



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

SIGNAL WARRANTS ANALYSIS

LOCATION: Th-47 at 153rd Ave NW

COUNTY:

REF. POINT: 023.00.909

DATE: 11/4/1998

OPERATOR: dr

Speed	Approach Description	Lanes
55	Major App1: Th-47 NB South of 153rd Ave NW	2
55	Major App3: Th-47 SB North of 153rd Ave NW	2
30	Minor App2: 153rd Ave NW EB W of Th-47	1
30	Minor App4: 153rd Ave NW WB E of Th-47	1

EXISTING SIGNAL ? yes
 POPULATION LESS THAN 10,000? no

HOUR	335/503				83/41		83/41		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	39	10	49	/	2	0	/	/	/
1:00 - 2:00	38	6	44	/	1	0	/	/	/
2:00 - 3:00	17	20	37	/	2	0	/	/	/
3:00 - 4:00	16	91	107	/	2	6	/	/	/
4:00 - 5:00	34	329	363	X/	15	24	/	/	/
5:00 - 6:00	103	557	660	X/X	28	73	/	/X	/X
6:00 - 7:00	200	549	749	X/X	36	82	/	/X	/X
7:00 - 8:00	174	335	509	X/X	27	67	/	/X	/X
8:00 - 9:00	197	257	454	X/	26	63	/	/X	/
9:00 - 10:00	236	228	464	X/	28	66	/	/X	/
10:00 - 11:00	256	203	459	X/	25	64	/	/X	/
11:00 - 12:00	288	208	496	X/	22	60	/	/X	/
12:00 - 13:00	266	197	463	X/	26	51	/	/X	/
13:00 - 14:00	364	234	598	X/X	27	60	/	/X	/X
14:00 - 15:00	536	252	788	X/X	47	93	/X	X/X	X/X
15:00 - 16:00	674	269	943	X/X	58	117	/X	X/X	X/X
16:00 - 17:00	671	306	977	X/X	45	98	/X	X/X	X/X
17:00 - 18:00	463	262	725	X/X	31	68	/	/X	/X
18:00 - 19:00	337	166	503	X/X	22	44	/	/X	/X
19:00 - 20:00	291	137	428	X/	38	30	/	/	/
20:00 - 21:00	251	101	352	X/	18	18	/	/	/
21:00 - 22:00	135	74	209	/	9	9	/	/	/
22:00 - 23:00	96	33	129	/	8	8	/	/	/
23:00 - 24:00	51	18	69	/	0	4	/	/	/

Warrant 1 was met for 3 hours
 Warrant 2 was met for 9 hours
 Warrant 6 was met for 15 hours
 Warrant 8 was met for 7 hours
 Warrant 9 was met for 3 hours
 Warrant 11 was met for 0 hours

LOCATION: Th-47 at 153rd Ave NW

COUNTY:

REF. POINT: 023.00.909

DATE: 11/4/1998

OPERATOR: dr

EXISTING SIGNAL ?

yes

POPULATION LESS THAN 10,000?

no

Speed	Approach Description	Lanes
55	Major App1: Th-47 NB South of 153rd Ave NW	2
55	Major App3: Th-47 SB North of 153rd Ave NW	2
30	Minor App2: 153rd Ave NW EB W of Th-47	1
30	Minor App4: 153rd Ave NW WB E of Th-47	1

