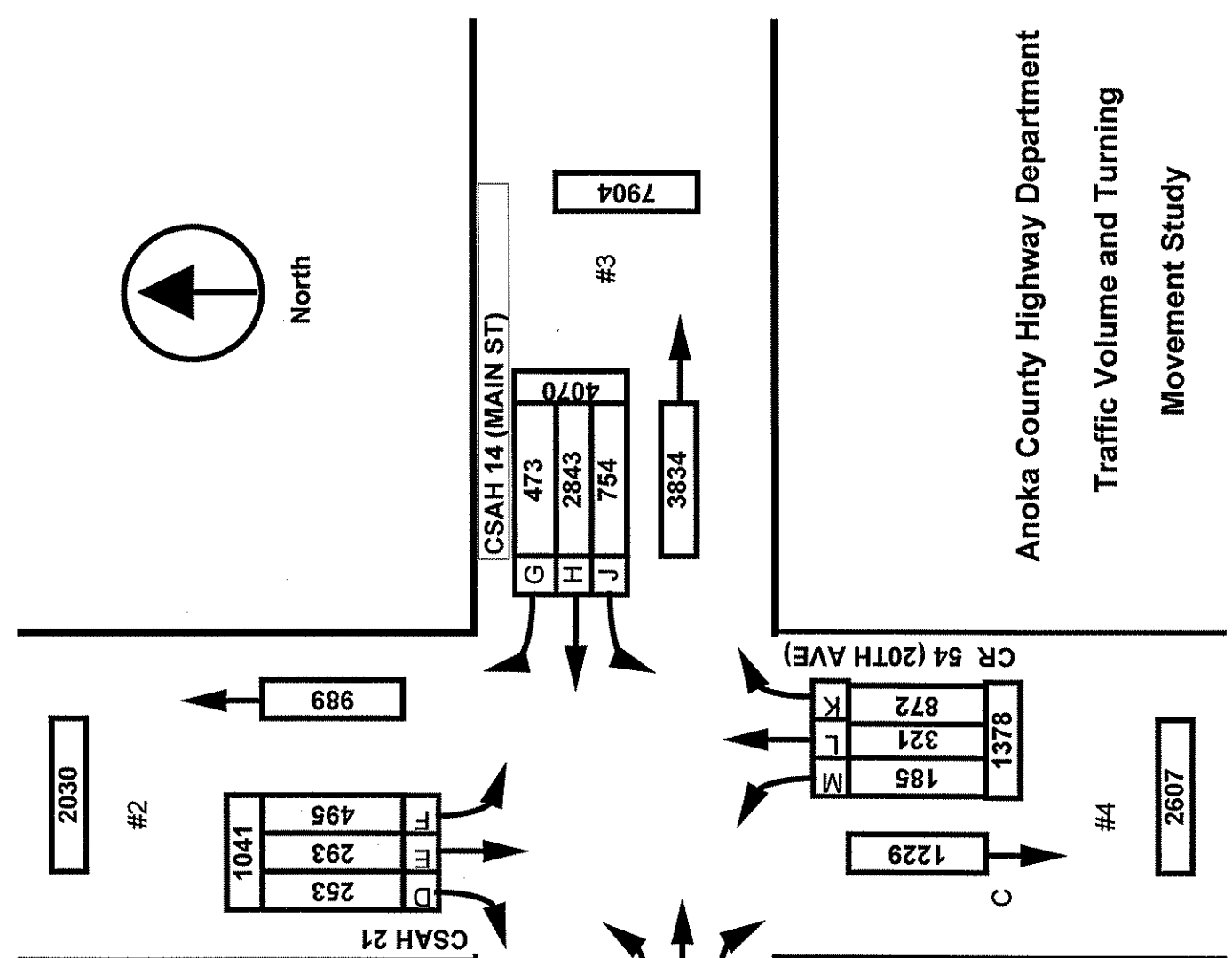


Date : 6/25/97AM 6/26/97PM

Count Number : TMC9714

Location CSAH 14 (MAIN ST)

@ CR 54 (20TH AVE)/CSAH 21



	LANES OF APPROACH			TOTAL
	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	
#1	0	0	1	1
#2	0	0	1	1
#3	0	0	1	1
#4	0	0	1	1

