



# MINNESOTA DEPARTMENT OF TRANSPORTATION

## METRO DIVISION - TRAFFIC ENGINEERING

### SIGNAL WARRANTS ANALYSIS

LOCATION: TH-212 & TH-41 CHASKA

COUNTY: CARVER

REF. POINT: 148.029

DATE: 2/23/1995

OPERATOR: DR

Speed	Approach Description	Lanes
30	Major App1: TH-212 EB CHASKA	3
30	Major App3: TH-212 WB CHASKA	3
30	Minor App2: TH-41 NB CHASKA	3
30	Minor App4: TH-41 SB CHASKA	2

0.70 FACTOR USED? NO

POPULATION < 10,000? NO

EXISTING SIGNAL ? NO

HOUR	600/900			200/100		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	43	116	159	/	36	43	/	/	/
1:00 - 2:00	29	70	99	/	39	26	/	/	/
2:00 - 3:00	21	46	67	/	24	18	/	/	/
3:00 - 4:00	44	24	68	/	44	12	/	/	/
4:00 - 5:00	72	33	105	/	52	27	/	/	/
5:00 - 6:00	320	85	405	/	187	77	/X	/	/
6:00 - 7:00	696	177	873	X/	366	194	X/X	/X	X/
7:00 - 8:00	872	303	1175	X/X	563	452	X/X	X/X	X/X
8:00 - 9:00	598	341	939	X/X	396	391	X/X	X/X	X/X
9:00 - 10:00	568	387	955	X/X	339	365	X/X	X/X	X/X
10:00 - 11:00	484	414	898	X/	387	336	X/X	X/X	X/
11:00 - 12:00	498	466	964	X/X	400	381	X/X	X/X	X/X
12:00 - 13:00	517	509	1026	X/X	420	355	X/X	X/X	X/X
13:00 - 14:00	547	463	1010	X/X	420	348	X/X	X/X	X/X
14:00 - 15:00	533	590	1123	X/X	481	406	X/X	X/X	X/X
15:00 - 16:00	555	717	1272	X/X	493	533	X/X	X/X	X/X
16:00 - 17:00	591	918	1509	X/X	528	643	X/X	X/X	X/X
17:00 - 18:00	521	802	1323	X/X	507	531	X/X	X/X	X/X
18:00 - 19:00	445	519	964	X/X	380	460	X/X	X/X	X/X
19:00 - 20:00	276	321	597	/	287	260	X/X	X/X	/
20:00 - 21:00	203	257	460	/	205	210	X/X	X/X	/
21:00 - 22:00	154	196	350	/	179	164	/X	/X	/
22:00 - 23:00	100	178	278	/	154	98	/X	/	/
23:00 - 24:00	61	114	175	/	94	89	/	/	/

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

LOCATION: TH-212 & TH-41 CHASKA

COUNTY: CARVER

REF. POINT: 148.029

DATE: 2/23/1995

OPERATOR: DR

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

Speed	Approach Description	Lanes
30	Major App1: TH-212 EB CHASKA	3
30	Major App3: TH-212 WB CHASKA	3
30	Minor App2: TH-41 NB CHASKA	3
30	Minor App4: TH-41 SB CHASKA	2