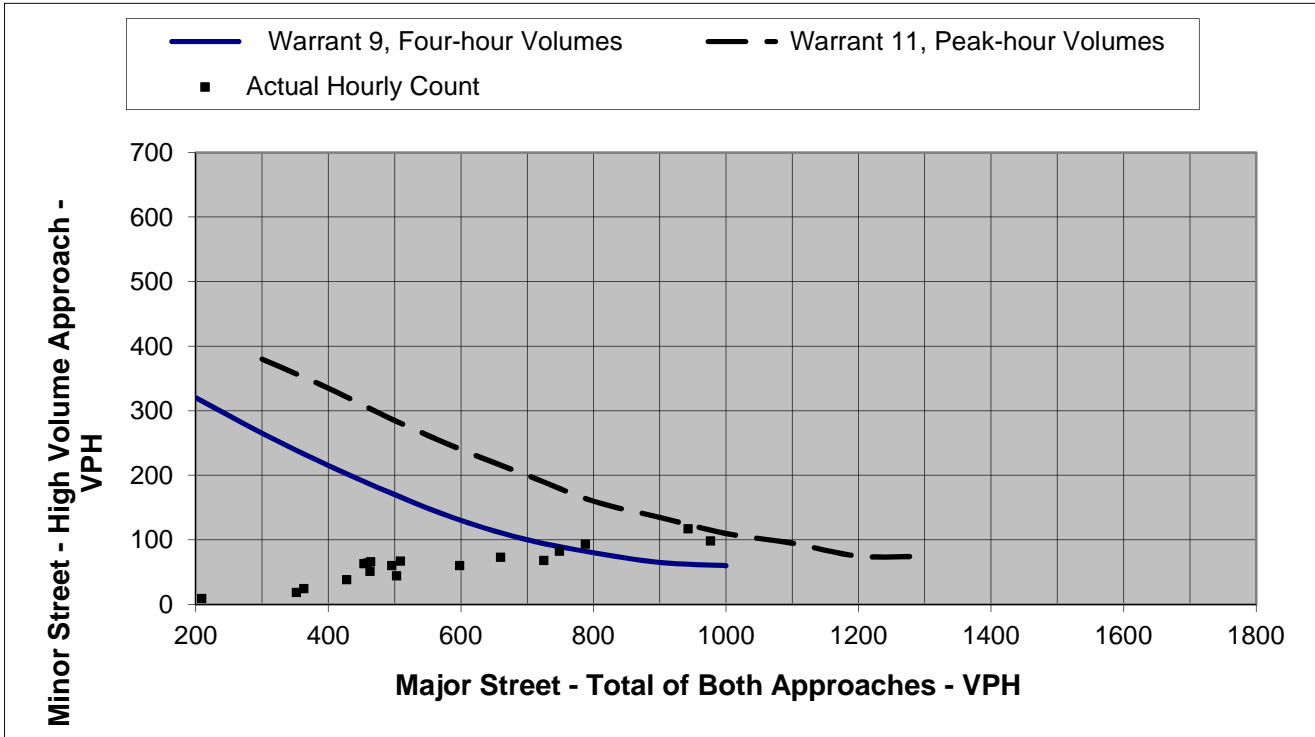


Figure 1. Four Hour and Peak Hour Warrant Analysis

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		49	2
300	265	380	44	1
400	215	335	37	2
500	170	285	107	6
600	130	240	363	24
700	100	200	660	73
800	80	160	749	82
900	65	135	509	67
1000	60	110	454	63
1100		95	464	66
1200		75	459	64
1300		75	496	60
1400			463	51
1500			598	60
1600			788	93
1700			943	117
1800			977	98
			725	68
			503	44
			428	38
			352	18
			209	9
			129	8
			69	4

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-47 at 153rd Ave NW

COUNTY:

REF. POINT: 023.00.909

DATE:

OPERATOR: dr

EXISTING SIGNAL ?

POPULATION LESS THAN 10,000?

Speed	Approach Description	Lanes
55	Major App1: Th-47 NB South of 153rd Ave NW	2
55	Major App3: Th-47 SB North of 153rd Ave NW	2
30	Minor App2: 153rd Ave NW EB W of Th-47	1
30	Minor App4: 153rd Ave NW WB E of Th-47	1

