



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

SIGNAL WARRANTS ANALYSIS

LOCATION: TH-5 AT MINNEWASHTA PKWY

COUNTY: CARVER

REF. POINT: 041.007

DATE: 2/22/1996

OPERATOR: DR

Speed	Approach Description	Lanes
55	Major App1: TH-5 EB, W OF MINNEWASHTA PKWY	2
55	Major App3: TH-5 WB, E OF MINNEWASHTA PKWY	2
0	Minor App2: N/A	0
30	Minor App4: MINNEWASHTA PKWY SB, N OF TH-5	1

0.70 FACTOR USED? YES

POPULATION < 10,000? YES

EXISTING SIGNAL ? NO

HOUR	420/630				0/0		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	18	91	109	/		1	/	/	/
1:00 - 2:00	8	67	75	/		1	/	/	/
2:00 - 3:00	13	49	62	/		0	/	/	/
3:00 - 4:00	27	24	51	/		2	/	/	/
4:00 - 5:00	88	29	117	/		1	/	/	/
5:00 - 6:00	365	82	447	X/		13	/	/	/
6:00 - 7:00	770	226	996	X/X		36	/	/	/
7:00 - 8:00	822	352	1174	X/X		68	/	/X	/X
8:00 - 9:00	515	350	865	X/X		36	/	/	/
9:00 - 10:00	358	314	672	X/X		32	/	/	/
10:00 - 11:00	319	324	643	X/X		22	/	/	/
11:00 - 12:00	313	356	669	X/X		24	/	/	/
12:00 - 13:00	351	287	638	X/X		26	/	/	/
13:00 - 14:00	352	440	792	X/X		21	/	/	/
14:00 - 15:00	369	633	1002	X/X		26	/	/	/
15:00 - 16:00	382	967	1349	X/X		26	/	/	/
16:00 - 17:00	334	1155	1489	X/X		24	/	/	/
17:00 - 18:00	342	1177	1519	X/X		32	/	/	/
18:00 - 19:00	286	728	1014	X/X		33	/	/	/
19:00 - 20:00	169	431	600	X/		20	/	/	/
20:00 - 21:00	127	389	516	X/		16	/	/	/
21:00 - 22:00	80	364	444	X/		16	/	/	/
22:00 - 23:00	73	235	308	/		1	/	/	/
23:00 - 24:00	41	150	191	/		3	/	/	/

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

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 POPULATION < 10,000? YES
 EXISTING SIGNAL ? NO

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55	Major App3: TH-5 WB, E OF MINNEWASHTA PKWY	2
0	Minor App2: N/A	0
30	Minor App4: MINNEWASHTA PKWY SB, N OF TH-5	1

