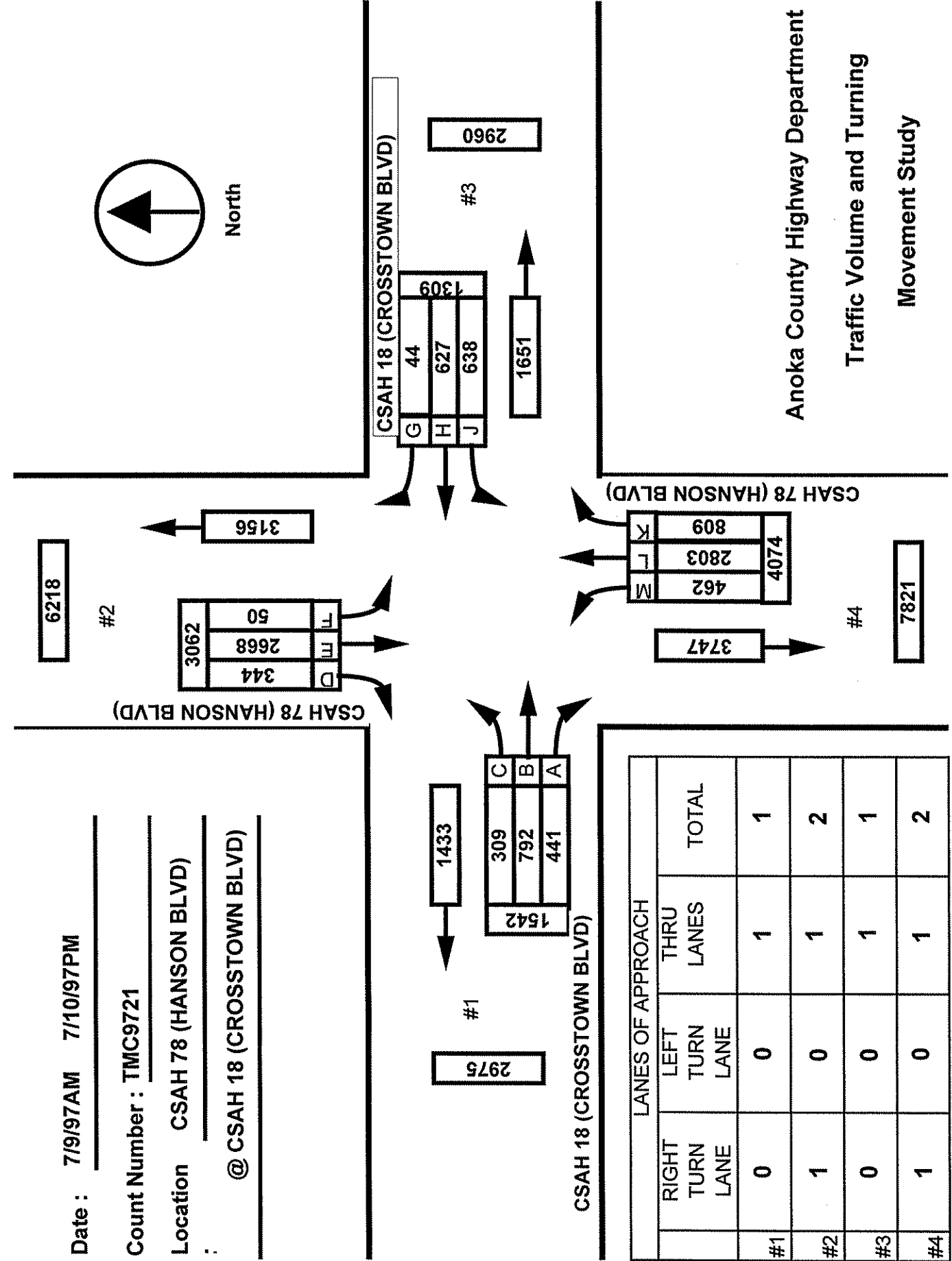


Date : 7/9/97AM 7/10/97PM

Count Number : TMC9721

Location CSAH 78 (HANSON BLVD)
 : @ CSAH 18 (CROSSTOWN BLVD)



	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

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

PETRA Software

Weather :SUNNY AND 80
 Counted by:SARAH AND JANELLE
 Board # :
 :her :

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 Horsham, PA.

