



# MINNESOTA DEPARTMENT OF TRANSPORTATION

## METRO DIVISION - TRAFFIC ENGINEERING

### SIGNAL WARRANTS ANALYSIS

LOCATION: I-35W N RAMP TO LEXINGOTN AVE.

COUNTY: ANOKA

REF. POINT: 033.566

DATE: 7/15/1996

OPERATOR: DR

Speed	Approach Description	Lanes
45	Major App1: LEXINGTON AVE NB, S OR 35W	1
45	Major App3: LEXINGTON AVE SB, N OF 35W	2
0	Minor App2: N/A	0
55	Minor App4: I-35W N RAMP TO LEXINGTON AVE.	2

0.70 FACTOR USED? YES

POPULATION < 10,000? NO

EXISTING SIGNAL ? NO

HOUR	420/630				0/0		140/70		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	67	26	93	/	0	12	/	/	/
1:00 - 2:00	32	17	49	/	0	7	/	/	/
2:00 - 3:00	23	16	39	/	0	4	/	/	/
3:00 - 4:00	18	23	41	/	0	6	/	/	/
4:00 - 5:00	27	69	96	/	0	10	/	/	/
5:00 - 6:00	149	344	493	X/	0	48	/	/	/
6:00 - 7:00	232	932	1164	X/X	0	97	/	/X	/X
7:00 - 8:00	466	827	1293	X/X	0	108	/	/X	/X
8:00 - 9:00	387	449	836	X/X	0	69	/	/	/
9:00 - 10:00	293	279	572	X/	0	48	/	/	/
10:00 - 11:00	254	260	514	X/	0	56	/	/	/
11:00 - 12:00	263	272	535	X/	0	51	/	/	/
12:00 - 13:00	309	290	599	X/	0	74	/	/X	/
13:00 - 14:00	306	255	561	X/	0	51	/	/	/
14:00 - 15:00	355	278	633	X/X	0	77	/	/X	/X
15:00 - 16:00	608	302	910	X/X	0	79	/	/X	/X
16:00 - 17:00	685	354	1039	X/X	0	83	/	/X	/X
17:00 - 18:00	690	424	1114	X/X	0	69	/	/	/
18:00 - 19:00	541	319	860	X/X	0	65	/	/	/
19:00 - 20:00	282	226	508	X/	0	47	/	/	/
20:00 - 21:00	220	207	427	X/	0	54	/	/	/
21:00 - 22:00	178	180	358	/	0	51	/	/	/
22:00 - 23:00	147	123	270	/	0	47	/	/	/
23:00 - 24:00	95	58	153	/	0	21	/	/	/

	Met (Hr)	Required (Hr)	
Warrant 1	0	8	Not satisfied
Warrant 2	5	8	Not satisfied
Warrant 6	10	8	Satisfied, check accident record
Warrant 8	0	8	Not satisfied
Warrant 9	3	4	Not satisfied
Warrant 11	1	1	Satisfied

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OPERATOR: DR

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

Speed	Approach Description	Lanes
45	Major App1: LEXINGTON AVE NB, S OR 35W	1
45	Major App3: LEXINGTON AVE SB, N OF 35W	2
0	Minor App2: N/A	0
55	Minor App4: I-35W N RAMP TO LEXINGTON AVE.	2

