



# MINNESOTA DEPARTMENT OF TRANSPORTATION

## METRO DIVISION - TRAFFIC ENGINEERING

### SIGNAL WARRANTS ANALYSIS

LOCATION: WENTWORTH AVE & TH-52 WFR

COUNTY: DAKOTA

REF. POINT: 127.033

DATE: 8/23/1995

OPERATOR: DR

Speed	Approach Description	Lanes
35	Major App1: WENTWORTH AVE EB, W OF W FTR RD OF TH-52	2
30	Major App3: WENTWORTH WB, E OF W FRT RD OF TH-52	2
0	Minor App2: N/A	0
30	Minor App4: W FRONTAGE ROAD OF TH-52 SB, N OF WENTV	2

0.70 FACTOR USED? NO

POPULATION < 10,000? NO

EXISTING SIGNAL ? NO

HOUR	600/900			0/0		200/100		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	41	22	63	/	0	22	/	/	/
1:00 - 2:00	28	16	44	/	0	16	/	/	/
2:00 - 3:00	22	9	31	/	0	9	/	/	/
3:00 - 4:00	8	8	16	/	0	8	/	/	/
4:00 - 5:00	10	18	28	/	0	18	/	/	/
5:00 - 6:00	13	32	45	/	0	32	/	/	/
6:00 - 7:00	54	100	154	/	0	100	/	/X	/
7:00 - 8:00	125	142	267	/	0	142	/	/X	/
8:00 - 9:00	139	101	240	/	0	101	/	/X	/
9:00 - 10:00	157	112	269	/	0	112	/	/X	/
10:00 - 11:00	209	110	319	/	0	110	/	/X	/
11:00 - 12:00	258	130	388	/	0	130	/	/X	/
12:00 - 13:00	313	134	447	/	0	134	/	/X	/
13:00 - 14:00	284	154	438	/	0	154	/	/X	/
14:00 - 15:00	290	145	435	/	0	145	/	/X	/
15:00 - 16:00	336	187	523	/	0	187	/	/X	/
16:00 - 17:00	423	204	627	X/	0	204	/	X/X	X/
17:00 - 18:00	437	209	646	X/	0	209	/	X/X	X/
18:00 - 19:00	317	173	490	/	0	173	/	/X	/
19:00 - 20:00	281	135	416	/	0	135	/	/X	/
20:00 - 21:00	272	118	390	/	0	118	/	/X	/
21:00 - 22:00	202	90	292	/	0	90	/	/	/
22:00 - 23:00	103	61	164	/	0	61	/	/	/
23:00 - 24:00	74	47	121	/	0	47	/	/	/

	Met (Hr)	Required (Hr)	
Warrant 1	2	8	Not satisfied
Warrant 2	0	8	Not satisfied
Warrant 6	4	8	Not satisfied
Warrant 8	0	8	Not satisfied
Warrant 9	0	4	Not satisfied
Warrant 11	0	1	Not satisfied

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

Speed	Approach Description	Lanes
35	Major App1: WENTWORTH AVE EB, W OF W FTR RD OF TH-5	2
30	Major App3: WENTWORTH WB, E OF W FRT RD OF TH-52	2
0	Minor App2: N/A	0
30	Minor App4: W FRONTAGE ROAD OF TH-52 SB, N OF WENTV	2

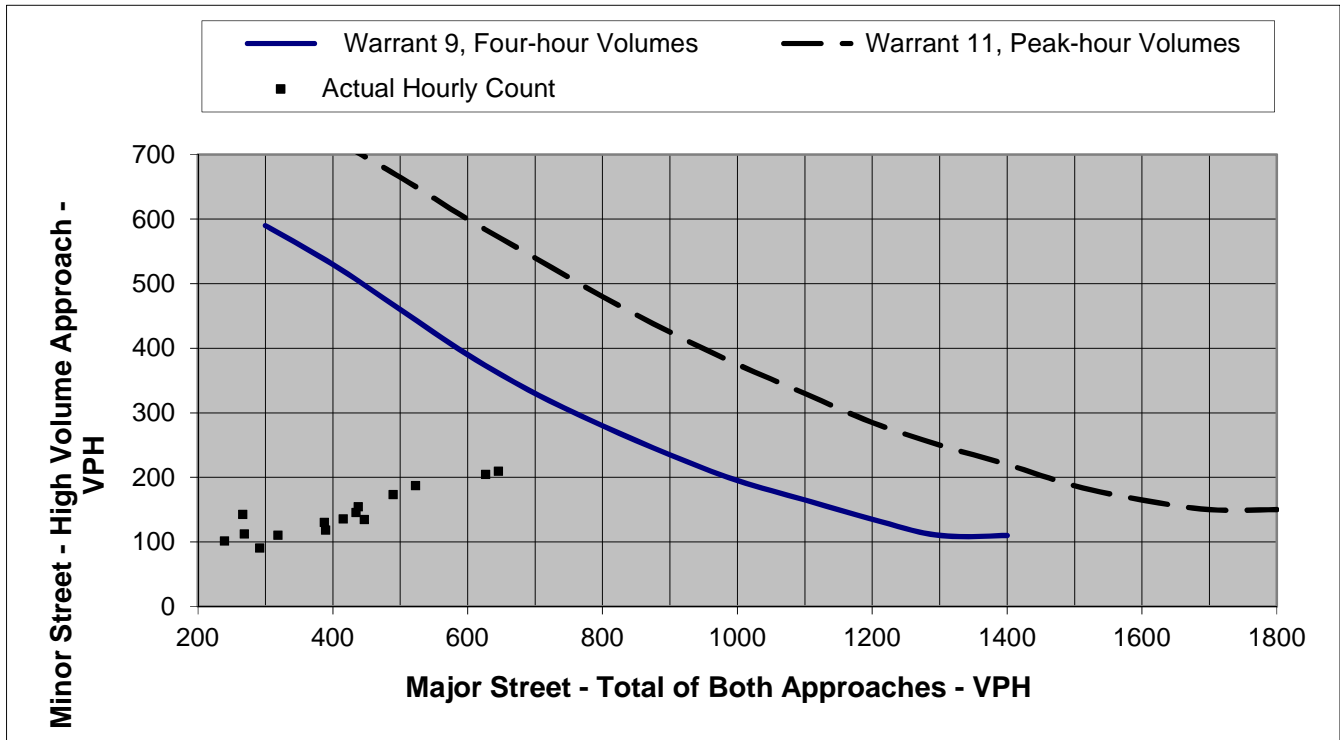


Figure 1. Four Hour and Peak Hour Warrant Analysis

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			63	22
300	590		44	16
400	530	725	31	9
500	460	665	16	8
600	390	600	28	18
700	330	540	45	32
800	280	480	154	100
900	235	425	267	142
1000	195	375	240	101
1100	165	330	269	112
1200	135	285	319	110
1300	110	250	388	130
1400	110	220	447	134
1500		187	438	154
1600		165	435	145
1700		150	523	187
1800		150	627	204
			646	209
			490	173
			416	135
			390	118
			292	90
			164	61
			121	47

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