Study Name: TMC9721
 Site Code : 97210202
 Start Date: 07/10/97
 Page : 1

Vehicle group 1

Start Time	CSAH 78 (HANSON BLVD) Southbound				CSAH 18 (CROSSTOWN BLV) Westbound				CSAH 78 (HANSON BLVD) Northbound				CSAH 18 (CROSSTOWN BLV) Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
07/10/97																			
06:00	0	81	5	2	26	19	0	0	1	10	3	0	2	4	3	0	156	2	154
06:15	1	69	9	3	17	14	0	0	5	18	8	1	0	2	1	0	148	4	144
06:30	1	84	5	0	26	14	0	0	3	15	8	2	2	5	5	3	173	5	168
06:45	0	89	4	3	14	19	0	1	7	19	14	5	6	10	3	2	196	11	185
Hour	2	323	23	8	83	66	0	1	16	62	33	8	10	21	12	5	673	22	651
07:00	0	71	4	3	17	17	0	1	6	21	11	2	0	2	5	2	162	8	154
07:15	0	91	4	0	20	18	1	1	4	20	9	2	1	6	3	1	181	4	177
07:30	0	83	7	2	19	23	1	1	4	24	9	2	2	9	6	2	194	7	187
07:45	1	71	10	4	18	10	0	2	3	17	11	2	1	9	4	1	164	9	155
Hour	1	316	25	9	74	68	2	5	17	82	40	8	4	26	18	6	701	28	673
08:00	0	49	1	4	15	15	1	3	13	24	5	4	1	8	1	0	144	11	133
08:15	0	48	3	2	13	2	1	2	4	22	10	8	2	3	6	3	129	15	114
08:30	1	54	9	2	13	16	0	1	5	21	6	1	2	4	2	1	138	5	133
08:45	0	49	4	2	13	7	0	1	11	25	4	2	3	8	10	2	141	7	134
Hour	1	200	17	10	54	40	2	7	33	92	25	15	8	23	19	6	552	38	514
09:00	0	30	2	1	14	11	0	2	7	29	7	2	2	9	3	1	120	6	114
09:15	0	32	3	0	4	13	0	1	11	28	8	4	3	7	1	0	115	5	110
09:30	0	37	8	2	9	2	1	1	7	29	10	2	2	8	5	0	123	5	118
09:45	0	45	4	1	2	3	2	1	11	34	7	0	7	3	13	0	133	2	131
Hour	0	144	17	4	29	29	3	5	36	120	32	8	14	27	22	1	491	18	473
10:00	1	37	6	0	8	5	1	1	10	23	4	0	8	13	6	2	125	3	122
10:15	1	38	3	2	7	6	1	0	4	31	9	5	7	8	5	1	128	8	120
10:30	0	45	9	4	6	10	0	0	6	30	4	2	2	5	10	2	135	8	127
10:45	2	28	4	3	5	7	0	0	12	33	7	3	5	14	10	4	137	10	127
Hour	4	148	22	9	26	28	2	1	32	117	24	10	22	40	31	9	525	29	496
11:00	0	26	2	1	6	9	1	1	15	41	8	3	2	13	15	2	145	7	138
11:15	1	31	9	2	0	8	1	2	7	27	10	4	3	8	10	2	125	10	115
11:30	0	28	5	4	5	8	0	2	5	36	6	3	5	9	2	3	121	12	109
11:45	0	28	2	0	12	5	0	2	6	41	13	4	6	14	8	0	141	6	135
Hour	1	113	18	7	23	30	2	7	33	145	37	14	16	44	35	7	532	35	497
12:00	0	26	2	1	12	5	0	3	4	33	6	0	4	7	12	1	116	5	111
12:15	1	26	1	2	7	6	0	0	4	28	14	3	2	5	11	1	111	6	105
12:30	2	34	0	4	7	6	1	1	6	41	13	5	1	7	4	1	133	11	122
12:45	0	37	4	3	9	12	1	5	6	23	13	4	5	8	3	2	135	14	121
Hour	3	123	7	10	35	29	2	9	20	125	46	12	12	27	30	5	495	36	459

