



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

SIGNAL WARRANTS ANALYSIS

LOCATION: TH-13 at Dakota Ave

COUNTY: Scott

REF. POINT: 91.00.741

DATE: 4/27/1998

OPERATOR: DR

Speed	Approach Description	Lanes
55	Major App1: TH-13 EB W. of Dakota Ave.	4
55	Major App3: TH-13 WB E. of Dakota Ave.	4
30	Minor App2: Dakota Ave. NB S. of TH-13	1
30	Minor App4: Dakota Ave. SB N. of TH-13	2

EXISTING SIGNAL ? NO
 POPULATION LESS THAN 10,000? NO

HOUR	420/630		105/52		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	165	138	303	/	0	1	/	/	/
1:00 - 2:00	152	93	245	/	3	0	/	/	/
2:00 - 3:00	132	105	237	/	1	0	/	/	/
3:00 - 4:00	223	186	409	/	6	2	/	/	/
4:00 - 5:00	537	519	1056	X/X	14	14	/	/	/
5:00 - 6:00	1122	1603	2725	X/X	15	51	/	/	/
6:00 - 7:00	1530	2308	3838	X/X	30	179	/	X/X	X/X
7:00 - 8:00	1288	1681	2969	X/X	31	202	/	X/X	X/X
8:00 - 9:00	1164	1277	2441	X/X	46	175	/	X/X	X/X
9:00 - 10:00	1145	1174	2319	X/X	57	133	/X	/X	/X
10:00 - 11:00	1287	1223	2510	X/X	73	122	/X	/X	/X
11:00 - 12:00	1292	1329	2621	X/X	63	131	/X	/X	/X
12:00 - 13:00	1253	1315	2568	X/X	48	116	/	/X	/X
13:00 - 14:00	1366	1453	2819	X/X	61	84	/X	/X	/X
14:00 - 15:00	1770	1671	3441	X/X	57	14	/X	/	/X
15:00 - 16:00	2000	1788	3788	X/X	76	3	/X	/	/X
16:00 - 17:00	2160	1726	3886	X/X	45	6	/	/	/
17:00 - 18:00	1409	1296	2705	X/X	14	1	/	/	/
18:00 - 19:00	859	854	1713	X/X	7	7	/	/	/
19:00 - 20:00	681	731	1412	X/X	7	10	/	/	/
20:00 - 21:00	536	645	1181	X/X	6	7	/	/	/
21:00 - 22:00	381	449	830	X/X	3	10	/	/	/
22:00 - 23:00	345	292	637	X/X	3	5	/	/	/
23:00 - 24:00	216	0	216	/	1	0	/	/	/

Warrant 1 was met for 3 hours
 Warrant 2 was met for 10 hours
 Warrant 6 was met for 11 hours
 Warrant 8 was met for 7 hours
 Warrant 9 was met for 8 hours
 Warrant 11 was met for 7 hours

LOCATION: TH-13 at Dakota Ave

COUNTY: Scott

REF. POINT: 91.00.741

DATE: 4/27/1998

OPERATOR: DR

EXISTING SIGNAL ?

NO

POPULATION LESS THAN 10,000?

NO

Speed	Approach Description	Lanes
55	Major App1: TH-13 EB W. of Dakota Ave.	4
55	Major App3: TH-13 WB E. of Dakota Ave.	4
30	Minor App2: Dakota Ave. NB S. of TH-13	1
30	Minor App4: Dakota Ave. SB N. of TH-13	2

