



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

SIGNAL WARRANTS ANALYSIS

LOCATION: TH-55 & TH-149 JCT
 COUNTY: DAKOTA
 REF. POINT: 202.705
 DATE: 11/21/1995
 OPERATOR: DR

Speed	Approach Description	Lanes
55	Major App1: TH-55 WB, W OF TH-149 S JCT	3
55	Major App3: TH-55 WB, E OF TH-149 S JCT	3
55	Minor App2: TH-149 NB, S OF TH-55 S JCT	2
0	Minor App4: N/A	0

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

HOUR	420/630			140/70		0/0		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	81	75	156	/	159	0	X/X	/	/
1:00 - 2:00	47	54	101	/	168	0	X/X	/	/
2:00 - 3:00	26	50	76	/	236	0	X/X	/	/
3:00 - 4:00	39	66	105	/	97	0	/X	/	/
4:00 - 5:00	49	117	166	/	87	0	/X	/	/
5:00 - 6:00	125	298	423	X/	162	0	X/X	/	X/
6:00 - 7:00	270	691	961	X/X	442	0	X/X	/	X/X
7:00 - 8:00	374	925	1299	X/X	613	0	X/X	/	X/X
8:00 - 9:00	369	611	980	X/X	478	0	X/X	/	X/X
9:00 - 10:00	354	490	844	X/X	352	0	X/X	/	X/X
10:00 - 11:00	376	487	863	X/X	283	0	X/X	/	X/X
11:00 - 12:00	385	501	886	X/X	326	0	X/X	/	X/X
12:00 - 13:00	385	458	843	X/X	327	0	X/X	/	X/X
13:00 - 14:00	249	413	662	X/X	296	0	X/X	/	X/X
14:00 - 15:00	393	539	932	X/X	422	0	X/X	/	X/X
15:00 - 16:00	607	535	1142	X/X	524	0	X/X	/	X/X
16:00 - 17:00	734	495	1229	X/X	602	0	X/X	/	X/X
17:00 - 18:00	699	506	1205	X/X	526	0	X/X	/	X/X
18:00 - 19:00	387	358	745	X/X	331	0	X/X	/	X/X
19:00 - 20:00	264	289	553	X/	208	0	X/X	/	X/
20:00 - 21:00	202	233	435	X/	261	0	X/X	/	X/
21:00 - 22:00	200	218	418	/	256	0	X/X	/	/
22:00 - 23:00	157	145	302	/	186	0	X/X	/	/
23:00 - 24:00	146	106	252	/	219	0	X/X	/	/

	Met (Hr)	Required (Hr)	
Warrant 1	16	8	Satisfied
Warrant 2	13	8	Satisfied
Warrant 6	17	8	Satisfied, check accident record
Warrant 8	14	8	Satisfied
Warrant 9	14	4	Satisfied
Warrant 11	13	1	Satisfied

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COUNTY: DAKOTA

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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 WB, W OF TH-149 S JCT	3
55	Major App3: TH-55 WB, E OF TH-149 S JCT	3
55	Minor App2: TH-149 NB, S OF TH-55 S JCT	2
0	Minor App4: N/A	0

