



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

SIGNAL WARRANTS ANALYSIS

LOCATION: TH 7 & VINE HILL RD
 COUNTY: HENNINGPIN
 REF. POINT: 185+00.016
 DATE: 10/4/1993
 OPERATOR: JJM

Speed	Approach Description	Lanes
50	Major App1: EB APROC TO VINE HILL RD ON TH 7	4
50	Major App3: WE APROC TO VINE HILL RD ON TH 7	4
30	Minor App2: NB APROC TO TH 7 FROM THE E & W ON S FRT	2
35	Minor App4: SB APROC TO TH 7 ON VINE HILL RD	2

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

HOUR	420/630			140/70		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	61	148	209	/	10	3	/	/	/
1:00 - 2:00	44	82	126	/	4	2	/	/	/
2:00 - 3:00	37	51	88	/	3	2	/	/	/
3:00 - 4:00	36	39	75	/	4	2	/	/	/
4:00 - 5:00	84	64	148	/	7	16	/	/	/
5:00 - 6:00	344	151	495	X/	41	56	/	/	/
6:00 - 7:00	1276	510	1786	X/X	179	202	X/X	X/X	X/X
7:00 - 8:00	2131	929	3060	X/X	372	196	X/X	X/X	X/X
8:00 - 9:00	1538	926	2464	X/X	339	180	X/X	X/X	X/X
9:00 - 10:00	1243	879	2122	X/X	255	171	X/X	X/X	X/X
10:00 - 11:00	988	908	1896	X/X	206	191	X/X	X/X	X/X
11:00 - 12:00	1041	1126	2167	X/X	266	232	X/X	X/X	X/X
12:00 - 13:00	993	1060	2053	X/X	266	249	X/X	X/X	X/X
13:00 - 14:00	1034	1099	2133	X/X	212	242	X/X	X/X	X/X
14:00 - 15:00	1100	1190	2290	X/X	211	235	X/X	X/X	X/X
15:00 - 16:00	1235	1544	2779	X/X	295	337	X/X	X/X	X/X
16:00 - 17:00	1300	1715	3015	X/X	281	313	X/X	X/X	X/X
17:00 - 18:00	1307	2075	3382	X/X	348	279	X/X	X/X	X/X
18:00 - 19:00	1074	1600	2674	X/X	284	145	X/X	X/X	X/X
19:00 - 20:00	780	1071	1851	X/X	191	95	X/X	/X	X/X
20:00 - 21:00	508	838	1346	X/X	163	72	X/X	/X	X/X
21:00 - 22:00	480	796	1276	X/X	159	32	X/X	/	X/X
22:00 - 23:00	283	449	732	X/X	40	11	/	/	/
23:00 - 24:00	177	271	448	X/	20	6	/	/	/

