



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

SIGNAL WARRANTS ANALYSIS

LOCATION: TH-242 & FLINTWOOD ST

COUNTY: ANOKA

REF. POINT: 005.849

DATE: 10/27/1997

OPERATOR: DR

Speed	Approach Description	Lanes
50	Major App1: TH-242 EB, W OF FLINTWOOD ST	2
50	Major App3: TH-242 WB, E OF FLINTWOOD ST	2
30	Minor App2: FLINTWOOD ST NB, S OF TH-242	1
30	Minor App4: FLINTWOOD ST SB, N OF TH-242	1

0.70 FACTOR USED? YES

POPULATION < 10,000? NO

EXISTING SIGNAL ? NO

HOUR	420/630				105/52		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	58	53	111	/	1	2	/	/	/
1:00 - 2:00	37	36	73	/	2	0	/	/	/
2:00 - 3:00	33	27	60	/	2	0	/	/	/
3:00 - 4:00	19	25	44	/	1	2	/	/	/
4:00 - 5:00	48	51	99	/	2	5	/	/	/
5:00 - 6:00	143	161	304	/	6	9	/	/	/
6:00 - 7:00	447	450	897	X/X	17	30	/	/	/
7:00 - 8:00	702	684	1386	X/X	54	35	/X	/	/X
8:00 - 9:00	488	515	1003	X/X	20	18	/	/	/
9:00 - 10:00	432	422	854	X/X	14	15	/	/	/
10:00 - 11:00	415	415	830	X/X	14	13	/	/	/
11:00 - 12:00	443	457	900	X/X	13	6	/	/	/
12:00 - 13:00	465	472	937	X/X	14	13	/	/	/
13:00 - 14:00	519	465	984	X/X	11	8	/	/	/
14:00 - 15:00	576	635	1211	X/X	19	41	/	/	/
15:00 - 16:00	667	707	1374	X/X	28	12	/	/	/
16:00 - 17:00	784	815	1599	X/X	23	13	/	/	/
17:00 - 18:00	807	872	1679	X/X	28	23	/	/	/
18:00 - 19:00	651	720	1371	X/X	30	18	/	/	/
19:00 - 20:00	500	476	976	X/X	19	9	/	/	/
20:00 - 21:00	421	371	792	X/X	17	11	/	/	/
21:00 - 22:00	358	350	708	X/X	16	6	/	/	/
22:00 - 23:00	196	200	396	/	10	2	/	/	/
23:00 - 24:00	124	95	219	/	3	4	/	/	/

	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	0	4	Not satisfied
Warrant 11	0	1	Not satisfied

LOCATION: TH-242 & FLINTWOOD ST

COUNTY: ANOKA

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DATE: 10/27/1997

OPERATOR: DR

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

Speed	Approach Description	Lanes
50	Major App1: TH-242 EB, W OF FLINTWOOD ST	2
50	Major App3: TH-242 WB, E OF FLINTWOOD ST	2
30	Minor App2: FLINTWOOD ST NB, S OF TH-242	1
30	Minor App4: FLINTWOOD ST SB, N OF TH-242	1

