

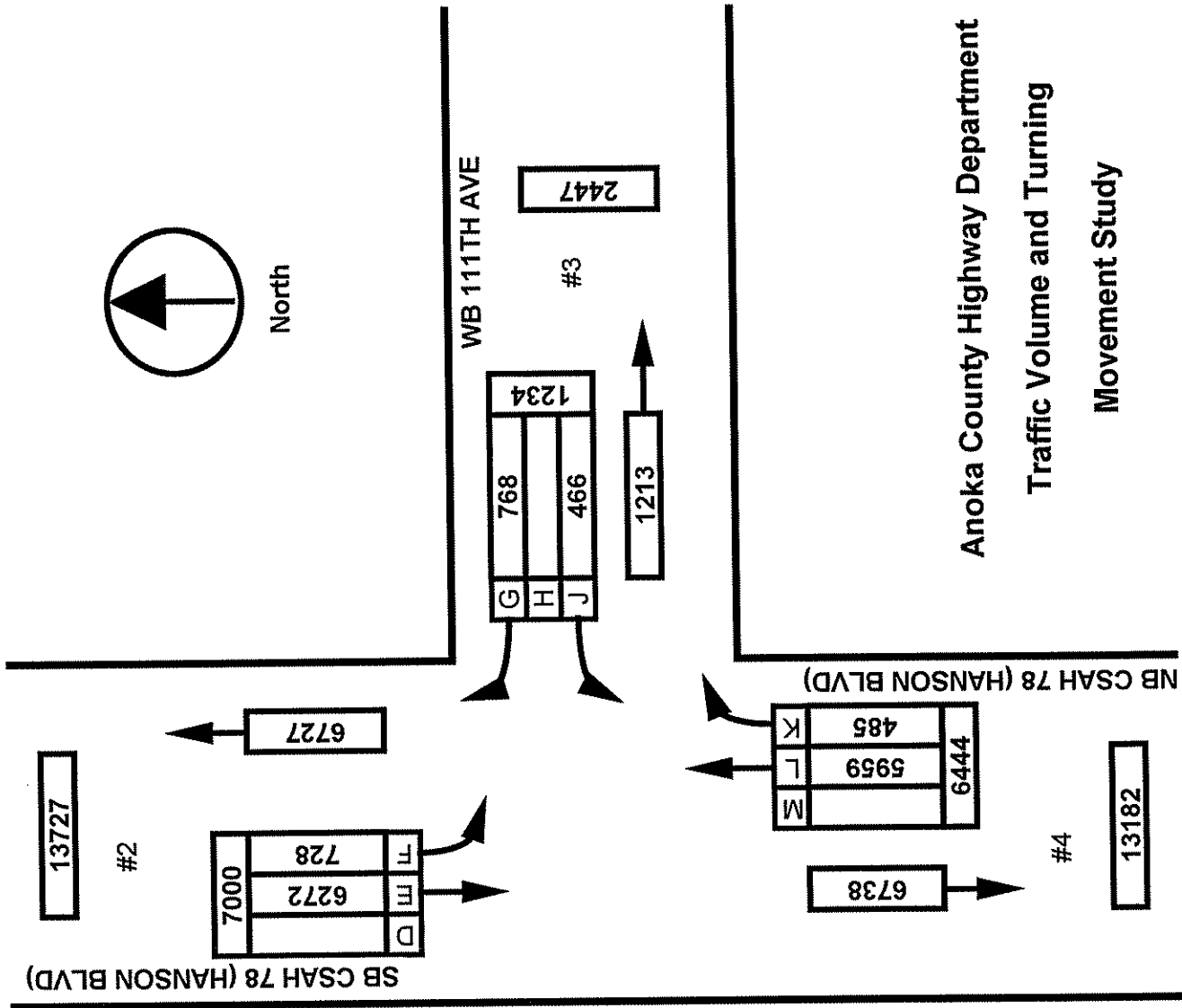
Date : 1/10/97AM 17/197PM

Count Number : TMC9706

Location : CSAH 78 (HANSON BLVD) @

111TH AVE.

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



Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

PETRA Software

Copyright (C) 1990, 1995

Jamar Technologies, Inc.

Horsham, PA.

