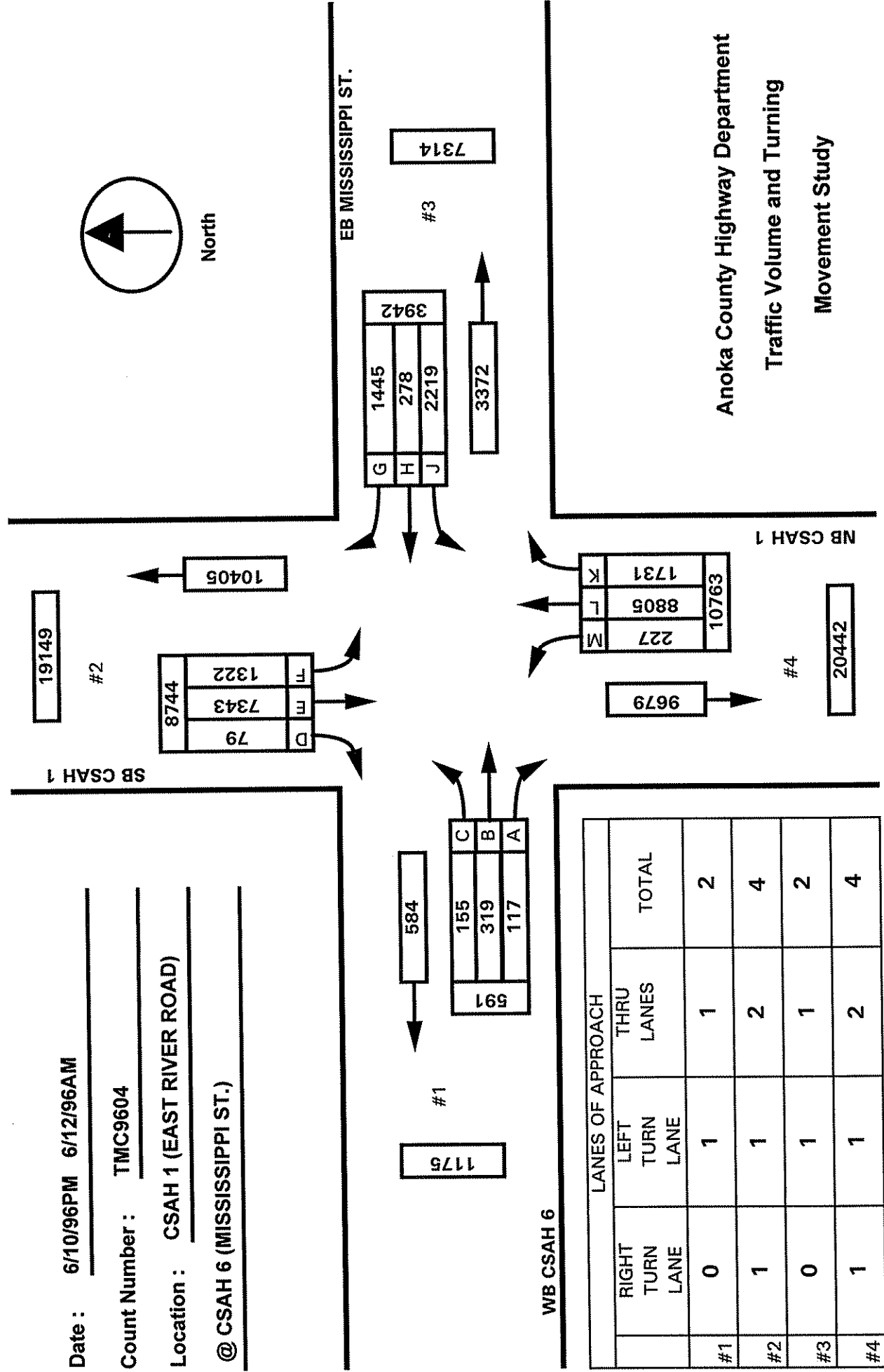


Date : 6/10/96PM 6/12/96AM

Count Number : TMC9604

Location : CSAH 1 (EAST RIVER ROAD)

@ CSAH 6 (MISSISSIPPI ST.)



