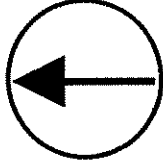


Date : 8/02/00

Count Number : TMC0020

Location : CSAH 14 (Main St.) @

CR 84



North

CSAH 14

G	0
H	4744
J	401
4921	

10892

#2

5747

5626

#1

11696

C	0
B	5154
A	916
6070	

CSAH 14

CR 84

K	593
L	0
M	882
1475	

1317

#3

2792

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

Anoka County Highway Department
Traffic Volume and Turning
Movement Study

Anoka County Highway Department

Traffic Engineering

Traffic Volume and Turning Movement Study

Weather: Mostly Sunny
 Counter TDC-8
 Counted by: Ryan & Justin

File Name : TMC0020
 Site Code : 00200101
 Start Date : 08/02/2000
 Page No : 1

Groups Printed- 1 - Unshifted

Start Time	Southbound					CSAH 14 Westbound					CR 84 Northbound					CSAH 14 Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	Heavy	App. Total			
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0				
06:00	0	0	0	0	0	6	93	0	1	99	3	0	3	0	6	0	50	12	0	62	1	167	168
06:15	0	0	0	0	0	5	122	0	1	127	7	0	5	2	12	0	67	10	0	77	3	216	219
06:30	0	0	0	0	0	7	100	0	2	107	6	0	4	0	10	0	85	34	2	119	4	236	240
06:45	0	0	0	0	0	17	112	0	1	129	6	0	6	0	12	0	106	30	8	136	9	277	286
Total	0	0	0	0	0	35	427	0	5	462	22	0	18	2	40	0	308	86	10	394	17	896	913
07:00	0	0	0	0	0	12	119	0	0	131	9	0	4	0	13	0	110	21	2	131	2	275	277
07:15	0	0	0	0	0	12	118	0	1	130	7	0	1	1	8	0	99	36	0	135	2	273	275
07:30	0	0	0	0	0	8	110	0	2	118	4	0	9	0	13	0	113	30	2	143	4	274	278
07:45	0	0	0	0	0	26	110	0	5	138	7	0	7	0	14	0	84	36	3	120	8	270	278
Total	0	0	0	0	0	58	457	0	8	515	27	0	21	1	48	0	406	123	7	529	16	1092	1108
08:00	0	0	0	0	0	7	70	0	1	77	7	0	10	0	17	0	63	33	2	96	3	190	193
08:15	0	0	0	0	0	7	104	0	0	111	7	0	6	0	13	0	69	20	1	89	1	213	214
08:30	0	0	0	0	0	11	76	0	3	87	17	0	9	0	26	0	81	23	4	104	7	217	224
08:45	0	0	0	0	0	8	73	0	3	79	15	0	9	0	24	0	63	13	2	76	5	179	184
Total	0	0	0	0	0	31	323	0	7	354	46	0	34	0	80	0	276	89	9	365	16	799	815
09:00	0	0	0	0	0	11	72	0	4	83	19	0	11	1	30	0	60	10	2	70	7	183	190
09:15	0	0	0	0	0	8	73	0	2	81	11	0	6	0	17	0	60	25	1	85	3	183	186
09:30	0	0	0	0	0	8	72	0	2	80	15	0	4	0	19	0	62	20	2	82	4	181	185
09:45	0	0	0	0	0	7	65	0	2	72	10	0	10	1	20	0	68	19	2	87	5	179	184
Total	0	0	0	0	0	34	282	0	10	316	55	0	31	2	86	0	250	74	7	324	19	726	745
10:00	0	0	0	0	0	8	62	0	1	70	11	0	3	0	14	0	58	12	1	70	2	154	156
10:15	0	0	0	0	0	9	58	0	1	67	11	0	2	0	13	0	72	26	4	98	5	178	183
10:30	0	0	0	0	0	6	55	0	2	61	26	0	6	0	32	0	53	11	0	64	2	157	159