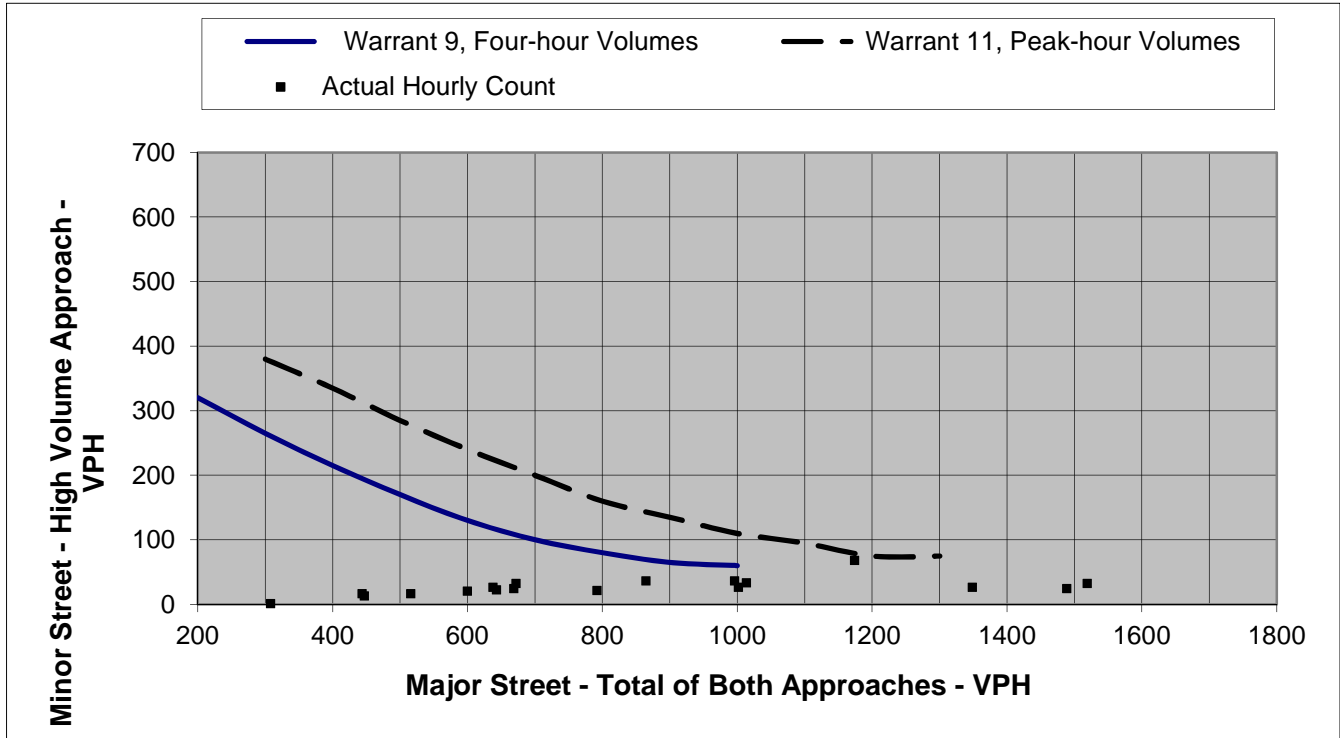


Figure 1. Four Hour and Peak Hour Warrant Analysis

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	320		109	1
300	265	380	75	1
400	215	335	62	0
500	170	285	51	2
600	130	240	117	1
700	100	200	447	13
800	80	160	996	36
900	65	135	1174	68
1000	60	110	865	36
1100		95	672	32
1200		75	643	22
1300		75	669	24
1400			638	26
1500			792	21
1600			1002	26
1700			1349	26
1800			1489	24
			1519	32
			1014	33
			600	20
			516	16
			444	16
			308	1
			191	3

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-5 AT MINNEWASHTA PKWY

COUNTY: CARVER

REF. POINT: 041.007

DATE: 2/22/1996

OPERATOR: DR

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55	Major App1: TH-5 EB, W OF MINNEWASHTA PKWY	2
55	Major App3: TH-5 WB, E OF MINNEWASHTA PKWY	2
0	Minor App2: N/A	0
30	Minor App4: MINNEWASHTA PKWY SB, N OF TH-5	1

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	18	91		1	110	1	/
1:00 - 2:00	8	67		1	76	1	/
2:00 - 3:00	13	49		0	62	0	/
3:00 - 4:00	27	24		2	53	2	/
4:00 - 5:00	88	29		1	118	1	/
5:00 - 6:00	365	82		13	460	13	X/
6:00 - 7:00	770	226		36	1032	36	X/
7:00 - 8:00	822	352		68	1242	68	X/
8:00 - 9:00	515	350		36	901	36	X/
9:00 - 10:00	358	314		32	704	32	X/
10:00 - 11:00	319	324		22	665	22	X/
11:00 - 12:00	313	356		24	693	24	X/
12:00 - 13:00	351	287		26	664	26	X/
13:00 - 14:00	352	440		21	813	21	X/
14:00 - 15:00	369	633		26	1028	26	X/
15:00 - 16:00	382	967		26	1375	26	X/
16:00 - 17:00	334	1155		24	1513	24	X/
17:00 - 18:00	342	1177		32	1551	32	X/
18:00 - 19:00	286	728		33	1047	33	X/
19:00 - 20:00	169	431		20	620	20	X/
20:00 - 21:00	127	389		16	532	16	X/
21:00 - 22:00	80	364		16	460	16	X/
22:00 - 23:00	73	235		1	309	1	/
23:00 - 24:00	41	150		3	194	3	/

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

REMARKS: _____