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Weather :SUNNY 75
 Counted by:SARAH AND JANELLE
 Board # :
 ther :

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Study Name: TMC9714
 Site Code : 97140202
 Start Date: 06/25/97
 Page : 1

Vehicle group 1

Start Time	CR 21 Southbound				MAIN ST (CSAH 14) Westbound				20TH AVE (CR 54) Northbound				MAIN ST (CSAH 14) Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
06/25/97																			
06:00	34	10	5	5	14	25	5	2	1	0	1	1	0	33	2	5	143	13	130
06:15	14	8	2	0	17	19	2	1	0	3	22	10	3	59	5	1	166	12	154
06:30	18	5	7	0	10	23	9	4	1	3	38	8	3	109	8	1	247	13	234
06:45	16	7	11	2	12	29	5	5	0	0	11	1	0	25	1	1	126	9	117
Hour	82	30	25	7	53	96	21	12	2	6	72	20	6	226	16	8	682	47	635
07:00	15	7	1	1	10	38	7	3	0	2	21	0	2	78	3	5	193	9	184
07:15	20	11	2	2	16	35	3	6	4	2	12	5	1	79	4	5	207	18	189
07:30	11	7	7	3	13	42	3	10	0	2	19	1	1	77	1	4	201	18	183
07:45	8	8	0	0	6	24	4	8	3	3	14	1	1	72	4	1	157	10	147
Hour	54	33	10	6	45	139	17	27	7	9	66	7	5	306	12	15	758	55	703
08:00	10	4	1	3	10	29	4	10	0	0	13	2	3	61	6	9	165	24	141
08:15	2	2	0	0	5	19	4	5	2	9	18	8	5	58	6	6	149	19	130
08:30	11	5	3	1	14	17	3	6	0	1	4	1	0	31	2	5	104	13	91
08:45	3	2	2	0	15	29	4	5	1	1	11	2	1	39	1	8	124	15	109
Hour	26	13	6	4	44	94	15	26	3	11	46	13	9	189	15	28	542	71	471
09:00	4	2	0	2	14	18	3	5	0	5	18	5	3	33	2	7	121	19	102
09:15	8	2	7	1	7	20	3	5	3	2	10	4	2	40	2	6	122	16	106
09:30	2	4	3	0	6	36	10	8	0	2	12	6	0	34	0	9	132	23	109
09:45	5	3	1	0	9	19	4	6	4	1	13	1	3	35	2	8	114	15	99
Hour	19	11	11	3	36	93	20	24	7	10	53	16	8	142	6	30	489	73	416
10:00	8	0	4	3	15	49	6	10	1	3	16	2	2	23	1	6	149	21	128
10:15	6	1	7	4	12	32	4	5	4	5	9	1	4	38	0	9	141	19	122
10:30	5	5	2	1	10	12	5	4	0	5	7	2	3	42	2	11	116	18	98
10:45	5	1	0	0	3	11	1	1	5	5	22	1	2	34	0	5	96	7	89
Hour	24	7	13	8	40	104	16	20	10	18	54	6	11	137	3	31	502	65	437
11:00	7	8	4	0	26	62	11	12	3	8	21	0	5	55	8	10	240	22	218
11:15	7	2	1	1	11	32	3	12	2	5	15	2	2	26	1	2	124	17	107
11:30	10	5	4	2	6	30	7	8	2	3	14	3	2	32	1	5	134	18	116
11:45	9	2	2	1	10	30	4	3	2	5	9	1	4	18	1	5	106	10	96
Hour	33	17	11	4	53	154	25	35	9	21	59	6	13	131	11	22	604	67	537
12:00	7	4	3	1	14	30	4	5	2	4	9	2	4	28	6	8	131	16	115
12:15	6	3	2	1	12	35	4	9	1	2	9	0	1	15	1	9	110	19	91
12:30	6	7	2	1	12	29	6	6	1	7	15	3	4	46	6	7	158	17	141
12:45	8	5	8	2	8	31	10	5	0	2	2	0	0	2	1	0	84	7	77
Hour	27	19	15	5	46	125	24	25	4	15	35	5	9	91	14	24	483	59	424