Anoka County Highway Department
Traffic Volume and Turning
Movement Study

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

ANOKA COUNTY HIGHWAY DEPARTMENT

TRAFFIC ENGINEERING SECTION

TRAFFIC STUDY

Weather :sunny 80
 Counted by:Ann and Gabe
 Board # :
 Other :

Study Name: TMC9604
 Site Code : 96040201
 Start Date: 06/06/96
 Page : 1

Vehicle group 1

Start Time	CSAH1 (E. River Rd.) Southbound				CSAH6 (Mississippi St.) Westbound				CSAH1 (E. River Rd.) Northbound				(Mississippi St.) Eastbound				Intvl	Exclu	Inclu
	Right	Thru	Left	HEAVY	Right	Thru	Left	HEAVY	Right	Thru	Left	HEAVY	Right	Thru	Left	HEAVY			
06/06/96																			
06:00	2	205	13	5	2	0	38	0	16	55	1	2	5	1	0	0	345	7	338
06:15	0	332	17	2	4	0	68	0	7	59	0	2	4	3	1	0	499	4	495
06:30	1	358	26	3	6	1	119	0	14	86	2	4	1	6	2	0	629	7	622
06:45	0	331	16	7	8	2	77	2	10	65	2	3	2	3	3	1	532	13	519
Hour	3	1226	72	17	20	3	302	2	47	265	5	11	12	13	6	1	2005	31	1974
07:00	0	327	13	7	4	0	106	2	19	79	4	2	3	11	2	0	579	11	568
07:15	0	337	18	9	10	0	113	2	24	86	0	5	5	5	3	0	617	16	601
07:30	0	299	22	7	11	1	99	1	17	96	1	9	3	7	5	2	580	19	561
07:45	1	220	22	8	6	5	63	1	10	92	1	9	3	3	3	0	447	18	429
Hour	1	1183	75	31	31	6	381	6	70	353	6	25	14	26	13	2	2223	64	2159
08:00	0	155	16	6	9	2	41	1	12	68	3	12	4	1	0	0	330	19	311
08:15	1	148	20	9	14	2	38	2	7	70	2	11	5	4	2	0	335	22	313
08:30	0	127	20	8	12	4	23	1	15	67	4	8	3	4	2	0	298	17	281
08:45	0	90	17	9	14	5	22	2	11	63	1	7	1	5	1	0	248	18	230
Hour	1	520	73	32	49	13	124	6	45	268	10	38	13	14	5	0	1211	76	1135
09:00	3	89	16	5	8	4	15	0	9	53	0	8	1	2	4	0	217	13	204
09:15	1	87	14	12	11	3	25	2	11	65	1	7	2	5	4	0	250	21	229
09:30	3	90	16	7	13	8	21	1	12	59	3	10	0	5	1	0	249	18	231
09:45	3	88	16	5	16	4	13	3	13	58	6	12	1	5	5	2	250	22	228
Hour	10	354	62	29	48	19	74	6	45	235	10	37	4	17	14	2	966	74	892
10:00	4	76	16	4	15	4	25	3	19	78	2	11	3	3	3	0	266	18	248
10:15	2	66	15	6	20	0	29	5	12	71	3	12	3	5	5	1	255	24	231
10:30	1	86	27	10	15	1	29	4	18	80	3	9	3	4	3	0	293	23	270
10:45	2	92	18	10	27	4	18	3	18	68	9	10	2	4	5	0	290	23	267
Hour	9	320	76	30	77	9	101	15	67	297	17	42	11	16	16	1	1104	88	1016
11:00	1	100	21	12	20	2	23	1	30	75	3	12	1	6	2	1	310	26	284
11:15	2	75	25	8	19	8	21	2	33	120	2	11	1	3	1	2	333	23	310
11:30	1	93	25	8	14	10	18	1	22	101	3	5	2	6	4	0	313	14	299
11:45	3	84	20	8	30	4	34	1	28	86	3	10	0	7	4	0	322	19	303
Hour	7	352	91	36	83	24	96	5	113	382	11	38	4	22	11	3	1278	82	1196
12:00	3	97	24	7	28	3	23	1	29	114	7	9	3	4	2	0	354	17	337
12:15	2	95	27	6	14	3	33	2	22	104	0	11	3	2	5	0	329	19	310
12:30	2	97	20	5	25	2	34	0	20	127	7	7	2	5	3	1	357	13	344
12:45	3	83	16	8	15	7	31	1	25	100	4	7	0	10	0	0	310	16	294
Hour	10	372	87	26	82	15	121	4	96	445	18	34	8	21	10	1	1350	65	1285

