



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

SIGNAL WARRANTS ANALYSIS

LOCATION: TH 8 AT OLINDA TRAIL - CSAH 25

COUNTY: CHISAGO

REF. POINT: 011+00.918

DATE: 4/21/1998

OPERATOR: RE

Speed	Approach Description	Lanes
30	Major App1: TH 8 EB, W OF OLINDA TRAIL - CSAH 25	2
30	Major App3: TH 8 WB, E OF OLINDA TRAIL - CSAH 25	2
30	Minor App2: OLINDA TRAIL - CSAH 25 NB, S OF TH 8	2
30	Minor App4: OLINDA TRAIL - CSAH 25 SB, N OF TH 8	1

0.70 FACTOR USED? YES

POPULATION < 10,000? YES

EXISTING SIGNAL ? NO

HOUR	420/630				140/70		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	89	39	128	/	6	1	/	/	/
1:00 - 2:00	40	17	57	/	6	1	/	/	/
2:00 - 3:00	36	28	64	/	3	0	/	/	/
3:00 - 4:00	29	15	44	/	1	0	/	/	/
4:00 - 5:00	53	142	195	/	17	3	/	/	/
5:00 - 6:00	124	442	566	X/	27	11	/	/	/
6:00 - 7:00	315	545	860	X/X	49	20	/	/	/
7:00 - 8:00	716	635	1351	X/X	107	29	/X	/	/X
8:00 - 9:00	534	421	955	X/X	59	23	/	/	/
9:00 - 10:00	534	459	993	X/X	57	21	/	/	/
10:00 - 11:00	546	486	1032	X/X	67	10	/	/	/
11:00 - 12:00	581	525	1106	X/X	68	18	/	/	/
12:00 - 13:00	642	492	1134	X/X	85	19	/X	/	/X
13:00 - 14:00	597	464	1061	X/X	77	14	/X	/	/X
14:00 - 15:00	621	564	1185	X/X	150	16	X/X	/	X/X
15:00 - 16:00	801	611	1412	X/X	97	21	/X	/	/X
16:00 - 17:00	957	690	1647	X/X	118	36	/X	/	/X
17:00 - 18:00	889	559	1448	X/X	76	25	/X	/	/X
18:00 - 19:00	721	486	1207	X/X	72	29	/X	/	/X
19:00 - 20:00	518	385	903	X/X	60	18	/	/	/
20:00 - 21:00	429	308	737	X/X	72	28	/X	/	/X
21:00 - 22:00	335	164	499	X/	36	16	/	/	/
22:00 - 23:00	188	129	317	/	14	6	/	/	/
23:00 - 24:00	117	63	180	/	7	4	/	/	/

	Met (Hr)	Required (Hr)	
Warrant 1	1	8	Not satisfied
Warrant 2	9	8	Satisfied
Warrant 6	14	8	Satisfied, check accident record
Warrant 8	2	8	Not satisfied
Warrant 9	5	4	Satisfied
Warrant 11	3	1	Satisfied

LOCATION: TH 8 AT OLINDA TRAIL - CSAH 25

COUNTY: CHISAGO

REF. POINT: 011+00.918

DATE: 4/21/1998

OPERATOR: RE

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

Speed	Approach Description	Lanes
30	Major App1: TH 8 EB, W OF OLINDA TRAIL - CSAH 25	2
30	Major App3: TH 8 WB, E OF OLINDA TRAIL - CSAH 25	2
30	Minor App2: OLINDA TRAIL - CSAH 25 NB, S OF TH 8	2
30	Minor App4: OLINDA TRAIL - CSAH 25 SB, N OF TH 8	1