Weather :SUNNY 75
 Counted by:SARAH AND JANELLE
 Board # :
 ther :

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Study Name: TMC9714
 Site Code : 97140202
 Start Date: 06/25/97
 Page : 2

Vehicle group 1

Start Time	CR 21 Southbound				MAIN ST (CSAH 14) Westbound				20TH AVE (CR 54) Northbound				MAIN ST (CSAH 14) Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
13:00	6	7	5	4	8	36	7	6	1	4	7	1	4	37	1	3	137	14	123
13:15	2	4	5	2	9	37	7	7	4	0	4	2	1	5	0	2	91	13	78
13:30	2	6	1	0	8	48	7	5	4	6	8	1	2	30	5	6	139	12	127
13:45	0	0	0	0	0	0	0	0	1	2	12	2	2	24	1	5	49	7	42
Hour	10	17	11	6	25	121	21	18	10	12	31	6	9	96	7	16	416	46	370
14:00	3	5	5	0	6	31	7	6	3	8	9	1	1	33	3	6	127	13	114
14:15	7	3	6	5	15	42	11	9	2	2	12	1	5	29	6	4	159	19	140
14:30	7	4	4	0	9	51	5	12	9	8	12	3	8	40	3	2	177	17	160
14:45	3	4	5	2	9	56	5	6	3	3	12	2	2	29	1	7	149	17	132
Hour	20	16	20	7	39	180	28	33	17	21	45	7	16	131	13	19	612	66	546
15:00	11	4	4	0	11	48	8	5	3	5	9	2	3	33	5	7	158	14	144
15:15	4	10	4	0	13	54	8	4	1	5	18	1	6	48	3	5	184	10	174
15:30	4	5	8	1	18	71	12	11	4	8	12	2	9	43	2	10	220	24	196
15:45	5	7	7	3	21	70	10	6	7	8	20	0	1	45	7	3	220	12	208
Hour	24	26	23	4	63	243	38	26	15	26	59	5	19	169	17	25	782	60	722
16:00	10	8	8	2	14	72	6	8	6	10	19	3	3	43	3	1	216	14	202
16:15	4	1	8	1	11	85	11	10	4	10	24	1	2	54	3	7	236	19	217
16:30	12	5	9	1	21	84	15	5	6	12	16	1	8	43	9	7	254	14	240
16:45	7	9	3	1	19	89	16	9	6	10	35	0	3	46	7	8	268	18	250
Hour	33	23	28	5	65	330	48	32	22	42	94	5	16	186	22	23	974	65	909
17:00	9	3	4	2	17	92	15	7	5	18	28	2	6	28	1	2	239	13	226
17:15	6	3	6	0	14	100	19	6	6	13	15	0	3	56	6	8	261	14	247
17:30	11	3	3	0	20	92	9	9	3	12	21	1	4	53	2	3	246	13	233
17:45	13	8	4	0	21	98	15	3	10	9	23	0	5	60	3	5	277	8	269
Hour	39	17	17	2	72	382	58	25	24	52	87	3	18	197	12	18	1023	48	975
18:00	8	5	2	0	10	68	8	7	5	10	17	2	9	52	3	1	207	10	197
18:15	12	9	4	1	16	76	8	13	5	5	22	0	6	51	2	2	232	16	216
18:30	9	3	6	1	13	62	13	3	4	8	20	1	6	33	2	0	184	5	179
18:45	10	6	8	0	14	46	10	1	3	2	17	0	3	39	2	3	164	4	160
Hour	39	23	20	2	53	252	39	24	17	25	76	3	24	175	9	6	787	35	752
19:00	5	3	3	0	16	56	9	1	1	3	11	2	3	30	6	4	153	7	146
19:15	7	3	4	0	13	43	9	1	4	4	9	0	8	36	1	1	143	2	141
19:30	9	2	6	0	10	42	11	1	2	4	12	1	3	24	6	3	136	5	131
19:45	6	1	1	0	8	53	10	1	5	11	12	0	4	15	3	1	131	2	129
Hour	27	9	14	0	47	194	39	4	12	22	44	3	18	105	16	9	563	16	547

