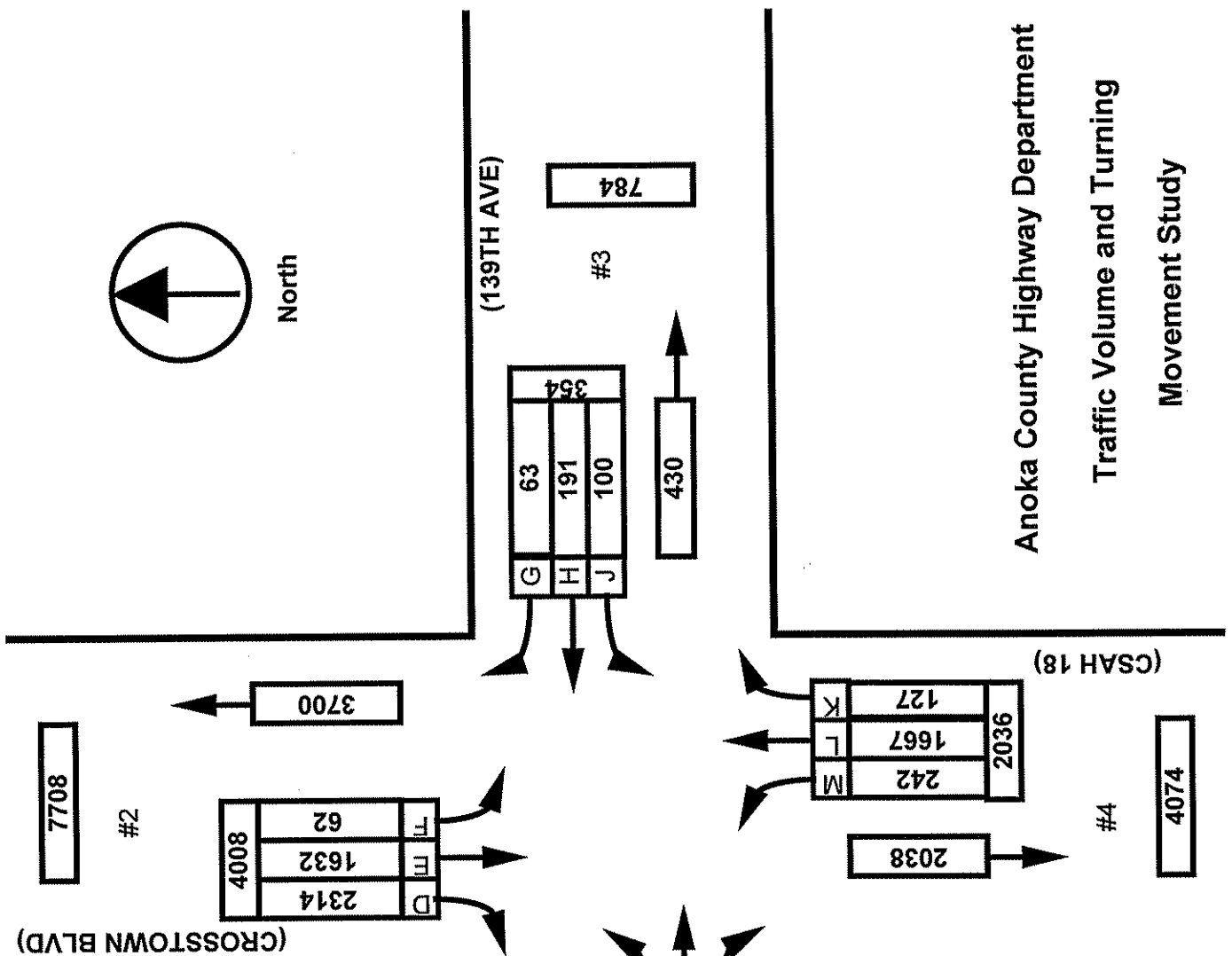


Date : 7/24/98AM 8/16/98 PM

Count Number : TMC9805

Location : CSAH 18 (CROSSTOWN BLVD)

@ CROSSTOWN DR



	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

Weather :
 Counted by: Sarah and Vallie
 Board # :
 cher :

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 Horsham, PA.

