



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

SIGNAL WARRANTS ANALYSIS

LOCATION: I-494 & 7TH AVE

COUNTY: DAKOTA

REF. POINT: 065.336

DATE: 10/27/1995

OPERATOR: DR

Speed	Approach Description	Lanes
30	Major App1: 7TH AVE NB, S OF I-494 SOUTH RAMP	2
30	Major App3: 7TH AVE SB, N OF I-494 SOUTH RAMP	2
40	Minor App2: I-494 EB RAMP TO 7TH AVE	2
0	Minor App4: N/A	0

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

HOUR	600/900			200/100		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	23	18	41	/	65	0	/	/	/
1:00 - 2:00	13	9	22	/	50	0	/	/	/
2:00 - 3:00	9	6	15	/	27	0	/	/	/
3:00 - 4:00	16	12	28	/	19	0	/	/	/
4:00 - 5:00	37	10	47	/	11	0	/	/	/
5:00 - 6:00	118	33	151	/	31	0	/	/	/
6:00 - 7:00	349	73	422	/	94	0	/	/	/
7:00 - 8:00	480	162	642	X/	226	0	X/X	/	X/
8:00 - 9:00	326	135	461	/	205	0	X/X	/	/
9:00 - 10:00	253	130	383	/	180	0	/X	/	/
10:00 - 11:00	236	143	379	/	193	0	/X	/	/
11:00 - 12:00	279	185	464	/	220	0	X/X	/	/
12:00 - 13:00	312	203	515	/	23	0	/	/	/
13:00 - 14:00	300	186	486	/	245	0	X/X	/	/
14:00 - 15:00	344	216	560	/	305	0	X/X	/	/
15:00 - 16:00	379	256	635	X/	444	0	X/X	/	X/
16:00 - 17:00	380	255	635	X/	553	0	X/X	/	X/
17:00 - 18:00	410	270	680	X/	533	0	X/X	/	X/
18:00 - 19:00	372	251	623	X/	356	0	X/X	/	X/
19:00 - 20:00	241	174	415	/	242	0	X/X	/	/
20:00 - 21:00	181	143	324	/	198	0	/X	/	/
21:00 - 22:00	165	118	283	/	221	0	X/X	/	/
22:00 - 23:00	95	63	158	/	118	0	/X	/	/
23:00 - 24:00	51	22	73	/	98	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	0	8	Not satisfied
Warrant 9	3	4	Not satisfied
Warrant 11	0	1	Not satisfied