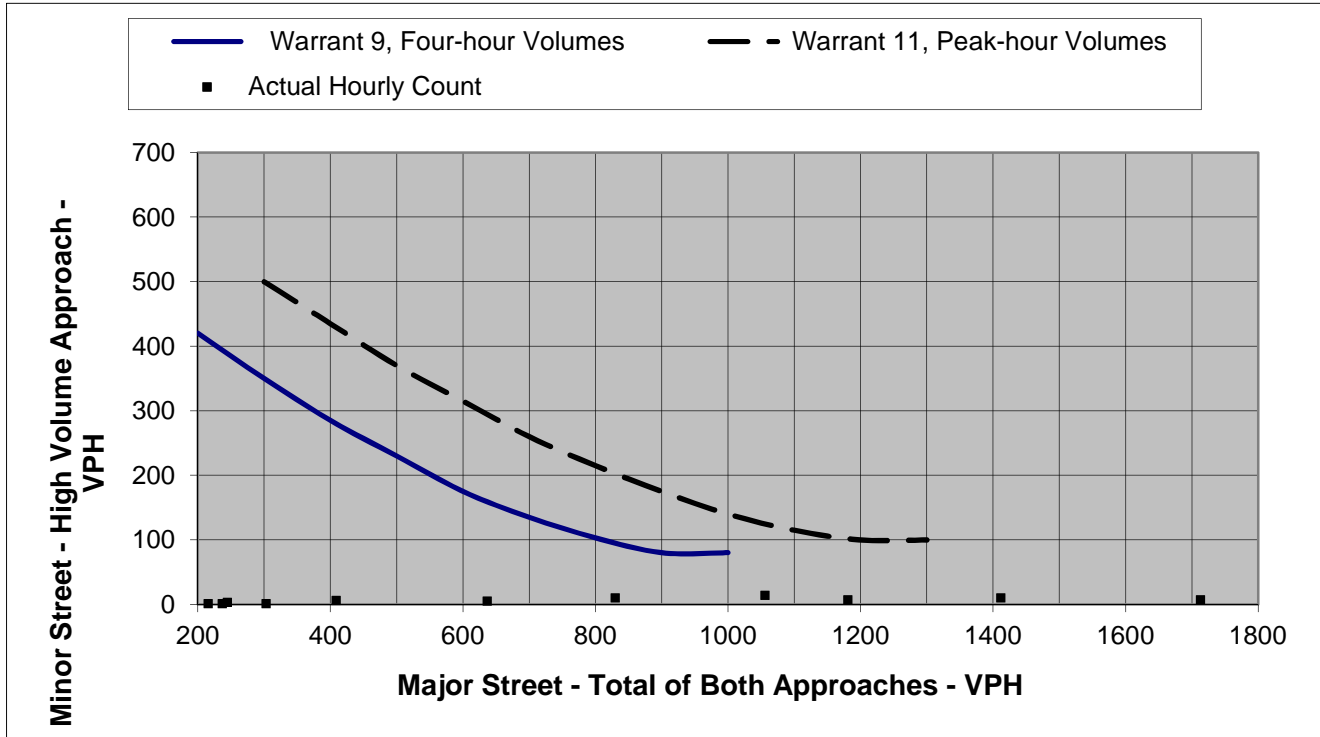


Figure 1. Four Hour and Peak Hour Warrant Analysis

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		303	1
300	350	500	245	3
400	285	435	237	1
500	230	370	409	6
600	175	315	1056	14
700	135	260	2725	51
800	103	215	3838	179
900	80	175	2969	202
1000	80	140	2441	175
1100		115	2319	133
1200		100	2510	122
1300		100	2621	131
1400			2568	116
1500			2819	84
1600			3441	57
1700			3788	76
1800			3886	45
			2705	14
			1713	7
			1412	10
			1181	7
			830	10
			637	5
			216	1

Four Hour Warrant

Peak Hour

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

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

Major App	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-13 at Dakota Ave

COUNTY: Scott

REF. POINT: 91.00.741

DATE:

OPERATOR: DR

EXISTING SIGNAL ?

POPULATION LESS THAN 10,000?

Speed	Approach Description	Lanes
55	Major App1: TH-13 EB W. of Dakota Ave.	4
55	Major App3: TH-13 WB E. of Dakota Ave.	4
30	Minor App2: Dakota Ave. NB S. of TH-13	1
30	Minor App4: Dakota Ave. SB N. of TH-13	2