PETRA Software

Weather :SUNNY AND 80
 Counted by:SARAH AND JANELLE
 Board # :
 Ther :

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Study Name: TMC9721
 Site Code : 97210202
 Start Date: 07/10/97
 Page : 2

Vehicle group 1

Start Time	CSAH 78 (HANSON BLVD) Southbound				CSAH 18 (CROSSTOWN BLV Westbound				CSAH 78 (HANSON BLVD) Northbound				CSAH 18 (CROSSTOWN BLV Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
13:00	0	31	3	1	9	7	0	0	9	26	14	0	3	10	13	4	130	5	125
13:15	1	22	2	4	11	4	1	0	0	34	8	4	3	11	3	2	110	10	100
13:30	0	47	3	2	12	10	0	1	2	39	3	2	4	11	6	1	143	6	137
13:45	0	35	7	1	6	11	0	0	7	38	10	1	2	3	4	0	125	2	123
Hour	1	135	15	8	38	32	1	1	18	137	35	7	12	35	26	7	508	23	485
14:00	0	33	3	2	7	6	0	0	3	32	11	5	3	7	4	2	118	9	109
14:15	0	27	4	1	8	15	0	2	5	41	12	4	3	7	7	3	139	10	129
14:30	0	36	3	2	5	10	0	1	7	38	8	4	2	8	7	1	132	8	124
14:45	2	34	5	4	10	6	0	3	7	49	14	5	2	13	3	1	158	13	145
Hour	2	130	15	9	30	37	0	6	22	160	45	18	10	35	21	7	547	40	507
15:00	1	33	3	3	7	6	0	1	9	53	13	8	5	20	3	3	168	15	153
15:15	0	45	6	1	16	8	0	0	6	73	13	4	4	20	7	1	204	6	198
15:30	1	32	6	3	7	9	1	0	5	79	18	4	3	19	9	3	199	10	189
15:45	1	30	2	0	6	9	1	1	15	74	24	1	4	16	2	3	189	5	184
Hour	3	140	17	7	36	32	2	2	35	279	68	17	16	75	21	10	760	36	724
16:00	1	28	4	0	5	14	1	0	4	78	28	5	8	16	4	1	197	6	191
16:15	0	37	3	2	11	9	2	0	7	68	23	5	11	16	8	0	202	7	195
16:30	0	30	1	1	5	7	1	0	7	73	27	6	5	25	11	0	199	7	192
16:45	2	46	2	2	15	11	1	4	2	82	21	2	8	25	7	0	230	8	222
Hour	3	141	10	5	36	41	5	4	20	301	99	18	32	82	30	1	828	28	800
17:00	1	40	7	1	8	18	2	2	7	86	18	4	15	19	8	3	239	10	229
17:15	3	37	5	2	11	14	4	0	13	78	28	2	15	28	9	2	251	6	245
17:30	0	53	19	1	16	26	3	2	11	84	22	2	15	18	11	1	284	6	278
17:45	4	39	16	1	12	15	2	1	19	86	23	2	14	24	5	1	264	5	259
Hour	8	169	47	5	47	73	11	5	50	334	91	10	59	89	33	7	1038	27	1011
18:00	1	41	6	0	9	12	1	0	18	84	27	3	4	21	5	1	233	4	229
18:15	0	51	15	2	10	19	0	0	18	82	15	1	4	20	8	0	245	3	242
18:30	0	28	7	0	19	12	2	1	17	89	14	0	8	20	7	0	224	1	223
18:45	1	47	7	3	17	6	0	0	15	71	18	1	8	10	3	0	207	4	203
Hour	2	167	35	5	55	49	3	1	68	326	74	5	24	71	23	1	909	12	897
19:00	2	47	15	0	6	4	1	0	9	65	14	1	5	10	10	0	189	1	188
19:15	1	33	10	1	6	7	3	0	5	52	12	1	8	15	12	0	166	2	164
19:30	0	23	3	1	5	11	1	0	7	47	9	0	12	26	9	1	155	2	153
19:45	3	36	10	0	5	9	0	1	7	43	17	3	6	28	15	0	183	4	179
Hour	6	139	38	2	22	31	5	1	28	207	52	5	31	79	46	1	693	9	684

Weather : SUNNY AND 80
 Counted by: SARAH AND JANELLE
 Board # :
 Other :

PETRA Software
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 Horsham, PA.

