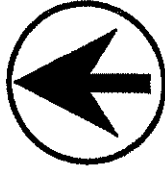


Date: 06/13/00

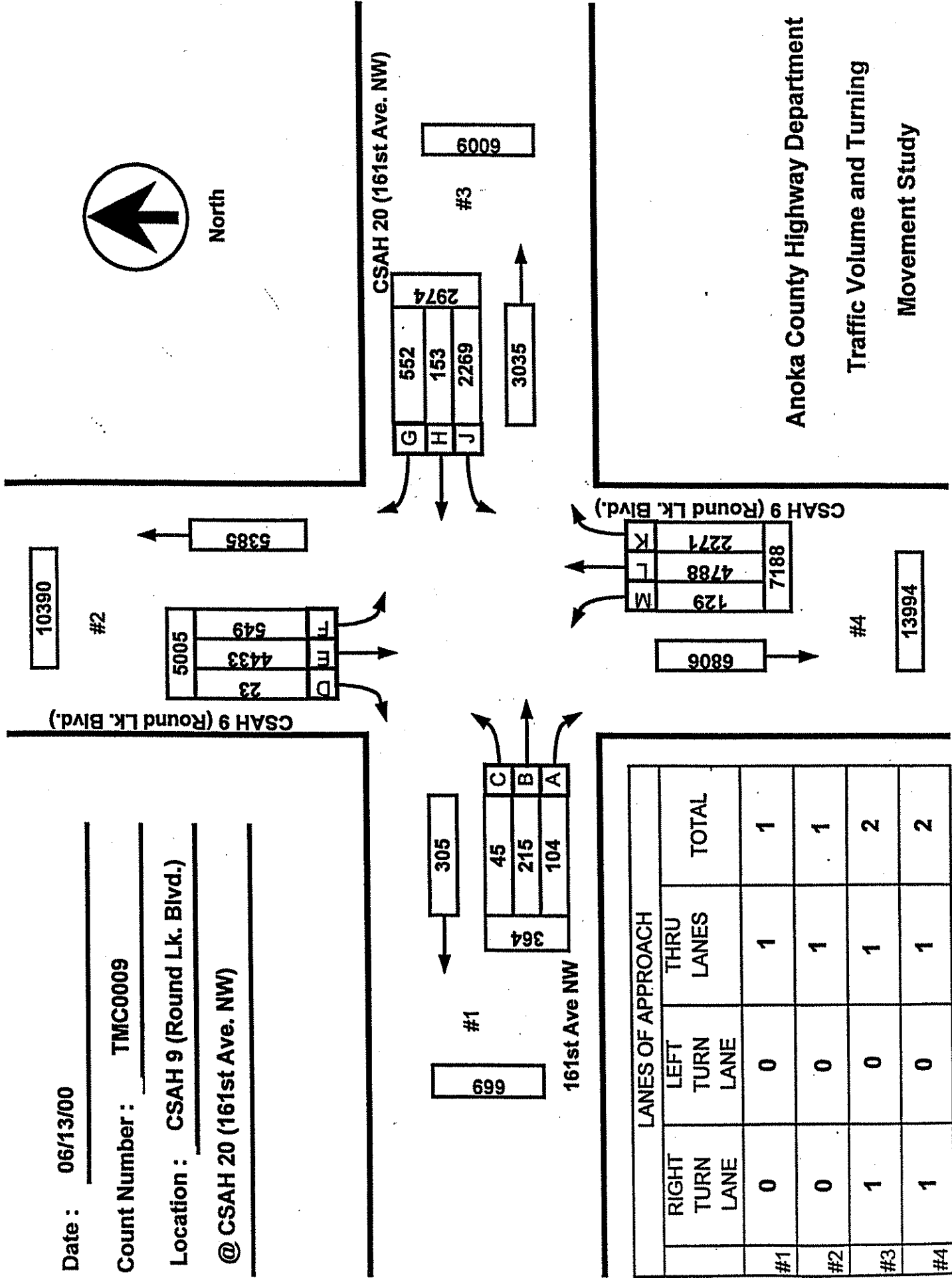
Count Number: TMC0009

Location: CSAH 9 (Round Lk. Blvd.)

