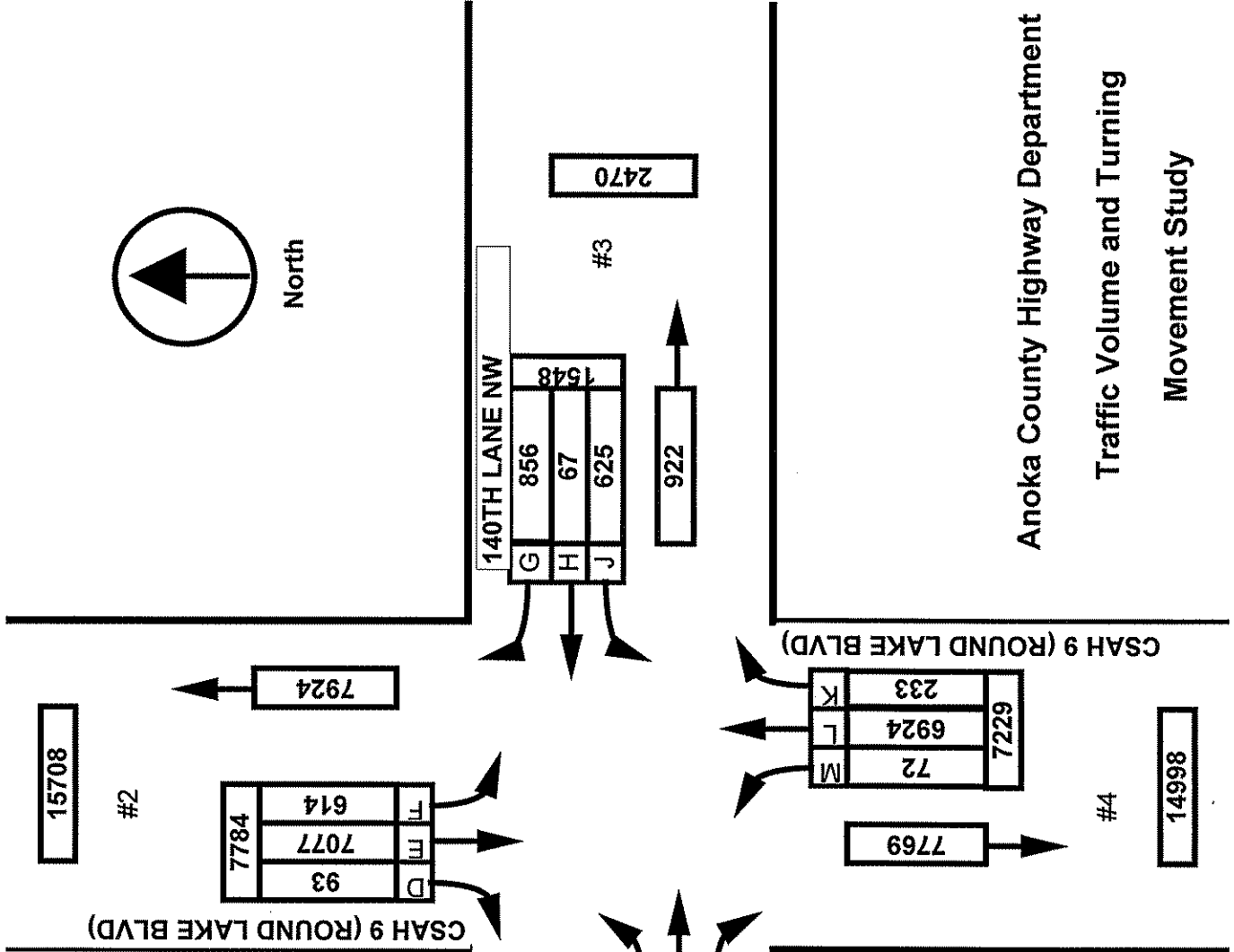


Date : 7/17/97AM 7/16/97PM

Count Number : TMC9718

Location CSAH 9 (ROUND LAKE BLVD)

@ 140TH LANE NW



Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

	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	1	0	1	2

PETRA Software

Weather :HOT, MUGGY, 90
 Counted by:SARAH AND JANELLE
 Board # :
 :her :

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 Horsham, PA.