Study Name: TMC9721
 Site Code : 97210202
 Start Date: 07/10/97
 Page : 3

Vehicle group 1

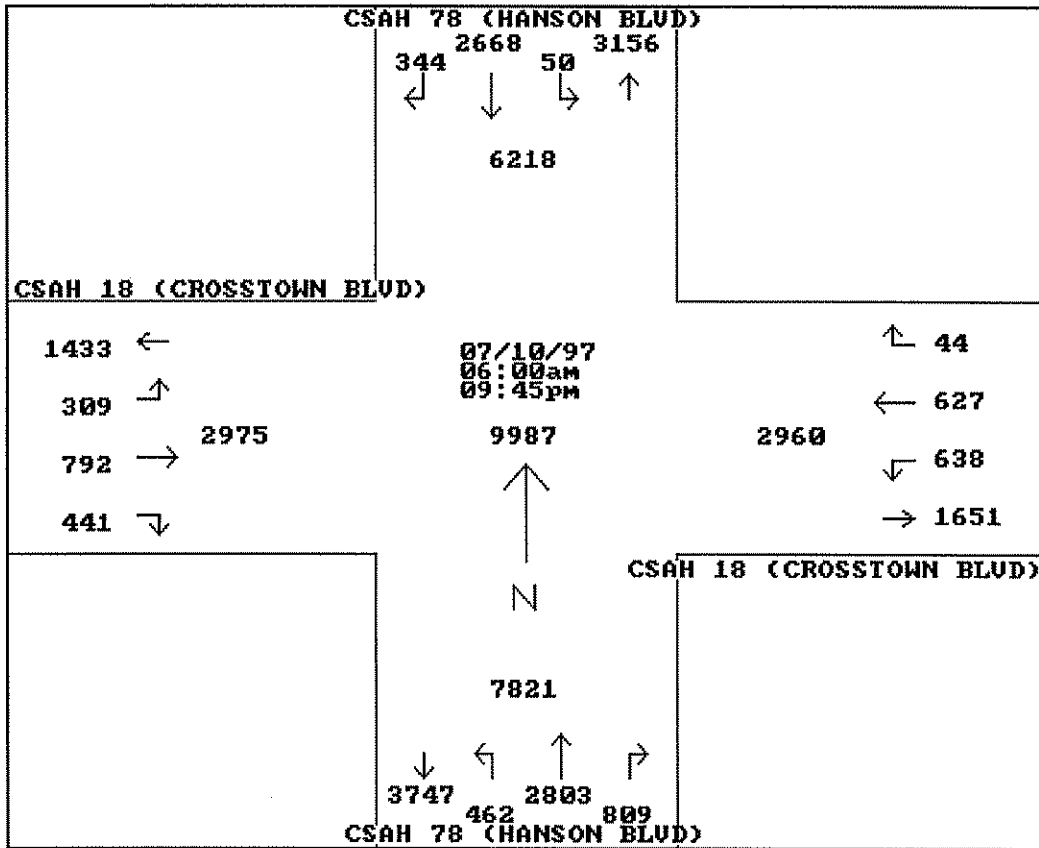
Start Time	CSAH 78 (HANSON BLVD) Southbound				CSAH 18 (CROSSTOWN BLV Westbound				CSAH 78 (HANSON BLVD) Northbound				CSAH 18 (CROSSTOWN BLV Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
20:00	0	27	8	0	5	5	1	0	11	40	18	1	5	16	10	1	148	2	146
20:15	3	62	8	0	9	9	1	0	4	42	18	1	8	21	12	0	198	1	197
20:30	3	38	5	0	3	7	2	0	1	45	17	1	9	20	19	0	170	1	169
20:45	1	28	8	0	7	5	0	0	5	50	6	0	4	12	8	0	134	0	134
Hour	7	155	29	0	24	26	4	0	21	177	59	3	26	69	49	1	650	4	646
21:00	3	28	0	0	9	5	0	0	6	38	15	0	3	13	9	0	129	0	129
21:15	3	38	2	1	6	2	0	0	6	41	11	2	2	14	2	0	130	3	127
21:30	0	23	2	0	7	3	0	0	1	30	13	1	5	10	3	0	98	1	97
21:45	0	36	5	0	4	6	0	2	0	30	10	0	3	12	11	0	119	2	117
Hour	6	125	9	1	26	16	0	2	13	139	49	3	13	49	25	0	476	6	470
Total	50	2668	344	99	638	627	44	57	462	2803	809	161	309	792	441	74	10378	391	9987
% Apr.	1.5	84.4	10.8	3.1	46.7	45.9	3.2	4.1	10.9	66.1	19.1	3.8	19.1	49.0	27.2	4.5	-	-	-
% Int.	0.4	25.7	3.3	0.9	6.1	6.0	0.4	0.5	4.4	27.0	7.7	1.5	2.9	7.6	4.2	0.7	-	-	-