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 EXISTING SIGNAL ? NO

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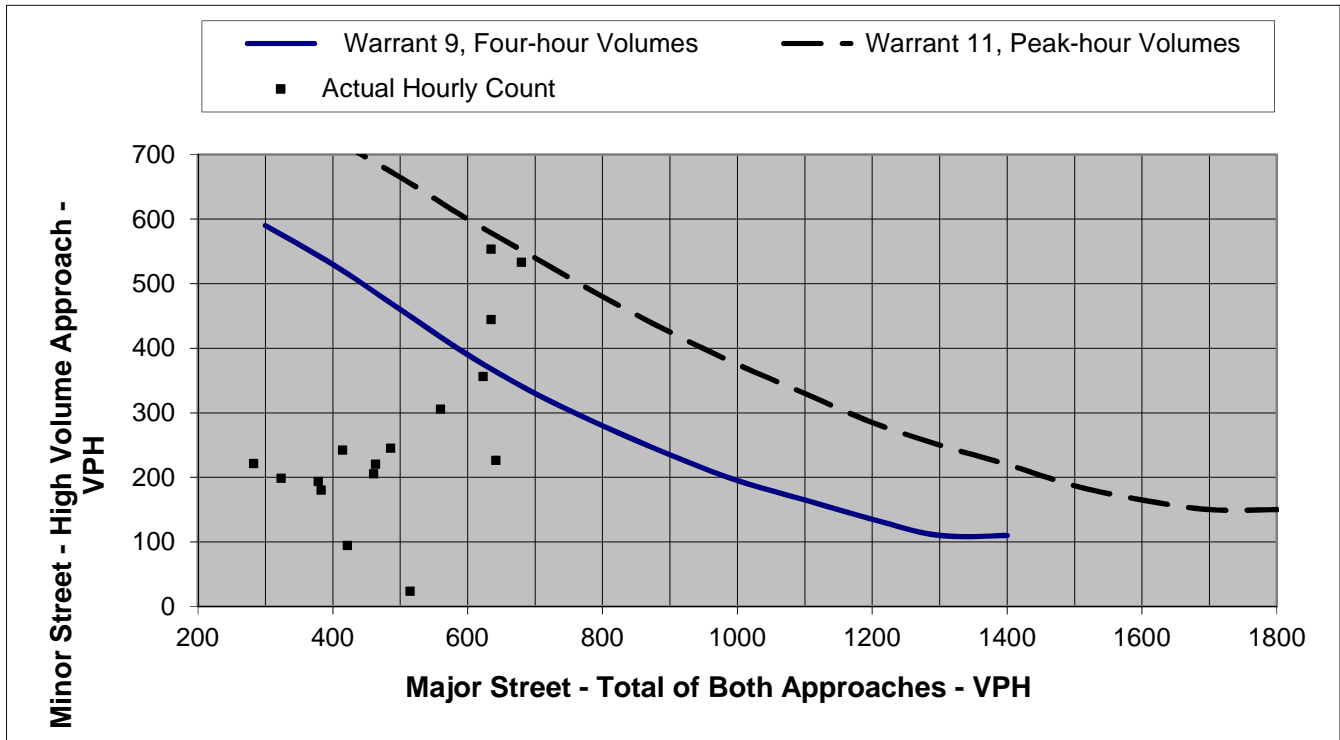


Figure 1. Four Hour and Peak Hour Warrant Analysis

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			41	65
300	590		22	50
400	530	725	15	27
500	460	665	28	19
600	390	600	47	11
700	330	540	151	31
800	280	480	422	94
900	235	425	642	226
1000	195	375	461	205
1100	165	330	383	180
1200	135	285	379	193
1300	110	250	464	220
1400	110	220	515	23
1500		187	486	245
1600		165	560	305
1700		150	635	444
1800		150	635	553
			680	533
			623	356
			415	242
			324	198
			283	221
			158	118
			73	98

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: I-494 & 7TH AVE

COUNTY: DAKOTA

REF. POINT: 065.336

DATE: 10/27/1995

OPERATOR: DR

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30	Major App3: 7TH AVE SB, N OF I-494 SOUTH RAMP	2
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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	23	18	65	0	106	65	/
1:00 - 2:00	13	9	50	0	72	50	/
2:00 - 3:00	9	6	27	0	42	27	/
3:00 - 4:00	16	12	19	0	47	19	/
4:00 - 5:00	37	10	11	0	58	11	/
5:00 - 6:00	118	33	31	0	182	31	/
6:00 - 7:00	349	73	94	0	516	94	X/
7:00 - 8:00	480	162	226	0	868	226	X/X
8:00 - 9:00	326	135	205	0	666	205	X/X
9:00 - 10:00	253	130	180	0	563	180	X/X
10:00 - 11:00	236	143	193	0	572	193	X/X
11:00 - 12:00	279	185	220	0	684	220	X/X
12:00 - 13:00	312	203	23	0	538	23	X/
13:00 - 14:00	300	186	245	0	731	245	X/X
14:00 - 15:00	344	216	305	0	865	305	X/X
15:00 - 16:00	379	256	444	0	1079	444	X/X
16:00 - 17:00	380	255	553	0	1188	553	X/X
17:00 - 18:00	410	270	533	0	1213	533	X/X
18:00 - 19:00	372	251	356	0	979	356	X/X
19:00 - 20:00	241	174	242	0	657	242	X/X
20:00 - 21:00	181	143	198	0	522	198	X/X
21:00 - 22:00	165	118	221	0	504	221	X/X
22:00 - 23:00	95	63	118	0	276	118	/
23:00 - 24:00	51	22	98	0	171	98	/

Met (Hr) Required (Hr)

Allway Stop Warrant: **14** 8 **Satisfied**

REMARKS: _____

