



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

SIGNAL WARRANTS ANALYSIS

LOCATION: TH-8 AT PLEASANT VALLEY RD \CSAH-26\CSAH-82

COUNTY: CHISAGO

REF. POINT:

DATE: 9/11/2006

OPERATOR: RE

Speed	Approach Description	Lanes
55	Major App1: TH-8 EB, W OF PLEASANT VALLEY RD.	2
55	Major App3: TH-8 WB, E OF PLEASANT VALLEY RD.	2
55	Minor App2: PLEASANT VALLEY RD NB, S OF TH-8	2
55	Minor App4: PLEASANT VALLEY RD SB, N OF TH-8	2

0.70 FACTOR USED?

YES

POPULATION < 10,000?

N

EXISTING SIGNAL ?

N

THRESHOLDS 1A/1B:

420/630

140/70

140/70

HOUR	MAJOR APP. 1	MAJOR APP. 3	TOTAL 1+3	MAJOR 1A/1B	MINOR APP. 2	MINOR 2 1A/1B	MINOR APP. 4	MINOR 4 1A/1B	MET SAME 1A/1B
0:00 - 1:00	41	21	62	/	10	/	0	/	/
1:00 - 2:00	33	27	60	/	4	/	0	/	/
2:00 - 3:00	17	31	48	/	3	/	0	/	/
3:00 - 4:00	16	57	73	/	5	/	0	/	/
4:00 - 5:00	41	201	242	/	10	/	1	/	/
5:00 - 6:00	108	422	530	X/	23	/	7	/	/
6:00 - 7:00	239	451	690	X/X	50	/	25	/	/
7:00 - 8:00	421	477	898	X/X	67	/	22	/	/
8:00 - 9:00	356	382	738	X/X	73	/X	10	/	/X
9:00 - 10:00	332	335	667	X/X	67	/	8	/	/
10:00 - 11:00	357	332	689	X/X	62	/	4	/	/
11:00 - 12:00	370	354	724	X/X	88	/X	6	/	/X
12:00 - 13:00	365	348	713	X/X	80	/X	6	/	/X
13:00 - 14:00	383	346	729	X/X	79	/X	7	/	/X
14:00 - 15:00	424	342	766	X/X	99	/X	8	/	/X
15:00 - 16:00	505	336	841	X/X	162	X/X	7	/	X/X
16:00 - 17:00	578	320	898	X/X	277	X/X	7	/	X/X
17:00 - 18:00	549	305	854	X/X	138	/X	7	/	/X
18:00 - 19:00	391	249	640	X/X	63	/	11	/	/
19:00 - 20:00	295	172	467	X/	37	/	6	/	/
20:00 - 21:00	234	155	389	/	44	/	3	/	/
21:00 - 22:00	154	115	269	/	42	/	1	/	/
22:00 - 23:00	101	85	186	/	26	/	0	/	/
23:00 - 24:00	87	36	123	/	17	/	1	/	/

Met (Hr) Required (Hr)

Warrant 1A	2	8	Not satisfied
Warrant 1B	8	8	Satisfied
Warrant 2	3	4	Not satisfied
Warrant 3	1	1	Satisfied
Warrant 7	12	8	Satisfied, check accident record

Four Hour Warrant				Peak Hour Warrant		
Major App	Minor App			Major App	Minor App	
	1 & 1	2 & 1	2 & 2		1 & 1	2 & 1
300	360	440	590	400	475	570
400	310	390	530	500	425	520
500	260	340	460	600	370	465
600	215	290	390	700	330	420
700	180	245	330	800	280	370
800	150	205	280	900	240	330
900	125	170	235	1000	204	285
1000	100	145	195	1100	175	250
1100	85	120	165	1200	150	220
1200	80	100	135	1300	130	190
1300	80	83	115	1400	115	160
1400	80	80	115	1500	100	140
1500	80	80	115	1600	100	115
1600	80	80	115	1700	100	100
1700	80	80	115	1800	100	100
1800	80	80	115			

Four Hour Warrant Factored				Peak Hour Warrant Factored		
Major App	Minor App			Major App	Minor App	
	1 & 1	2 & 1	2 & 2		1 & 1	2 & 1
200	250	320	420	300	320	380
300	210	265	350	400	270	335
400	170	215	285	500	225	285
500	130	170	230	600	180	240
600	93	130	175	700	145	200
700	70	100	135	800	115	160
800	60	80	103	900	90	135
900	60	65	80	1000	75	110
1000	60	60	80	1100	75	95
1100	60	60	80	1200	75	75
1200	60	60	80	1300	75	75
1300	60	60	80	1400	75	75
1400	60	60	80	1500	75	75
1500	60	60	80	1600	75	75
1600	60	60	80	1700	75	75
1700	60	60	80	1800	75	75
1800	60	60	80			

2 & 2

725

665

600

540

480

425

375

330

285

250

220

187

165

150

150

ctored

2 & 2

500

435

370

315

260

215

175

140

115

100

100

100

100

100

100

100

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OPERATOR: RE

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55	Minor App4: PLEASANT VALLEY RD SB, N OF TH-8	2