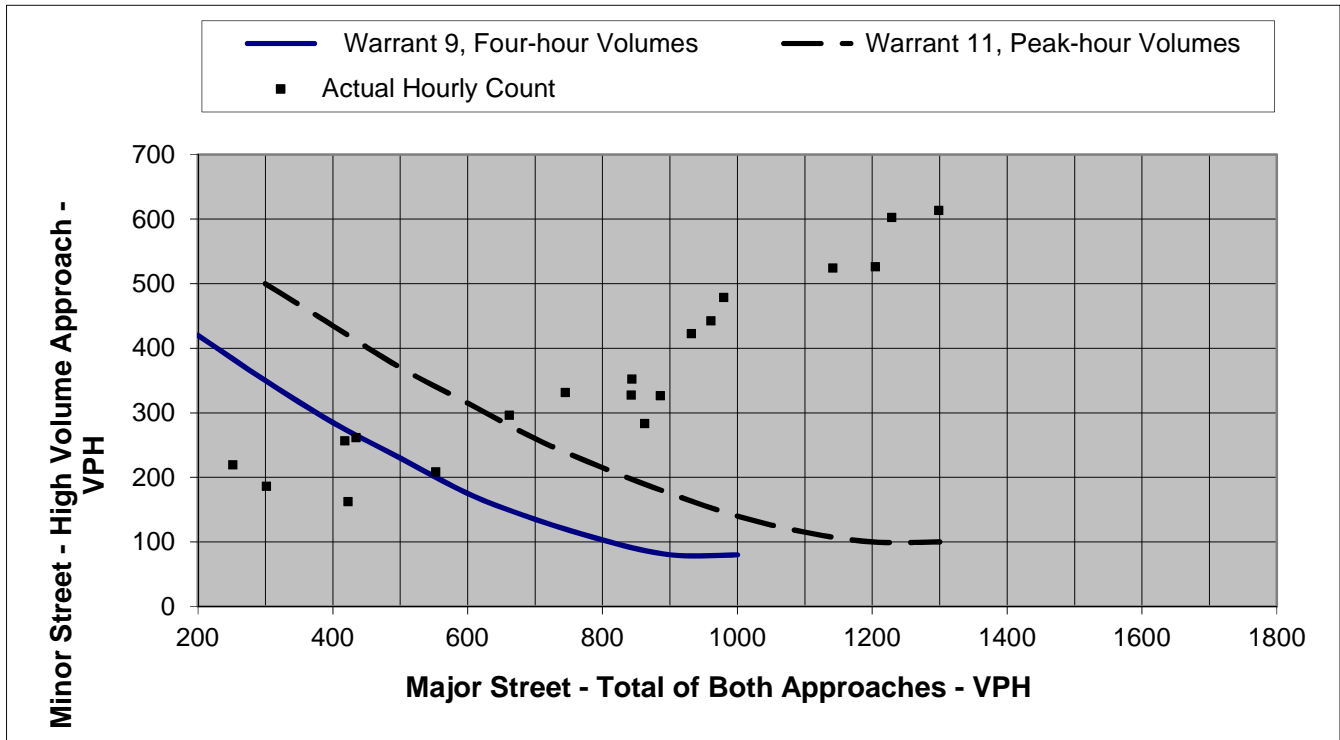


Figure 1. Four Hour and Peak Hour Warrant Analysis

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	420		156	159
300	350	500	101	168
400	285	435	76	236
500	230	370	105	97
600	175	315	166	87
700	135	260	423	162
800	103	215	961	442
900	80	175	1299	613
1000	80	140	980	478
1100		115	844	352
1200		100	863	283
1300		100	886	326
1400			843	327
1500			662	296
1600			932	422
1700			1142	524
1800			1229	602
			1205	526
			745	331
			553	208
			435	261
			418	256
			302	186
			252	219

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 & TH-149 JCT

COUNTY: DAKOTA

REF. POINT: 202.705

DATE: 11/21/1995

OPERATOR: DR

Speed	Approach Description	Lanes
55	Major App1: TH-55 WB, W OF TH-149 S JCT	3
55	Major App3: TH-55 WB, E OF TH-149 S JCT	3
55	Minor App2: TH-149 NB, S OF TH-55 S JCT	2
0	Minor App4: N/A	0

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	81	75	159	0	315	159	/X
1:00 - 2:00	47	54	168	0	269	168	/X
2:00 - 3:00	26	50	236	0	312	236	/X
3:00 - 4:00	39	66	97	0	202	97	/
4:00 - 5:00	49	117	87	0	253	87	/
5:00 - 6:00	125	298	162	0	585	162	X/X
6:00 - 7:00	270	691	442	0	1403	442	X/X
7:00 - 8:00	374	925	613	0	1912	613	X/X
8:00 - 9:00	369	611	478	0	1458	478	X/X
9:00 - 10:00	354	490	352	0	1196	352	X/X
10:00 - 11:00	376	487	283	0	1146	283	X/X
11:00 - 12:00	385	501	326	0	1212	326	X/X
12:00 - 13:00	385	458	327	0	1170	327	X/X
13:00 - 14:00	249	413	296	0	958	296	X/X
14:00 - 15:00	393	539	422	0	1354	422	X/X
15:00 - 16:00	607	535	524	0	1666	524	X/X
16:00 - 17:00	734	495	602	0	1831	602	X/X
17:00 - 18:00	699	506	526	0	1731	526	X/X
18:00 - 19:00	387	358	331	0	1076	331	X/X
19:00 - 20:00	264	289	208	0	761	208	X/X
20:00 - 21:00	202	233	261	0	696	261	X/X
21:00 - 22:00	200	218	256	0	674	256	X/X
22:00 - 23:00	157	145	186	0	488	186	X/X
23:00 - 24:00	146	106	219	0	471	219	X/X

Met (Hr) Required (Hr)

Allway Stop Warrant: **19** 8 **Satisfied**

REMARKS: _____