Study Name: TMC9706

Site Code : 97060202

Start Date: 01/10/97

Page : 1

Vehicle group 1

Start Time	CSAH 78 (HANSON BLVD) Southbound			111TH AVE. Westbound			CSAH 78 (HANSON BLVD) Northbound			Intrvl. Total	Exclude Total	Include Total
	Left	Thru	Other	Left	Right	Other	Thru	Right	Other			
01/10/97												
06:00	3	99	3	4	4	1	31	3	1	149	5	144
06:15	7	165	3	5	2	0	60	5	3	250	6	244
06:30	6	159	3	5	0	0	60	3	2	238	5	233
06:45	15	160	8	4	2	0	71	8	3	271	11	260
Hour	31	583	17	18	8	1	222	19	9	908	27	881
07:00	9	186	5	5	6	1	97	3	7	319	13	306
07:15	15	166	15	9	13	2	113	10	3	346	20	326
07:30	24	205	2	11	5	4	93	3	5	352	11	341
07:45	13	179	12	2	16	9	83	5	4	323	25	298
Hour	61	736	34	27	40	16	386	21	19	1340	69	1271
08:00	15	130	5	9	16	11	74	9	2	271	18	253
08:15	16	87	7	7	3	1	58	8	1	188	9	179
08:30	6	91	9	3	2	0	65	11	14	201	23	178
08:45	16	80	7	6	8	2	69	9	8	205	17	188
Hour	53	388	28	25	29	14	266	37	25	865	67	798
09:00	11	70	6	4	20	1	62	11	8	193	15	178
09:15	5	73	5	6	11	1	62	5	6	174	12	162
09:30	10	60	3	4	7	1	51	10	2	148	6	142
09:45	6	64	4	8	5	2	62	10	5	166	11	155
Hour	32	267	18	22	43	5	237	36	21	681	44	637
10:00	10	68	4	5	9	2	51	4	6	159	12	147
10:15	10	54	3	4	8	1	63	9	5	157	9	148
10:30	15	94	7	4	6	0	62	8	2	198	9	189
10:45	7	68	4	8	9	4	54	8	0	162	8	154
Hour	42	284	18	21	32	7	230	29	13	676	38	638
11:00	4	61	5	4	2	1	73	5	3	158	9	149
11:15	4	54	2	5	4	0	81	3	4	157	6	151
11:30	7	80	9	7	7	0	67	13	4	194	13	181
11:45	25	89	9	4	8	3	76	11	11	236	23	213
Hour	40	284	25	20	21	4	297	32	22	745	51	694
12:00	10	95	4	12	25	4	84	4	3	241	11	230
12:15	9	63	3	2	12	2	61	5	0	157	5	152
12:30	7	68	1	4	9	0	78	8	2	177	3	174
12:45	7	92	3	9	10	3	80	10	5	219	11	208
Hour	33	318	11	27	56	9	303	27	10	794	30	764

Vehicle group 1

Start Time	CSAH 78 (HANSON BLVD) Southbound			111TH AVE. Westbound			CSAH 78 (HANSON BLVD) Northbound			Intrvl. Total	Exclude Total	Include Total
	Left	Thru	Other	Left	Right	Other	Thru	Right	Other			
13:00	5	72	3	9	12	2	75	12	5	195	10	185
13:15	4	81	3	2	12	1	79	9	5	196	9	187
13:30	1	71	1	6	3	0	70	9	3	164	4	160
13:45	10	73	3	7	2	0	74	6	2	177	5	172
Hour	20	297	10	24	29	3	298	36	15	732	28	704
14:00	5	74	6	3	11	1	98	7	6	211	13	198
14:15	16	148	14	4	10	3	88	8	4	295	21	274
14:30	17	120	10	9	10	0	93	7	9	275	19	256
14:45	9	132	21	13	29	16	100	4	3	327	40	287
Hour	47	474	51	29	60	20	379	26	22	1108	93	1015
15:00	17	116	10	8	10	4	111	7	3	286	17	269
15:15	5	107	6	6	10	2	124	9	8	277	16	261
15:30	10	92	1	14	28	0	105	18	6	274	7	267
15:45	8	106	3	12	19	0	129	7	4	288	7	281
Hour	40	421	20	40	67	6	469	41	21	1125	47	1078
16:00	11	114	5	14	15	3	132	11	2	307	10	297
16:15	6	102	4	16	16	1	146	6	9	306	14	292
16:30	6	92	0	15	16	1	157	8	3	298	4	294
16:45	9	121	2	7	14	0	173	7	0	333	2	331
Hour	32	429	11	52	61	5	608	32	14	1244	30	1214
17:00	8	132	1	9	11	0	168	9	4	342	5	337
17:15	2	108	3	9	8	0	182	7	5	324	8	316
17:30	7	107	2	7	10	0	189	10	1	333	3	330
17:45	9	114	1	9	13	0	155	8	4	313	5	308
Hour	26	461	7	34	42	0	694	34	14	1312	21	1291
18:00	10	119	1	6	15	0	147	8	3	309	4	305
18:15	21	116	2	7	9	1	162	7	3	328	6	322
18:30	67	131	0	20	39	0	126	15	0	398	0	398
18:45	51	121	0	17	30	0	155	18	0	392	0	392
Hour	149	487	3	50	93	1	590	48	6	1427	10	1417
19:00	18	88	0	7	11	0	91	10	0	225	0	225
19:15	5	77	1	7	5	0	79	5	1	180	2	178
19:30	15	88	3	9	11	1	78	9	0	214	4	210
19:45	44	90	0	5	6	0	85	10	0	240	0	240
Hour	82	343	4	28	33	1	333	34	1	859	6	853