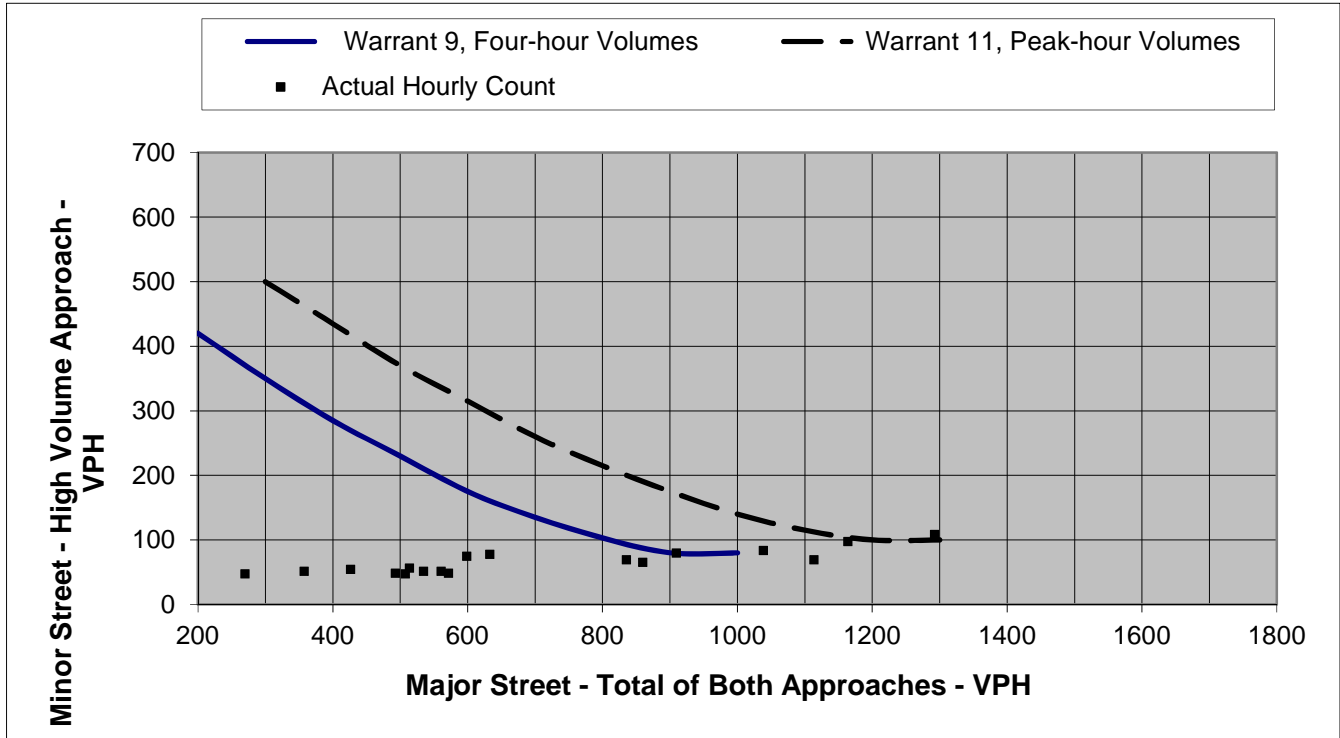


Figure 1. Four Hour and Peak Hour Warrant Analysis

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	420		93	12
300	350	500	49	7
400	285	435	39	4
500	230	370	41	6
600	175	315	96	10
700	135	260	493	48
800	103	215	1164	97
900	80	175	1293	108
1000	80	140	836	69
1100		115	572	48
1200		100	514	56
1300		100	535	51
1400			599	74
1500			561	51
1600			633	77
1700			910	79
1800			1039	83
			1114	69
			860	65
			508	47
			427	54
			358	51
			270	47
			153	21

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-35W N RAMP TO LEXINGOTN AVE.

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REF. POINT: 033.566

DATE: 7/15/1996

OPERATOR: DR

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45	Major App1: LEXINGTON AVE NB, S OR 35W	1
45	Major App3: LEXINGTON AVE SB, N OF 35W	2
0	Minor App2: N/A	0
55	Minor App4: I-35W N RAMP TO LEXINGTON AVE.	2

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	67	26	0	12	105	12	/
1:00 - 2:00	32	17	0	7	56	7	/
2:00 - 3:00	23	16	0	4	43	4	/
3:00 - 4:00	18	23	0	6	47	6	/
4:00 - 5:00	27	69	0	10	106	10	/
5:00 - 6:00	149	344	0	48	541	48	X/
6:00 - 7:00	232	932	0	97	1261	97	X/
7:00 - 8:00	466	827	0	108	1401	108	X/
8:00 - 9:00	387	449	0	69	905	69	X/
9:00 - 10:00	293	279	0	48	620	48	X/
10:00 - 11:00	254	260	0	56	570	56	X/
11:00 - 12:00	263	272	0	51	586	51	X/
12:00 - 13:00	309	290	0	74	673	74	X/
13:00 - 14:00	306	255	0	51	612	51	X/
14:00 - 15:00	355	278	0	77	710	77	X/
15:00 - 16:00	608	302	0	79	989	79	X/
16:00 - 17:00	685	354	0	83	1122	83	X/
17:00 - 18:00	690	424	0	69	1183	69	X/
18:00 - 19:00	541	319	0	65	925	65	X/
19:00 - 20:00	282	226	0	47	555	47	X/
20:00 - 21:00	220	207	0	54	481	54	X/
21:00 - 22:00	178	180	0	51	409	51	X/
22:00 - 23:00	147	123	0	47	317	47	/
23:00 - 24:00	95	58	0	21	174	21	/

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

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