Weather :SUNNY 75
 Counted by:SARAH AND JANELLE
 Board # :
 ther :

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Study Name: TMC9714
 Site Code : 97140202
 Start Date: 06/25/97
 Page : 3

Vehicle group 1

Start Time	CR 21 Southbound				MAIN ST (CSAH 14) Westbound				20TH AVE (CR 54) Northbound				MAIN ST (CSAH 14) Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
20:00	6	5	6	1	6	26	13	0	2	5	6	0	4	26	1	0	107	1	106
20:15	7	7	2	1	6	38	7	2	4	5	6	0	3	29	1	1	119	4	115
20:30	4	5	5	0	9	47	8	2	6	4	4	0	1	19	2	0	116	2	114
20:45	2	4	7	0	9	48	6	0	2	5	12	0	0	27	2	0	124	0	124
Hour	19	21	20	2	30	159	34	4	14	19	28	0	8	101	6	1	466	7	459
21:00	8	2	4	0	11	48	10	2	5	7	7	0	0	30	1	0	135	2	133
21:15	5	2	3	0	17	33	8	2	1	3	5	0	1	20	0	0	100	2	98
21:30	4	4	0	0	8	49	4	0	6	2	8	0	2	9	0	0	96	0	96
21:45	2	3	2	0	7	47	8	1	0	0	3	0	3	26	2	0	104	1	103
Hour	19	11	9	0	43	177	30	5	12	12	23	0	6	85	3	0	435	5	430
Total	495	293	253	65	754	2843	473	340	185	321	872	105	195	2467	182	275	10118	785	9333
% Apr.	44.7	26.4	22.8	5.8	17.0	64.4	10.7	7.7	12.4	21.6	58.7	7.0	6.2	79.0	5.8	8.8	-	-	-
% Int.	4.8	2.8	2.5	0.6	7.4	28.0	4.6	3.3	1.8	3.1	8.6	1.0	1.9	24.3	1.7	2.7	-	-	-

or Street Approaches:

Southbound:

CR 21

Data File: C:\APPS\PETRA2\DATAFILE\TMC9714.PDF
 Count Type: IMC. Channel: 0. Count Date: 6/25/97
 Number of Lanes: 1
 Approach Speed: 55
 Total Approach Traffic: 1041

Minor Street Approaches:

Northbound:

20TH AVE (CR 54)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9714.PDF
 Count Type: IMC. Channel: 0. Count Date: 6/25/97
 Number of Lanes: 1
 Approach Speed: 50
 Total Approach Traffic: 1378

Eastbound:

MAIN ST (CSAH 14)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9714.PDF
 Count Type: IMC. Channel: 0. Count Date: 6/25/97
 Number of Lanes: 1
 Approach Speed: 45
 Total Approach Traffic: 2844

Westbound:

MAIN ST (CSAH 14)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9714.PDF
 Count Type: IMC. Channel: 0. Count Date: 6/25/97
 Number of Lanes: 1
 Approach Speed: 50
 Total Approach Traffic: 4070

Analysis of 8-Hour Volume Warrants (Criteria refers to high volume side street for that hour):

Hour	Main (Total)	Side			Warrant 1		Warrant 2		Warrant 8	
		Vol.	Dir.	Rank	Meets?	Criteria	Meets?	Criteria	Meets?	Criteria
0	0	0	W	17		105		52		84
1	0	0	W	18		105		52		84
2	0	0	W	19		105		52		84
3	0	0	W	20		105		52		84
4	0	0	W	21		105		52		84
5	0	0	W	22		105		52		84
6	137	248	E	8	SIDE	105	SIDE	52	SIDE	84
7	97	323	E	5	SIDE	105	SIDE	52	SIDE	84
8	45	213	E	12	SIDE	105	SIDE	52	SIDE	84
9	41	156	E	16	SIDE	105	SIDE	52	SIDE	84
10	44	160	W	15	SIDE	105	SIDE	52	SIDE	84
11	61	232	W	10	SIDE	105	SIDE	52	SIDE	84
12	61	195	W	13	SIDE	105	SIDE	52	SIDE	84
13	38	167	W	14	SIDE	105	SIDE	52	SIDE	84
14	56	247	W	9	SIDE	105	SIDE	52	SIDE	84
15	73	344	W	3	SIDE	105	SIDE	52	SIDE	84
16	84	443	W	2	SIDE	105	SIDE	52	SIDE	84
17	73	512	W	1	SIDE	105	SIDE	52	SIDE	84
18	82	344	W	4	SIDE	105	SIDE	52	SIDE	84
19	50	280	W	6	SIDE	105	SIDE	52	SIDE	84
20	60	223	W	11	SIDE	105	SIDE	52	SIDE	84
21	39	250	W	7	SIDE	105	SIDE	52	SIDE	84
22	0	0	W	23		105		52		84
23	0	0	W	24		105		52		84