Weather :SUNNY AND 80
Counted by:SARAH AND JANELLE
Board # :
Other :

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Horsham, PA.

Study Name: TMC9721
Site Code : 97210202
Start Date: 07/10/97

Southbound: CSAH 78 (HANSON BLVD)
Westbound: CSAH 18 (CROSSTOWN BLVD)
Northbound: CSAH 78 (HANSON BLVD)
Eastbound: CSAH 18 (CROSSTOWN BLVD)



Major Street Approaches:

Northbound:

CSAH 78 (HANSON BLVD)
 Data File: C:\APPS\PETRA2\DATAFILE\TMC9721.PDF
 Count Type: IMC. Channel: 0. Count Date: 7/10/97
 Number of Lanes: 2
 Approach Speed: 55
 Total Approach Traffic: 4074

Southbound:

CSAH 78 (HANSON BLVD)
 Data File: C:\APPS\PETRA2\DATAFILE\TMC9721.PDF
 Count Type: IMC. Channel: 0. Count Date: 7/10/97
 Number of Lanes: 2
 Approach Speed: 55
 Total Approach Traffic: 3062

Minor Street Approaches:

Eastbound:

CSAH 18 (CROSSTOWN BLVD)
 Data File: C:\APPS\PETRA2\DATAFILE\TMC9721.PDF
 Count Type: IMC. Channel: 0. Count Date: 7/10/97
 Number of Lanes: 1
 Approach Speed: 45
 Total Approach Traffic: 1542

Westbound:

CSAH 18 (CROSSTOWN BLVD)
 Data File: C:\APPS\PETRA2\DATAFILE\TMC9721.PDF
 Count Type: IMC. Channel: 0. Count Date: 7/10/97
 Number of Lanes: 1
 Approach Speed: 50
 Total Approach Traffic: 1309

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	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	459	149	W	3	--BOTH-- 105	SIDE 52	SIDE 84
7	481	144	W	4	--BOTH-- 105	SIDE 52	SIDE 84
8	368	96	W	9	105	SIDE 52	SIDE 84
9	349	63	E	16	105	SIDE 52	84
10	347	93	E	11	105	SIDE 52	SIDE 84
11	347	95	E	10	105	SIDE 52	SIDE 84
12	324	69	E	14	105	SIDE 52	84
13	341	73	E	13	105	SIDE 52	84
14	374	67	W	15	105	SIDE 52	84
15	542	112	E	8	--BOTH-- 105	SIDE 52	--BOTH-- 84
16	574	144	E	5	--BOTH-- 105	SIDE 52	--BOTH-- 84
17	699	181	E	1	--BOTH-- 105	--BOTH-- 52	--BOTH-- 84
18	672	118	E	7	--BOTH-- 105	--BOTH-- 52	--BOTH-- 84
19	470	156	E	2	--BOTH-- 105	SIDE 52	SIDE 84
20	448	144	E	6	--BOTH-- 105	SIDE 52	SIDE 84
21	341	87	E	12	105	SIDE 52	SIDE 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 for 8 hours. Criteria--Main St.: 420; Side St.: See Volume Summary.