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

LOCATION: TH 7 & VINE HILL RD

COUNTY: HENNIPIN

REF. POINT: 185+00.016

DATE: 10/4/1993

OPERATOR: JJM

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

Speed	Approach Description	Lanes
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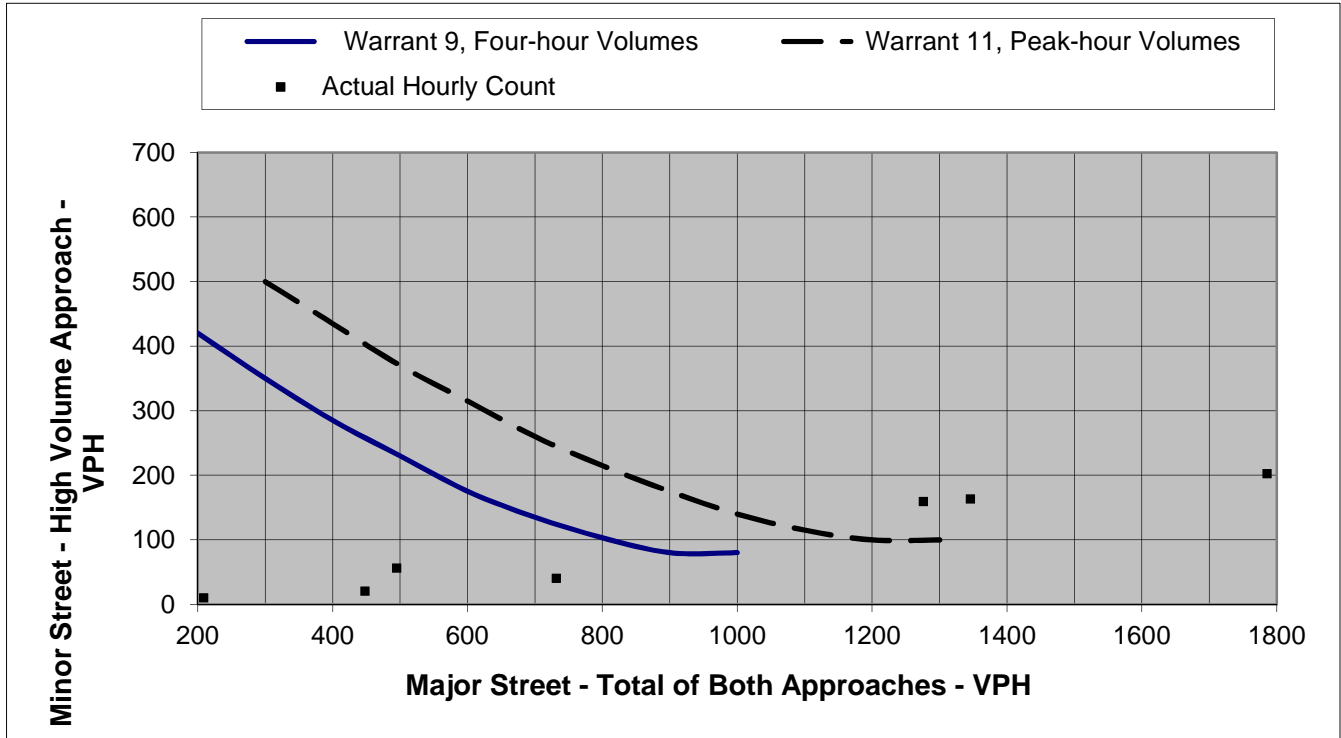


Figure 1. Four Hour and Peak Hour Warrant Analysis

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		209	10
300	350	500	126	4
400	285	435	88	3
500	230	370	75	4
600	175	315	148	16
700	135	260	495	56
800	103	215	1786	202
900	80	175	3060	372
1000	80	140	2464	339
1100		115	2122	255
1200		100	1896	206
1300		100	2167	266
1400			2053	266
1500			2133	242
1600			2290	235
1700			2779	337
1800			3015	313
			3382	348
			2674	284
			1851	191
			1346	163
			1276	159
			732	40
			448	20

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 7 & VINE HILL RD

COUNTY: HENNIPIN

REF. POINT: 185+00.016

DATE:

OPERATOR: JJM

Speed	Approach Description	Lanes
50	Major App1: EB APROC TO VINE HILL RD ON TH 7	4
50	Major App3: WE APROC TO VINE HILL RD ON TH 7	4
30	Minor App2: NB APROC TO TH 7 FROM THE E & W ON S FF	2
35	Minor App4: SB APROC TO TH 7 ON VINE HILL RD	2