0.70 FACTOR USED? YES
 POPULATION < 10,000? N
 EXISTING SIGNAL ? N

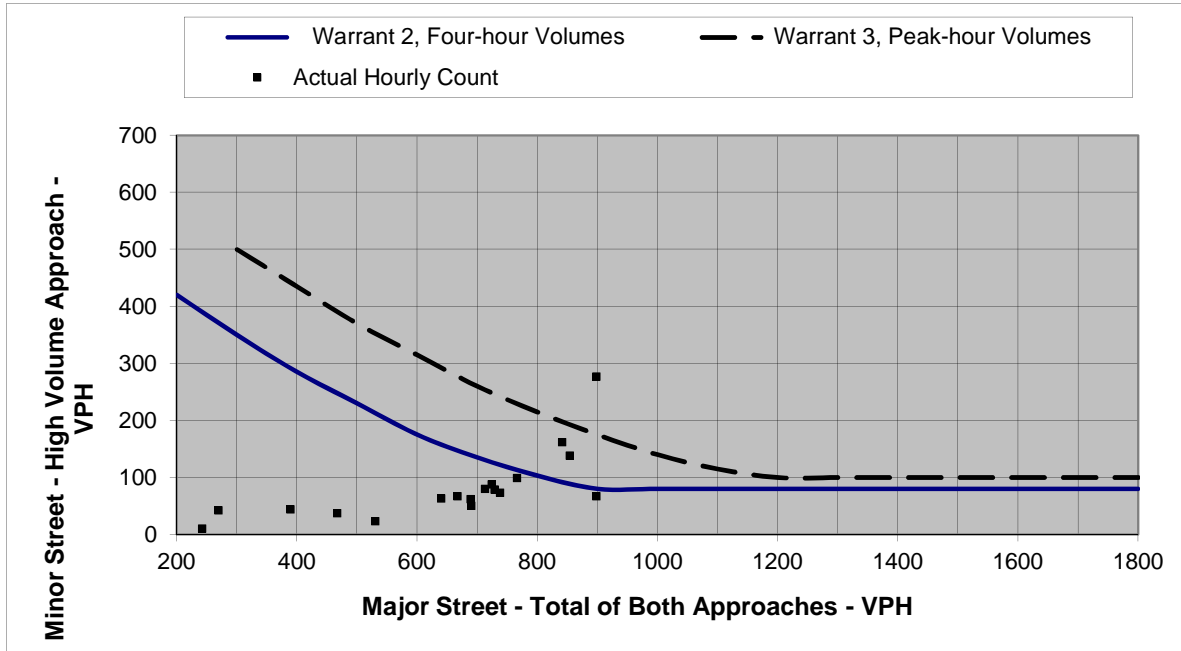


Figure 1. Four Hour and Peak Hour Warrant Analysis

Note: For data points outside the graph range, check the minor street volume against the lower thresholds

Major	Warrant Criteria		Actual Hourly Count	
	Warrant 2, F	Warrant 3, Pe	Major	Actual Hourly Count
200	420		62	10
300	350	500	60	4
400	285	435	48	3
500	230	370	73	5
600	175	315	242	10
700	135	260	530	23
800	103	215	690	50
900	80	175	898	67
1000	80	140	738	73
1100	80	115	667	67
1200	80	100	689	62
1300	80	100	724	88
1400	80	100	713	80
1500	80	100	729	79
1600	80	100	766	99
1700	80	100	841	162
1800	80	100	898	277
			854	138
			640	63
			467	37
			389	44
			269	42
			186	26
			123	17



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

ALL WAY STOP WARRANT

LOCATION: TH-8 AT PLEASANT VALLEY RD \CSAH-26\CSAH-82

COUNTY: CHISAGO

REF. POINT:

DATE: 9/11/2006

OPERATOR: RE

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55	Major App1: TH-8 EB, W OF PLEASANT VALLEY RD.	2
55	Major App3: TH-8 WB, E OF PLEASANT VALLEY RD.	2
55	Minor App2: PLEASANT VALLEY RD NB, S OF TH-8	2
55	Minor App4: PLEASANT VALLEY RD SB, N OF TH-8	2

0.70 FACTOR USED? Yes

HOUR					210	140	WARRANT MET
	MAJOR APP. 1	MAJOR APP. 3	MINOR APP. 2	MINOR APP. 4	MAJOR TOTAL Σ (APP. 1 & APP. 3)	MINOR TOTAL APP. 2 + APP. 4	
0:00 - 1:00	41	21	10	0	62	10	/
1:00 - 2:00	33	27	4	0	60	4	/
2:00 - 3:00	17	31	3	0	48	3	/
3:00 - 4:00	16	57	5	0	73	5	/
4:00 - 5:00	41	201	10	1	242	11	X/
5:00 - 6:00	108	422	23	7	530	30	X/
6:00 - 7:00	239	451	50	25	690	75	X/
7:00 - 8:00	421	477	67	22	898	89	X/
8:00 - 9:00	356	382	73	10	738	83	X/
9:00 - 10:00	332	335	67	8	667	75	X/
10:00 - 11:00	357	332	62	4	689	66	X/
11:00 - 12:00	370	354	88	6	724	94	X/
12:00 - 13:00	365	348	80	6	713	86	X/
13:00 - 14:00	383	346	79	7	729	86	X/
14:00 - 15:00	424	342	99	8	766	107	X/
15:00 - 16:00	505	336	162	7	841	169	X/X
16:00 - 17:00	578	320	277	7	898	284	X/X
17:00 - 18:00	549	305	138	7	854	145	X/X
18:00 - 19:00	391	249	63	11	640	74	X/
19:00 - 20:00	295	172	37	6	467	43	X/
20:00 - 21:00	234	155	44	3	389	47	X/
21:00 - 22:00	154	115	42	1	269	43	X/
22:00 - 23:00	101	85	26	0	186	26	/
23:00 - 24:00	87	36	17	1	123	18	/

Allway Stop Warrant: Met (Hr) 3 Required (Hr) 8 Not satisfied

REMARKS: _____