Warrant 2 - Interruption of Continuous Traffic

NOT SATISFIED. Required values reached for 2 hours. Criteria--Main St.: 630; 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: 1011.

- 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 4 hours. Criteria--Main: 504; Side: See Volume Summary.

Warrant 9 - Four Hour Volumes

NOT SATISFIED. Required values reached for 3 hours.

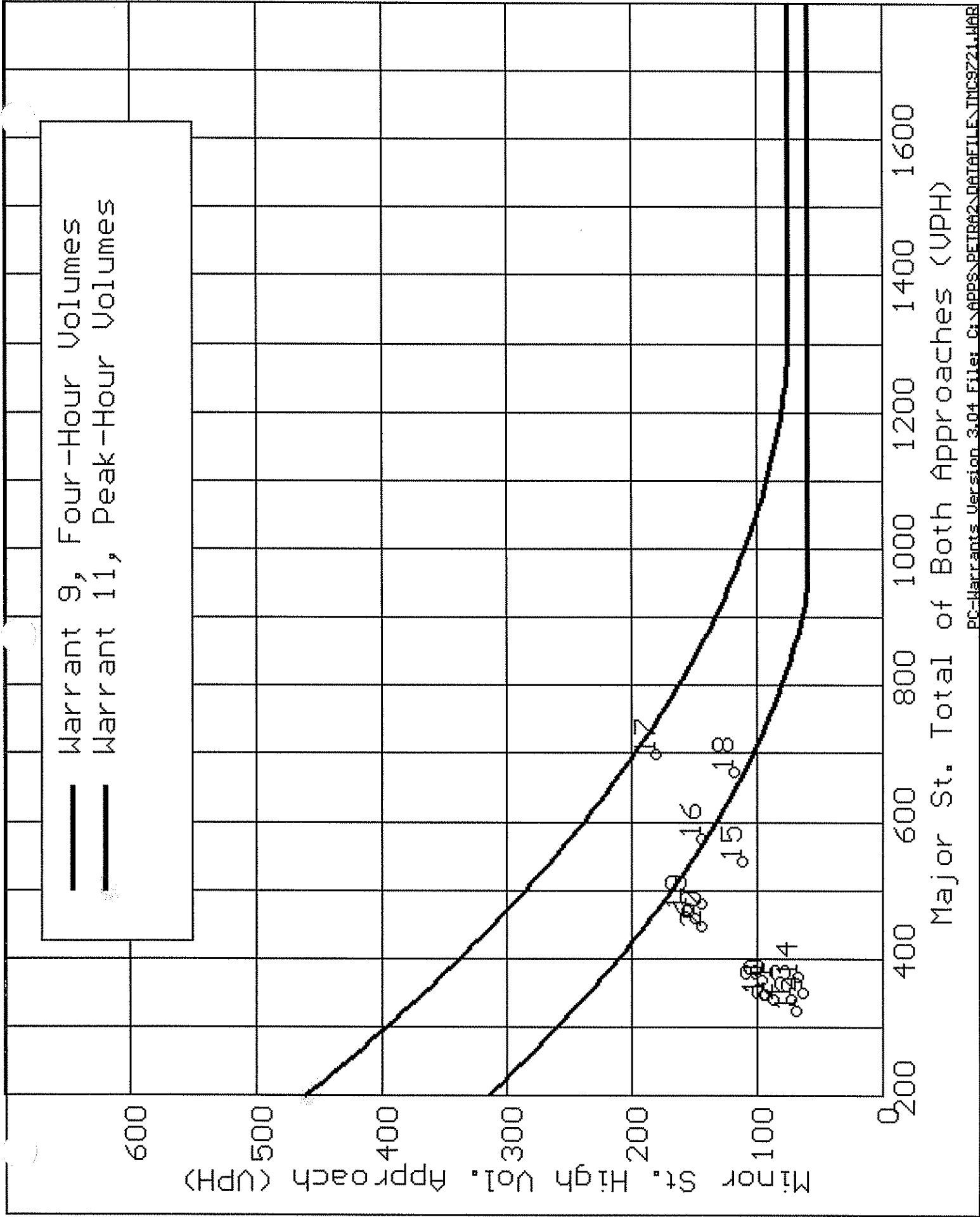
Warrant 10 - Peak Hour Delay

NOT SATISFIED. Peak hour (1700 hours) volume not adequate.