10:45	0	0	0	0	0	5	63	0	3	68	8	0	15	1	23	0	58	11	1	69	5	160	165
Total	0	0	0	0	0	28	238	0	7	266	56	0	26	1	82	0	241	60	6	301	14	649	663
11:00	0	0	0	0	0	3	93	0	2	96	6	0	2	1	8	0	68	13	0	81	3	185	188
11:15	0	0	0	0	0	3	49	0	2	52	13	0	6	1	19	0	70	12	3	82	6	153	159
11:30	0	0	0	0	0	9	72	0	2	81	22	0	9	0	31	0	81	16	1	92	3	209	212
11:45	0	0	0	0	0	8	57	0	1	65	15	0	4	0	19	0	62	8	0	70	1	154	155
Total	0	0	0	0	0	23	271	0	7	294	56	0	21	2	77	0	281	49	4	330	13	701	714
12:00	0	0	0	0	0	4	48	0	2	52	16	0	18	0	34	0	63	12	3	75	5	161	166
12:15	0	0	0	0	0	10	84	0	0	94	19	0	24	0	43	0	68	25	3	93	3	230	233
12:30	0	0	0	0	0	9	63	0	0	72	23	0	12	0	35	0	69	19	0	88	0	195	195
12:45	0	0	0	0	0	11	48	0	0	59	13	0	8	1	21	0	73	14	1	87	2	167	169
Total	0	0	0	0	0	34	243	0	2	277	71	0	62	1	133	0	273	70	7	343	10	753	763
13:00	0	0	0	0	0	10	59	0	0	69	22	0	9	0	31	0	59	24	1	83	1	183	184
13:15	0	0	0	0	0	6	47	0	1	53	8	0	4	0	12	0	74	22	0	96	1	161	162
13:30	0	0	0	0	0	6	62	0	0	68	17	0	12	0	29	0	62	18	1	80	1	177	178
13:45	0	0	0	0	0	7	59	0	2	66	15	0	11	0	26	0	65	21	1	86	3	178	181
Total	0	0	0	0	0	29	227	0	3	256	62	0	36	0	98	0	260	85	3	345	6	699	705
14:00	0	0	0	0	0	6	71	0	5	77	9	0	6	1	15	0	68	13	2	81	8	173	181
14:15	0	0	0	0	0	6	87	0	2	93	20	0	9	0	29	0	82	6	0	88	2	210	212
14:30	0	0	0	0	0	5	79	0	3	84	9	0	5	1	14	0	72	7	0	79	4	177	181
14:45	0	0	0	0	0	3	70	0	0	73	23	0	2	1	25	0	76	5	0	81	1	179	180
Total	0	0	0	0	0	20	307	0	10	327	61	0	22	3	83	0	298	31	2	329	15	739	754
15:00	0	0	0	0	0	5	75	0	4	80	12	0	9	0	21	0	114	10	1	124	5	225	230
15:15	0	0	0	0	0	6	92	0	6	98	24	0	16	0	40	0	106	10	3	116	9	254	263
15:30	0	0	0	0	0	6	92	0	3	98	20	0	14	1	34	0	134	10	0	144	4	276	280
15:45	0	0	0	0	0	7	111	0	3	118	48	0	22	0	70	0	132	16	1	148	4	336	340
Total	0	0	0	0	0	24	370	0	16	394	104	0	61	1	165	0	486	46	5	532	22	1091	1113
16:00	0	0	0	0	0	4	130	0	1	134	38	0	24	2	62	0	111	13	0	124	3	320	323
16:15	0	0	0	0	0	8	119	0	3	127	23	0	18	1	41	0	158	14	1	172	5	340	345
16:30	0	0	0	0	0	3	147	0	1	150	22	0	28	0	50	0	150	11	3	161	4	361	365
16:45	0	0	0	0	0	3	100	0	1	103	26	0	21	0	47	0	166	8	0	174	1	324	325
Total	0	0	0	0	0	18	496	0	6	514	109	0	91	3	200	0	585	46	4	631	13	1345	1358
17:00	0	0	0	0	0	2	102	0	0	104	28	0	32	2	60	0	135	10	0	145	2	309	311
17:15	0	0	0	0	0	2	96	0	0	98	16	0	14	0	30	0	129	12	0	141	0	269	269
17:30	0	0	0	0	0	8	112	0	1	120	25	0	14	0	39	0	121	19	1	140	2	299	301
17:45	0	0	0	0	0	7	87	0	0	94	19	0	16	0	35	0	102	11	1	113	1	242	243
Total	0	0	0	0	0	19	397	0	1	416	88	0	76	2	164	0	487	52	2	539	5	1119	1124