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	61	148	10	3	222	13	/
1:00 - 2:00	44	82	4	2	132	6	/
2:00 - 3:00	37	51	3	2	93	5	/
3:00 - 4:00	36	39	4	2	81	6	/
4:00 - 5:00	84	64	7	16	171	23	/
5:00 - 6:00	344	151	41	56	592	97	X/
6:00 - 7:00	1276	510	179	202	2167	381	X/X
7:00 - 8:00	2131	929	372	196	3628	568	X/X
8:00 - 9:00	1538	926	339	180	2983	519	X/X
9:00 - 10:00	1243	879	255	171	2548	426	X/X
10:00 - 11:00	988	908	206	191	2293	397	X/X
11:00 - 12:00	1041	1126	266	232	2665	498	X/X
12:00 - 13:00	993	1060	266	249	2568	515	X/X
13:00 - 14:00	1034	1099	212	242	2587	454	X/X
14:00 - 15:00	1100	1190	211	235	2736	446	X/X
15:00 - 16:00	1235	1544	295	337	3411	632	X/X
16:00 - 17:00	1300	1715	281	313	3609	594	X/X
17:00 - 18:00	1307	2075	348	279	4009	627	X/X
18:00 - 19:00	1074	1600	284	145	3103	429	X/X
19:00 - 20:00	780	1071	191	95	2137	286	X/X
20:00 - 21:00	508	838	163	72	1581	235	X/X
21:00 - 22:00	480	796	159	32	1467	191	X/X
22:00 - 23:00	283	449	40	11	783	51	X/
23:00 - 24:00	177	271	20	6	474	26	X/

Met (Hr) Required (Hr)

Allway Stop Warrant: **16** 8 **Satisfied**

REMARKS: _____



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

TRAFFIC COUNT DATA

ROUTE #:

COUNTY:

REF. PT.:

SITE CODE:

OPERATOR:

FOR COUNTS BEGINNING:

DATE HOUR \ DAY	MON.	TUE.	WED.	THU.	FRI.	SAT.	SUN.	AVE. WK.DAY	AVE. WKEND
0:00 - 1:00									
1:00 - 2:00									
2:00 - 3:00									
3:00 - 4:00									
4:00 - 5:00									
5:00 - 6:00									
6:00 - 7:00									
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19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									

TOTAL

24 HOURS FACTOR:

FACTORED ADT:

REMARKS: _____

CORRECTED AADT: _____

DATA FILE -->



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

TRAFFIC COUNT DATA

ROUTE #:

COUNTY:

REF. PT.:

SITE CODE:

OPERATOR:

FOR COUNTS BEGINNING:

DATE HOUR \ DAY	MON.	TUE.	WED.	THU.	FRI.	SAT.	SUN.	AVE. WK.DAY	AVE. WKEND
0:00 - 1:00									
1:00 - 2:00									
2:00 - 3:00									
3:00 - 4:00									
4:00 - 5:00									
5:00 - 6:00									
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21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									

TOTAL

24 HOURS FACTOR:

FACTORED ADT:

REMARKS: _____

CORRECTED AADT: _____

DATA FILE -->



MINNESOTA DEPARTMENT OF TRANSPORTATION

METRO DIVISION - TRAFFIC ENGINEERING

TRAFFIC COUNT DATA

ROUTE #:

COUNTY:

REF. PT.:

SITE CODE:

OPERATOR:

FOR COUNTS BEGINNING:

DATE HOUR \ DAY	MON.	TUE.	WED.	THU.	FRI.	SAT.	SUN.	AVE. WK.DAY	AVE. WKEND
0:00 - 1:00									
1:00 - 2:00									
2:00 - 3:00									
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20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									

TOTAL

24 HOURS FACTOR:

FACTORED ADT:

REMARKS: _____

CORRECTED AADT: _____

DATA FILE -->



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METRO DIVISION - TRAFFIC ENGINEERING

TRAFFIC COUNT DATA

ROUTE #:

COUNTY:

REF. PT.:

SITE CODE:

OPERATOR:

FOR COUNTS BEGINNING:

DATE HOUR \ DAY	MON.	TUE.	WED.	THU.	FRI.	SAT.	SUN.	AVE. WK.DAY	AVE. WKEND
0:00 - 1:00									
1:00 - 2:00									
2:00 - 3:00									
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22:00 - 23:00									
23:00 - 24:00									

TOTAL

24 HOURS FACTOR:

FACTORED ADT:

REMARKS: _____

CORRECTED AADT: _____

DATA FILE -->