



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

SIGNAL WARRANTS ANALYSIS

LOCATION: TH-8 AT OLINDA TRAIL / CSAH-25

COUNTY: CHISAGO

REF. POINT: 011.918

DATE: 10/24/2000

OPERATOR: MR

Speed	Approach Description	Lanes
30	Major App1: TH-8 EB, W OF OLINDA TRAIL / CSAH-25	2
30	Major App3: TH-8 WB, E OF OLINDA TRAIL / CSAH-25	2
35	Minor App2: OLINDA TRAIL/CSAH-25 NB, S OF TH-8	1
30	Minor App4: OLINDA TRAIL/CSAH-25 SB, N OF TH-8	1

0.70 FACTOR USED? YES

POPULATION < 10,000? YES

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	75	31	106	/	5	1	/	/	/
1:00 - 2:00	40	27	67	/	8	0	/	/	/
2:00 - 3:00	35	23	58	/	4	0	/	/	/
3:00 - 4:00	33	41	74	/	7	4	/	/	/
4:00 - 5:00	59	158	217	/	19	6	/	/	/
5:00 - 6:00	152	505	657	X/X	74	11	/X	/	/X
6:00 - 7:00	372	498	870	X/X	122	20	X/X	/	X/X
7:00 - 8:00	644	687	1331	X/X	290	35	X/X	/	X/X
8:00 - 9:00	523	504	1027	X/X	218	23	X/X	/	X/X
9:00 - 10:00	504	474	978	X/X	182	15	X/X	/	X/X
10:00 - 11:00	514	479	993	X/X	168	10	X/X	/	X/X
11:00 - 12:00	593	490	1083	X/X	199	11	X/X	/	X/X
12:00 - 13:00	658	519	1177	X/X	193	16	X/X	/	X/X
13:00 - 14:00	644	485	1129	X/X	174	17	X/X	/	X/X
14:00 - 15:00	706	552	1258	X/X	332	20	X/X	/	X/X
15:00 - 16:00	667	605	1272	X/X	269	20	X/X	/	X/X
16:00 - 17:00	970	696	1666	X/X	283	31	X/X	/	X/X
17:00 - 18:00	949	540	1489	X/X	269	29	X/X	/	X/X
18:00 - 19:00	787	446	1233	X/X	285	34	X/X	/	X/X
19:00 - 20:00	530	302	832	X/X	150	23	X/X	/	X/X
20:00 - 21:00	393	250	643	X/X	171	19	X/X	/	X/X
21:00 - 22:00	323	184	507	X/	77	15	/X	/	/
22:00 - 23:00	208	112	320	/	48	8	/	/	/
23:00 - 24:00	133	74	207	/	23	2	/	/	/

	Met (Hr)	Required (Hr)	
Warrant 1	15	8	Satisfied
Warrant 2	16	8	Satisfied
Warrant 6	17	8	Satisfied, check accident record
Warrant 8	15	8	Satisfied
Warrant 9	15	4	Satisfied
Warrant 11	12	1	Satisfied

LOCATION: TH-8 AT OLINDA TRAIL / CSAH-25

COUNTY: CHISAGO

REF. POINT: 011.918

DATE: 10/24/2000

OPERATOR: MR

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

Speed	Approach Description	Lanes
30	Major App1: TH-8 EB, W OF OLINDA TRAIL / CSAH-25	2
30	Major App3: TH-8 WB, E OF OLINDA TRAIL / CSAH-25	2
35	Minor App2: OLINDA TRAIL/CSAH-25 NB, S OF TH-8	1
30	Minor App4: OLINDA TRAIL/CSAH-25 SB, N OF TH-8	1