Study Name: TMC9718
 Site Code : 97180202
 Start Date: 07/17/97
 Page : 1

Vehicle group 1

Start Time	CSAH 9 (ROUND LAKE BLV 140TH LANE NW Southbound				Westbound				CSAH 9 (ROUND LAKE BLV 140TH LANE NW Northbound				Eastbound				Intvl	Exclu	Inclu	
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other				Total
07/17/97																				
06:00	14	178	1	5	11	0	3	0	0	14	0	2	0	0	0	0	0	228	7	221
06:15	22	208	0	9	16	0	2	2	0	25	0	1	0	0	2	0	0	287	12	275
06:30	22	229	1	13	14	2	4	1	0	28	2	2	1	0	1	0	0	320	16	304
06:45	20	213	1	10	16	0	2	1	1	29	2	0	0	0	1	0	0	296	11	285
Hour	78	828	3	37	57	2	11	4	1	96	4	5	1	0	4	0	0	1131	46	1085
07:00	13	187	3	3	8	0	6	1	0	50	0	1	0	1	0	0	0	273	5	268
07:15	11	175	3	2	8	1	6	1	0	33	1	2	0	1	4	0	0	248	5	243
07:30	12	190	0	4	11	1	4	0	1	41	2	3	2	0	1	0	0	272	7	265
07:45	13	144	0	9	16	0	3	1	0	42	1	3	2	0	1	0	0	235	13	222
Hour	49	696	6	18	43	2	19	3	1	166	4	9	4	2	6	0	0	1028	30	998
08:00	12	142	0	8	10	0	6	3	0	44	1	3	0	0	0	0	0	229	14	215
08:15	12	117	0	6	13	1	4	2	0	45	0	2	2	0	1	1	1	206	11	195
08:30	11	110	1	5	10	1	2	0	1	44	3	3	3	0	0	0	0	194	8	186
08:45	2	103	0	1	10	0	1	1	0	56	5	4	1	1	0	0	0	185	6	179
Hour	37	472	1	20	43	2	13	6	1	189	9	12	6	1	1	1	1	814	39	775
09:00	12	93	1	6	9	2	4	2	0	46	1	2	2	1	0	0	0	181	10	171
09:15	8	105	0	1	13	0	9	2	0	49	3	2	3	1	0	1	1	197	6	191
09:30	11	92	2	4	4	0	9	1	0	53	3	1	2	1	1	1	1	185	7	178
09:45	5	92	1	3	10	1	7	1	0	50	1	4	3	3	0	0	0	181	8	173
Hour	36	382	4	14	36	3	29	6	0	198	8	9	10	6	1	2	2	744	31	713
10:00	3	104	2	3	7	0	4	0	0	62	3	1	5	0	1	0	0	195	4	191
10:15	7	80	2	2	5	0	5	2	1	75	3	4	1	1	0	0	0	188	8	180
10:30	6	94	0	1	4	0	4	0	3	69	2	2	2	2	3	0	0	192	3	189
10:45	10	91	1	5	5	1	9	1	3	74	3	1	1	1	2	0	0	208	7	201
Hour	26	369	5	11	21	1	22	3	7	280	11	8	9	4	6	0	0	783	22	761
11:00	4	73	0	3	10	0	8	2	0	100	1	1	1	1	2	0	0	206	6	200
11:15	10	76	0	1	4	5	9	2	0	76	4	0	0	1	2	0	0	190	3	187
11:30	9	87	1	0	5	0	9	0	0	75	0	3	2	2	3	0	0	196	3	193
11:45	3	95	2	3	4	1	11	0	0	88	0	1	2	0	0	0	0	210	4	206
Hour	26	331	3	7	23	6	37	4	0	339	5	5	5	4	7	0	0	802	16	786
12:00	5	99	3	9	4	0	11	0	1	102	0	5	1	0	0	0	0	240	14	226
12:15	7	95	6	2	5	0	16	1	0	77	2	4	2	1	2	0	0	220	7	213
12:30	5	95	1	2	12	0	9	0	1	110	1	2	2	0	0	0	0	240	4	236
12:45	9	97	2	4	5	0	10	0	0	105	6	7	2	0	0	0	0	247	11	236
Hour	26	386	12	17	26	0	46	1	2	394	9	18	7	1	2	0	0	947	36	911

Weather :HOT, MUGGY, 90
 Counted by:SARAH AND JANELLE
 Board # :
 :her :

