2: INDIANA AVE N EB, W OF TH-100	1
30	Minor App4: INDIANA AVE N WB, E OF TH-100	1

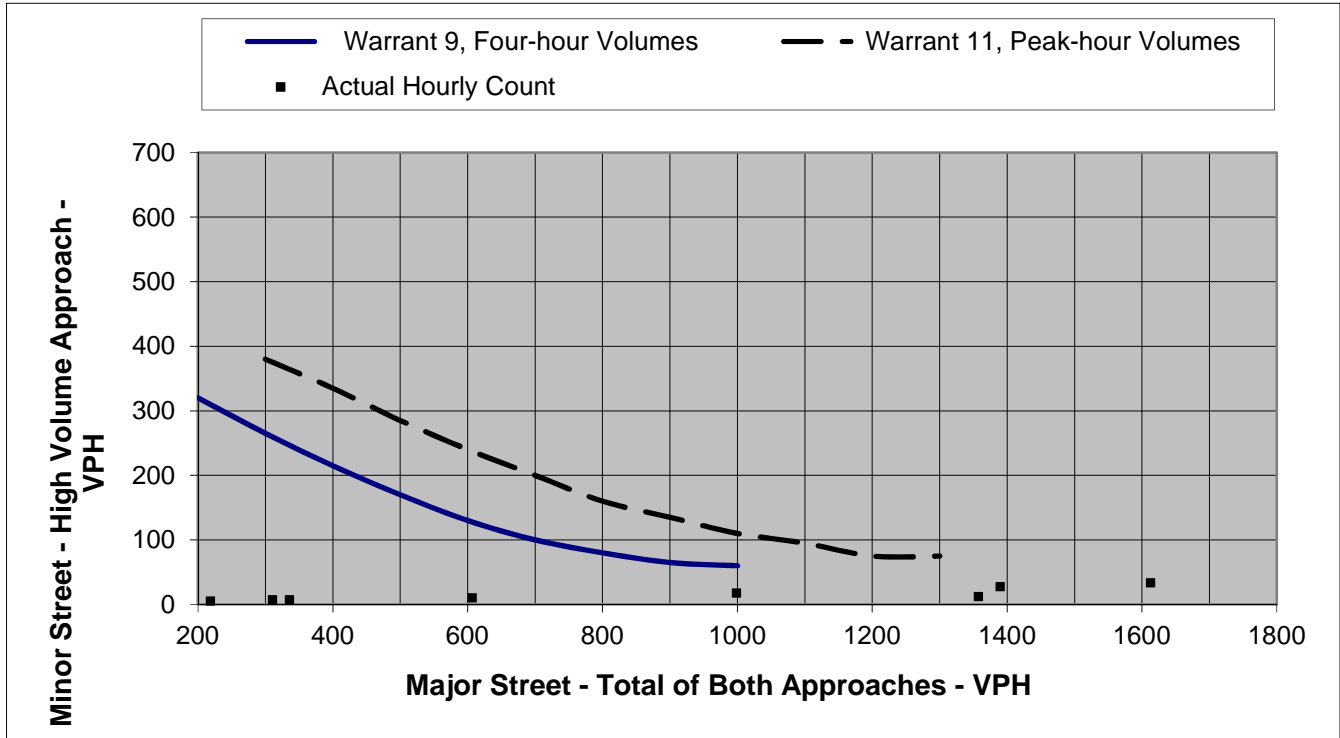


Figure 1. Four Hour and Peak Hour Warrant Analysis

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		311	7
300	265	380	219	5
400	215	335	184	1
500	170	285	168	0
600	130	240	336	7
700	100	200	1358	12
800	80	160	2724	41
900	65	135	3522	66
1000	60	110	2792	56
1100		95	2100	61
1200		75	1950	43
1300		75	2234	59
1400			2418	78
1500			2488	61
1600			3117	86
1700			3602	89
1800			4105	96
			4134	100
			2972	73
			1922	33
			1613	33
			1390	27
			999	17
			607	10

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-100 & INDIANA AVE N

COUNTY: HENNEPIN

REF. POINT: 013.085

DATE: 3/3/1999

OPERATOR: DR

Speed	Approach Description	Lanes
55	Major App1: TH-100 NB, S OF INDIANA AVE N	4
55	Major App3: TH-100 SB, N OF INDIANA AVE N	4
30	Minor App2: INDIANA AVE N EB, W OF TH-100	1
30	Minor App4: INDIANA AVE N WB, E OF TH-100	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	186	125	1	7	319	8	/
1:00 - 2:00	126	93	2	5	226	7	/
2:00 - 3:00	108	76	1	1	186	2	/
3:00 - 4:00	69	99	0	0	168	0	/
4:00 - 5:00	100	236	3	7	346	10	/
5:00 - 6:00	296	1062	12	11	1381	23	X/
6:00 - 7:00	799	1925	26	41	2791	67	X/
7:00 - 8:00	1532	1990	26	66	3614	92	X/
8:00 - 9:00	1162	1630	23	56	2871	79	X/
9:00 - 10:00	863	1237	27	61	2188	88	X/
10:00 - 11:00	835	1115	21	43	2014	64	X/
11:00 - 12:00	1053	1181	18	59	2311	77	X/
12:00 - 13:00	1126	1292	26	78	2522	104	X/
13:00 - 14:00	1192	1296	16	61	2565	77	X/
14:00 - 15:00	1617	1500	21	86	3224	107	X/
15:00 - 16:00	2028	1574	20	89	3711	109	X/
16:00 - 17:00	2234	1871	20	96	4221	116	X/
17:00 - 18:00	2207	1927	16	100	4250	116	X/
18:00 - 19:00	1540	1432	29	73	3074	102	X/
19:00 - 20:00	961	961	15	33	1970	48	X/
20:00 - 21:00	803	810	8	33	1654	41	X/
21:00 - 22:00	674	716	6	27	1423	33	X/
22:00 - 23:00	493	506	10	17	1026	27	X/
23:00 - 24:00	380	227	5	10	622	15	X/

Allway Stop Warrant: Met (Hr) 0 Required (Hr) 8 Not satisfied

REMARKS: _____