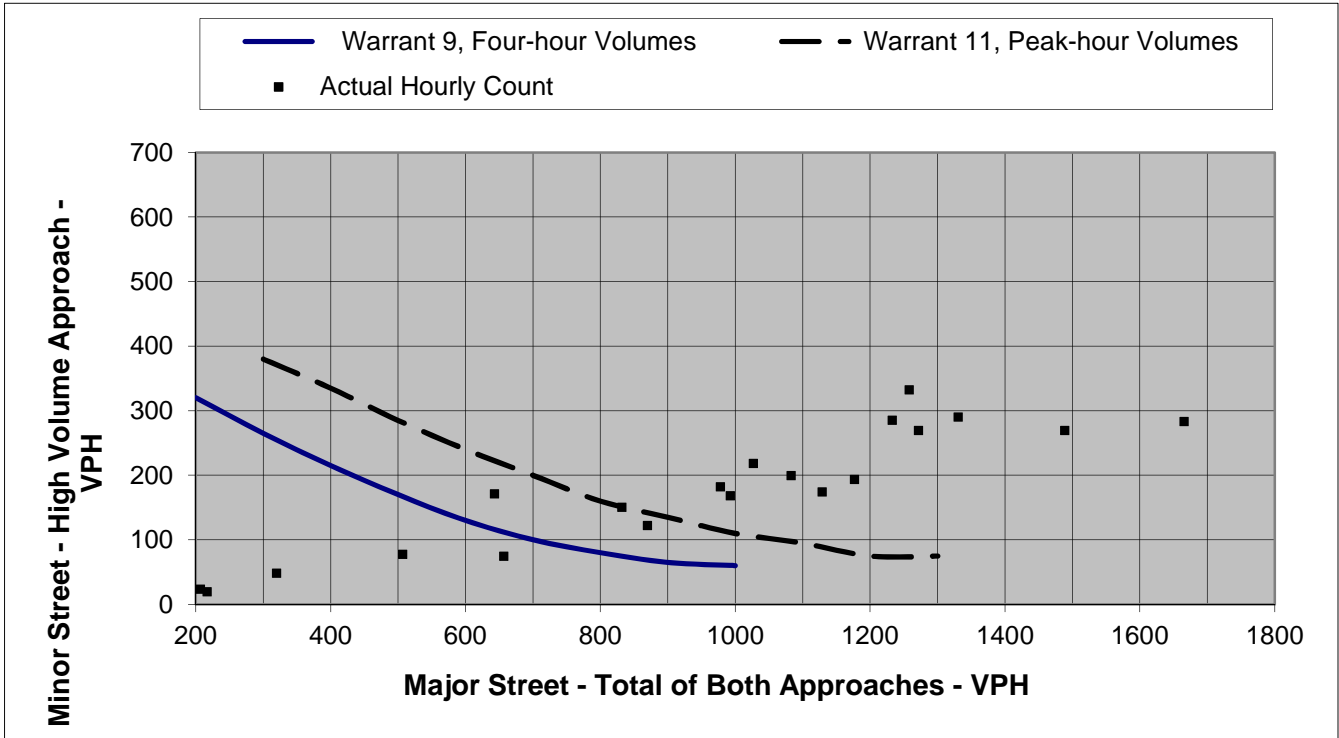


Figure 1. Four Hour and Peak Hour Warrant Analysis

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		106	5
300	265	380	67	8
400	215	335	58	4
500	170	285	74	7
600	130	240	217	19
700	100	200	657	74
800	80	160	870	122
900	65	135	1331	290
1000	60	110	1027	218
1100		95	978	182
1200		75	993	168
1300		75	1083	199
1400			1177	193
1500			1129	174
1600			1258	332
1700			1272	269
1800			1666	283
			1489	269
			1233	285
			832	150
			643	171
			507	77
			320	48
			207	23

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-8 AT OLINDA TRAIL / CSAH-25

