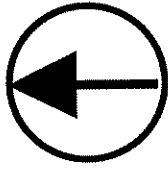


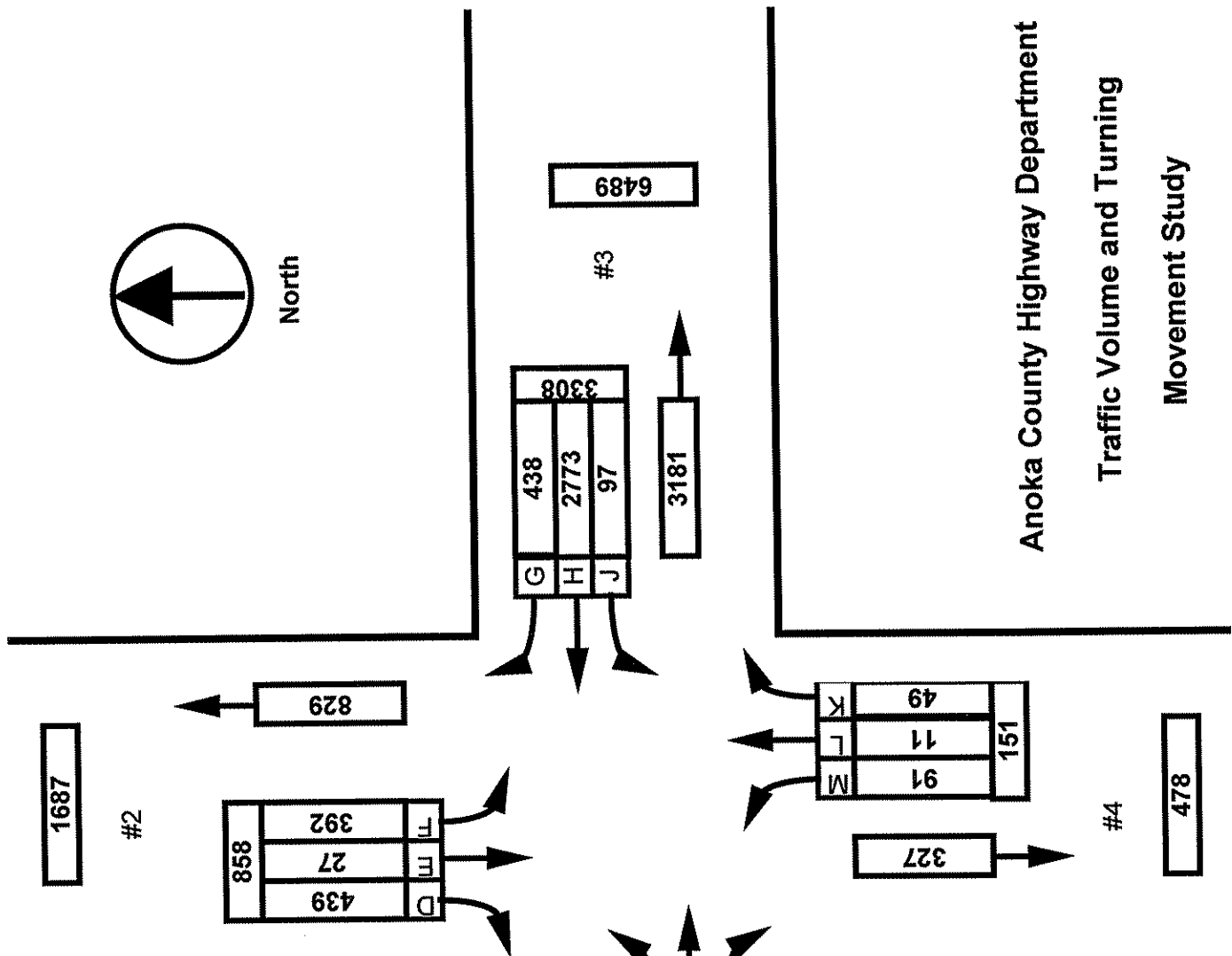
Date : 10/31/97AM 10/30/97PM

Count Number : TMC9704

Location : CSAH 24 (BRIDGE ST) @
CR 72 (RUM RIVER BLVD)/POPPY ST.