ANOKA COUNTY HIGHWAY DEPARTMENT

TRAFFIC ENGINEERING SECTION

TRAFFIC STUDY

Study Name: TMC9604

Site Code : 96040201

Start Date: 06/06/96

Page : 2

Weather : sunny 80
 Counted by: Ann and Gabe
 Board # :
 Other :

Vehicle group 1

Start Time	CSAH1 (E. River Rd.) Southbound				CSAH6 (Mississippi St.) Westbound				CSAH1 (E. River Rd.) Northbound				(Mississippi St.) Eastbound				Intvl	Exclu	Inclu
	Right	Thru	Left	HEAVY	Right	Thru	Left	HEAVY	Right	Thru	Left	HEAVY	Right	Thru	Left	HEAVY			
13:00	4	97	22	10	29	5	23	1	21	104	9	3	1	4	3	0	336	14	322
13:15	0	97	29	7	28	5	23	0	17	107	5	6	3	6	3	0	336	13	323
13:30	1	120	23	8	24	7	36	0	20	111	5	8	0	6	4	0	373	16	357
13:45	2	88	33	4	30	5	25	2	26	117	1	9	0	10	4	0	356	15	341
Hour	7	402	107	29	111	22	107	3	84	439	20	26	4	26	14	0	1401	58	1343
14:00	1	93	24	7	31	3	31	1	28	109	1	11	3	2	1	0	346	19	327
14:15	2	108	24	6	34	3	29	1	21	118	6	3	0	7	1	0	363	10	353
14:30	1	109	22	7	40	6	35	1	38	208	5	14	5	7	4	0	502	22	480
14:45	1	93	25	6	30	5	35	2	33	175	7	14	2	5	3	0	436	22	414
Hour	5	403	95	26	135	17	130	5	120	610	19	42	10	21	9	0	1647	73	1574
15:00	1	129	20	11	33	7	25	2	52	203	3	15	0	6	2	0	509	28	481
15:15	1	88	21	6	19	10	28	1	65	222	4	10	1	5	1	1	483	18	465
15:30	0	110	16	4	21	6	25	2	44	263	7	10	1	9	2	0	520	16	504
15:45	0	83	22	7	26	7	29	5	40	333	6	8	3	7	2	0	578	20	558
Hour	2	410	79	28	99	30	107	10	201	1021	20	43	5	27	7	1	2090	82	2008
16:00	0	81	15	6	23	4	24	3	50	319	3	7	0	3	3	0	541	16	525
16:15	0	102	17	4	35	5	31	1	47	327	5	9	2	3	3	0	591	14	577
16:30	0	129	18	7	31	6	34	1	90	402	6	6	0	11	1	0	742	14	728
16:45	0	115	14	7	39	4	33	0	85	433	5	4	2	7	4	0	752	11	741
Hour	0	427	64	24	128	19	122	5	272	1481	19	26	4	24	11	0	2626	55	2571
17:00	2	115	30	5	57	4	42	1	60	405	2	6	0	5	0	0	734	12	722
17:15	2	112	29	2	41	7	30	1	85	392	4	8	4	5	1	0	723	11	712
17:30	1	107	34	3	43	5	45	2	49	393	4	4	4	7	0	0	701	9	692
17:45	0	86	26	1	52	4	32	0	69	344	6	12	1	8	1	0	642	13	629
Hour	5	420	119	11	193	20	149	4	263	1534	16	30	9	25	2	0	2800	45	2755
18:00	1	87	28	1	31	7	36	0	45	228	9	11	2	10	3	0	499	12	487
18:15	2	79	37	0	36	8	29	0	20	148	4	6	1	3	4	0	377	6	371
18:30	2	72	30	2	25	6	40	0	32	141	2	8	3	6	2	0	371	10	361
18:45	1	66	29	0	28	8	34	0	25	92	4	3	4	6	5	0	305	3	302
Hour	6	304	124	3	120	29	139	0	122	609	19	28	10	25	14	0	1552	31	1521
19:00	1	82	29	1	32	4	25	0	30	91	1	1	0	9	0	0	306	2	304
19:15	1	61	27	2	18	11	11	1	16	82	6	0	1	5	3	0	245	3	242
19:30	2	46	27	1	20	2	30	0	26	67	6	4	0	3	4	0	238	5	233
19:45	0	50	18	0	37	4	24	0	16	90	4	1	1	3	0	0	248	1	247
Hour	4	239	101	4	107	21	90	1	88	330	17	6	2	20	7	0	1037	11	1026