COUNTY: CHISAGO

REF. POINT: 011.918

DATE: 10/24/2000

OPERATOR: MR

Speed	Approach Description	Lanes
30	Major App1: TH-8 EB, W OF OLINDA TRAIL / CSAH-25	2
30	Major App3: TH-8 WB, E OF OLINDA TRAIL / CSAH-25	2
35	Minor App2: OLINDA TRAIL/CSAH-25 NB, S OF TH-8	1
30	Minor App4: OLINDA TRAIL/CSAH-25 SB, N OF TH-8	1

0.70 FACTOR USED? No

HOUR	MAJOR APP. 1	MAJOR APP. 3	MINOR APP. 2	MINOR APP. 4	500	200	WARRANT MET
					TOTAL Σ (APP.1 to APP. 4)	MINOR TOTAL APP. 2 + APP. 4	
0:00 - 1:00	75	31	5	1	112	6	/
1:00 - 2:00	40	27	8	0	75	8	/
2:00 - 3:00	35	23	4	0	62	4	/
3:00 - 4:00	33	41	7	4	85	11	/
4:00 - 5:00	59	158	19	6	242	25	/
5:00 - 6:00	152	505	74	11	742	85	X/
6:00 - 7:00	372	498	122	20	1012	142	X/
7:00 - 8:00	644	687	290	35	1656	325	X/X
8:00 - 9:00	523	504	218	23	1268	241	X/X
9:00 - 10:00	504	474	182	15	1175	197	X/
10:00 - 11:00	514	479	168	10	1171	178	X/
11:00 - 12:00	593	490	199	11	1293	210	X/X
12:00 - 13:00	658	519	193	16	1386	209	X/X
13:00 - 14:00	644	485	174	17	1320	191	X/
14:00 - 15:00	706	552	332	20	1610	352	X/X
15:00 - 16:00	667	605	269	20	1561	289	X/X
16:00 - 17:00	970	696	283	31	1980	314	X/X
17:00 - 18:00	949	540	269	29	1787	298	X/X
18:00 - 19:00	787	446	285	34	1552	319	X/X
19:00 - 20:00	530	302	150	23	1005	173	X/
20:00 - 21:00	393	250	171	19	833	190	X/
21:00 - 22:00	323	184	77	15	599	92	X/
22:00 - 23:00	208	112	48	8	376	56	/
23:00 - 24:00	133	74	23	2	232	25	/

Met (Hr) Required (Hr)

Allway Stop Warrant: **9** 8 **Satisfied**

REMARKS: _____



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

TRAFFIC COUNT DATA

ROUTE #: TH-8 EB, W OF OLINDA TRAIL / CSAH-25

COUNTY: CHISAGO

REF. PT.: 011.918

SITE CODE: APPROACH

OPERATOR: MR

FOR COUNTS BEGINNING: **October 24, 2000**

DATE HOUR \ DAY	23 MON.	24 TUE.	25 WED.	26 THU.	27 FRI.	28 SAT.	29 SUN.	AVE. WK.DAY	AVE. WKEND
0:00 - 1:00			55	79	91	127	124	75	125
1:00 - 2:00			27	46	47	70	67	40	68
2:00 - 3:00			29	30	46	54	42	35	48
3:00 - 4:00			30	26	43	25	21	33	23
4:00 - 5:00			60	64	55	50	22	59	36
5:00 - 6:00			127	177	154	108	28	152	68
6:00 - 7:00			348	387	382	168	59	372	113
7:00 - 8:00			660	617	656	318	100	644	209
8:00 - 9:00			525	524	521	410	199	523	304
9:00 - 10:00			500	504	508	627	334	504	480
10:00 - 11:00			477	538	527	753	405	514	579
11:00 - 12:00			600	569	610	732	561	593	646
12:00 - 13:00			689	563	723	535	659	658	597
13:00 - 14:00			626	612	695	728	588	644	658
14:00 - 15:00			664	677	778	675	554	706	614
15:00 - 16:00			854	866	950	690	499	890	594
16:00 - 17:00		958	935	983	1004	703	553	970	628
17:00 - 18:00		851	946	952	1050	604	572	949	588
18:00 - 19:00		675	777	799	898	529	506	787	517
19:00 - 20:00		462	530	535	593	425	426	530	425
20:00 - 21:00		332	404	382	455	353	328	393	340
21:00 - 22:00		313	329	305	348	276	202	323	239
22:00 - 23:00		190	191	199	253	229	152	208	190
23:00 - 24:00		107	121	121	184	205	149	133	177
TOTAL		3888	10504	10555	11571	9394	7150	10735	8266