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Study Name: TMC9718
 Site Code : 97180202
 Start Date: 07/17/97
 Page : 2

Vehicle group 1

Start Time	CSAH 9 (ROUND LAKE BLV Southbound)				140TH LANE NW Westbound				CSAH 9 (ROUND LAKE BLV Northbound)				140TH LANE NW Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
13:00	6	83	2	4	6	2	11	0	0	113	0	4	0	2	2	1	236	9	227
13:15	6	102	0	8	6	1	9	1	1	96	7	8	1	1	1	0	248	17	231
13:30	6	91	1	2	8	0	5	0	0	101	2	2	1	1	0	0	220	4	216
13:45	7	107	1	1	2	0	1	0	1	13	0	0	1	0	0	0	134	1	133
Hour	25	383	4	15	22	3	26	1	2	323	9	14	3	4	3	1	838	31	807
14:00	13	99	0	2	12	0	9	2	2	104	3	7	0	0	0	0	253	11	242
14:15	6	110	3	4	3	0	10	0	2	102	1	5	1	0	0	0	247	9	238
14:30	17	118	2	9	6	2	12	2	4	124	2	5	2	0	1	0	306	16	290
14:45	9	96	2	4	5	3	11	2	1	119	4	3	1	0	1	0	261	9	252
Hour	45	423	7	19	26	5	42	6	9	449	10	20	4	0	2	0	1067	45	1022
15:00	3	92	1	2	14	1	21	0	3	139	8	6	4	0	1	0	295	8	287
15:15	7	98	0	1	10	2	20	0	1	199	1	8	1	0	3	1	352	10	342
15:30	11	104	2	5	12	1	31	0	0	137	4	4	3	3	1	0	318	9	309
15:45	9	108	2	1	12	1	31	0	1	188	9	1	4	2	1	0	370	2	368
Hour	30	402	5	9	48	5	103	0	5	663	22	19	12	5	6	1	1335	29	1306
16:00	16	87	3	1	16	2	34	1	0	206	6	4	3	4	2	0	385	6	379
16:15	11	93	1	0	17	3	21	1	2	184	7	3	5	3	0	1	352	5	347
16:30	0	109	3	5	11	1	24	0	0	214	1	0	6	1	1	0	376	5	371
16:45	16	114	2	4	12	2	28	2	2	205	9	1	1	0	1	0	399	7	392
Hour	43	403	9	10	56	8	107	4	4	809	23	8	15	8	4	1	1512	23	1489
17:00	3	113	2	2	13	4	24	0	2	247	8	2	4	2	2	1	429	5	424
17:15	8	124	2	4	9	3	30	0	4	203	8	2	5	2	0	0	404	6	398
17:30	8	109	3	0	11	2	23	1	4	223	5	0	8	2	1	0	400	1	399
17:45	10	95	2	0	24	0	23	0	0	247	10	1	7	3	2	0	424	1	423
Hour	29	441	9	6	57	9	100	1	10	920	31	5	24	9	5	1	1657	13	1644
18:00	13	132	4	4	14	0	22	0	3	195	11	4	5	5	4	0	416	8	408
18:15	7	92	1	1	8	1	28	0	3	162	8	2	2	1	2	1	319	4	315
18:30	14	122	1	2	15	3	23	0	4	149	4	2	3	2	1	0	345	4	341
18:45	7	122	2	0	16	2	24	0	4	156	6	2	3	1	2	0	347	2	345
Hour	41	468	8	7	53	6	97	0	14	662	29	10	13	9	9	1	1427	18	1409
19:00	9	111	1	0	9	1	20	1	1	163	7	1	1	2	0	0	327	2	325
19:15	13	91	0	1	7	1	17	0	1	137	6	0	3	2	0	0	279	1	278
19:30	13	85	1	1	6	2	20	0	0	113	7	0	0	4	0	0	252	1	251
19:45	6	121	6	0	11	3	17	0	4	137	11	1	8	3	2	0	330	1	329
Hour	41	408	8	2	33	7	74	1	6	550	31	2	12	11	2	0	1188	5	1183

Weather :HOT, MUGGY, 90
 Counted by:SARAH AND JANELLE
 Board # :
 ther :

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Study Name: TMC9718
 Site Code : 97180202
 Start Date: 07/17/97
 Page : 3