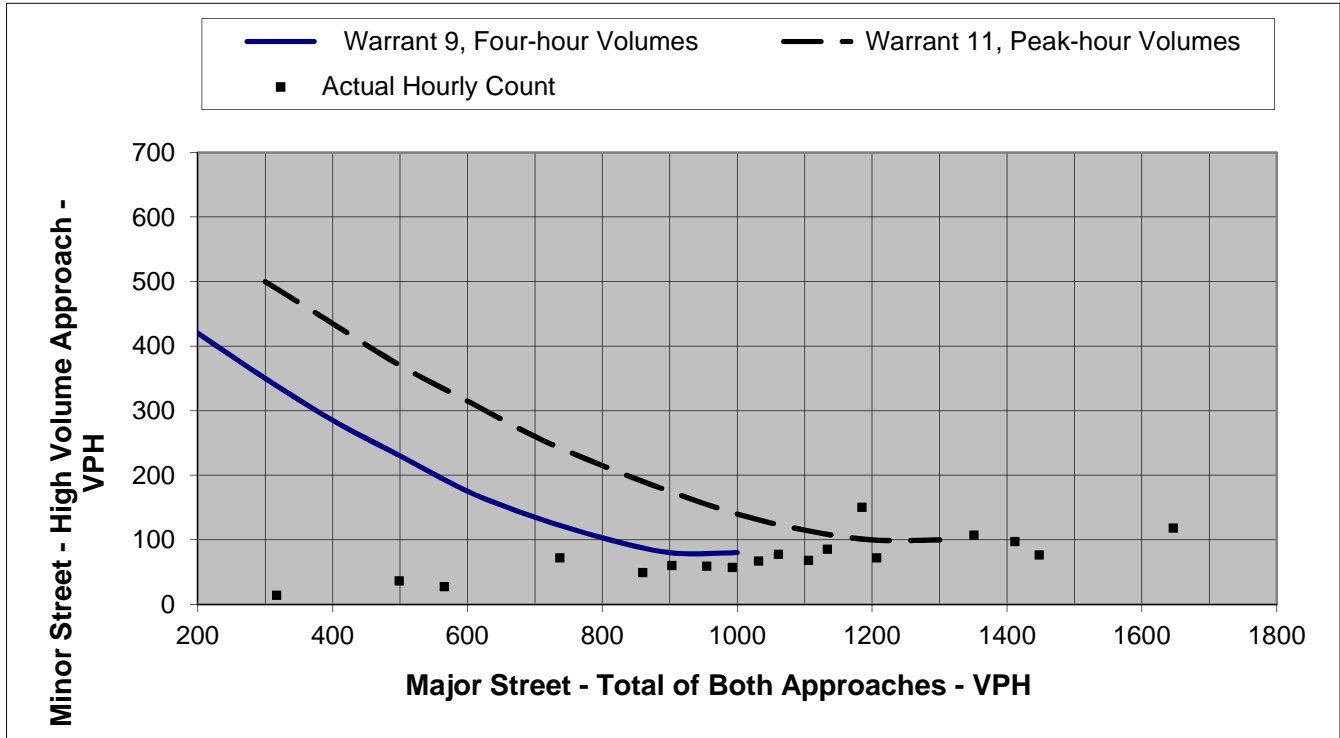


Figure 1. Four Hour and Peak Hour Warrant Analysis

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	420		128	6
300	350	500	57	6
400	285	435	64	3
500	230	370	44	1
600	175	315	195	17
700	135	260	566	27
800	103	215	860	49
900	80	175	1351	107
1000	80	140	955	59
1100		115	993	57
1200		100	1032	67
1300		100	1106	68
1400			1134	85
1500			1061	77
1600			1185	150
1700			1412	97
1800			1647	118
			1448	76
			1207	72
			903	60
			737	72
			499	36
			317	14
			180	7

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 8 AT OLINDA TRAIL - CSAH 25

COUNTY: CHISAGO

REF. POINT: 011+00.918

DATE: 4/21/1998

OPERATOR: RE

Speed	Approach Description	Lanes
30	Major App1: TH 8 EB, W OF OLINDA TRAIL - CSAH 25	2
30	Major App3: TH 8 WB, E OF OLINDA TRAIL - CSAH 25	2
30	Minor App2: OLINDA TRAIL - CSAH 25 NB, S OF TH 8	2
30	Minor App4: OLINDA TRAIL - CSAH 25 SB, N OF TH 8	1

0.70 FACTOR USED? No

HOUR	MAJOR APP. 1	MAJOR APP. 3	MINOR APP. 2	MINOR APP. 4	500	200	WARRANT MET
					TOTAL Σ (APP.1 to APP. 4)	MINOR TOTAL APP. 2 + APP. 4	
0:00 - 1:00	89	39	6	1	135	7	/
1:00 - 2:00	40	17	6	1	64	7	/
2:00 - 3:00	36	28	3	0	67	3	/
3:00 - 4:00	29	15	1	0	45	1	/
4:00 - 5:00	53	142	17	3	215	20	/
5:00 - 6:00	124	442	27	11	604	38	X/
6:00 - 7:00	315	545	49	20	929	69	X/
7:00 - 8:00	716	635	107	29	1487	136	X/
8:00 - 9:00	534	421	59	23	1037	82	X/
9:00 - 10:00	534	459	57	21	1071	78	X/
10:00 - 11:00	546	486	67	10	1109	77	X/
11:00 - 12:00	581	525	68	18	1192	86	X/
12:00 - 13:00	642	492	85	19	1238	104	X/
13:00 - 14:00	597	464	77	14	1152	91	X/
14:00 - 15:00	621	564	150	16	1351	166	X/
15:00 - 16:00	801	611	97	21	1530	118	X/
16:00 - 17:00	957	690	118	36	1801	154	X/
17:00 - 18:00	889	559	76	25	1549	101	X/
18:00 - 19:00	721	486	72	29	1308	101	X/
19:00 - 20:00	518	385	60	18	981	78	X/
20:00 - 21:00	429	308	72	28	837	100	X/
21:00 - 22:00	335	164	36	16	551	52	X/
22:00 - 23:00	188	129	14	6	337	20	/
23:00 - 24:00	117	63	7	4	191	11	/

Met (Hr) Required (Hr)

Allway Stop Warrant: 0 8 Not satisfied

REMARKS: _____
