



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

SIGNAL WARRANTS ANALYSIS

LOCATION: TH-61 & TH-316 N JCT

COUNTY: DAKOTA

REF. POINT: 115.706

DATE: 10/8/1997

OPERATOR: DR

Speed	Approach Description	Lanes
30	Major App1: TH-61 NB, S OF N JCT OF TH-316	2
30	Major App3: TH-61 SB, N OF N JCT OF TH-361	3
30	Minor App2: TH-316 WB, E OF TH-61	2
0	Minor App4: N/A	0

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

HOUR	MAJOR APP. 1	MAJOR APP. 3	TOTAL 1+3	600/900			200/100		0/0	MET SAME HOURS
				WARRANT MET	MINOR APP. 2	MINOR APP. 4	WARRANT MET APP. 2	WARRANT MET APP. 4		
0:00 - 1:00	27	113	140	/	0	0	/	/	/	
1:00 - 2:00	22	56	78	/	0	0	/	/	/	
2:00 - 3:00	8	49	57	/	0	0	/	/	/	
3:00 - 4:00	11	45	56	/	0	0	/	/	/	
4:00 - 5:00	26	54	80	/	1	0	/	/	/	
5:00 - 6:00	88	157	245	/	2	0	/	/	/	
6:00 - 7:00	275	469	744	X/	5	0	/	/	/	
7:00 - 8:00	406	637	1043	X/X	2	0	/	/	/	
8:00 - 9:00	297	616	913	X/X	3	0	/	/	/	
9:00 - 10:00	284	747	1031	X/X	2	0	/	/	/	
10:00 - 11:00	292	718	1010	X/X	3	0	/	/	/	
11:00 - 12:00	333	761	1094	X/X	2	0	/	/	/	
12:00 - 13:00	410	860	1270	X/X	2	0	/	/	/	
13:00 - 14:00	392	835	1227	X/X	2	0	/	/	/	
14:00 - 15:00	415	921	1336	X/X	2	0	/	/	/	
15:00 - 16:00	458	1162	1620	X/X	5	0	/	/	/	
16:00 - 17:00	534	1287	1821	X/X	1	0	/	/	/	
17:00 - 18:00	500	1239	1739	X/X	2	0	/	/	/	
18:00 - 19:00	487	1004	1491	X/X	2	0	/	/	/	
19:00 - 20:00	378	802	1180	X/X	2	0	/	/	/	
20:00 - 21:00	272	603	875	X/	2	0	/	/	/	
21:00 - 22:00	214	466	680	X/	1	0	/	/	/	
22:00 - 23:00	122	276	398	/	1	0	/	/	/	
23:00 - 24:00	71	190	261	/	2	0	/	/	/	

	Met (Hr)	Required (Hr)	
Warrant 1	0	8	Not satisfied
Warrant 2	0	8	Not satisfied
Warrant 6	0	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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 POPULATION < 10,000? NO
 EXISTING SIGNAL ? NO

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30	Major App3: TH-61 SB, N OF N JCT OF TH-361	3
30	Minor App2: TH-316 WB, E OF TH-61	2
0	Minor App4: N/A	0