Vehicle group 1

Start Time	CSAH 9 (ROUND LAKE BLV 140TH LANE NW Southbound				Westbound				CSAH 9 (ROUND LAKE BLV 140TH LANE NW Northbound				Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
20:00	15	103	2	2	23	3	26	0	1	119	5	1	4	4	3	0	311	3	308
20:15	11	74	1	0	12	0	17	1	2	129	4	2	4	0	0	0	257	3	254
20:30	15	97	3	3	13	2	16	2	1	110	5	0	1	0	1	0	269	5	264
20:45	11	91	0	1	8	2	23	1	3	117	6	3	2	0	1	0	269	5	264
Hour	52	365	6	6	56	7	82	4	7	475	20	6	11	4	5	0	1106	16	1090
21:00	8	90	2	4	4	1	12	1	0	119	1	0	1	1	2	0	246	5	241
21:15	8	89	0	0	12	0	13	1	1	110	3	1	3	0	1	0	242	2	240
21:30	5	76	0	0	4	0	6	0	2	88	1	0	1	0	1	0	184	0	184
21:45	9	65	1	0	5	0	17	0	0	94	3	0	3	6	0	0	203	0	203
Hour	30	320	3	4	25	1	48	2	3	411	8	1	8	7	4	0	875	7	868
Total	614	7077	93	202	625	67	856	46	72	6924	233	151	144	75	67	8	17254	407	16847
% Apr.	7.6	88.6	1.1	2.5	39.2	4.2	53.7	2.8	0.9	93.8	3.1	2.0	48.9	25.5	22.7	2.7	-	-	-
% Int.	3.5	41.0	0.5	1.1	3.6	0.3	4.9	0.2	0.4	40.1	1.3	0.8	0.8	0.4	0.3	-	-	-	-

Major Street Approaches:

Northbound:

CSAH 9 (ROUND LAKE BLVD)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9718.PDF
 Count Type: IMC. Channel: 0. Count Date: 7/17/97
 Number of Lanes: 1
 Approach Speed: 45
 Total Approach Traffic: 7229

Southbound:

CSAH 9 (ROUND LAKE BLVD)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9718.PDF
 Count Type: IMC. Channel: 0. Count Date: 7/17/97
 Number of Lanes: 1
 Approach Speed: 45
 Total Approach Traffic: 7784

Minor Street Approaches:

Eastbound:

140TH LANE NW

Data File: C:\APPS\PETRA2\DATAFILE\TMC9718.PDF
 Count Type: IMC. Channel: 0. Count Date: 7/17/97
 Number of Lanes: 1
 Approach Speed: 45
 Total Approach Traffic: 286

Westbound:

140TH LANE NW

Data File: C:\APPS\PETRA2\DATAFILE\TMC9718.PDF
 Count Type: IMC. Channel: 0. Count Date: 7/17/97
 Number of Lanes: 1
 Approach Speed: 45
 Total Approach Traffic: 1548

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	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	1010	70	W	10	MAIN	105	--BOTH--	52	MAIN	84
7	922	64	W	13	MAIN	105	--BOTH--	52	MAIN	84
8	709	58	W	14	MAIN	105	--BOTH--	52	MAIN	84
9	628	68	W	11	MAIN	105	--BOTH--	52	MAIN	84
10	698	44	W	16	MAIN	105	MAIN	52	MAIN	84
11	704	66	W	12	MAIN	105	--BOTH--	52	MAIN	84
12	829	72	W	9	MAIN	105	--BOTH--	52	MAIN	84
13	746	51	W	15	MAIN	105	MAIN	52	MAIN	84
14	943	73	W	8	MAIN	105	--BOTH--	52	MAIN	84
15	1127	156	W	3	--BOTH--	105	--BOTH--	52	--BOTH--	84
16	1291	171	W	1	--BOTH--	105	--BOTH--	52	--BOTH--	84
17	1440	166	W	2	--BOTH--	105	--BOTH--	52	--BOTH--	84
18	1222	156	W	4	--BOTH--	105	--BOTH--	52	--BOTH--	84
19	1044	114	W	6	--BOTH--	105	--BOTH--	52	--BOTH--	84
20	925	145	W	5	--BOTH--	105	--BOTH--	52	--BOTH--	84
21	775	74	W	7	MAIN	105	--BOTH--	52	MAIN	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 6 hours. Criteria--Main St.: 350; Side St.: See Volume Summary.