@ CSAH 20 (161st Ave. NW)



North



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

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Anoka County Highway Department Traffic Engineering

Weather: Rainy
Counter TDC-8
Counted by: Ryan & Justin

Traffic Volume and Turning Movement Stud

File Name : TMC0009
Site Code : 00090101
Start Date : 06/13/2000
Page No : 1

Groups Printed- 1 - 1 - Unshifted

Start Time	CSAH 9 (Round Lk. Blvd.) Southbound					CSAH 20 (161st Ave. NW) Westbound					CSAH 9 (Round Lk. Blvd.) Northbound					161st Ave. NW Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Factor	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	Heavy			
06:00	4	128	0	3	132	58	0	4	0	62	1	17	10	0	28	0	1	5	0	6	3	228	231
06:15	13	163	1	0	177	67	3	3	0	73	2	25	12	0	39	0	0	3	0	3	0	292	292
06:30	18	183	0	1	201	73	1	3	0	77	0	21	25	1	46	1	4	0	0	5	2	329	331
06:45	18	164	1	3	183	66	1	6	0	73	0	16	23	0	39	2	2	7	0	11	3	306	309
Total	53	638	2	7	693	264	5	16	0	285	3	79	70	1	152	3	7	15	0	25	8	1155	1163
07:00	8	144	0	0	152	57	0	6	0	63	1	35	14	0	50	0	3	6	0	9	0	274	274
07:15	8	155	1	0	164	58	4	6	1	68	0	34	27	1	61	0	0	4	1	4	3	297	300
07:30	15	145	2	1	162	69	3	3	1	75	5	38	24	1	67	1	5	2	0	8	3	312	315
07:45	11	137	1	2	149	68	0	8	1	76	3	46	25	1	74	0	4	1	0	5	4	304	308
Total	42	581	4	3	627	252	7	23	3	282	9	153	90	3	252	1	12	13	1	26	10	1187	1197
08:00	10	122	1	1	133	54	2	2	2	58	4	35	25	3	64	1	4	3	0	8	6	263	269
08:15	5	103	0	1	108	32	0	4	1	36	2	30	27	0	59	0	1	4	0	5	2	208	210
08:30	6	80	1	0	87	38	4	6	0	48	1	28	31	3	60	0	3	2	0	5	3	200	203
08:45	8	85	0	0	93	61	1	9	0	71	1	38	16	0	55	1	0	2	0	3	0	222	222
Total	29	390	2	2	421	185	7	21	3	213	8	131	99	6	238	2	8	11	0	21	11	893	904
08:00	10	79	0	2	89	43	3	6	2	52	1	34	22	0	57	2	2	0	0	4	4	202	206
09:15	16	95	0	0	111	28	1	2	2	31	0	39	20	1	59	0	2	3	0	5	3	206	209
09:30	8	60	0	0	68	29	1	8	2	38	0	47	21	2	68	0	1	0	0	1	4	175	179
09:45	3	50	0	2	53	33	1	6	2	40	1	29	12	0	42	0	2	4	0	6	4	141	145
Total	37	284	0	4	321	133	6	22	8	161	2	149	75	3	226	2	7	7	0	16	15	724	739
10:00	2	54	3	0	59	36	2	13	1	51	2	46	15	3	63	1	1	5	0	7	4	180	184
10:15	6	63	0	0	69	41	2	10	2	53	1	42	25	1	68	1	1	1	0	3	3	193	196
10:30	7	55	0	1	62	19	1	2	1	22	2	48	17	2	67	0	4	2	0	6	4	157	161