North



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

Anoka County Highway Department
Traffic Volume and Turning
Movement Study

PETRA Software

Weather :
 Counted by: Randy and Josie
 Board # :
 Other :

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 Jamar Technologies, Inc.
 Horsham, PA.

Study Name: TMC9704
 Site Code : 97040202
 Start Date: 10/31/97
 Page : 1

Vehicle group 1

Start Time	CR 72 (RUM RIVER BLVD)				CSAH 24 (BRIDGE ST)				POPPY ST.				CSAH 24 (BRIDGE ST)				Intvl	Exclu	Inclu
	Southbound				Westbound				Northbound				Eastbound						
Time	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Total	Total	Total
10/31/97																			
06:00	7	0	5	1	1	24	3	1	3	0	1	0	4	39	1	4	94	6	88
06:15	6	0	10	1	1	21	2	2	2	0	3	0	4	74	3	8	137	11	126
06:30	4	0	19	1	0	35	4	4	2	0	1	0	4	60	2	8	144	13	131
06:45	7	0	9	2	1	54	13	2	2	0	3	0	9	56	1	4	163	8	155
Hour	24	0	43	5	3	134	22	9	9	0	8	0	21	229	7	24	538	38	500
07:00	10	0	9	1	2	72	57	3	2	0	3	1	34	81	7	6	288	11	277
07:15	2	0	19	1	2	104	92	38	2	4	0	0	47	97	2	19	429	58	371
07:30	8	0	11	0	5	57	18	2	0	0	3	0	9	72	6	16	207	18	189
07:45	5	2	7	0	0	53	5	8	0	0	1	0	3	44	2	7	137	15	122
Hour	25	2	46	2	9	286	172	51	4	4	7	1	93	294	17	48	1061	102	959
08:00	4	1	7	2	0	32	1	3	0	0	0	0	3	45	2	10	110	15	95
08:15	3	0	4	2	1	31	3	2	2	0	0	0	4	32	3	9	96	13	83
08:30	4	1	8	3	1	36	3	2	1	0	0	0	4	50	4	14	131	19	112
08:45	4	0	3	0	1	26	3	4	4	0	0	0	4	32	2	4	87	8	79
Hour	15	2	22	7	3	125	10	11	7	0	0	0	15	159	11	37	424	55	369
09:00	7	0	7	2	1	42	2	3	2	0	2	1	4	49	3	3	128	9	119
09:15	5	0	13	3	2	50	4	9	3	0	0	0	6	57	3	5	160	17	143
09:30	7	1	9	1	2	53	3	15	1	0	0	0	5	44	6	2	149	18	131
09:45	5	0	3	1	1	31	10	5	2	0	0	0	5	44	6	7	120	13	107
Hour	24	1	32	7	6	176	19	32	8	0	2	1	20	194	18	17	557	57	500
10:00	3	0	3	0	3	31	2	3	3	0	3	0	3	36	2	1	93	4	89
10:15	5	0	8	0	3	57	5	5	2	1	0	0	4	43	6	6	145	11	134
10:30	5	0	7	2	0	43	4	7	1	0	1	0	4	52	5	4	135	13	122
10:45	4	1	2	1	2	46	3	2	1	0	0	0	4	32	7	6	111	9	102
Hour	17	1	20	3	8	177	14	17	7	1	4	0	15	163	20	17	484	37	447
11:00	3	0	4	1	1	45	3	3	1	0	0	0	4	47	4	4	120	8	112
11:15	5	0	10	3	3	44	5	6	2	1	0	1	3	48	5	2	138	12	126
11:30	11	1	7	3	5	51	6	3	3	0	0	0	5	43	4	2	144	8	136
11:45	2	1	5	0	0	54	3	4	2	0	0	0	5	62	4	3	145	7	138
Hour	21	2	26	7	9	194	17	16	8	1	0	1	17	200	17	11	547	35	512
12:00	3	0	2	0	1	39	3	4	1	0	0	0	3	54	6	5	121	9	112
12:15	3	0	4	1	0	35	9	2	2	0	1	0	3	43	3	1	107	4	103
12:30	6	0	8	0	1	52	5	4	1	0	0	0	8	40	0	6	131	10	121
12:45	3	2	3	2	1	53	5	8	1	0	1	0	9	37	1	5	131	15	116
Hour	15	2	17	3	3	179	22	18	5	0	2	0	23	174	10	17	490	38	452