PETRA Software

Copyright (C) 1990, 1995

Jamar Technologies, Inc.

Horsham, PA.

Study Name: TMC9706

Site Code : 97060202

Start Date: 01/10/97

Page : 3

Weather :
 Counted by:
 Board # :
 Other :

Vehicle group 1

Start Time	CSAH 78 (HANSON BLVD) Southbound			111TH AVE. Westbound			CSAH 78 (HANSON BLVD) Northbound			Intrvl. Total	Exclude Total	Include Total
	Left	Thru	Other	Left	Right	Other	Thru	Right	Other			
20:00	10	71	0	18	85	0	143	3	0	330	0	330
20:15	5	63	0	6	26	0	66	6	1	173	1	172
20:30	8	60	0	6	7	0	76	4	1	162	1	161
20:45	2	65	0	3	11	0	73	4	1	159	1	158
Hour	25	259	0	33	129	0	358	17	3	824	3	821
21:00	3	60	0	8	12	0	88	6	0	177	0	177
21:15	3	71	1	2	9	0	59	2	1	148	2	146
21:30	3	57	1	2	1	0	77	3	0	144	1	143
21:45	6	53	0	4	3	0	65	5	0	136	0	136
Hour	15	241	2	16	25	0	289	16	1	605	3	602
Total	728	6272	259	466	768	92	5959	485	216	15245	567	14678
% Apr.	10.0	86.4	3.5	35.1	57.9	6.9	89.4	7.2	3.2	-	-	-
% Int.	4.7	41.1	1.6	3.0	5.0	0.6	39.0	3.1	1.4	-	-	-

Major Street Approaches:

Northbound:

CSAH 78 (HANSON BLVD)
 Data File: C:\APPS\PETRA2\DATAFILE\TMC9706.PDF
 Count Type: IMC. Channel: 0. Count Date: 1/10/97
 Number of Lanes: 2
 Approach Speed: 40
 Total Approach Traffic: 6444

Southbound:

CSAH 78 (HANSON BLVD)
 Data File: C:\APPS\PETRA2\DATAFILE\TMC9706.PDF
 Count Type: IMC. Channel: 0. Count Date: 1/10/97
 Number of Lanes: 2
 Approach Speed: 40
 Total Approach Traffic: 7000

Minor Street Approaches:

Eastbound:

Data File: C:\APPS\PETRA2\DATAFILE\TMC9706.PDF
 Count Type: IMC. Channel: 0. Count Date: 1/10/97
 Number of Lanes: 1
 Approach Speed: 0
 Total Approach Traffic: 0

Westbound:

111TH AVE.
 Data File: C:\APPS\PETRA2\DATAFILE\TMC9706.PDF
 Count Type: IMC. Channel: 0. Count Date: 1/10/97
 Number of Lanes: 2
 Approach Speed: 0
 Total Approach Traffic: 1234