Warrant 2 - Interruption of Continuous Traffic

SATISFIED for 14 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. At least one street has no major approaches. Peak hour total entering volume: 1644.

- 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 6 hours. Criteria--Main: 420; Side: See Volume Summary.

Warrant 9 - Four Hour Volumes

SATISFIED for 11 hours.

Warrant 10 - Peak Hour Delay

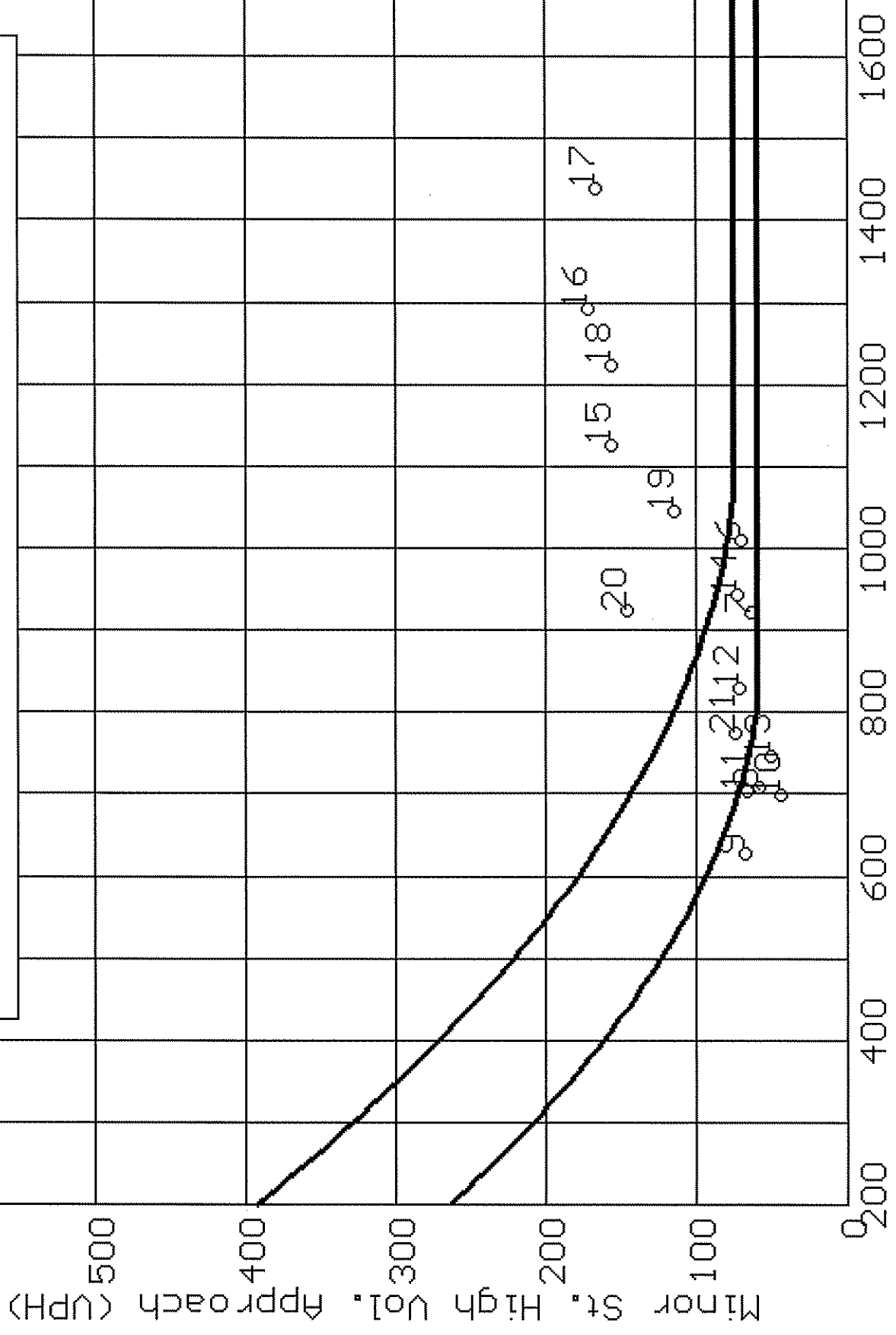
NOT APPLICABLE. Volume requirements satisfied, but side street peak hour delay not defined.