PETRA Software

Weather :
 Counted by: Randy and Josie
 Board # :
 ther :

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 Horsham, PA.

Study Name: TMC9704
 Site Code : 97040202
 Start Date: 10/31/97
 Page : 2

Vehicle group 1

Start Time	CR 72 (RUM RIVER BLVD) Southbound				CSAH 24 (BRIDGE ST) Westbound				POPPY ST. Northbound				CSAH 24 (BRIDGE ST) Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
13:00	5	1	7	2	2	51	6	7	0	0	1	0	7	36	0	2	127	11	116
13:15	2	0	3	0	1	46	7	3	0	0	0	0	2	39	3	2	108	5	103
13:30	17	3	12	1	2	47	3	6	1	0	4	0	7	34	7	4	148	11	137
13:45	16	0	19	4	0	46	2	4	2	0	1	1	4	57	4	4	164	13	151
Hour	40	4	41	7	5	190	18	20	3	0	6	1	20	166	14	12	547	40	507
14:00	5	0	10	3	1	64	3	8	1	0	3	1	9	47	8	5	168	17	151
14:15	5	1	10	2	1	49	5	3	4	1	3	0	7	96	2	35	224	40	184
14:30	64	4	44	1	2	65	10	11	1	0	0	0	8	65	4	12	291	24	267
14:45	33	1	19	0	3	71	9	4	2	0	1	1	10	59	8	5	226	10	216
Hour	107	6	83	6	7	249	27	26	8	1	7	2	34	267	22	57	909	91	818
15:00	11	0	10	0	6	75	4	4	2	0	0	1	15	60	5	7	200	12	188
15:15	14	0	13	1	4	72	3	8	1	0	1	0	8	61	9	2	197	11	186
15:30	11	0	13	1	4	87	10	6	2	0	1	0	7	64	4	3	213	10	203
15:45	13	3	10	0	1	93	8	2	4	0	0	0	14	87	3	6	244	8	236
Hour	49	3	46	2	15	327	25	20	9	0	2	1	44	272	21	18	854	41	813
16:00	8	1	11	3	8	84	9	9	3	0	2	1	19	76	5	3	242	16	226
16:15	14	0	15	2	3	100	10	9	1	2	3	0	5	87	9	5	265	16	249
16:30	15	3	10	1	7	111	13	15	2	0	2	0	10	99	3	13	304	29	275
16:45	3	0	11	2	3	88	20	10	3	1	0	0	8	64	7	4	224	16	208
Hour	40	4	47	8	21	383	52	43	9	3	7	1	42	326	24	25	1035	77	958
17:00	6	0	5	0	4	89	10	3	3	0	0	0	12	86	8	1	227	4	223
17:15	2	0	4	0	1	105	10	4	8	0	1	0	9	72	8	0	224	4	220
17:30	2	0	0	0	2	85	11	3	1	0	1	0	11	78	3	2	199	5	194
17:45	5	0	7	0	1	74	9	1	2	1	2	0	4	60	3	0	169	1	168
Hour	15	0	16	0	8	353	40	11	14	1	4	0	36	296	22	3	819	14	805
Total	392	27	439	57	97	2773	438	274	91	11	49	8	380	2740	203	286	8265	625	7640
% Apr.	42.8	2.9	47.9	6.2	2.7	77.4	12.2	7.6	57.2	6.9	30.8	5.0	10.5	75.9	5.6	7.9	-	-	-
% Int.	4.7	0.3	5.3	0.6	1.1	33.5	5.2	3.3	1.1	0.1	0.5	-	4.5	33.1	2.4	3.4	-	-	-

or Street Approaches:

Lastbound:

CSAH 24 (BRIDGE ST)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9704.PDF
 Count Type: IMC. Channel: 0. Count Date: 10/31/97
 Number of Lanes: 1
 Approach Speed: 40
 Total Approach Traffic: 3323

Westbound:

CSAH 24 (BRIDGE ST)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9704.PDF
 Count Type: IMC. Channel: 0. Count Date: 10/31/97
 Number of Lanes: 1
 Approach Speed: 40
 Total Approach Traffic: 3308

Minor Street Approaches:

Northbound:

POPPY ST.

Data File: C:\APPS\PETRA2\DATAFILE\TMC9704.PDF
 Count Type: IMC. Channel: 0. Count Date: 10/31/97
 Number of Lanes: 1
 Approach Speed: 0
 Total Approach Traffic: 151

Southbound:

CR 72 (RUM RIVER BLVD)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9704.PDF
 Count Type: IMC. Channel: 0. Count Date: 10/31/97
 Number of Lanes: 2
 Approach Speed: 55
 Total Approach Traffic: 858

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

Hour	Main	Side	Warrant 1	Warrant 2	Warrant 8	
Begin (Total)	Vol.	Dir.	Rank	Meets? Criteria	Meets? Criteria	Meets? Criteria
0	0	0 S	13	200	100	160
1	0	0 S	14	200	100	160
2	0	0 S	15	200	100	160
3	0	0 S	16	200	100	160
4	0	0 S	17	200	100	160
5	0	0 S	18	200	100	160
6	416	67 S	6	200	100	160
7	871	73 S	5	MAIN 200	MAIN 100	MAIN 160
8	323	39 S	9	200	100	160
9	433	57 S	7	200	100	160
10	397	38 S	10	200	100	160
11	454	49 S	8	200	100	160
12	411	34 S	11	200	100	160
13	413	85 S	4	200	100	160
14	606	196 S	1	MAIN 200	SIDE 100	--BOTH-- 160
15	704	98 S	2	MAIN 200	100	MAIN 160
16	848	91 S	3	MAIN 200	MAIN 100	MAIN 160
17	755	31 S	12	MAIN 200	MAIN 100	MAIN 160
18	0	0 S	19	200	100	160
19	0	0 S	20	200	100	160
20	0	0 S	21	200	100	160
21	0	0 S	22	200	100	160
22	0	0 S	23	200	100	160
23	0	0 S	24	200	100	160

Warrant Summary:

Urban values apply.

Warrant 1 - Minimum Vehicular Volumes

NOT SATISFIED. Required values reached for 0 hours. Criteria--Main St.: 500; Side St.: See Volume Summary.

Warrant 2 - Interruption of Continuous Traffic

NOT SATISFIED. Required values reached for 0 hours. Criteria--Main St.: 750; 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 959 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 1 hours. Criteria--Main: 600; Side: See Volume Summary.

Warrant 9 - Four Hour Volumes

NOT SATISFIED. Required values reached for 0 hours.