18:00	0	0	0	0	0	9	77	0	1	86	20	0	18	0	38	0	93	8	1	101	2	225	227
18:15	0	0	0	0	0	8	62	0	1	70	12	0	10	0	22	0	88	4	0	92	1	184	185
18:30	0	0	0	0	0	6	57	0	0	63	15	0	10	0	25	0	88	15	0	103	0	191	191
18:45	0	0	0	0	0	2	47	0	0	49	5	0	6	0	11	0	75	7	0	82	0	142	142
Total	0	0	0	0	0	25	243	0	2	268	52	0	44	0	96	0	344	34	1	378	3	742	745
19:00	0	0	0	0	0	2	56	0	0	58	12	0	6	0	18	0	63	10	0	73	0	149	149
19:15	0	0	0	0	0	2	59	0	1	61	10	0	3	0	13	0	79	7	0	86	1	160	161
19:30	0	0	0	0	0	4	48	0	0	52	8	0	8	0	16	0	68	8	0	76	0	144	144
19:45	0	0	0	0	0	1	26	0	0	27	7	0	4	1	11	0	59	7	1	66	2	104	106
Total	0	0	0	0	0	9	189	0	1	198	37	0	21	1	58	0	269	32	1	301	3	557	560
20:00	0	0	0	0	0	4	32	0	0	36	6	0	4	0	10	0	62	4	0	66	0	112	112
20:15	0	0	0	0	0	6	35	0	0	41	3	0	4	0	7	0	59	12	0	71	0	119	119
20:30	0	0	0	0	0	0	36	0	0	36	3	0	2	0	5	0	60	7	0	67	0	108	108
20:45	0	0	0	0	0	2	37	0	0	39	8	0	7	0	15	0	45	4	0	49	0	103	103
Total	0	0	0	0	0	12	140	0	0	152	20	0	17	0	37	0	226	27	0	253	0	442	442
21:00	0	0	0	0	0	0	32	0	0	32	3	0	3	0	6	0	41	2	0	43	0	81	81
21:15	0	0	0	0	0	1	36	0	1	37	7	0	6	0	13	0	43	4	0	47	1	97	98
21:30	0	0	0	0	0	0	35	0	0	35	3	0	2	0	5	0	41	3	0	44	0	84	84
21:45	0	0	0	0	0	1	31	0	0	32	3	0	1	0	4	0	39	3	0	42	0	78	78
Total	0	0	0	0	0	2	134	0	1	136	16	0	12	0	28	0	164	12	0	176	1	340	341
Grand Total	0	0	0	0	0	401	474	0	86	5145	882	0	593	19	1475	0	515	916	68	6070	173	12690	12863
Apprch %	0.0	0.0	0.0			7.8	92.2	0.0			59.8	0.0	40.2			0.0	84.9	15.1					
Total %	0.0	0.0	0.0		0.0	3.2	37.4	0.0		40.5	7.0	0.0	4.7		11.6	0.0	40.6	7.2		47.8	1.3	98.7	

Major Street Approaches:

Eastbound:

CSAH 14

Data File: C:\Program Files\JAMAR\PETRA\Data Files\TMC0020.war
 Count Type: IMC. Channel: 0. Count Date: 8/ 2/ 0
 Number of Lanes: 2
 Approach Speed: 55
 Total Approach Traffic: 6070

Westbound:

CSAH 14

Data File: C:\Program Files\JAMAR\PETRA\Data Files\TMC0020.war
 Count Type: IMC. Channel: 0. Count Date: 8/ 2/ 0
 Number of Lanes: 2
 Approach Speed: 55
 Total Approach Traffic: 5145

Minor Street Approaches:

Northbound:

CR 84

Data File: C:\Program Files\JAMAR\PETRA\Data Files\TMC0020.war
 Count Type: IMC. Channel: 0. Count Date: 8/ 2/ 0
 Number of Lanes: 2
 Approach Speed: 35
 Total Approach Traffic: 1475

Southbound:

Data File: C:\Program Files\JAMAR\PETRA\Data Files\TMC0020.war
 Count Type: IMC. Channel: 0. Count Date: 8/ 2/ 0
 Number of Lanes: 1
 Approach Speed: 0
 Total Approach Traffic: 0

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

Hour	Main (Total)	Side Vol.	Dir.	Rank	Warrant 1 Meets?	Warrant 1 Criteria	Warrant 2 Meets?	Warrant 2 Criteria	Warrant 8 Meets?	Warrant 8 Criteria
0	0	0	N	17		140		70		112
1	0	0	N	18		140		70		112
2	0	0	N	19		140		70		112
3	0	0	N	20		140		70		112
4	0	0	N	21		140		70		112
5	0	0	N	22		140		70		112
6	856	40	N	14	MAIN	140	MAIN	70	MAIN	112
7	1044	48	N	13	MAIN	140	MAIN	70	MAIN	112
8	719	80	N	10	MAIN	140	--BOTH--	70	MAIN	112
9	640	86	N	7	MAIN	140	--BOTH--	70	MAIN	112
10	567	82	N	9	MAIN	140	SIDE	70	MAIN	112
11	624	77	N	11	MAIN	140	SIDE	70	MAIN	112
12	620	133	N	4	MAIN	140	SIDE	70	--BOTH--	112
13	601	98	N	5	MAIN	140	SIDE	70	MAIN	112
14	656	83	N	8	MAIN	140	--BOTH--	70	MAIN	112
-15	926	165	N	2	--BOTH--	140	--BOTH--	70	--BOTH--	112
-16	1145	200	N	1	--BOTH--	140	--BOTH--	70	--BOTH--	112
-17	955	164	N	3	--BOTH--	140	--BOTH--	70	--BOTH--	112
18	646	96	N	6	MAIN	140	--BOTH--	70	MAIN	112
19	499	58	N	12	MAIN	140		70		112
20	405	37	N	15		140		70		112
21	312	28	N	16		140		70		112
22	0	0	N	23		140		70		112
23	0	0	N	24		140		70		112

Warrant Summary:

Rural values apply.

Warrant 1 - Minimum Vehicular Volumes

NOT SATISFIED. Required values reached for 3 hours. Criteria--Main St.: 420; Side St.: See Volume Summary.

Warrant 2 - Interruption of Continuous Traffic

NOT SATISFIED. Required values reached for 7 hours. Criteria--Main St.: 630; Side St.: See Volume Summary.

Warrant 3 - Minimum Pedestrian Volumes

NOT SATISFIED. 8th-High Hour--Pedestrians: 1; Vehicles: 567. Criteria--Pedestrians: 105; Vehicles: 420.

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. At least one street has no major approaches. Peak hour total entering volume: 1345.

- Approaches which are part of the principal through traffic roadway network.
- Approaches which connect areas of principal traffic generation.
- Approaches which include rural or suburban highways outside, entering or traversing a city.
- Approaches which have surface street freeway or expressway ramp terminals.
- Approaches which appear as a major route in an official transportation plan.