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

Warrant 11 - Peak Hour Volume

NOT SATISFIED.





NORTH

COUNT LOCATION: TMC 9721 CSAH 78 (HANSON BLVD)
@ CSAH 18 (CROSTOWN BLVD)

DATE:

7/10/97

APP. #1=EB CSAH 18
(CROSTOWN BLVD)
APP. #2 =SB CSAH 78
(HANSON BLVD)
APP. #3=WB CSAH 18
(CROSTOWN BLVD)
APP. #4=NB CSAH 78
(HANSON BLVD)

APP. #1 APP. #3
APP. #2 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						2		
6:15-6:30						4		
6:30-6:45	1				1	5	1	
6:45-7:00						7	1	4
HOURLY TOTAL					1	HOURLY TOTAL		24
7:00-7:15						8		
7:15-7:30						3		1
7:30-7:45				1	1	6		
7:45-8:00						7		
HOURLY TOTAL					1	HOURLY TOTAL		25
8:00-8:15						12		
8:15-8:30						16		1
8:30-8:45						3		
8:45-9:00						7		
HOURLY TOTAL						HOURLY TOTAL		39
9:00-9:15						5		1
9:15-9:30						5		
9:30-9:45						5		
9:45-10:00				1	1	2		
HOURLY TOTAL					1	HOURLY TOTAL		18
10:00-10:15						3		
10:15-10:30						7		
10:30-10:45						8	1	
10:45-11:00	1				1	10		
HOURLY TOTAL					1	HOURLY TOTAL		29
11:00-11:15	1				1	7		
11:15-11:30						9		
11:30-11:45						11		1
11:45-12:00						7		
HOURLY TOTAL					1	HOURLY TOTAL		35
12:00-12:15						4		
12:15-12:30						7		
12:30-12:45						11		1
12:45-1:00						10		
HOURLY TOTAL						HOURLY TOTAL		33
1:00-1:15						5		
1:15-1:30						8		2
1:30-1:45			1	1	2	6		
1:45-2:00			1	1	2	2		
HOURLY TOTAL					4	HOURLY TOTAL		23



NORTH

COUNT LOCATION: TMC 9721 CSAH 78 (HANSON BLVD)
 @ CSAH 18 (CROSTOWN BLVD)

DATE:

7/9/97

APP. #1=EB CSAH 18
(CROSTOWN BLVD)

APP. #2 =SB CSAH 78
(HANSON BLVD)

APP. #3=WB CSAH 18
(CROSTOWN BLVD)

APP. #4=NB CSAH 78
(HANSON BLVD)

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						12		
2:15-2:30						9		
2:30-2:45						6	2	1
2:45-3:00						9	1	1
HOURLY TOTAL						HOURLY TOTAL		41
3:00-3:15				1	1	14		1
3:15-3:30						6		
3:30-3:45						8	1	1
3:45-4:00						4		
HOURLY TOTAL					1	HOURLY TOTAL		35
4:00-4:15						6		
4:15-4:30						7		
4:30-4:45						7		
4:45-5:00						8		
HOURLY TOTAL						HOURLY TOTAL		28
5:00-5:15						10		
5:15-5:30						6		
5:30-5:45						7		
5:45-6:00						5		
HOURLY TOTAL						HOURLY TOTAL		28
6:00-6:15						5		
6:15-6:30		1			1	3		
6:30-6:45						1		
6:45-7:00	1				1	4		
HOURLY TOTAL					2	HOURLY TOTAL		13
7:00-7:15	1				1	1		
7:15-7:30			2		2	2		
7:30-7:45	2	3		2	7	1		
7:45-8:00				1	1	5		
HOURLY TOTAL					11	HOURLY TOTAL		9
8:00-8:15	1			1	2	3		
8:15-8:30						1		1
8:30-8:45								
8:45-9:00								
HOURLY TOTAL					2	HOURLY TOTAL		5
9:00-9:15								
9:15-9:30						2		
9:30-9:45						1		
9:45-10:00				1	1	2		
HOURLY TOTAL					1	HOURLY TOTAL		5