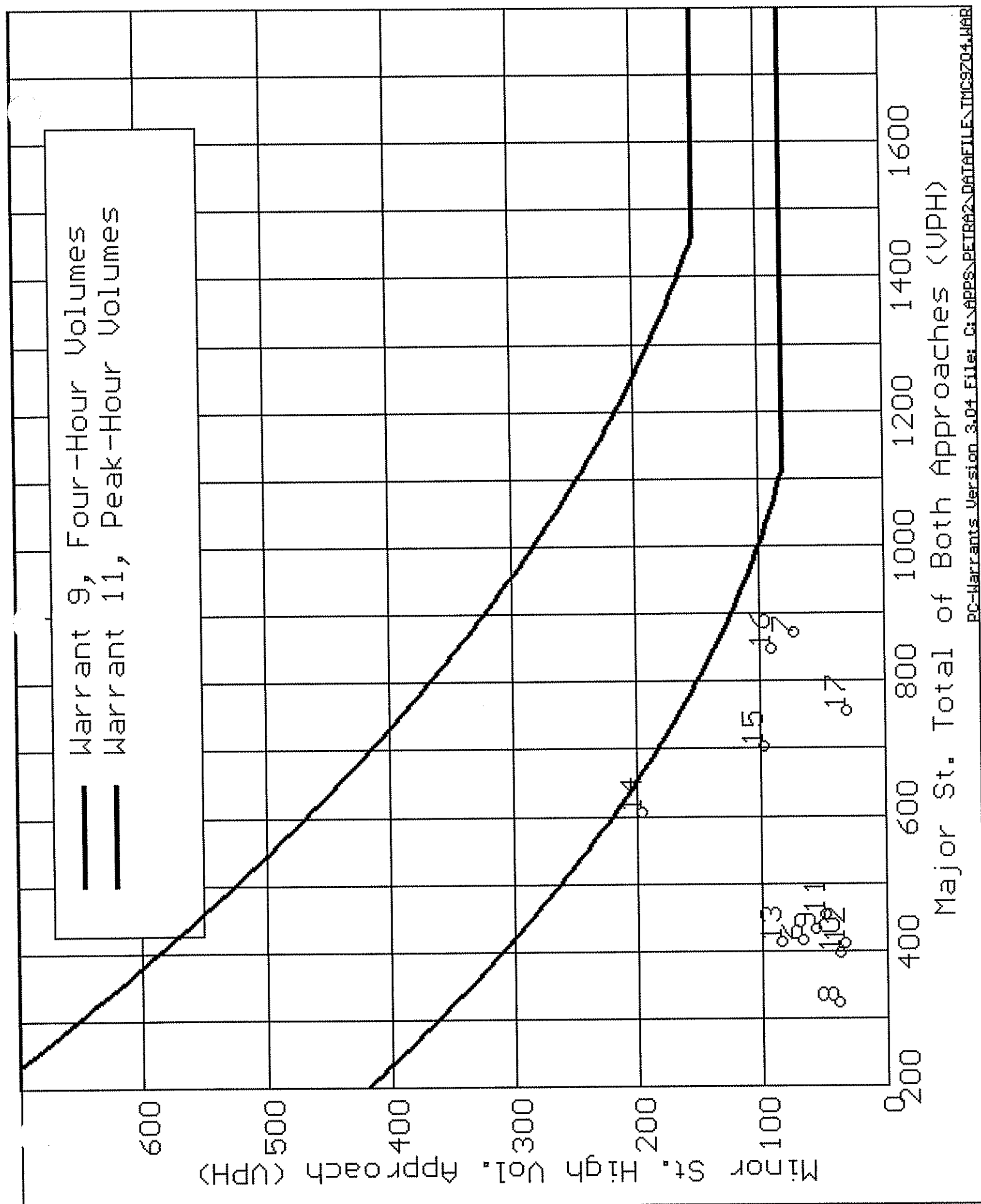
Warrant 10 - Peak Hour Delay

NOT SATISFIED. Peak hour (700 hours) volume not adequate.

Criteria--Main St.: 800 (4 approaches), 650 (3 approaches); Side St.: 150.

Warrant 11 - Peak Hour Volume

NOT SATISFIED.