ANOKA COUNTY HIGHWAY DEPARTMENT

TRAFFIC ENGINEERING SECTION

TRAFFIC STUDY

Weather : sunny 80
 Counted by: Ann and Gabe
 Board # :
 Other :

Study Name: TMC9604
 Site Code : 96040201
 Start Date: 06/06/96
 Page : 3

Vehicle group 1

Start Time	CSAH1 (E. River Rd.) Southbound				CSAH6 (Mississippi St.) Westbound				CSAH1 (E. River Rd.) Northbound				(Mississippi St.) Eastbound				Intvl	Exclu	Inclu
	Right	Thru	Left	HEAVY	Right	Thru	Left	HEAVY	Right	Thru	Left	HEAVY	Right	Thru	Left	HEAVY			
20:00	2	48	15	1	20	3	35	1	18	73	2	3	0	2	1	0	224	5	219
20:15	1	61	17	0	19	7	21	0	8	71	4	1	0	3	0	0	213	1	212
20:30	1	49	12	3	17	4	12	0	12	73	1	0	2	5	3	0	194	3	191
20:45	0	46	12	2	16	3	24	0	10	67	5	0	1	2	2	0	190	2	188
Hour	4	204	56	6	72	17	92	1	48	284	12	4	3	12	6	0	821	11	810
21:00	0	56	11	1	30	5	13	0	19	63	2	0	3	3	3	0	209	1	208
21:15	2	53	9	0	19	3	33	0	9	68	3	0	0	2	2	0	203	0	203
21:30	3	49	9	0	23	3	21	1	12	63	1	1	0	4	2	0	192	2	190
21:45	0	49	12	1	18	3	17	0	10	58	2	1	1	1	3	0	176	2	174
Hour	5	207	41	2	90	14	84	1	50	252	8	2	4	10	10	0	780	5	775
Total	79	7343	1322	334	1445	278	2219	74	1731	8805	227	432	117	319	155	11	24891	851	24040
% Apr.	0.8	80.8	14.5	3.6	35.9	6.9	55.2	1.8	15.4	78.6	2.0	3.8	19.4	52.9	25.7	1.8	-	-	-
% Int.	0.3	29.5	5.3	1.3	5.8	1.1	8.9	0.2	6.9	35.3	0.9	1.7	0.4	1.2	0.6	-	-	-	

pr Street Approaches:

Northbound:

CSAH1 (E. River Rd.)