Warrant Summary:

Rural values apply.

Warrant 1 - Minimum Vehicular Volumes

NOT SATISFIED. Required values reached for 0 hours. Criteria--Main St.: 350; Side St.: See Volume Summary.

Warrant 2 - Interruption of Continuous Traffic

NOT SATISFIED. Required values reached for 0 hours. Criteria--Main St.: 525; Side St.: See Volume Summary.

Warrant 3 - Minimum Pedestrian Volumes

NOT SATISFIED. Ped volumes too low. Criteria--190 Peds in peak hour, 100 peds in 4th high hour.

Warrant 4 - School Crossing

NOT APPLICABLE. Gap data has not been defined.

Warrant 5 - Progressive Movement

NOT SATISFIED. Adjacent signals closer than 1000 feet and/or not part of coordinated system.

Warrant 6 - Accident Experience

NOT SATISFIED. 0 correctable accidents is fewer than required 5.

Correctable Accidents: 0; Right Angle Accidents: 0; Left Turn Accidents: 0; Other Accidents: 0.

Warrant 7 - Systems Warrant

NOT SATISFIED. Peak hour total entering volume 975 does not meet criteria of 1000

- Approaches which are part of the principal through traffic roadway network.
- Approaches which include rural or suburban highways outside, entering or traversing a city.
- Approaches which appear as a major route in an official transportation plan.

Warrant 8 - Combination of Warrants

NOT SATISFIED. Required values reached for 0 hours. Criteria--Main: 420; Side: See Volume Summary.

Warrant 9 - Four Hour Volumes

SATISFIED for 5 hours.