10:45	6	72	0	0	78	19	1	6	0	26	2	51	26	1	79	1	4	1	0	6	1	189	190
Total	21	244	3	1	268	115	6	31	4	152	7	187	83	7	277	3	10	9	0	22	12	719	731
11:00	12	60	0	1	72	33	6	3	3	42	1	36	23	2	60	0	2	1	0	3	6	177	183
11:15	9	66	0	2	75	25	0	5	1	30	1	49	28	2	78	0	1	1	0	2	5	185	190
11:30	6	53	0	0	59	21	1	5	0	27	4	42	29	1	75	0	4	0	0	1	1	162	163
11:45	4	41	0	2	45	26	4	16	2	46	0	41	30	1	71	0	2	1	0	3	5	165	170
Total	31	220	0	5	251	105	11	29	6	145	6	168	110	6	284	0	6	3	0	9	17	689	706
12:00	7	66	0	2	73	20	4	8	0	32	2	53	18	1	73	0	1	0	0	1	3	179	182
12:15	7	55	0	2	62	22	1	5	1	28	3	49	25	2	77	0	1	1	0	2	5	169	174
12:30	12	54	0	0	68	21	2	6	0	29	1	64	41	1	106	1	3	0	0	4	1	205	206
12:45	8	68	0	1	76	33	0	11	1	44	1	69	25	1	95	1	1	0	0	2	3	217	220
Total	34	243	0	5	277	96	7	30	2	133	7	235	109	5	351	2	6	1	0	9	12	770	782
13:00	2	58	1	1	61	32	1	6	1	39	1	61	36	1	98	0	2	0	1	2	4	200	204
13:15	10	62	3	1	75	33	1	13	0	47	4	76	27	3	107	0	1	0	0	1	4	230	234
13:30	8	52	0	0	60	27	1	4	1	32	1	73	40	0	114	0	4	3	0	7	1	213	214
13:45	4	81	0	2	86	29	3	8	2	40	3	72	24	0	99	1	5	1	1	7	5	231	236
Total	24	253	4	4	281	121	6	31	4	158	9	282	127	4	418	1	12	4	2	17	14	874	888
14:00	4	57	0	1	61	34	0	8	0	42	1	74	42	3	117	3	3	0	0	6	4	226	230
14:15	9	63	0	3	72	36	2	4	0	42	2	75	40	2	117	0	3	1	0	4	5	235	240
14:30	4	48	0	1	52	35	1	3	1	39	2	74	51	0	127	0	2	0	0	2	2	220	222
14:45	9	66	0	2	75	43	5	9	1	57	0	74	56	2	130	0	0	0	0	0	5	262	267
Total	26	234	0	7	260	148	8	24	2	180	5	297	189	7	491	3	8	1	0	12	16	943	959
15:00	11	63	0	1	74	34	5	15	2	54	5	88	42	1	135	0	2	2	1	4	5	267	272
15:15	6	49	0	0	55	34	6	17	0	57	5	120	65	1	190	1	6	1	0	8	1	310	311
15:30	5	40	0	1	45	31	2	18	1	51	1	152	64	3	217	3	4	0	0	7	5	320	325
15:45	5	36	1	0	42	26	7	19	0	52	1	143	61	3	205	3	1	0	0	4	3	303	306
Total	27	188	1	2	216	125	20	69	3	214	12	503	232	8	747	7	13	3	1	23	14	1200	1214
16:00	13	41	0	1	54	32	2	7	1	41	1	122	63	2	186	3	8	1	1	12	5	293	298
16:15	12	57	1	1	70	38	3	12	1	53	0	139	44	2	183	7	8	0	0	15	4	321	325
16:30	15	64	0	0	79	27	8	36	1	71	3	138	51	2	192	0	14	5	1	19	4	361	365
16:45	16	57	1	1	74	46	4	11	2	61	1	164	60	1	225	0	10	3	1	13	5	373	378
Total	56	219	2	3	277	143	17	66	5	226	5	563	218	7	786	10	40	9	3	59	18	1348	1366