Data File: C:\PETRA2\DATAFILE\TMC9604.PDF
 Count Type: IMC. Channel: 0. Count Date: 6/ 6/96
 Number of Lanes: 2
 Approach Speed: 40
 Total Approach Traffic: 10763

Southbound:

CSAH1 (E. River Rd.)

Data File: C:\PETRA2\DATAFILE\TMC9604.PDF
 Count Type: IMC. Channel: 0. Count Date: 6/ 6/96
 Number of Lanes: 2
 Approach Speed: 40
 Total Approach Traffic: 8744

Minor Street Approaches:

Eastbound:

(Mississippi St.)

Data File: C:\PETRA2\DATAFILE\TMC9604.PDF
 Count Type: IMC. Channel: 0. Count Date: 6/ 6/96
 Number of Lanes: 2
 Approach Speed: 0
 Total Approach Traffic: 591

Westbound:

CSAH6 (Mississippi St.)

Data File: C:\PETRA2\DATAFILE\TMC9604.PDF
 Count Type: IMC. Channel: 0. Count Date: 6/ 6/96
 Number of Lanes: 2
 Approach Speed: 35
 Total Approach Traffic: 3942

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? Criteria	Warrant 2 Meets? Criteria	Warrant 8 Meets? Criteria
0	0	0	W	17	200	100	160
1	0	0	W	18	200	100	160
2	0	0	W	19	200	100	160
3	0	0	W	20	200	100	160
4	0	0	W	21	200	100	160
5	0	0	W	22	200	100	160
6	1618	325	W	3	--BOTH-- 200	--BOTH-- 100	--BOTH-- 160
7	1688	418	W	1	--BOTH-- 200	--BOTH-- 100	--BOTH-- 160
8	917	186	W	14	MAIN 200	--BOTH-- 100	--BOTH-- 160
9	716	141	W	16	MAIN 200	SIDE 100	160
10	786	187	W	13	MAIN 200	SIDE 100	--BOTH-- 160
11	956	203	W	11	--BOTH-- 200	--BOTH-- 100	--BOTH-- 160
12	1028	218	W	9	--BOTH-- 200	--BOTH-- 100	--BOTH-- 160
13	1059	240	W	7	--BOTH-- 200	--BOTH-- 100	--BOTH-- 160
14	1252	282	W	5	--BOTH-- 200	--BOTH-- 100	--BOTH-- 160
15	1733	236	W	8	--BOTH-- 200	--BOTH-- 100	--BOTH-- 160
16	2263	269	W	6	--BOTH-- 200	--BOTH-- 100	--BOTH-- 160
17	2357	362	W	2	--BOTH-- 200	--BOTH-- 100	--BOTH-- 160
18	1184	288	W	4	--BOTH-- 200	--BOTH-- 100	--BOTH-- 160
19	779	218	W	10	--BOTH-- 200	SIDE 100	--BOTH-- 160
20	608	181	W	15	MAIN 200	SIDE 100	SIDE 160
21	563	188	W	12	200	SIDE 100	SIDE 160
22	0	0	W	23	200	100	160
23	0	0	W	24	200	100	160

Warrant Summary:

Urban values apply.

Warrant 1 - Minimum Vehicular Volumes

SATISFIED for 11 hours. Criteria--Main St.: 600; Side St.: See Volume Summary.

Warrant 2 - Interruption of Continuous Traffic

SATISFIED for 11 hours. Criteria--Main St.: 900; 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. At least one street has no major approaches. Peak hour total entering volume: 2755.

- 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

SATISFIED for 13 hours. Criteria--Main: 720; Side: See Volume Summary.

Warrant 9 - Four Hour Volumes

SATISFIED for 9 hours.