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

Hour	Main	Side			Warrant 1		Warrant 2		Warrant 3	
Begin	(Total)	Vol.	Dir.	Rank	Meets?	Criteria	Meets?	Criteria	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	855	26	W	16	MAIN	200		100	MAIN	160
7	1204	67	W	8	MAIN	200	MAIN	100	MAIN	160
8	744	54	W	11	MAIN	200		100	MAIN	160
9	572	65	W	9		200		100		160
10	585	53	W	12		200		100		160
11	653	41	W	14	MAIN	200		100		160
12	681	83	W	6	MAIN	200		100		160
13	651	53	W	13	MAIN	200		100		160
14	926	89	W	5	MAIN	200	MAIN	100	MAIN	160
15	971	107	W	4	MAIN	200	--BOTH--	100	MAIN	160
16	1101	113	W	3	MAIN	200	--BOTH--	100	MAIN	160
17	1215	76	W	7	MAIN	200	MAIN	100	MAIN	160
18	1274	143	W	2	MAIN	200	--BOTH--	100	MAIN	160
19	792	61	W	10	MAIN	200		100	MAIN	160
20	659	162	W	1	MAIN	200	SIDE	100	SIDE	160
21	561	41	W	15		200		100		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

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

Warrant 2 - Interruption of Continuous Traffic

NOT SATISFIED. Required values reached for 3 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: 1417.

- 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 0 hours. Criteria--Main: 720; Side: See Volume Summary.

Warrant 9 - Four Hour Volumes

NOT SATISFIED. Required values reached for 1 hours.

