



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

SIGNAL WARRANTS ANALYSIS

LOCATION: I-35 AT CSAH-2 E.JCT.

COUNTY: SCOTT

REF. POINT: 076.840

DATE: 4/24/2002

OPERATOR: DR

Speed	Approach Description	Lanes
55	Major App1: CSAH-2 E.B. W. OF I-35 EAST RAMPS	2
55	Major App3: CSAH-2 W.B. E. OF I-35 EAST RAMPS	2
30	Minor App2: I-35 N.B. RAMP TO CSAH-2	2
0	Minor App4: N/A	0

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

420/630

140/70

HOUR	420/630			140/70			WARRANT MET APP. 4	MET SAME HOURS
	MAJOR APP. 1	MAJOR APP. 3	TOTAL 1+3	WARRANT MET	MINOR APP. 2	MINOR APP. 4		
0:00 - 1:00	24	6	30	/	12	0	/	/
1:00 - 2:00	19	3	22	/	9	0	/	/
2:00 - 3:00	13	7	20	/	5	0	/	/
3:00 - 4:00	20	3	23	/	12	0	/	/
4:00 - 5:00	43	12	55	/	21	0	/	/
5:00 - 6:00	215	27	242	/	83	0	/X	/
6:00 - 7:00	459	76	535	X/	171	0	X/X	X/
7:00 - 8:00	497	63	560	X/	231	0	X/X	X/
8:00 - 9:00	353	35	388	/	144	0	X/X	/
9:00 - 10:00	275	30	305	/	129	0	/X	/
10:00 - 11:00	239	34	273	/	121	0	/X	/
11:00 - 12:00	238	42	280	/	113	0	/X	/
12:00 - 13:00	263	39	302	/	126	0	/X	/
13:00 - 14:00	237	42	279	/	127	0	/X	/
14:00 - 15:00	262	53	315	/	138	0	/X	/
15:00 - 16:00	367	61	428	X/	200	0	X/X	X/
16:00 - 17:00	448	60	508	X/	202	0	X/X	X/
17:00 - 18:00	418	46	464	X/	182	0	X/X	X/
18:00 - 19:00	345	38	383	/	142	0	X/X	/
19:00 - 20:00	265	32	297	/	100	0	/X	/
20:00 - 21:00	192	24	216	/	76	0	/X	/
21:00 - 22:00	133	22	155	/	50	0	/	/

22:00 - 23:00	73	12	85	/	28	0	/		/
23:00 - 24:00	34	11	45	/	29	0	/		/

	Met (Hr)	Required (Hr)	
Warrant 1	5	8	Not satisfied
Warrant 2	0	8	Not satisfied
Warrant 6	7	8	Not satisfied
Warrant 8	3	8	Not satisfied
Warrant 9	1	4	Not satisfied
Warrant 11	0	1	Not satisfied

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0	Minor App4: N/A	0

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

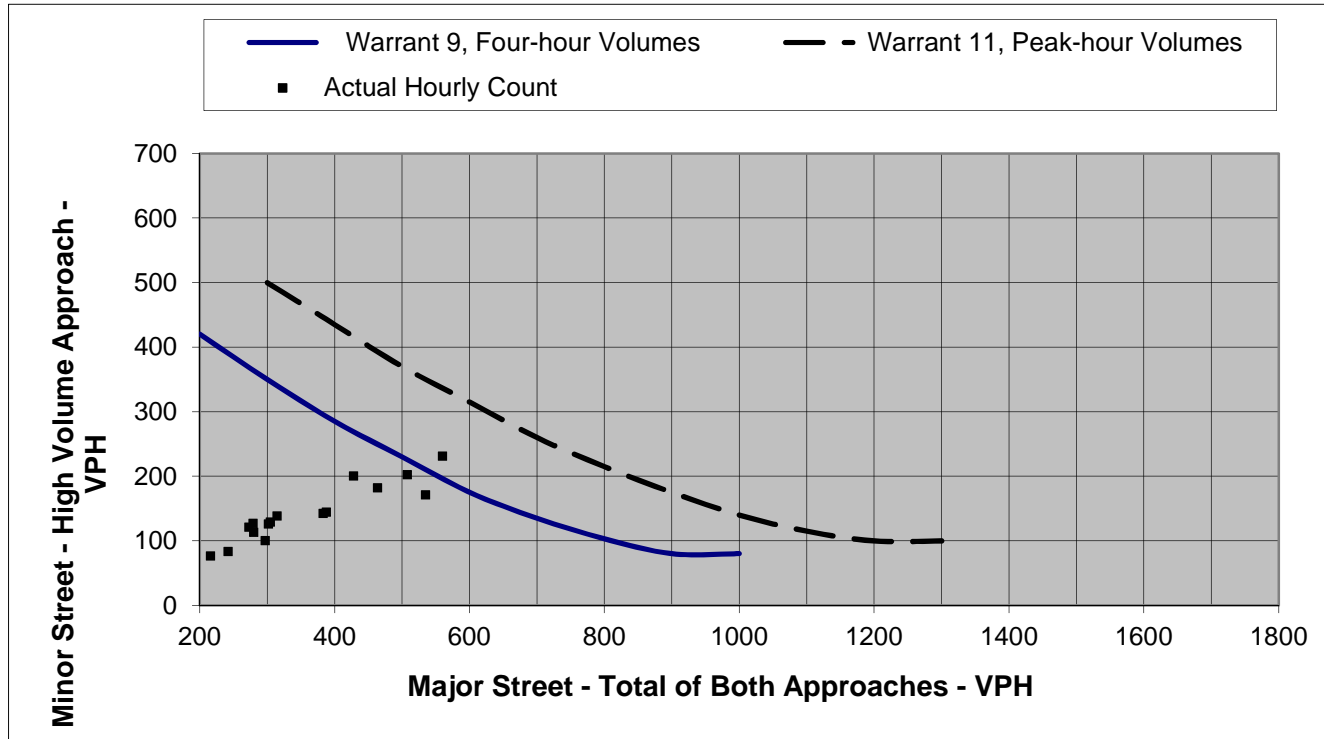


Figure 1. Four Hour and Peak Hour Warrant Analysis

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		30	12
300	350	500	22	9
400	285	435	20	5
500	230	370	23	12
600	175	315	55	21
700	135	260	242	83
800	103	215	535	171
900	80	175	560	231

1000	80	140	388	144
1100		115	305	129
1200		100	273	121
1300		100	280	113
1400			302	126
1500			279	127
1600			315	138
1700			428	200
1800			508	202
			464	182
			383	142
			297	100
			216	76
			155	50
			85	28
			45	29

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 Warrant

Major App	Minor App		
	1 & 1	2 & 1	2 & 2
400	475	570	725
500	425	520	665
600	370	465	600
700	330	420	540
800	280	370	480
900	240	330	425
1000	204	285	375
1100	175	250	330
1200	150	220	285
1300	130	190	250
1400	115	160	220
1500	100	140	187
1600	100	115	165
1700	100	100	150
1800	100	100	150

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 Warrant Factored

Major App	Minor App		
	1 & 1	2 & 1	2 & 2
300	320	380	500
400	270	335	435
500	225	285	370
600	180	240	315
700	145	200	260
800	115	160	215
900	90	135	175
1000	75	110	140
1100	75	95	115
1200	75	75	100
1300	75	75	100