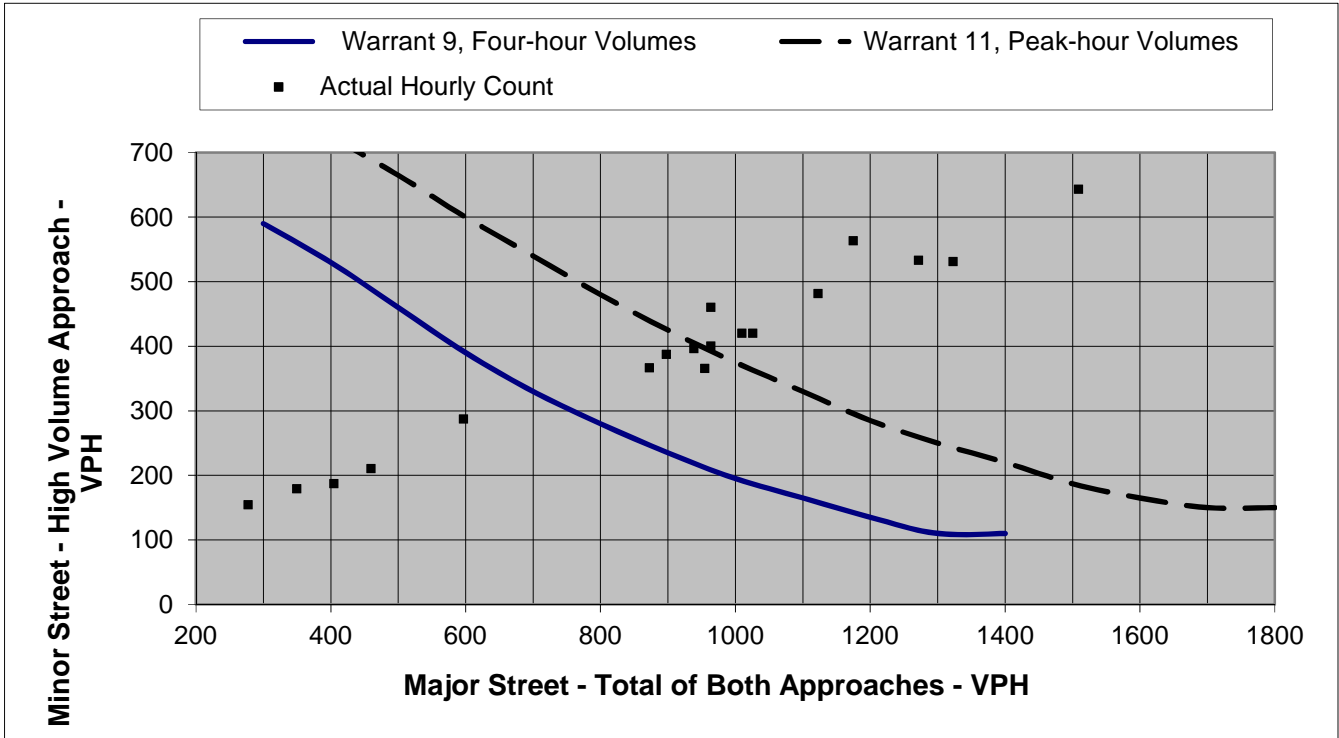


Figure 1. Four Hour and Peak Hour Warrant Analysis

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			159	43
300	590		99	39
400	530	725	67	24
500	460	665	68	44
600	390	600	105	52
700	330	540	405	187
800	280	480	873	366
900	235	425	1175	563
1000	195	375	939	396
1100	165	330	955	365
1200	135	285	898	387
1300	110	250	964	400
1400	110	220	1026	420
1500		187	1010	420
1600		165	1123	481
1700		150	1272	533
1800		150	1509	643
			1323	531
			964	460
			597	287
			460	210
			350	179
			278	154
			175	94

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-212 & TH-41 CHASKA

COUNTY: CARVER

REF. POINT: 148.029

DATE: 2/23/1995

OPERATOR: DR

Speed	Approach Description	Lanes
30	Major App1: TH-212 EB CHASKA	3
30	Major App3: TH-212 WB CHASKA	3
30	Minor App2: TH-41 NB CHASKA	3
30	Minor App4: TH-41 SB CHASKA	2

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	43	116	36	43	238	79	/
1:00 - 2:00	29	70	39	26	164	65	/
2:00 - 3:00	21	46	24	18	109	42	/
3:00 - 4:00	44	24	44	12	124	56	/
4:00 - 5:00	72	33	52	27	184	79	/
5:00 - 6:00	320	85	187	77	669	264	X/X
6:00 - 7:00	696	177	366	194	1433	560	X/X
7:00 - 8:00	872	303	563	452	2190	1015	X/X
8:00 - 9:00	598	341	396	391	1726	787	X/X
9:00 - 10:00	568	387	339	365	1659	704	X/X
10:00 - 11:00	484	414	387	336	1621	723	X/X
11:00 - 12:00	498	466	400	381	1745	781	X/X
12:00 - 13:00	517	509	420	355	1801	775	X/X
13:00 - 14:00	547	463	420	348	1778	768	X/X
14:00 - 15:00	533	590	481	406	2010	887	X/X
15:00 - 16:00	555	717	493	533	2298	1026	X/X
16:00 - 17:00	591	918	528	643	2680	1171	X/X
17:00 - 18:00	521	802	507	531	2361	1038	X/X
18:00 - 19:00	445	519	380	460	1804	840	X/X
19:00 - 20:00	276	321	287	260	1144	547	X/X
20:00 - 21:00	203	257	205	210	875	415	X/X
21:00 - 22:00	154	196	179	164	693	343	X/X
22:00 - 23:00	100	178	154	98	530	252	X/X
23:00 - 24:00	61	114	94	89	358	183	/

Met (Hr) Required (Hr)

Allway Stop Warrant: **18** 8 **Satisfied**

REMARKS: \_\_\_\_\_  
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