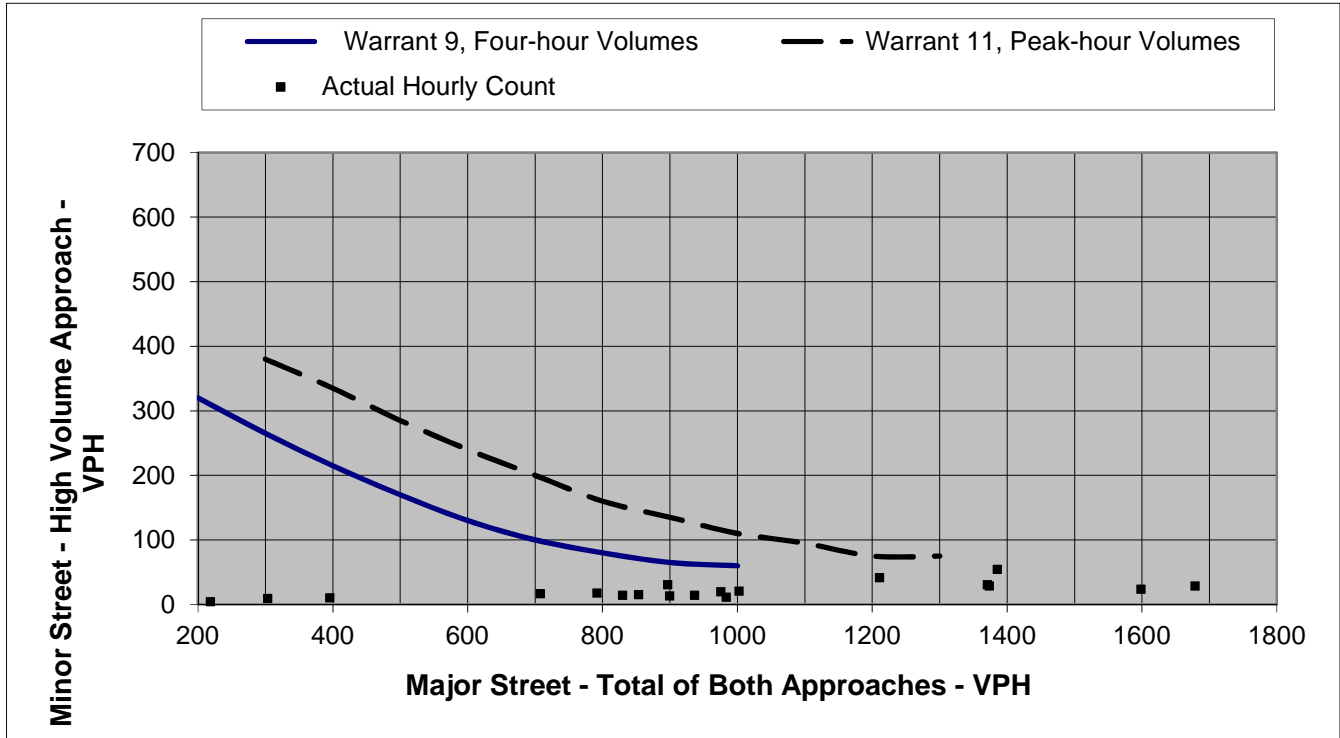


Figure 1. Four Hour and Peak Hour Warrant Analysis

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		111	2
300	265	380	73	2
400	215	335	60	2
500	170	285	44	2
600	130	240	99	5
700	100	200	304	9
800	80	160	897	30
900	65	135	1386	54
1000	60	110	1003	20
1100		95	854	15
1200		75	830	14
1300		75	900	13
1400			937	14
1500			984	11
1600			1211	41
1700			1374	28
1800			1599	23
			1679	28
			1371	30
			976	19
			792	17
			708	16
			396	10
			219	4

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-242 & FLINTWOOD ST

COUNTY: ANOKA

REF. POINT: 005.849

DATE: 10/27/1997

OPERATOR: DR

Speed	Approach Description	Lanes
50	Major App1: TH-242 EB, W OF FLINTWOOD ST	2
50	Major App3: TH-242 WB, E OF FLINTWOOD ST	2
30	Minor App2: FLINTWOOD ST NB, S OF TH-242	1
30	Minor App4: FLINTWOOD ST SB, N OF TH-242	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	58	53	1	2	114	3	/
1:00 - 2:00	37	36	2	0	75	2	/
2:00 - 3:00	33	27	2	0	62	2	/
3:00 - 4:00	19	25	1	2	47	3	/
4:00 - 5:00	48	51	2	5	106	7	/
5:00 - 6:00	143	161	6	9	319	15	/
6:00 - 7:00	447	450	17	30	944	47	X/
7:00 - 8:00	702	684	54	35	1475	89	X/
8:00 - 9:00	488	515	20	18	1041	38	X/
9:00 - 10:00	432	422	14	15	883	29	X/
10:00 - 11:00	415	415	14	13	857	27	X/
11:00 - 12:00	443	457	13	6	919	19	X/
12:00 - 13:00	465	472	14	13	964	27	X/
13:00 - 14:00	519	465	11	8	1003	19	X/
14:00 - 15:00	576	635	19	41	1271	60	X/
15:00 - 16:00	667	707	28	12	1414	40	X/
16:00 - 17:00	784	815	23	13	1635	36	X/
17:00 - 18:00	807	872	28	23	1730	51	X/
18:00 - 19:00	651	720	30	18	1419	48	X/
19:00 - 20:00	500	476	19	9	1004	28	X/
20:00 - 21:00	421	371	17	11	820	28	X/
21:00 - 22:00	358	350	16	6	730	22	X/
22:00 - 23:00	196	200	10	2	408	12	X/
23:00 - 24:00	124	95	3	4	226	7	/

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

REMARKS: _____