NO

NO

350

140

HOUR	MAJOR APP. 1	MAJOR APP. 3	MINOR APP. 2	MINOR APP. 4	TOTAL Σ (APP.1 to APP. 4)	MINOR TOTAL APP. 2 + APP. 4	WARRANT MET
0:00 - 1:00	165	138	0	1	304	1	/
1:00 - 2:00	152	93	3	0	248	3	/
2:00 - 3:00	132	105	1	0	238	1	/
3:00 - 4:00	223	186	6	2	417	8	X/
4:00 - 5:00	537	519	14	14	1084	28	X/
5:00 - 6:00	1122	1603	15	51	2791	66	X/
6:00 - 7:00	1530	2308	30	179	4047	209	X/X
7:00 - 8:00	1288	1681	31	202	3202	233	X/X
8:00 - 9:00	1164	1277	46	175	2662	221	X/X
9:00 - 10:00	1145	1174	57	133	2509	190	X/X
10:00 - 11:00	1287	1223	73	122	2705	195	X/X
11:00 - 12:00	1292	1329	63	131	2815	194	X/X
12:00 - 13:00	1253	1315	48	116	2732	164	X/X
13:00 - 14:00	1366	1453	61	84	2964	145	X/X
14:00 - 15:00	1770	1671	57	14	3512	71	X/
15:00 - 16:00	2000	1788	76	3	3867	79	X/
16:00 - 17:00	2160	1726	45	6	3937	51	X/
17:00 - 18:00	1409	1296	14	1	2720	15	X/
18:00 - 19:00	859	854	7	7	1727	14	X/
19:00 - 20:00	681	731	7	10	1429	17	X/
20:00 - 21:00	536	645	6	7	1194	13	X/
21:00 - 22:00	381	449	3	10	843	13	X/
22:00 - 23:00	345	292	3	5	645	8	X/
23:00 - 24:00	216	0	1	0	217	1	/

Warrant Was Met :

8 Hours Satisfied Requirements

REMARKS:



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

TRAFFIC COUNT DATA

ROUTE #: TH-13 at Dakota Ave

COUNTY: Scott

REF. PT.: 91.00.741

SITE CODE: Approach

OPERATOR: DR

FOR COUNTS BEGINNING: **April 27, 1998**

DATE HOUR \ DAY	27 MON.	28 TUE.	29 WED.	30 THU.	1 FRI.	2 SAT.	3 SUN.	AVE. WK.DAY	AVE. WKEND
0:00 - 1:00		151	184	162				165	
1:00 - 2:00		151	143	164				152	
2:00 - 3:00		107	137	153				132	
3:00 - 4:00		213	225	232				223	
4:00 - 5:00		537	530	546				537	
5:00 - 6:00		1116	1114	1137				1122	
6:00 - 7:00		1530	1505	1557				1530	
7:00 - 8:00		1285	1267	1312				1288	
8:00 - 9:00		1207	1150	1137				1164	
9:00 - 10:00		1186	1124	1125				1145	
10:00 - 11:00		1317	1245	1301				1287	
11:00 - 12:00		1251	1326	1299				1292	
12:00 - 13:00		1253	1253					1253	
13:00 - 14:00	1282	1340	1477					1366	
14:00 - 15:00	1714	1794	1802					1770	
15:00 - 16:00	1997	2013	1991					2000	
16:00 - 17:00	2093	2155	2233					2160	
17:00 - 18:00	1391	1368	1468					1409	
18:00 - 19:00	859	821	898					859	
19:00 - 20:00	608	643	794					681	
20:00 - 21:00	476	543	590					536	
21:00 - 22:00	370	383	391					381	
22:00 - 23:00	317	344	375					345	
23:00 - 24:00	220	229	200					216	
TOTAL	11327	22937	23422	10125				23013	

24 HOURS FACTOR:

FACTORED ADT:

REMARKS: _____

CORRECTED AADT: _____

DATA FILE --> a:\TH13daka.da1



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

TRAFFIC COUNT DATA

ROUTE #: TH-13 at Dakota Ave

COUNTY: Scott

REF. PT.: 91.00.741

SITE CODE: Approach

OPERATOR: DR

FOR COUNTS BEGINNING: **April 27, 1998**

DATE HOUR \ DAY	27 MON.	28 TUE.	29 WED.	30 THU.	1 FRI.	2 SAT.	3 SUN.	AVE. WK.DAY	AVE. WKEND
0:00 - 1:00		1	0	0				0	
1:00 - 2:00		4	2	4				3	
2:00 - 3:00		0	2	2				1	
3:00 - 4:00		12	3	3				6	
4:00 - 5:00		16	14	12				14	
5:00 - 6:00		17	15	15				15	
6:00 - 7:00		28	34	28				30	
7:00 - 8:00		34	20	40				31	
8:00 - 9:00		65	41	33				46	
9:00 - 10:00		69	50	54				57	
10:00 - 11:00		91	67	61				73	
11:00 - 12:00		67	59	63				63	
12:00 - 13:00		46	50					48	
13:00 - 14:00	95	51	38					61	
14:00 - 15:00	71	53	49					57	
15:00 - 16:00	69	82	77					76	
16:00 - 17:00	48	43	46					45	
17:00 - 18:00	19	14	10					14	
18:00 - 19:00	7	7	9					7	
19:00 - 20:00	6	5	12					7	
20:00 - 21:00	9	3	7					6	
21:00 - 22:00	3	3	3					3	
22:00 - 23:00	4	2	4					3	
23:00 - 24:00	1	0	2					1	
TOTAL	332	713	614	315				667	