24 HOURS FACTOR:

FACTORED ADT:

REMARKS:

CORRECTED AADT:

DATA FILE --> a:\3g008007



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

TRAFFIC COUNT DATA

ROUTE #: OLINDA TRAIL/CSAH-25 NB, S OF TH-8

COUNTY: CHISAGO

REF. PT.: 011.918

SITE CODE: APPROACH

OPERATOR: MR

FOR COUNTS BEGINNING: **October 23, 2000**

DATE HOUR \ DAY	23 MON.	24 TUE.	25 WED.	26 THU.	27 FRI.	28 SAT.	29 SUN.	AVE. WK.DAY	AVE. WKEND
0:00 - 1:00		2	5	5	9	22	31	5	26
1:00 - 2:00		11	3	7	11	26	30	8	28
2:00 - 3:00		7	3	5	4	11	16	4	13
3:00 - 4:00		7	10	6	7	4	9	7	6
4:00 - 5:00		19	19	19	22	8	2	19	5
5:00 - 6:00		74	79	77	68	31	7	74	19
6:00 - 7:00		127	116	121	124	47	18	122	32
7:00 - 8:00		286	291	308	278	82	46	290	64
8:00 - 9:00		205	240	213	216	158	119	218	138
9:00 - 10:00		181	193	185	172	239	141	182	190
10:00 - 11:00		188	153	146	186	242	227	168	234
11:00 - 12:00		196	207	188	207	269	178	199	223
12:00 - 13:00	193	207	182	211	176	237	215	193	226
13:00 - 14:00	178	158	192	180	166	233	229	174	231
14:00 - 15:00	303	357	329	314	361	253	176	332	214
15:00 - 16:00	235	294	274	260	282	226	150	269	188
16:00 - 17:00	295	294	278	300	248	326	226	283	276
17:00 - 18:00	266	261	271	251	299	195	195	269	195
18:00 - 19:00	285	245	275	376	245	186	176	285	181
19:00 - 20:00	148	107	153	156	189	128	129	150	128
20:00 - 21:00	108	117	200	223	209	110	82	171	96
21:00 - 22:00	81	98	73	57	80	129	64	77	96
22:00 - 23:00	32	62	38	44	67	79	75	48	77
23:00 - 24:00	13	18	17	18	50	61	41	23	51
TOTAL	2137	3521	3601	3670	3676	3302	2582	3570	2937

24 HOURS FACTOR:

FACTORED ADT:

REMARKS:

CORRECTED AADT:

DATA FILE --> a:\3g008001



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

TRAFFIC COUNT DATA

ROUTE #: TH-8 WB, E OF OLINDA TRAIL / CSAH-25

COUNTY: CHISAGO

REF. PT.: 011.918

SITE CODE: APPROACH

OPERATOR: MR

FOR COUNTS BEGINNING: **October 23, 2000**

DATE HOUR \ DAY	23 MON.	24 TUE.	25 WED.	26 THU.	27 FRI.	28 SAT.	29 SUN.	AVE. WK.DAY	AVE. WKEND
0:00 - 1:00		29	32	30	34	59	68	31	63
1:00 - 2:00		21	23	22	43	43	56	27	49
2:00 - 3:00		30	15	21	28	44	30	23	37
3:00 - 4:00		48	37	46	35	22	33	41	27
4:00 - 5:00		169	171	146	146	49	22	158	35
5:00 - 6:00		530	522	500	470	107	17	505	62
6:00 - 7:00		504	500	497	492	108	50	498	79
7:00 - 8:00		699	717	660	674	205	66	687	135
8:00 - 9:00		490	496	502	531	327	204	504	265
9:00 - 10:00		471	494	486	446	489	325	474	407
10:00 - 11:00		471	448	488	511	545	466	479	505
11:00 - 12:00		469	527	455	512	600	525	490	562
12:00 - 13:00		498	501	516	563	484	611	519	547
13:00 - 14:00	480	479	498	455	516	496	508	485	502
14:00 - 15:00	581	520	525	561	577	505	471	552	488
15:00 - 16:00	627	595	600	584	622	522	545	605	533
16:00 - 17:00	706	707	678	702	687	562	602	696	582
17:00 - 18:00	504	505	512	508	675	481	656	540	568
18:00 - 19:00	369	407	455	482	520	439	638	446	538
19:00 - 20:00	269	304	280	351	308	350	501	302	425
20:00 - 21:00	213	223	268	239	307	330	353	250	341
21:00 - 22:00	170	171	173	210	199	231	220	184	225
22:00 - 23:00	93	110	99	115	143	163	135	112	149
23:00 - 24:00	70	50	52	97	103	132	100	74	116
TOTAL	4082	8500	8623	8673	9142	7293	7202	8682	7240

24 HOURS FACTOR:

FACTORED ADT:

REMARKS:

CORRECTED AADT:

DATA FILE --> a:\3g008005



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

TRAFFIC COUNT DATA

ROUTE #: OLINDA TRAIL/CSAH-25 SB, N OF TH-8

COUNTY: CHISAGO

REF. PT.: 011.918

SITE CODE: APPROACH

OPERATOR: MR

FOR COUNTS BEGINNING: **October 23, 2000**

DATE HOUR \ DAY	23 MON.	24 TUE.	25 WED.	26 THU.	27 FRI.	28 SAT.	29 SUN.	AVE. WK.DAY	AVE. WKEND
0:00 - 1:00		2	0	1	4	4	2	1	3
1:00 - 2:00		0	0	1	0	3	3	0	3
2:00 - 3:00		1	1	0	0	0	0	0	0
3:00 - 4:00		4	4	4	6	1	1	4	1
4:00 - 5:00		9	6	6	6	2	2	6	2
5:00 - 6:00		11	11	11	13	1	1	11	1
6:00 - 7:00		20	19	23	21	3	1	20	2
7:00 - 8:00		36	37	33	36	10	0	35	5
8:00 - 9:00		22	25	21	26	12	11	23	11
9:00 - 10:00		13	14	19	15	19	20	15	19
10:00 - 11:00		14	12	4	13	23	23	10	23
11:00 - 12:00		9	14	15	7	14	19	11	16
12:00 - 13:00	15	14	22	18	12	19	23	16	21
13:00 - 14:00	14	23	22	18	9	21	12	17	16
14:00 - 15:00	18	18	23	18	26	28	10	20	19
15:00 - 16:00	22	23	22	27	9	21	11	20	16
16:00 - 17:00	31	27	29	37	34	29	26	31	27
17:00 - 18:00	20	25	37	36	29	19	15	29	17
18:00 - 19:00	29	29	46	30	39	23	24	34	23
19:00 - 20:00	19	21	29	25	21	7	22	23	14
20:00 - 21:00	10	27	21	28	11	15	18	19	16
21:00 - 22:00	18	22	20	11	5	10	8	15	9
22:00 - 23:00	4	11	5	13	11	5	9	8	7
23:00 - 24:00	1	1	1	3	5	8	2	2	5
TOTAL	201	382	420	402	358	297	263	370	276

24 HOURS FACTOR:

FACTORED ADT:

REMARKS:

CORRECTED AADT:

DATA FILE --> a:\3g008003