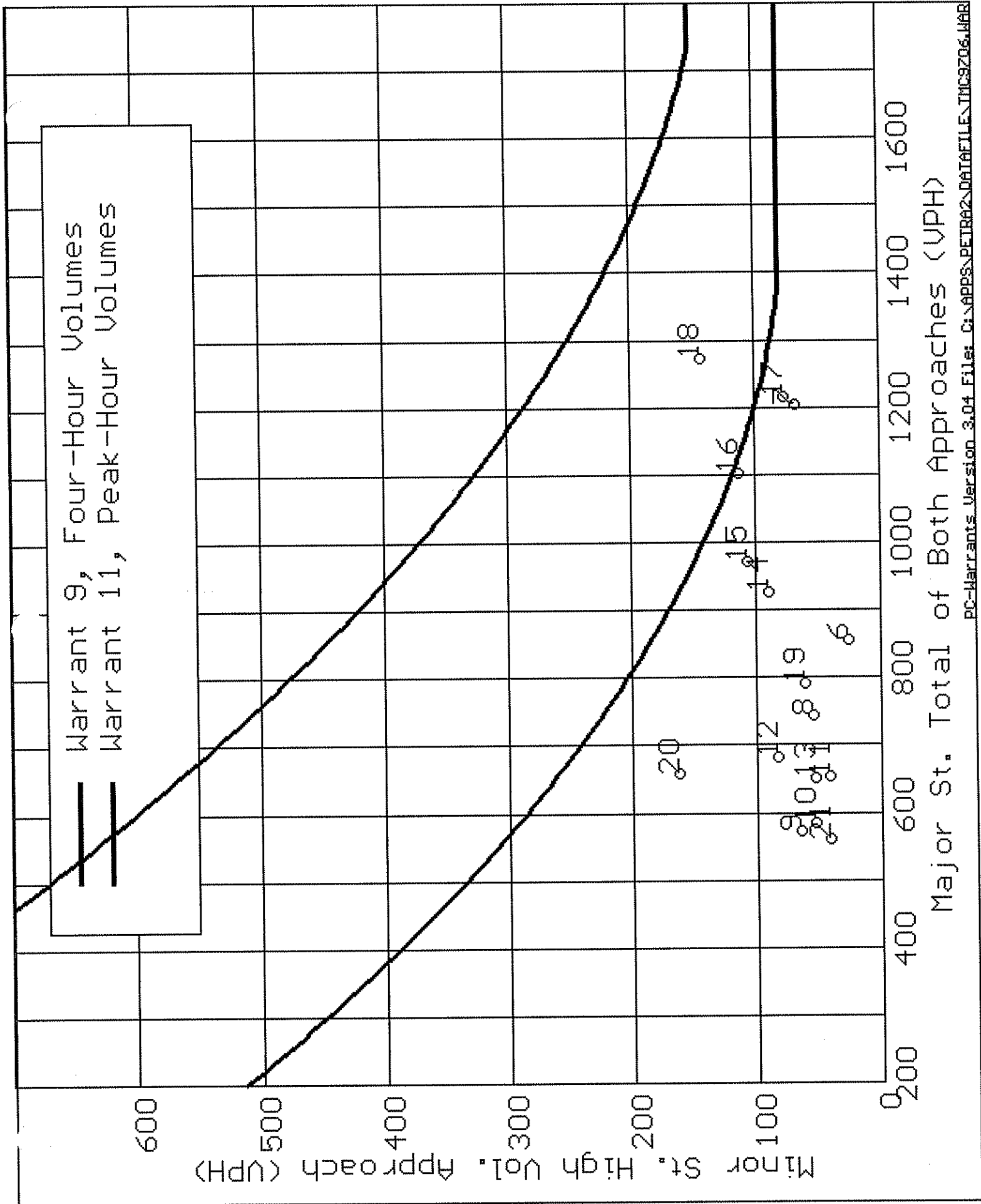
Warrant 10 - Peak Hour Delay

NOT SATISFIED. Peak hour (1800 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 (VPH)



COUNT LOCATION:

CSAH 78 (HANSON BLVD) @
111TH AVE NW

DATE:

1/7/97

APP. #1 =SB CSAH 78
(HANSON BLVD)
APP. #2=WB 111TH AVE
APP. #3=NB CSAH 78
(HANSON BLVD)

APP.
#1

APP.
#2

APP.
#3

- 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						2		2
6:15-6:30						2		3
6:30-6:45						1		4
6:45-7:00						2		9
HOURLY TOTAL						HOURLY TOTAL		25
7:00-7:15						5		8
7:15-7:30						4		15
7:30-7:45						5		6
7:45-8:00						2		23
HOURLY TOTAL						HOURLY TOTAL		68
8:00-8:15						2		16
8:15-8:30						3		6
8:30-8:45						10		13
8:45-9:00						10		7
HOURLY TOTAL						HOURLY TOTAL		67
9:00-9:15						7		8
9:15-9:30						10		2
9:30-9:45						5		1
9:45-10:00						11		
HOURLY TOTAL						HOURLY TOTAL		44
10:00-10:15						12		
10:15-10:30						7		2
10:30-10:45						5		4
10:45-11:00						5		3
HOURLY TOTAL						HOURLY TOTAL		38
11:00-11:15						7		1
11:15-11:30						4		3
11:30-11:45						10		3
11:45-12:00						13		10
HOURLY TOTAL						HOURLY TOTAL		51
12:00-12:15						4		7
12:15-12:30						2		3
12:30-12:45						3		1
12:45-1:00						9		2
HOURLY TOTAL						HOURLY TOTAL		31
1:00-1:15						9		1
1:15-1:30						8		1
1:30-1:45						3		
1:45-2:00						5		1
HOURLY TOTAL						HOURLY TOTAL		28



COUNT LOCATION:

CSAH 78 (HANSON BLVD) @
111TH AVE NW

DATE:

1/7/97

APP. #1 =SB CSAH 78
(HANSON BLVD)
APP. #2=WB 111TH AVE
APP. #3=NB CSAH 78
(HANSON BLVD)

APP.
#1

APP.
#2

APP.
#3

- 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						13		
2:15-2:30						13		8
2:30-2:45						8		6
2:45-3:00				3	3	5		39
HOURLY TOTAL					3	HOURLY TOTAL		92
3:00-3:15						9		8
3:15-3:30						10		6
3:30-3:45						2		5
3:45-4:00						4		3
HOURLY TOTAL						HOURLY TOTAL		47
4:00-4:15						1		9
4:15-4:30						5		9
4:30-4:45						2		2
4:45-5:00						2		
HOURLY TOTAL						HOURLY TOTAL		30
5:00-5:15						2		3
5:15-5:30						6		2
5:30-5:45						2		1
5:45-6:00						3		2
HOURLY TOTAL						HOURLY TOTAL		21
6:00-6:15						1		3
6:15-6:30						5		1
6:30-6:45								
6:45-7:00								
HOURLY TOTAL						HOURLY TOTAL		10
7:00-7:15								
7:15-7:30						2		
7:30-7:45						4		
7:45-8:00								
HOURLY TOTAL						HOURLY TOTAL		6
8:00-8:15								
8:15-8:30						1		
8:30-8:45						1		
8:45-9:00						1		
HOURLY TOTAL						HOURLY TOTAL		3
9:00-9:15								
9:15-9:30						2		
9:30-9:45						1		
9:45-10:00								
HOURLY TOTAL						HOURLY TOTAL		3