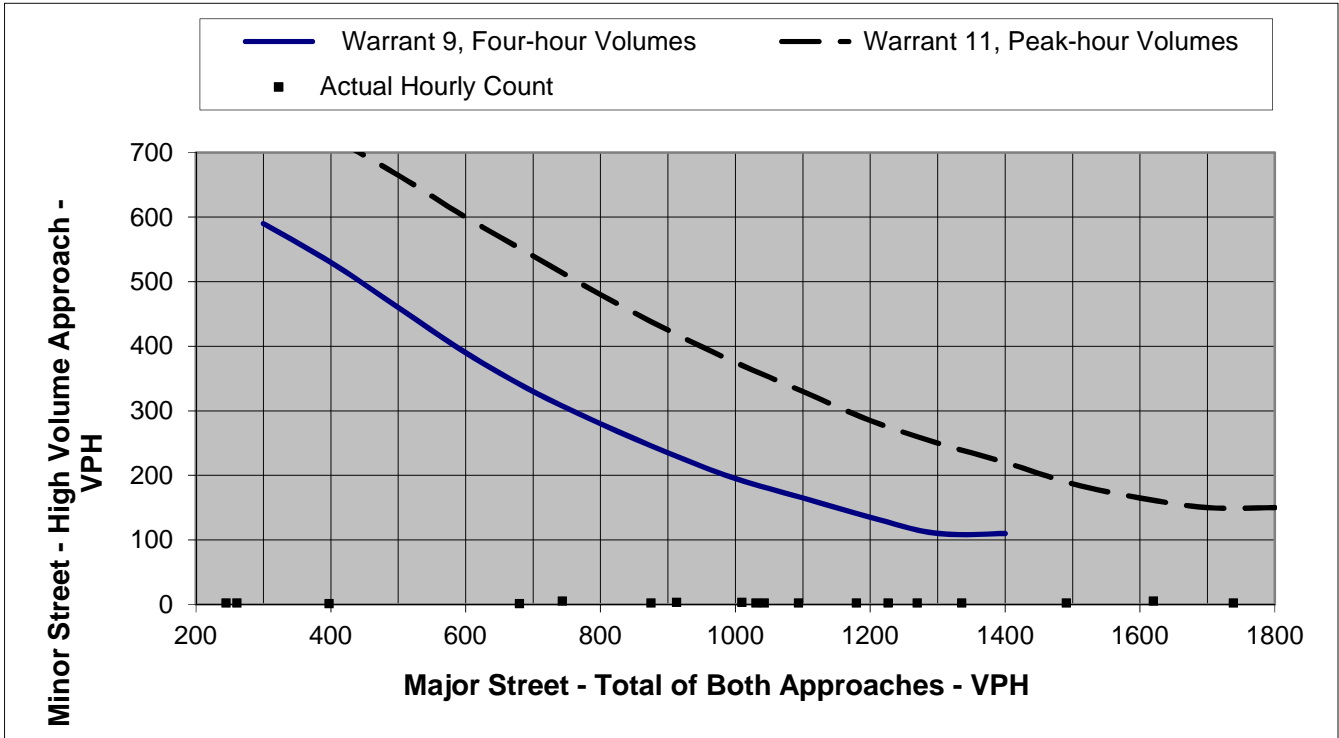


Figure 1. Four Hour and Peak Hour Warrant Analysis

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			140	0
300	590		78	0
400	530	725	57	0
500	460	665	56	0
600	390	600	80	1
700	330	540	245	2
800	280	480	744	5
900	235	425	1043	2
1000	195	375	913	3
1100	165	330	1031	2
1200	135	285	1010	3
1300	110	250	1094	2
1400	110	220	1270	2
1500		187	1227	2
1600		165	1336	2
1700		150	1620	5
1800		150	1821	1
			1739	2
			1491	2
			1180	2
			875	2
			680	1
			398	1
			261	2

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-61 & TH-316 N JCT

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REF. POINT: 115.706

DATE: 10/8/1997

OPERATOR: DR

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30	Major App3: TH-61 SB, N OF N JCT OF TH-361	3
30	Minor App2: TH-316 WB, E OF TH-61	2
0	Minor App4: N/A	0

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	27	113	0	0	140	0	/
1:00 - 2:00	22	56	0	0	78	0	/
2:00 - 3:00	8	49	0	0	57	0	/
3:00 - 4:00	11	45	0	0	56	0	/
4:00 - 5:00	26	54	1	0	81	1	/
5:00 - 6:00	88	157	2	0	247	2	/
6:00 - 7:00	275	469	5	0	749	5	X/
7:00 - 8:00	406	637	2	0	1045	2	X/
8:00 - 9:00	297	616	3	0	916	3	X/
9:00 - 10:00	284	747	2	0	1033	2	X/
10:00 - 11:00	292	718	3	0	1013	3	X/
11:00 - 12:00	333	761	2	0	1096	2	X/
12:00 - 13:00	410	860	2	0	1272	2	X/
13:00 - 14:00	392	835	2	0	1229	2	X/
14:00 - 15:00	415	921	2	0	1338	2	X/
15:00 - 16:00	458	1162	5	0	1625	5	X/
16:00 - 17:00	534	1287	1	0	1822	1	X/
17:00 - 18:00	500	1239	2	0	1741	2	X/
18:00 - 19:00	487	1004	2	0	1493	2	X/
19:00 - 20:00	378	802	2	0	1182	2	X/
20:00 - 21:00	272	603	2	0	877	2	X/
21:00 - 22:00	214	466	1	0	681	1	X/
22:00 - 23:00	122	276	1	0	399	1	/
23:00 - 24:00	71	190	2	0	263	2	/

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

REMARKS: _____