yes

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	39	10	2	0	51	2	/
1:00 - 2:00	38	6	1	0	45	1	/
2:00 - 3:00	17	20	2	0	39	2	/
3:00 - 4:00	16	91	2	6	115	8	/
4:00 - 5:00	34	329	15	24	402	39	X/
5:00 - 6:00	103	557	28	73	761	101	X/
6:00 - 7:00	200	549	36	82	867	118	X/
7:00 - 8:00	174	335	27	67	603	94	X/
8:00 - 9:00	197	257	26	63	543	89	X/
9:00 - 10:00	236	228	28	66	558	94	X/
10:00 - 11:00	256	203	25	64	548	89	X/
11:00 - 12:00	288	208	22	60	578	82	X/
12:00 - 13:00	266	197	26	51	540	77	X/
13:00 - 14:00	364	234	27	60	685	87	X/
14:00 - 15:00	536	252	47	93	928	140	X/X
15:00 - 16:00	674	269	58	117	1118	175	X/X
16:00 - 17:00	671	306	45	98	1120	143	X/X
17:00 - 18:00	463	262	31	68	824	99	X/
18:00 - 19:00	337	166	22	44	569	66	X/
19:00 - 20:00	291	137	38	30	496	68	X/
20:00 - 21:00	251	101	18	18	388	36	X/
21:00 - 22:00	135	74	9	9	227	18	/
22:00 - 23:00	96	33	8	8	145	16	/
23:00 - 24:00	51	18	0	4	73	4	/

Warrant Was Not Met :

3 Hours Satisfied Requirements

REMARKS:



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

TRAFFIC COUNT DATA

ROUTE #: Th-47 NB South of 153rd Ave NW

COUNTY:

REF. PT.: 023.00.909

SITE CODE: Approach

OPERATOR: dr

FOR COUNTS BEGINNING: **November 4, 1998**

DATE HOUR \ DAY	2 MON.	3 TUE.	4 WED.	5 THU.	6 FRI.	7 SAT.	8 SUN.	AVE. WK.DAY	AVE. WKEND
0:00 - 1:00				32	47			39	
1:00 - 2:00				37	39			38	
2:00 - 3:00				16	18			17	
3:00 - 4:00				16	16			16	
4:00 - 5:00				35	34			34	
5:00 - 6:00				97	110			103	
6:00 - 7:00				210	191			200	
7:00 - 8:00				152	196			174	
8:00 - 9:00				182	212			197	
9:00 - 10:00				198	275			236	
10:00 - 11:00				217	296			256	
11:00 - 12:00				232	345			288	
12:00 - 13:00			253	280				266	
13:00 - 14:00			365	364				364	
14:00 - 15:00			516	557				536	
15:00 - 16:00			681	667				674	
16:00 - 17:00			662	680				671	
17:00 - 18:00			452	474				463	
18:00 - 19:00			354	320				337	
19:00 - 20:00			290	293				291	
20:00 - 21:00			253	249				251	
21:00 - 22:00			116	155				135	
22:00 - 23:00			86	107				96	
23:00 - 24:00			43	60				51	
TOTAL			4071	5630	1779			5733	

24 HOURS FACTOR:

FACTORED ADT:

REMARKS: _____

CORRECTED AADT: _____

DATA FILE --> A:\Th47153a.da1



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

TRAFFIC COUNT DATA

ROUTE #: 153rd Ave NW EB W of Th-47

COUNTY:

REF. PT.: 023.00.909

SITE CODE: Approach

OPERATOR: dr

FOR COUNTS BEGINNING: **November 4, 1998**

DATE HOUR \ DAY	2 MON.	3 TUE.	4 WED.	5 2	6 7	7 SAT.	8 SUN.	AVE. WK.DAY	AVE. WKEND
0:00 - 1:00				2	2			2	
1:00 - 2:00				1	2			1	
2:00 - 3:00				2	2			2	
3:00 - 4:00				3	2			2	
4:00 - 5:00				15	16			15	
5:00 - 6:00				34	22			28	
6:00 - 7:00				36	36			36	
7:00 - 8:00				32	22			27	
8:00 - 9:00				21	32			26	
9:00 - 10:00				23	34			28	
10:00 - 11:00				23	28			25	
11:00 - 12:00			21	20	25			22	
12:00 - 13:00			25	28				26	
13:00 - 14:00			29	26				27	
14:00 - 15:00			46	49				47	
15:00 - 16:00			63	54				58	
16:00 - 17:00			43	47				45	
17:00 - 18:00			34	29				31	
18:00 - 19:00			21	24				22	
19:00 - 20:00			40	36				38	
20:00 - 21:00			25	12				18	
21:00 - 22:00			8	11				9	
22:00 - 23:00			8	8				8	
23:00 - 24:00									
TOTAL			363	536	223			543	