Major St. Total of Both Approaches (UPH)



NORTH

COUNT LOCATION:

CSAH 24 (BRIDGE ST) @
CR 72 (RUM RIVER BLVD)/POPPY ST

DATE:

10/31/97

APP. #1=EB CSAH 24
(BRIDGE ST)
APP. #2 =SB 72
(RUM RIVER BLVD)
APP. #3=WB CSAH 24
(BRIDGE ST)
APP. #4=NB POPPY ST

APP.
#1

APP.
#2

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						4		6
6:15-6:30						2		5
6:30-6:45						5		8
6:45-7:00				1	1	7		2
HOURLY TOTAL					1	HOURLY TOTAL		39
7:00-7:15		2		3	5	6		4
7:15-7:30						8		51
7:30-7:45	1				1	9		9
7:45-8:00						10		6
HOURLY TOTAL					6	HOURLY TOTAL		103
8:00-8:15						3		11
8:15-8:30						5		8
8:30-8:45						6	1	12
8:45-9:00						4		4
HOURLY TOTAL						HOURLY TOTAL		54
9:00-9:15						7		3
9:15-9:30						6		10
9:30-9:45	5				5	6		12
9:45-10:00						9		4
HOURLY TOTAL					5	HOURLY TOTAL		57
10:00-10:15				2	2	2		2
10:15-10:30				2	2	8		3
10:30-10:45				2	2	8		4
10:45-11:00						9		
HOURLY TOTAL					6	HOURLY TOTAL		36
11:00-11:15						8		
11:15-11:30						9		3
11:30-11:45						6		2
11:45-12:00						6		1
HOURLY TOTAL						HOURLY TOTAL		35
12:00-12:15						6		3
12:15-12:30						4		
12:30-12:45						8		2
12:45-1:00						11		4
HOURLY TOTAL						HOURLY TOTAL		38
1:00-1:15						8		3
1:15-1:30						4		1
1:30-1:45						4		7
1:45-2:00						7		6
HOURLY TOTAL						HOURLY TOTAL		40



NORTH

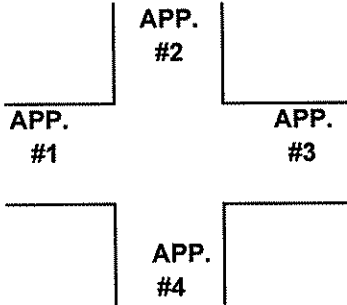
COUNT LOCATION:

CSAH 24 (BRIDGE ST) @
CR 72 (RUM RIVER BLVD)/POPPY ST

DATE:

10/30/97

APP. #1=EB CSAH 24
(BRIDGE ST)
APP. #2 =SB 72
(RUM RIVER BLVD)
APP. #3=WB CSAH 24
(BRIDGE ST)
APP. #4=NB POPPY ST



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						6		11
2:15-2:30						8		33
2:30-2:45	3	1		4	8	3	1	18
2:45-3:00	2	2			4	7		3
HOURLY TOTAL					12	HOURLY TOTAL		90
3:00-3:15		2			2	9		3
3:15-3:30				2	2	7		4
3:30-3:45						9		1
3:45-4:00	3			1	4	3		5
HOURLY TOTAL					8	HOURLY TOTAL		41
4:00-4:15	1			1	2	9	1	6
4:15-4:30				1	1	8	1	8
4:30-4:45						8		22
4:45-5:00		2			2	4		12
HOURLY TOTAL					5	HOURLY TOTAL		79
5:00-5:15						1		3
5:15-5:30						2		2
5:30-5:45		4			4	1		4
5:45-6:00		4		4	8	1		
HOURLY TOTAL					12	HOURLY TOTAL		14
6:00-6:15								
6:15-6:30								
6:30-6:45								
6:45-7:00								
HOURLY TOTAL						HOURLY TOTAL		
7:00-7:15								
7:15-7:30								
7:30-7:45								
7:45-8:00								
HOURLY TOTAL						HOURLY TOTAL		
8:00-8:15								
8:15-8:30								
8:30-8:45								
8:45-9:00								
HOURLY TOTAL						HOURLY TOTAL		
9:00-9:15								
9:15-9:30								
9:30-9:45								
9:45-10:00								
HOURLY TOTAL						HOURLY TOTAL		