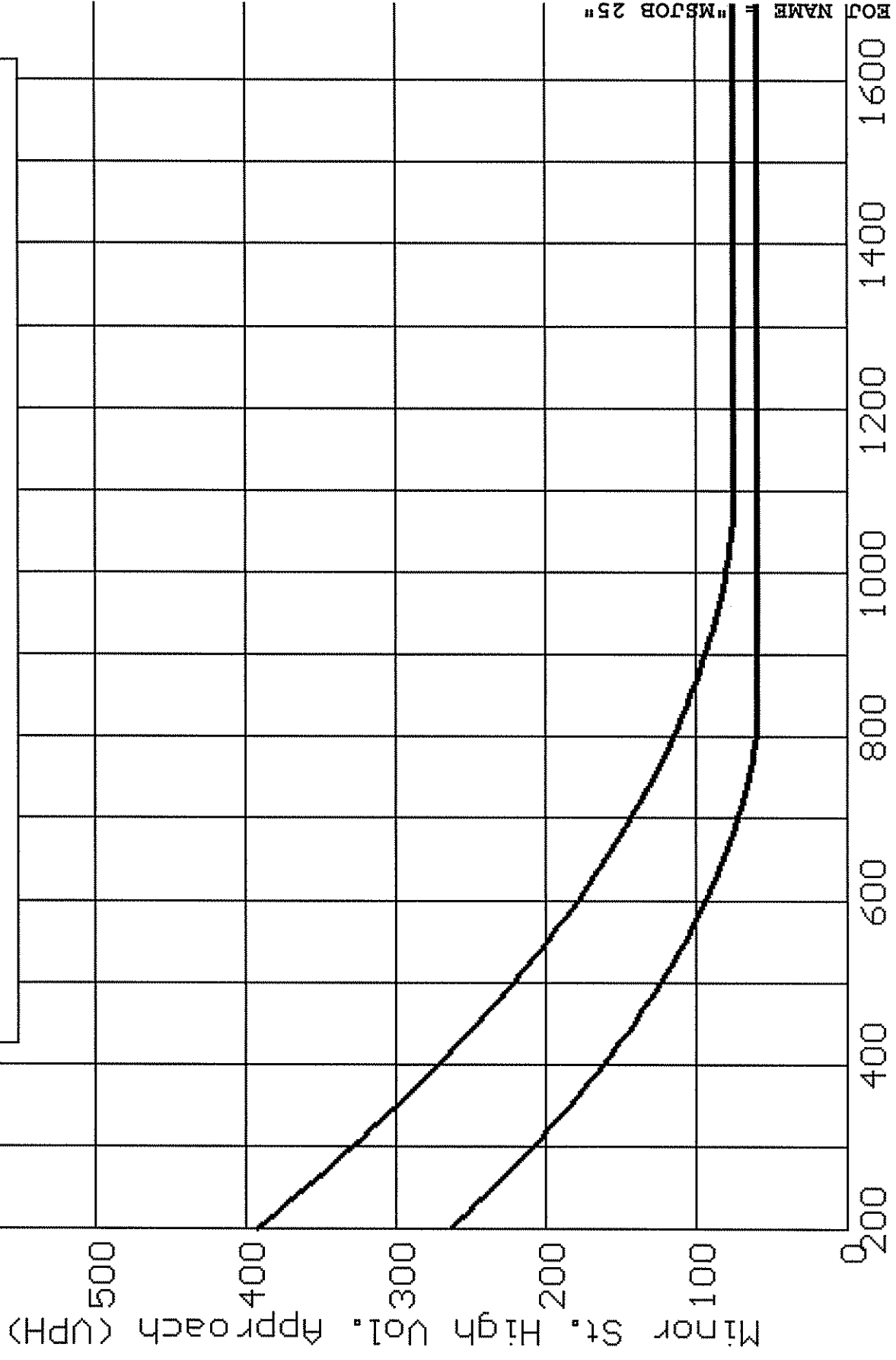
Warrant 10 - Peak Hour Delay

NOT SATISFIED. Peak hour (1700 hours) volume not adequate.

Criteria--Main St.: 800 (4 approaches), 650 (3 approaches); Side St.: 100.

Warrant 11 - Peak Hour Volume

SATISFIED for 1 hours.



— Warrant 9, Four-Hour Volumes
 — Warrant 11, Peak-Hour Volumes

Major St. Total of Both Approaches (UPH)



NORTH

COUNT LOCATION: TMC 9714 CSAH 14 (MAIN ST.) @
CSAH 21/CR 54 (20TH AVE.)

DATE:

6/25/97

APP. #1=EB CSAH 14
(MAIN ST.)

APP. #2 =SB CSAH 54
(20TH AVE.)

APP. #3=WB CSAH 14
(MAIN ST.)

APP. #4=NB CSAH 21

APP.
#2

APP.
#1

APP.
#3

APP.
#4

- HEAVY VEHICLE- ANY VEHICLE HAVING MORE THAN FOUR TIRES TOUCHING THE PAVEMENT
- A. TRUCKS- A HEAVY VEHICLE INVOLVED PRIMARILY IN THE TRANSPORT OF GOODS OR IN THE DELIVERY OF A SERVICE.
 - B. RV- A HEAVY VEHICLE OPERATED BY A PRIVATE MOTORIST AND INVOLVED IN THE TRANSPORT OF RECREATIONAL EQUIPMENT OR FACILITIES.
 - C. BUSES- A HEAVY VEHICLE INVOLVED IN THE TRANSPORTATION OF GROUPS OF PEOPLE.