Warrant 8 - Combination of Warrants

NOT SATISFIED. Required values reached for 4 hours. Criteria--Main: 504; Side: See Volume Summary.

Warrant 9 - Four Hour Volumes

NOT SATISFIED. Required values reached for 3 hours.

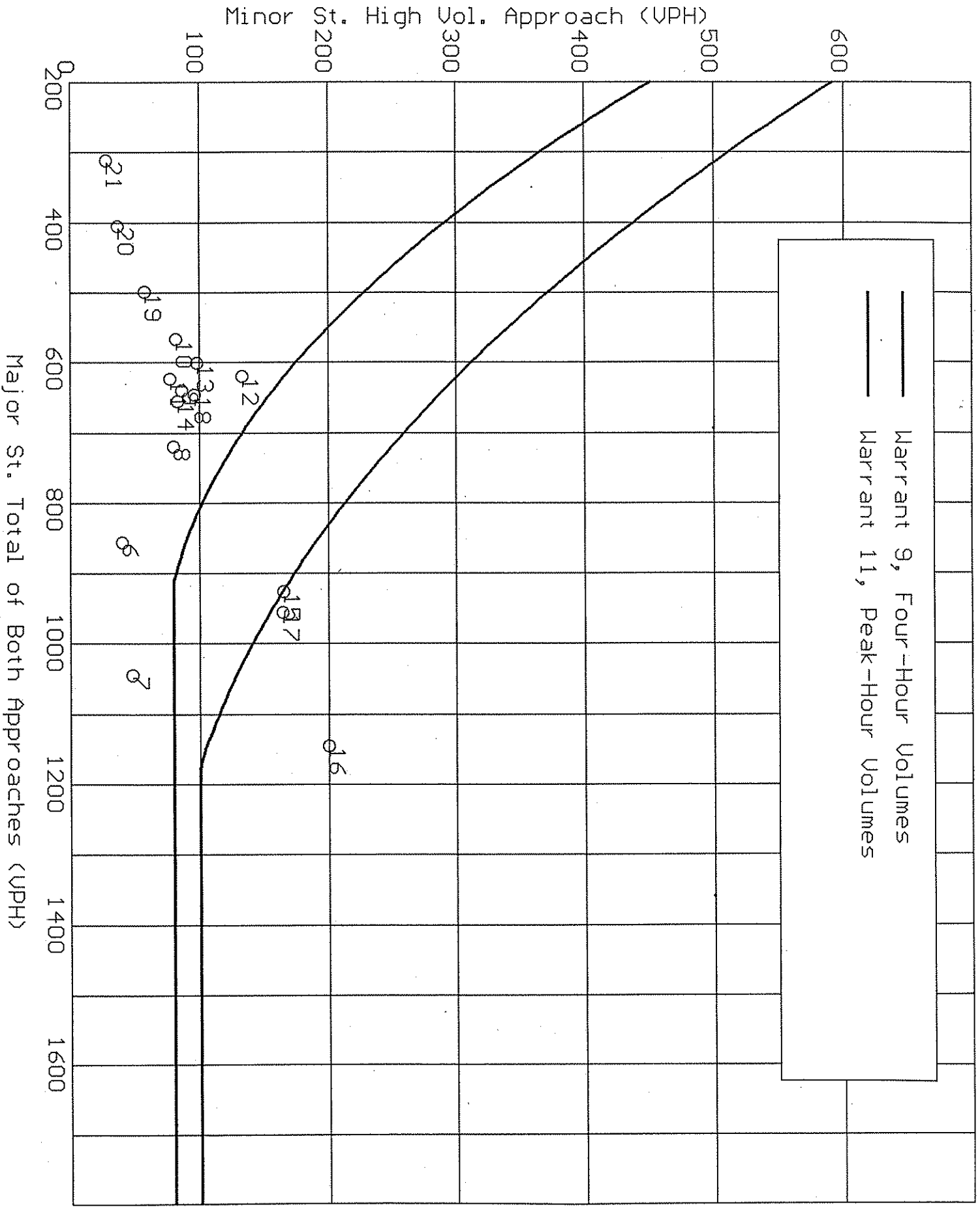
Warrant 10 - Peak Hour Delay

NOT APPLICABLE. Volume requirements satisfied, but side street peak hour delay not defined.