Study Name: TMC9805
 Site Code : 98050202
 Start Date: 07/24/98
 Page : 1

Vehicle group 1

Start Time	CSAH 18 (CROSSTOWN BLV 139TH AVE. Southbound				Westbound				CSAH 18 (CROSSTOWN BLV CROSSTOWN DR. Northbound				Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
07/24/98																			
06:00	0	41	33	3	3	3	1	0	1	3	0	0	3	0	11	0	102	3	99
06:15	1	59	35	3	1	4	0	0	0	6	1	0	10	0	15	0	135	3	132
06:30	0	69	46	4	3	0	0	0	1	8	3	0	10	2	6	1	153	5	148
06:45	0	59	48	3	1	1	0	0	2	13	0	2	9	0	4	1	143	6	137
Hour	1	228	162	13	8	8	1	0	4	30	4	2	32	2	36	2	533	17	516
07:00	0	53	39	2	1	2	0	0	3	20	0	0	27	1	9	3	160	5	155
07:15	0	54	38	2	3	3	0	0	1	6	1	0	17	1	12	1	139	3	136
07:30	0	41	40	3	3	1	0	0	0	15	0	3	19	0	13	2	140	8	132
07:45	1	30	35	2	1	7	2	1	0	18	0	5	20	2	12	2	138	10	128
Hour	1	178	152	9	8	13	2	1	4	59	1	8	83	4	46	8	577	26	551
08:00	1	27	30	6	0	2	0	0	1	17	1	2	19	4	8	1	119	9	110
08:15	1	23	29	2	3	0	2	0	2	12	1	2	20	1	6	2	106	6	100
08:30	2	24	17	2	6	1	1	0	1	5	0	0	17	0	5	1	82	3	79
08:45	0	34	31	5	2	1	0	0	1	19	0	3	15	0	6	3	120	11	109
Hour	4	108	107	15	11	4	3	0	5	53	2	7	71	5	25	7	427	29	398
09:00	1	24	25	4	3	3	2	1	0	13	0	2	13	2	3	1	97	8	89
09:15	1	25	31	4	1	2	1	0	0	8	0	2	10	1	5	0	91	6	85
09:30	0	14	27	1	0	3	0	0	3	10	1	1	12	4	2	2	80	4	76
09:45	2	22	33	2	0	1	1	0	1	17	0	0	18	2	8	4	111	6	105
Hour	4	85	116	11	4	9	4	1	4	48	1	5	53	9	18	7	379	24	355
10:00	0	24	30	3	1	3	0	0	1	11	1	2	19	2	1	2	100	7	93
10:15	0	24	30	5	2	2	0	0	0	20	2	1	18	0	3	3	110	9	101
10:30	1	20	35	3	3	2	2	0	3	17	2	5	15	1	0	2	111	10	101
10:45	1	19	27	2	1	5	0	0	4	21	0	1	23	4	9	0	117	3	114
Hour	2	87	122	13	7	12	2	0	8	69	5	9	75	7	13	7	438	29	409
11:00	1	26	31	3	2	1	1	0	2	23	1	1	22	5	2	1	122	5	117
11:15	0	19	31	0	2	2	1	0	1	19	1	1	18	3	3	2	103	3	100
11:30	0	24	37	6	1	0	0	0	2	21	1	3	30	2	4	2	133	11	122
11:45	1	21	41	4	3	4	3	2	4	20	2	1	26	3	4	2	141	9	132
Hour	2	90	140	13	8	7	5	2	9	83	5	6	96	13	13	7	499	28	471
12:00	0	20	49	6	0	6	1	0	3	24	2	4	43	3	3	2	166	12	154
12:15	1	18	29	3	1	4	1	1	5	23	2	3	29	1	5	3	129	10	119
12:30	1	23	47	7	0	0	2	0	1	26	1	2	31	6	2	1	150	10	140
12:45	2	12	29	2	2	4	3	0	0	27	4	2	37	4	3	4	135	8	127
Hour	4	73	154	18	3	14	7	1	9	100	9	11	140	14	13	10	580	40	540

Weather :
 Counted by: Sarah and Vallie
 Board # :
 ther :

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Study Name: TMC9805
 Site Code : 98050202
 Start Date: 07/24/98
 Page : 2