24 HOURS FACTOR:

FACTORED ADT:

REMARKS: _____

CORRECTED AADT: _____

DATA FILE --> A:\Th47153a.da2



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

TRAFFIC COUNT DATA

ROUTE #: Th-47 SB North of 153rd Ave NW

COUNTY:

REF. PT.: 023.00.909

SITE CODE: Approach

OPERATOR: dr

FOR COUNTS BEGINNING: **November 4, 1998**

DATE HOUR \ DAY	2 MON.	3 TUE.	4 WED.	5 THU.	6 FRI.	7 SAT.	8 SUN.	AVE. WK.DAY	AVE. WKEND
0:00 - 1:00				7	13			10	
1:00 - 2:00				5	7			6	
2:00 - 3:00				18	22			20	
3:00 - 4:00				94	89			91	
4:00 - 5:00				350	309			329	
5:00 - 6:00				606	508			557	
6:00 - 7:00				617	481			549	
7:00 - 8:00				329	342			335	
8:00 - 9:00				263	252			257	
9:00 - 10:00				215	241			228	
10:00 - 11:00				199	207			203	
11:00 - 12:00				204	212			208	
12:00 - 13:00			193	202				197	
13:00 - 14:00			244	224				234	
14:00 - 15:00			244	261				252	
15:00 - 16:00			292	246				269	
16:00 - 17:00			326	286				306	
17:00 - 18:00			263	261				262	
18:00 - 19:00			166	166				166	
19:00 - 20:00			146	128				137	
20:00 - 21:00			94	108				101	
21:00 - 22:00			67	81				74	
22:00 - 23:00			26	40				33	
23:00 - 24:00			13	23				18	
TOTAL			2074	4933	2683			4842	

24 HOURS FACTOR:

FACTORED ADT:

REMARKS:

CORRECTED AADT:

DATA FILE --> A:\Th47153a.da3



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

TRAFFIC COUNT DATA

ROUTE #: 153rd Ave NW WB E of Th-47

COUNTY:

REF. PT.: 023.00.909

SITE CODE: Approach

OPERATOR: dr

FOR COUNTS BEGINNING: **November 4, 1998**

DATE HOUR \ DAY	2 MON.	3 TUE.	4 WED.	5 THU.	6 FRI.	7 SAT.	8 SUN.	AVE. WK.DAY	AVE. WKEND
0:00 - 1:00				0	1			0	
1:00 - 2:00				0	1			0	
2:00 - 3:00				0	0			0	
3:00 - 4:00				6	7			6	
4:00 - 5:00				30	19			24	
5:00 - 6:00				78	69			73	
6:00 - 7:00				92	73			82	
7:00 - 8:00				63	71			67	
8:00 - 9:00				56	70			63	
9:00 - 10:00				49	83			66	
10:00 - 11:00				63	65			64	
11:00 - 12:00				61	60			60	
12:00 - 13:00			41	62				51	
13:00 - 14:00			54	66				60	
14:00 - 15:00			89	97				93	
15:00 - 16:00			127	107				117	
16:00 - 17:00			93	104				98	
17:00 - 18:00			81	56				68	
18:00 - 19:00			32	56				44	
19:00 - 20:00			29	31				30	
20:00 - 21:00			15	22				18	
21:00 - 22:00			7	12				9	
22:00 - 23:00			4	13				8	
23:00 - 24:00			2	7				4	
TOTAL			574	1131	519			1105	

24 HOURS FACTOR:

FACTORED ADT:

REMARKS:

CORRECTED AADT:

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