TIME	PEDESTRIANS					HEAVY VEHICLES		
	APP. #1	APP. #2	APP. #3	APP. #4	15 MIN TOT	TRUCKS	RV	BUS
6:00-6:15AM						5		
6:15-6:30						16		
6:30-6:45						5		
6:45-7:00						10		
HOURLY TOTAL						HOURLY TOTAL		36
7:00-7:15						11		
7:15-7:30						13		
7:30-7:45				1	1	11		
7:45-8:00						14		
HOURLY TOTAL					1	HOURLY TOTAL		49
8:00-8:15						19		
8:15-8:30						26		1
8:30-8:45						13		
8:45-9:00						15		
HOURLY TOTAL						HOURLY TOTAL		74
9:00-9:15						12		
9:15-9:30						20		
9:30-9:45						18		
9:45-10:00		1			1	7		
HOURLY TOTAL					1	HOURLY TOTAL		57
10:00-10:15	2				2	24		
10:15-10:30						30		
10:30-10:45	7				7	12		
10:45-11:00	1				1	14		
HOURLY TOTAL					10	HOURLY TOTAL		80
11:00-11:15						10		
11:15-11:30						11		
11:30-11:45						16	1	
11:45-12:00						22		
HOURLY TOTAL						HOURLY TOTAL		60
12:00-12:15						7		
12:15-12:30						29	1	
12:30-12:45						14		
12:45-1:00						15		
HOURLY TOTAL						HOURLY TOTAL		66
1:00-1:15		2			2	8		
1:15-1:30						21		
1:30-1:45						10		
1:45-2:00						9		
HOURLY TOTAL					2	HOURLY TOTAL		48



NORTH

COUNT LOCATION: TMC 9714 CSAH 14 (MAIN ST.) @
CSAH 21/CR 54 (20TH AVE.)

DATE: 6/26/97

APP. #1=EB CSAH 14
(MAIN ST.)

APP. #2 =SB CSAH 54
(20TH AVE.)

APP. #3=WB CSAH 14
(MAIN ST.)

APP. #4=NB CSAH 21

APP.
#2

APP.
#1

APP.
#3

APP.
#4

- HEAVY VEHICLE- ANY VEHICLE HAVING MORE THAN FOUR TIRES TOUCHING THE PAVEMENT
- A. TRUCKS- A HEAVY VEHICLE INVOLVED PRIMARILY IN THE TRANSPORT OF GOODS OR IN THE DELIVERY OF A SERVICE.
 - B. RV- A HEAVY VEHICLE OPERATED BY A PRIVATE MOTORIST AND INVOLVED IN THE TRANSPORT OF RECREATIONAL EQUIPMENT OR FACILITIES.
 - C. BUSES- A HEAVY VEHICLE INVOLVED IN THE TRANSPORTATION OF GROUPS OF PEOPLE.

TIME	PEDESTRIANS					HEAVY VEHICLES		
	APP. #1	APP. #2	APP. #3	APP. #4	15 MIN TOT	TRUCKS	RV	BUS
2:00-2:15PM						11		
2:15-2:30						19		
2:30-2:45						17		
2:45-3:00						9		
HOURLY TOTAL						HOURLY TOTAL		56
3:00-3:15	2				2	12		
3:15-3:30						10		
3:30-3:45						24		
3:45-4:00	2				2	11		
HOURLY TOTAL					4	HOURLY TOTAL		57
4:00-4:15						14		
4:15-4:30	2	1			3	16		1
4:30-4:45						11	3	
4:45-5:00				2	2	16		1
HOURLY TOTAL					5	HOURLY TOTAL		62
5:00-5:15						14		
5:15-5:30	2	1			3	15		
5:30-5:45						11		
5:45-6:00				2	2	8		
HOURLY TOTAL					5	HOURLY TOTAL		48
6:00-6:15						11		
6:15-6:30	1				1	14		
6:30-6:45						2		
6:45-7:00	4				4	4		
HOURLY TOTAL					5	HOURLY TOTAL		31
7:00-7:15	2	3	3	1	9	6		
7:15-7:30		2			2	1	1	
7:30-7:45	6				6	4	1	
7:45-8:00	1			1	2		1	
HOURLY TOTAL					19	HOURLY TOTAL		14
8:00-8:15						3	1	
8:15-8:30						2	1	
8:30-8:45	2	1			3			
8:45-9:00								
HOURLY TOTAL					3	HOURLY TOTAL		7
9:00-9:15	1				1	2		
9:15-9:30	2				2	2		
9:30-9:45								
9:45-10:00	6				6	1		
HOURLY TOTAL					9	HOURLY TOTAL		5