Anoka County Highway Department
Traffic Engineering

Traffic Volume and Turning Movement Stud

Weather: Rainy
unter TDC-8
Counted by: Ryan & Justin

File Name : TMC0009
Site Code : 00090101
Start Date : 06/13/2000
Page No : 2

Groups Printed- 1 - 1 - Unshifted

Start Time	CSAH 9 (Round Lk. Blvd.) Southbound					CSAH 20 (161st Ave. NW) Westbound					CSAH 9 (Round Lk. Blvd.) Northbound					161st Ave. NW 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				
17:00	8	62	1	0	71	39	4	12	0	55	9	170	47	2	228	0	8	0	0	8	2	360	362
17:15	3	74	1	0	78	21	4	18	0	43	0	167	52	0	219	0	10	3	0	13	0	353	353
17:30	8	54	0	1	62	49	6	10	1	65	2	141	79	1	222	0	6	2	0	8	3	357	360
17:45	15	50	0	0	65	44	2	21	0	67	9	123	64	1	198	0	15	4	0	19	1	347	348
Total	34	240	2	1	276	153	18	61	1	230	20	601	242	4	863	0	39	9	0	48	6	1417	1423
18:00	15	62	2	0	79	43	8	8	0	57	3	134	70	2	207	0	3	2	0	5	2	348	350
18:15	4	56	0	0	60	35	8	9	0	52	4	129	57	0	190	0	12	3	0	15	0	317	317
18:30	20	68	1	0	89	32	3	15	1	50	3	110	62	1	175	0	2	0	0	2	2	316	318
18:45	5	74	0	0	79	27	2	4	0	33	3	130	51	0	184	0	5	2	0	7	0	303	303
Total	44	260	3	0	307	137	19	36	1	192	13	503	240	3	756	0	22	7	0	29	4	1284	1288
19:00	6	53	0	0	59	30	1	8	1	39	0	102	32	0	134	0	4	2	0	6	1	238	239
19:15	10	42	0	0	52	18	1	18	0	37	1	99	36	0	136	0	4	0	0	4	0	229	229
19:30	8	47	0	1	55	50	4	6	0	60	6	98	52	1	156	1	0	0	0	1	2	272	274
19:45	6	34	0	0	40	16	3	4	0	23	4	71	39	1	114	1	2	1	0	4	1	181	182
Total	30	176	0	1	206	114	9	36	1	159	11	370	159	2	540	2	10	3	0	15	4	920	924
20:00	8	43	0	0	51	15	0	8	0	23	1	86	35	0	122	0	5	2	0	7	0	203	203
20:15	8	28	0	0	36	37	4	9	0	50	3	91	38	0	132	1	1	2	0	4	0	222	222
20:30	7	41	0	1	48	34	0	8	0	42	3	74	26	0	103	0	2	4	0	6	1	199	200
20:45	12	52	0	0	64	23	0	7	0	30	0	65	32	1	97	1	3	0	0	4	1	195	196
Total	35	164	0	1	199	109	4	32	0	145	7	316	131	1	454	2	11	8	0	21	2	819	821
21:00	6	32	0	0	38	25	3	10	0	38	1	72	29	0	102	0	2	0	0	2	0	180	180
21:15	4	33	0	0	37	17	1	3	0	21	1	64	26	0	91	3	0	1	0	4	0	153	153
21:30	10	15	0	0	25	12	1	7	0	20	2	56	18	0	76	0	0	0	0	0	0	121	121
21:45	6	19	0	0	25	15	0	5	0	20	1	59	24	0	84	4	2	0	0	6	0	135	135
Total	26	99	0	0	125	69	5	25	0	99	5	251	97	0	353	7	4	1	0	12	0	589	589
Grand Total	549	443	23	46	5005	226	153	552	43	2974	129	478	227	67	7188	45	215	104	7	364	163	15531	15694
Apprch %	11.0	88.6	0.5			76.3	5.1	18.6			1.8	66.6	31.6			12.4	59.1	28.6					
Total %	3.5	28.5	0.1		32.2	14.6	1.0	3.6		19.1	0.8	30.8	14.6		46.3	0.3	1.4	0.7		2.3	1.0	99.0	

Major Street Approaches:

Northbound:

CSAH 9 (Round Lk. Blvd.)