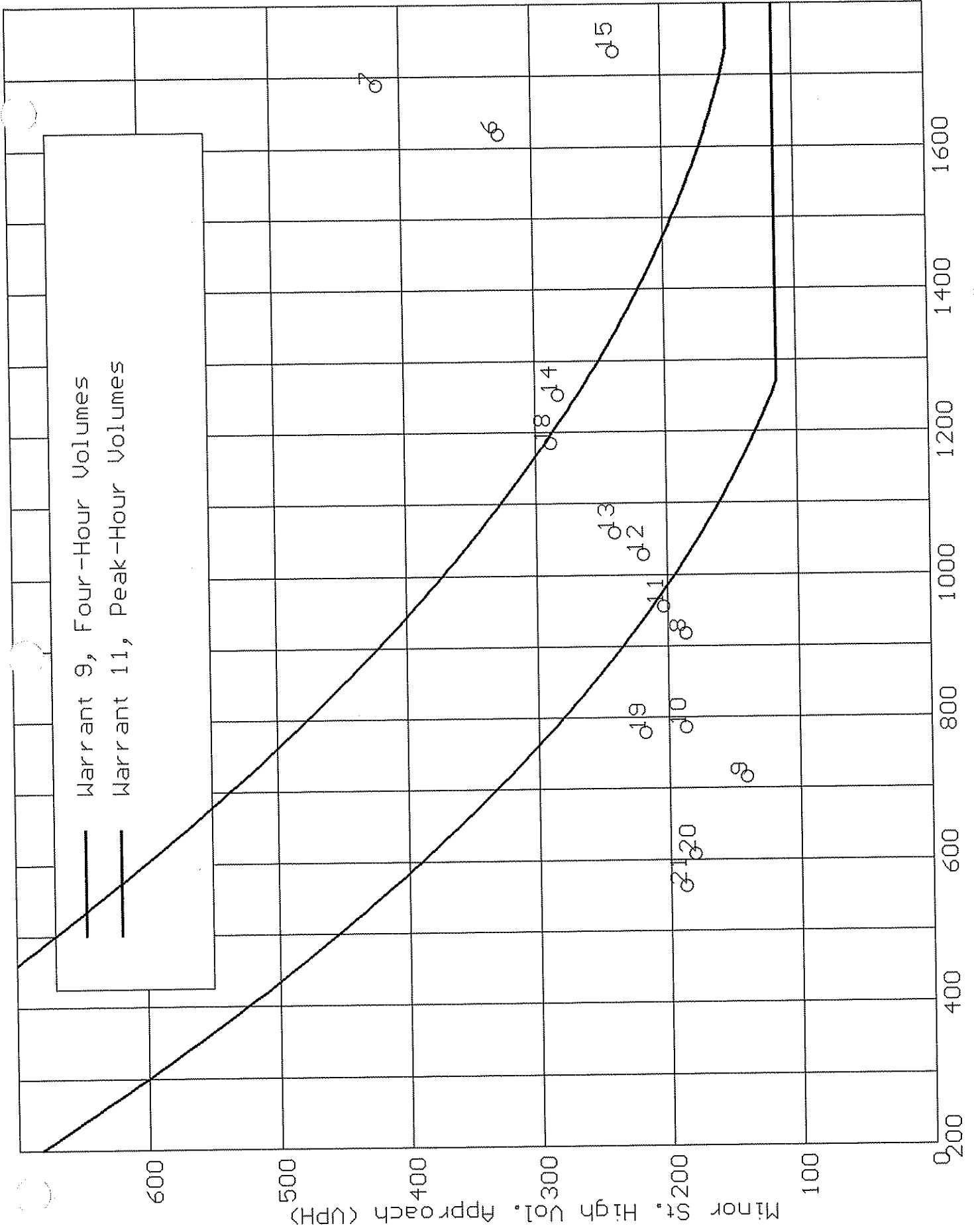
Warrant 10 - Peak Hour Delay

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 7 hours.



Major St. Total of Both Approaches (VPH)



NORTH

COUNT LOCATION: CSAH1 (E. River Rd.) @
CSAH6 (Mississippi St.)

DATE: 6/7/96

APP. #1=
CSAH1 (E. River Rd.)