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

Warrant 11 - Peak Hour Volume

SATISFIED for 6 hours.

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



Major St. Total of Both Approaches (VPH)



NORTH

COUNT LOCATION: TMC 9718 CSAH 9(ROUND LK BLV @140TH LANE NW

DATE:

7/17/97

APP. #1=SB CSAH 9 (ROUND LAKE BLVD)

APP. #2 =WB 140TH LANE NW

APP. #3=NB CSAH 9 (ROUND LAKE BLVD)

APP. #4=EB 140TH LANE NW

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						6		1
6:15-6:30						10		
6:30-6:45						14		
6:45-7:00						9		1
HOURLY TOTAL						HOURLY TOTAL		41
7:00-7:15						4		
7:15-7:30						3		2
7:30-7:45			4		4	5		2
7:45-8:00		1			1	12		3
HOURLY TOTAL					5	HOURLY TOTAL		31
8:00-8:15	2				2	13	1	
8:15-8:30						10		1
8:30-8:45	1				1	8		
8:45-9:00						6		
HOURLY TOTAL					3	HOURLY TOTAL		39
9:00-9:15						8	2	
9:15-9:30			2		2	6		
9:30-9:45						6	1	
9:45-10:00						8		
HOURLY TOTAL					2	HOURLY TOTAL		31
10:00-10:15						4		
10:15-10:30						5	1	
10:30-10:45						3		
10:45-11:00	1				1	8		
HOURLY TOTAL					1	HOURLY TOTAL		21
11:00-11:15						4		1
11:15-11:30						3		
11:30-11:45		2				4		
11:45-12:00	1		1		2	4		
HOURLY TOTAL					2	HOURLY TOTAL		16
12:00-12:15						12	1	
12:15-12:30						6	1	
12:30-12:45						3	1	
12:45-1:00			1		1	9	1	1
HOURLY TOTAL					1	HOURLY TOTAL		35
1:00-1:15			1		1	13		
1:15-1:30			3		3	13	1	
1:30-1:45		3	1		4	4		
1:45-2:00	2	1			3	3		
HOURLY TOTAL					11	HOURLY TOTAL		34



NORTH

COUNT LOCATION: TMC 9718 CSAH 9(ROUND LK BLV
@140TH LANE NW

DATE:

7/16/97

APP. #1=SB CSAH 9
(ROUND LAKE BLVD)

APP. #2 =WB
140TH LANE NW

APP. #3=NB CSAH 9
(ROUND LAKE BLVD)

APP. #4=EB
140TH LANE NW

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		1
2:15-2:30						9		1
2:30-2:45						11	2	1
2:45-3:00						7	2	
HOURLY TOTAL						HOURLY TOTAL		45
3:00-3:15		2	1	1	4	9		
3:15-3:30						9		
3:30-3:45	1				1	8		
3:45-4:00						2		
HOURLY TOTAL					5	HOURLY TOTAL		28
4:00-4:15						5		
4:15-4:30			2		2	4		
4:30-4:45						5		
4:45-5:00						4	2	
HOURLY TOTAL					2	HOURLY TOTAL		20
5:00-5:15						5		
5:15-5:30			1		1	5		
5:30-5:45								
5:45-6:00		1			1			
HOURLY TOTAL					2	HOURLY TOTAL		10
6:00-6:15			5		5	8		
6:15-6:30			2		2	4		
6:30-6:45	1	1			2	3		
6:45-7:00						2		
HOURLY TOTAL					9	HOURLY TOTAL		17
7:00-7:15						1		
7:15-7:30						1		
7:30-7:45		1	1		2	1		
7:45-8:00			12		12	1		
HOURLY TOTAL					14	HOURLY TOTAL		4
8:00-8:15			7		7	3		
8:15-8:30		2	4		6	3		
8:30-8:45						3	1	
8:45-9:00						3	2	
HOURLY TOTAL					13	HOURLY TOTAL		15
9:00-9:15						4		
9:15-9:30			5		5	1	1	
9:30-9:45			13		13			
9:45-10:00			3		3			
HOURLY TOTAL					21	HOURLY TOTAL		6