Data File: C:\Program Files\JAMAR\PETRA\Data Files\TMC0009.war

Count Type: IMC. Channel: 0. Count Date: 6/13/00

Number of Lanes: 2

Approach Speed: 55

Total Approach Traffic: 7188

Southbound:

CSAH 9 (Round Lk. Blvd.)

Data File: C:\Program Files\JAMAR\PETRA\Data Files\TMC0009.war

Count Type: IMC. Channel: 0. Count Date: 6/13/00

Number of Lanes: 1

Approach Speed: 55

Total Approach Traffic: 5005

Minor Street Approaches:

Eastbound:

161st Ave. NW

Data File: C:\Program Files\JAMAR\PETRA\Data Files\TMC0009.war

Count Type: IMC. Channel: 0. Count Date: 6/13/00

Number of Lanes: 1

Approach Speed: 35

Total Approach Traffic: 364

Westbound:

CSAH 20 (161st Ave. NW)

Data File: C:\Program Files\JAMAR\PETRA\Data Files\TMC0009.war

Count Type: IMC. Channel: 0. Count Date: 6/13/00

Number of Lanes: 2

Approach Speed: 55

Total Approach Traffic: 2974

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	W	17		140		70		112
1	0	0	W	18		140		70		112
2	0	0	W	19		140		70		112
3	0	0	W	20		140		70		112
4	0	0	W	21		140		70		112
5	0	0	W	22		140		70		112
6	845	285	W	1	--BOTH--	140	--BOTH--	70	--BOTH--	112
7	879	282	W	2	--BOTH--	140	--BOTH--	70	--BOTH--	112
8	659	213	W	6	--BOTH--	140	--BOTH--	70	--BOTH--	112
9	547	161	W	9	--BOTH--	140	SIDE	70	--BOTH--	112
10	545	152	W	12	--BOTH--	140	SIDE	70	--BOTH--	112
11	535	145	W	13	--BOTH--	140	SIDE	70	--BOTH--	112
12	628	133	W	15	MAIN	140	SIDE	70	--BOTH--	112
13	699	158	W	11	--BOTH--	140	--BOTH--	70	--BOTH--	112
14	751	180	W	8	--BOTH--	140	--BOTH--	70	--BOTH--	112
15	963	214	W	5	--BOTH--	140	--BOTH--	70	--BOTH--	112
16	1063	226	W	4	--BOTH--	140	--BOTH--	70	--BOTH--	112
17	1139	230	W	3	--BOTH--	140	--BOTH--	70	--BOTH--	112
18	1063	192	W	7	--BOTH--	140	--BOTH--	70	--BOTH--	112
19	746	159	W	10	--BOTH--	140	--BOTH--	70	--BOTH--	112
20	653	145	W	14	--BOTH--	140	--BOTH--	70	--BOTH--	112
21	478	99	W	16	MAIN	140	SIDE	70		112
22	0	0	W	23		140		70		112
23	0	0	W	24		140		70		112

Warrant Summary:

Rural values apply.

Warrant 1 - Minimum Vehicular Volumes

SATISFIED for 14 hours. Criteria--Main St.: 420; Side St.: See Volume Summary.

Warrant 2 - Interruption of Continuous Traffic

SATISFIED for 11 hours. Criteria--Main St.: 630; Side St.: See Volume Summary.

Warrant 3 - Minimum Pedestrian Volumes

NOT SATISFIED. 8th-High Hour--Pedestrians: 3; Vehicles: 659. 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: 1417.

- 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

SATISFIED for 15 hours. Criteria--Main: 504; Side: See Volume Summary.

Warrant 9 - Four Hour Volumes

SATISFIED for 10 hours.