APP. #2=
CSAH6 (Mississippi St.)

APP. #3=
CSAH1 (E. River Rd.)

APP. #4=
Mississippi St.

APP. #2
35mph

APP. #1
40mph

APP. #3
40mph

APP. #4
35mph

- 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		3
6:15-6:30						3		1
6:30-6:45						6		1
6:45-7:00						13		
HOURLY TOTAL						HOURLY TOTAL		31
7:00-7:15	1	1	2		4	8		1
7:15-7:30			1		1	14		2
7:30-7:45	1				1	18		2
7:45-8:00	1				1	16		2
HOURLY TOTAL					7	HOURLY TOTAL		63
8:00-8:15						19		
8:15-8:30		2			2	22		1
8:30-8:45		2	1		3	14	1	1
8:45-9:00						17		1
HOURLY TOTAL					5	HOURLY TOTAL		76
9:00-9:15			2		2	12		1
9:15-9:30		1			1	21		
9:30-9:45		1			1	17		
9:45-10:00		1			1	18	1	3
HOURLY TOTAL					5	HOURLY TOTAL		73
10:00-10:15		3			3	15		3
10:15-10:30						24	1	
10:30-10:45			1		1	20		3
10:45-11:00						23		
HOURLY TOTAL					4	HOURLY TOTAL		89
11:00-11:15			6	6	12	23		3
11:15-11:30						23		1
11:30-11:45						15		
11:45-12:00						16	1	
HOURLY TOTAL					12	HOURLY TOTAL		82
12:00-12:15		2	1		3	15		1
12:15-12:30			1		1	15	2	2
12:30-12:45						12		1
12:45-1:00		2			2	16		
HOURLY TOTAL					6	HOURLY TOTAL		64
1:00-1:15						12		2
1:15-1:30	3				3	12		1
1:30-1:45						15		
1:45-2:00						15		
HOURLY TOTAL					3	HOURLY TOTAL		57



NORTH

COUNT LOCATION:

CSAH1 (E. River Rd.) @
CSAH6 (Mississippi St.)

DATE:

6/6/96

APP. #1= CSAH1 (E. River Rd.)
APP. #2= CSAH6 (Mississippi St.)
APP. #3= CSAH1 (E. River Rd.)
APP. #4= Mississippi St.

APP. #2 35mph	APP. #3 40mph
APP. #1 40mph	APP. #4 35mph

- 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						19		
2:15-2:30						9		1
2:30-2:45						21		1
2:45-3:00						21		1
HOURLY TOTAL						HOURLY TOTAL		73
3:00-3:15						23		5
3:15-3:30				1	1	17		1
3:30-3:45						12		4
3:45-4:00						19		1
HOURLY TOTAL					1	HOURLY TOTAL		82
4:00-4:15						15		1
4:15-4:30						12		2
4:30-4:45			2		2	13	1	
4:45-5:00			2		2	9		2
HOURLY TOTAL					4	HOURLY TOTAL		55
5:00-5:15						6		1
5:15-5:30						13		2
5:30-5:45						6		2
5:45-6:00						11		2
HOURLY TOTAL						HOURLY TOTAL		43
6:00-6:15						10		2
6:15-6:30		1			1	6		
6:30-6:45						9		1
6:45-7:00						3		
HOURLY TOTAL					1	HOURLY TOTAL		31
7:00-7:15						2		
7:15-7:30		2	2		4	2		1
7:30-7:45						5		
7:45-8:00						1		
HOURLY TOTAL					4	HOURLY TOTAL		11
8:00-8:15						4		1
8:15-8:30						1		
8:30-8:45						2		
8:45-9:00			2		2	2		
HOURLY TOTAL					2	HOURLY TOTAL		10
9:00-9:15								1
9:15-9:30								
9:30-9:45			1		1	2		
9:45-10:00						1		1
HOURLY TOTAL					1	HOURLY TOTAL		5