24 HOURS FACTOR:

FACTORED ADT:

REMARKS: _____

CORRECTED AADT: _____

DATA FILE --> a:\TH13daka.da2



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

TRAFFIC COUNT DATA

ROUTE #: TH-13 at Dakota Ave

COUNTY: Scott

REF. PT.: 91.00.741

SITE CODE: Approach

OPERATOR: DR

FOR COUNTS BEGINNING: **April 27, 1998**

DATE	27	28	29	30	1	2	3	AVE.	AVE.
HOUR \ DAY	MON.	170	212	170	FRI.	SAT.	SUN.	WK.DAY	WKEND
0:00 - 1:00		139	141	136				138	
1:00 - 2:00		73	110	97				93	
2:00 - 3:00		105	104	106				105	
3:00 - 4:00		172	192	194				186	
4:00 - 5:00		522	506	530				519	
5:00 - 6:00		1582	1600	1629				1603	
6:00 - 7:00		2318	2327	2279				2308	
7:00 - 8:00		1740	1626	1679				1681	
8:00 - 9:00		1271	1192	1368				1277	
9:00 - 10:00		1147	1199	1176				1174	
10:00 - 11:00		1206	1226	1239				1223	
11:00 - 12:00		1322	1322	1344				1329	
12:00 - 13:00		1276	1354					1315	
13:00 - 14:00		1419	1487					1453	
14:00 - 15:00	1627	1537	1849					1671	
15:00 - 16:00	1731	1815	1818					1788	
16:00 - 17:00	1769	1692	1717					1726	
17:00 - 18:00	1317	1208	1365					1296	
18:00 - 19:00	818	835	909					854	
19:00 - 20:00	711	684	798					731	
20:00 - 21:00	631	628	676					645	
21:00 - 22:00	417	467	463					449	
22:00 - 23:00	270	305	303					292	
23:00 - 24:00									
TOTAL	9291	23463	24284	11777				23856	

24 HOURS FACTOR:

FACTORED ADT:

REMARKS:

CORRECTED AADT:

DATA FILE --> a:\TH13daka.da3



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

TRAFFIC COUNT DATA

ROUTE #: TH-13 at Dakota Ave

COUNTY: Scott

REF. PT.: 91.00.741

SITE CODE: Approach

OPERATOR: DR

FOR COUNTS BEGINNING: **April 27, 1998**

DATE	27	28	29	30	1	2	3	AVE.	AVE.
HOUR \ DAY	MON.	0	0	3	FRI.	SAT.	SUN.	WK.DAY	WKEND
0:00 - 1:00		2	1	0				1	
1:00 - 2:00		0	0	0				0	
2:00 - 3:00		2	0	0				0	
3:00 - 4:00		3	2	2				2	
4:00 - 5:00		18	10	15				14	
5:00 - 6:00		61	58	35				51	
6:00 - 7:00		242	150	145				179	
7:00 - 8:00		236	140	230				202	
8:00 - 9:00		226	157	144				175	
9:00 - 10:00		155	100	144				133	
10:00 - 11:00		110	135	123				122	
11:00 - 12:00		144	144	105				131	
12:00 - 13:00		97	136					116	
13:00 - 14:00		98	71					84	
14:00 - 15:00	26	13	5					14	
15:00 - 16:00	1	2	6					3	
16:00 - 17:00	7	8	4					6	
17:00 - 18:00	0	3	2					1	
18:00 - 19:00	11	5	6					7	
19:00 - 20:00	13	8	10					10	
20:00 - 21:00	2	16	3					7	
21:00 - 22:00	23	4	4					10	
22:00 - 23:00	14	0	2					5	
23:00 - 24:00									
TOTAL	97	1453	1146	943				1273	

24 HOURS FACTOR:

FACTORED ADT:

REMARKS: _____

CORRECTED AADT: _____

DATA FILE --> a:\TH13daka.da4