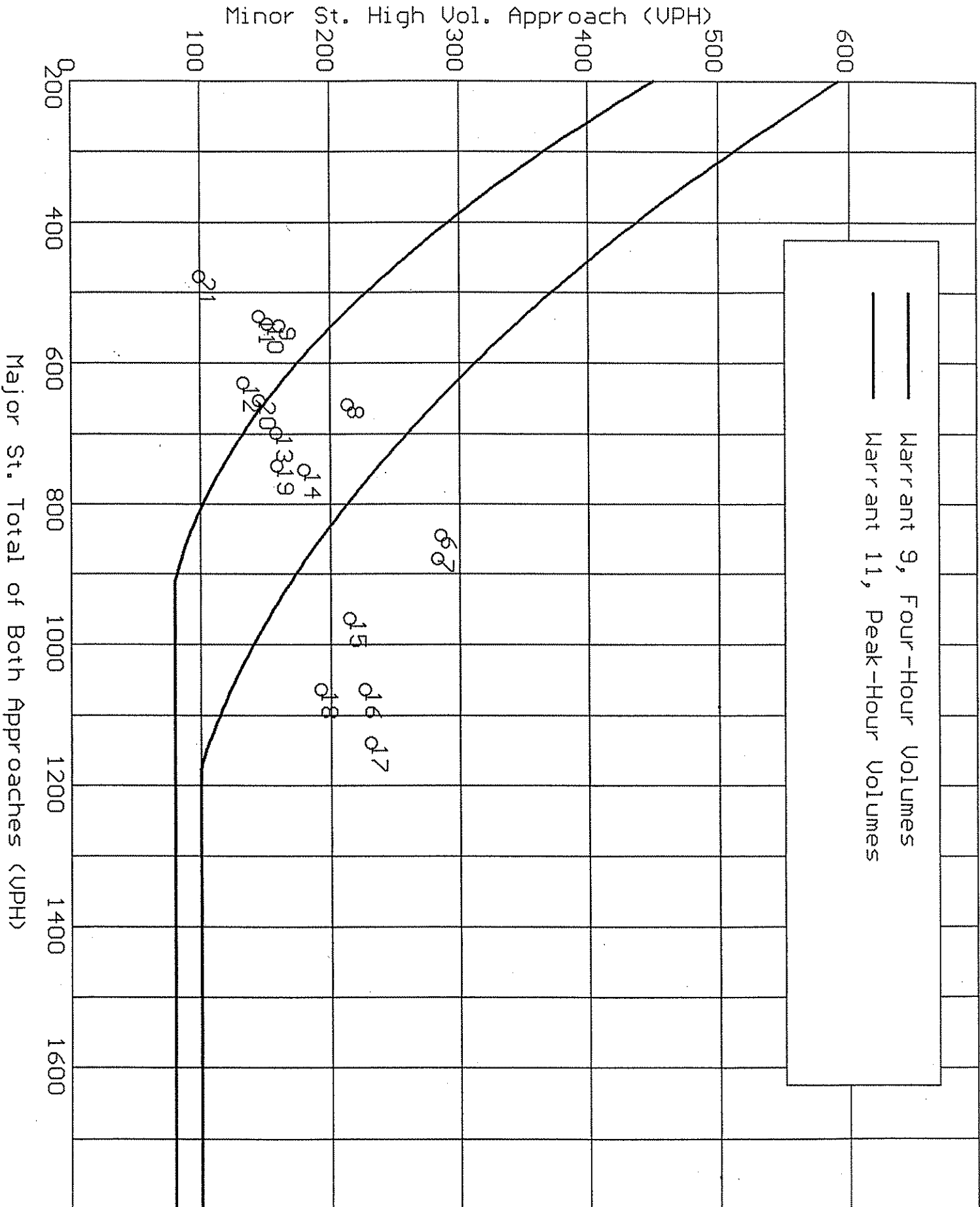
Warrant 10 - Peak Hour Delay

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 6 hours.