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

Warrant 11 - Peak Hour Volume

SATISFIED for 3 hours.

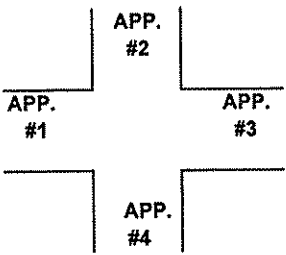




COUNT LOCATION: CSAH 14@
CR 84

DATE: 8/2/00

APP. #1 = EB CSAH 14
APP. #2 =
APP. #3 = WB CSAH 14
APP. #4 = NB CR 84



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						1		
6:15-6:30						3		
6:30-6:45						4		
6:45-7:00						8		
HOURLY TOTAL						HOURLY TOTAL		16
7:00-7:15						2		
7:15-7:30						2		
7:30-7:45						4		
7:45-8:00						8		
HOURLY TOTAL						HOURLY TOTAL		16
8:00-8:15						3		
8:15-8:30						1		
8:30-8:45						7		
8:45-9:00						5		
HOURLY TOTAL						HOURLY TOTAL		16
9:00-9:15						7		
9:15-9:30						3		
9:30-9:45						4		
9:45-10:00						5		
HOURLY TOTAL						HOURLY TOTAL		19
10:00-10:15						2		
10:15-10:30						5		
10:30-10:45						2		
10:45-11:00						5		
HOURLY TOTAL						HOURLY TOTAL		14
11:00-11:15						3		
11:15-11:30						6		
11:30-11:45						3		
11:45-12:00						1		
HOURLY TOTAL						HOURLY TOTAL		13
12:00-12:15						5		
12:15-12:30						3		
12:30-12:45						1		
12:45-1:00						1		
HOURLY TOTAL						HOURLY TOTAL		10
1:00-1:15								
1:15-1:30						1		
1:30-1:45						1		
1:45-2:00						1		
HOURLY TOTAL						HOURLY TOTAL		3

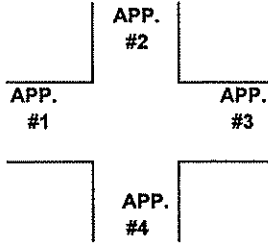


NORTH

COUNT LOCATION: CSAH 14@
CR 84

DATE: 7/31/00

APP. #1 = EB CSAH 14
APP. #2 =
APP. #3 = WB CSAH 14
APP. #4 = NB CR 84



- 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						8		
2:15-2:30						2		
2:30-2:45						3		1
2:45-3:00						1		
HOURLY TOTAL						HOURLY TOTAL		15
3:00-3:15						5		
3:15-3:30						9		
3:30-3:45						4		
3:45-4:00						4		
HOURLY TOTAL						HOURLY TOTAL		22
4:00-4:15						3		
4:15-4:30						4	1	
4:30-4:45						4		
4:45-5:00						1		
HOURLY TOTAL						HOURLY TOTAL		13
5:00-5:15						2		
5:15-5:30								
5:30-5:45						2		
5:45-6:00						1		
HOURLY TOTAL						HOURLY TOTAL		5
6:00-6:15						1	1	
6:15-6:30								
6:30-6:45								
6:45-7:00								
HOURLY TOTAL						HOURLY TOTAL		2
7:00-7:15								
7:15-7:30						1		
7:30-7:45						2		
7:45-8:00								
HOURLY TOTAL						HOURLY TOTAL		3
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						1		
9:30-9:45								
9:45-10:00								
HOURLY TOTAL						HOURLY TOTAL		1