COUNT LOCATION:

CSAH 9 (Round Lk. Blvd.) @
CSAH 20 (161st Ave. NW)

DATE:

6/14/00

APP. #1=NB CSAH 9
(Round Lk. Blvd.)
APP. #2 =EB 161st Ave. NW
APP. #3=SB CSAH 9
(Round Lk. Blvd.)
APP. #4=WB CSAH 20
(161st Ave. NW)

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
2:00-2:15PM						4		
2:15-2:30						3	1	1
2:30-2:45						2		
2:45-3:00						5		
HOURLY TOTAL						HOURLY TOTAL		16
3:00-3:15						5		
3:15-3:30						1		
3:30-3:45						5		
3:45-4:00						3		
HOURLY TOTAL						HOURLY TOTAL		14
4:00-4:15						5		
4:15-4:30						4		
4:30-4:45						4		
4:45-5:00						5		
HOURLY TOTAL						HOURLY TOTAL		18
5:00-5:15						2		
5:15-5:30						2		
5:30-5:45						1		
5:45-6:00						1		
HOURLY TOTAL						HOURLY TOTAL		6
6:00-6:15						2		
6:15-6:30								
6:30-6:45						2		
6:45-7:00								
HOURLY TOTAL						HOURLY TOTAL		4
7:00-7:15						1		
7:15-7:30								
7:30-7:45						1	1	
7:45-8:00						1		
HOURLY TOTAL						HOURLY TOTAL		4
8:00-8:15								
8:15-8:30								
8:30-8:45						1		
8:45-9:00						1		
HOURLY TOTAL						HOURLY TOTAL		2
9:00-9:15								
9:15-9:30								
9:30-9:45								
9:45-10:00								
HOURLY TOTAL						HOURLY TOTAL		



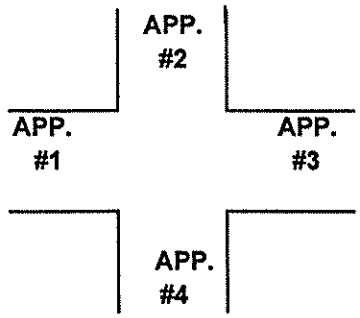
COUNT LOCATION:

CSAH 9 (Round Lk. Blvd.) @
CSAH 20 (161st Ave. NW)

DATE:

6/14/00

APP. #1=NB CSAH 9
(Round Lk. Blvd.)
APP. #2 =EB 161st Ave. NW
APP. #3=SB CSAH 9
(Round Lk. Blvd.)
APP. #4=WB CSAH 20
(161st Ave. NW)



- 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.
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 - 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						3		
6:15-6:30								
6:30-6:45						2		
6:45-7:00						4		
HOURLY TOTAL						HOURLY TOTAL		9
7:00-7:15								4
7:15-7:30						2		1
7:30-7:45						2		1
7:45-8:00						2		2
HOURLY TOTAL						HOURLY TOTAL		14
8:00-8:15						5		1
8:15-8:30						2		
8:30-8:45						3		
8:45-9:00								
HOURLY TOTAL						HOURLY TOTAL		11
9:00-9:15						4		
9:15-9:30						2		
9:30-9:45						3		
9:45-10:00						6		
HOURLY TOTAL						HOURLY TOTAL		15
10:00-10:15						4		
10:15-10:30						3		
10:30-10:45						4		
10:45-11:00						1		
HOURLY TOTAL						HOURLY TOTAL		12
11:00-11:15						6		
11:15-11:30						6		
11:30-11:45								1
11:45-12:00						5		
HOURLY TOTAL						HOURLY TOTAL		18
12:00-12:15						3		
12:15-12:30						2		
12:30-12:45						1		
12:45-1:00						3		
HOURLY TOTAL						HOURLY TOTAL		9
1:00-1:15						4		
1:15-1:30						4		
1:30-1:45						1		
1:45-2:00						5		
HOURLY TOTAL						HOURLY TOTAL		14