Vehicle group 1

Start Time	CSAH 18 (CROSSTOWN BLV 139TH AVE. Southbound				Westbound				CSAH 18 (CROSSTOWN BLV CROSSTOWN DR. Northbound				Eastbound				Intvl	Exclu	Inclu	
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other				Total
13:00	1	20	30	4	2	7	1	0	4	21	0	2	23	2	2	2	2	121	8	113
13:15	0	16	35	5	2	2	2	0	2	24	3	3	25	11	7	2	2	139	10	129
13:30	2	21	23	5	0	6	2	1	3	27	1	4	31	3	4	2	2	135	12	123
13:45	2	16	24	0	0	2	2	0	4	21	0	0	23	5	6	0	0	105	0	105
Hour	5	73	112	14	4	17	7	1	13	93	4	9	102	21	19	6	500	30	470	
14:00	2	28	19	5	0	5	1	1	3	16	0	2	17	9	5	2	2	115	10	105
14:15	0	19	34	2	1	1	1	0	2	17	1	1	33	3	1	0	0	116	3	113
14:30	0	19	36	2	1	3	0	0	1	23	0	3	25	7	3	0	0	123	5	118
14:45	1	22	30	0	1	2	3	1	4	26	3	1	31	3	4	1	1	133	3	130
Hour	3	88	119	9	3	11	5	2	10	82	4	7	106	22	13	3	487	21	466	
15:00	2	28	24	7	1	2	0	0	1	33	4	4	27	2	4	0	0	139	11	128
15:15	2	32	34	7	1	1	1	0	4	27	4	1	36	4	3	1	1	158	9	149
15:30	0	26	23	3	3	7	0	0	4	42	5	0	36	3	0	3	3	155	6	149
15:45	2	17	34	2	1	0	1	0	6	33	6	0	39	1	1	2	2	145	4	141
Hour	6	103	115	19	6	10	2	0	15	135	19	5	138	10	8	6	597	30	567	
16:00	0	21	32	2	1	4	0	1	7	46	2	3	45	14	6	2	2	186	8	178
16:15	0	17	28	6	1	2	1	0	6	54	5	5	55	9	5	3	3	197	14	183
16:30	0	34	47	4	2	4	2	0	15	54	3	1	47	6	3	1	1	223	6	217
16:45	3	23	54	1	1	3	3	0	13	74	2	2	45	5	3	2	2	234	5	229
Hour	3	95	161	13	5	13	6	1	41	228	12	11	192	34	17	8	840	33	807	
17:00	3	24	55	4	0	3	2	0	9	56	5	0	66	2	7	1	1	237	5	232
17:15	2	22	42	0	0	7	2	0	10	59	7	1	60	11	6	1	1	230	2	228
17:30	0	31	48	3	4	1	1	0	11	57	2	0	63	6	6	2	2	235	5	230
17:45	5	28	50	5	1	2	1	0	12	53	2	0	66	5	7	1	1	238	6	232
Hour	10	105	195	12	5	13	6	0	42	225	16	1	255	24	26	5	940	18	922	
18:00	3	34	51	1	2	9	2	0	8	36	2	1	53	5	4	1	1	212	3	209
18:15	0	22	54	2	1	1	2	0	7	42	3	2	56	6	3	0	0	201	4	197
18:30	0	29	38	4	2	2	1	1	3	40	7	1	47	2	3	1	1	181	7	174
18:45	2	31	53	2	5	5	0	0	6	28	2	1	41	5	7	1	1	189	4	185
Hour	5	116	196	9	10	17	5	1	24	146	14	5	197	18	17	3	783	18	765	
19:00	1	38	73	0	1	7	0	0	6	36	6	1	36	2	4	2	2	213	3	210
19:15	2	29	58	0	0	7	1	0	4	35	1	0	37	5	5	0	0	184	0	184
19:30	0	15	55	2	4	4	1	0	5	31	3	0	38	3	3	0	0	164	2	162
19:45	0	24	32	0	4	6	1	0	3	20	6	0	57	7	6	2	2	168	2	166
Hour	3	106	218	2	9	24	3	0	18	122	16	1	168	17	18	4	729	7	722	

Weather :
 Counted by: Sarah and Vallie
 Board # :
 Cher :

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Study Name: TMC9805
 Site Code : 98050202
 Start Date: 07/24/98
 Page : 3

Vehicle group 1

Start Time	CSAH 18 (CROSSTOWN BLV 139TH AVE.				CSAH 18 (CROSSTOWN BLV				CROSSTOWN DR.				Intvl	Exclu	Inclu				
	Southbound				Westbound				Northbound							Eastbound			
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Total	Total	Total
20:00	0	32	57	0	0	1	1	0	6	25	3	0	50	8	6	1	190	1	189
20:15	1	11	26	0	1	3	1	0	3	31	1	0	32	3	1	3	117	3	114
20:30	1	12	31	1	2	6	0	0	6	31	0	0	39	10	7	1	147	2	145
20:45	3	9	28	1	4	1	0	0	0	33	5	0	31	4	1	0	120	1	119
Hour	5	64	142	2	7	11	2	0	15	120	9	0	152	25	15	5	574	7	567
21:00	0	8	28	0	0	2	0	0	7	15	0	0	26	3	3	1	93	1	92
21:15	0	6	24	0	2	3	1	0	5	15	4	0	29	4	5	1	99	1	98
21:30	3	10	19	0	0	2	0	0	9	27	2	0	27	3	1	0	103	0	103
21:45	1	9	32	1	0	1	2	0	0	17	0	0	28	6	0	0	97	1	96
Hour	4	33	103	1	2	8	3	0	21	74	6	0	110	16	9	2	392	3	389
Total	62	1632	2314	173	100	191	63	10	242	1667	127	87	1970	241	306	90	9275	360	8915
% Apr.	1.4	39.0	55.3	4.1	27.4	52.4	17.3	2.7	11.3	78.5	5.9	4.0	75.5	9.2	11.7	3.4	-	-	-
% Int.	0.6	17.5	24.9	1.8	1.0	2.0	0.6	0.1	2.6	17.9	1.3	0.9	21.2	2.5	3.2	0.9	-	-	-

Major Street Approaches:

Northbound:

CSAH 18 (CROSSTOWN BLVD)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9805.PDF
 Count Type: IMC. Channel: 0. Count Date: 7/24/98
 Number of Lanes: 2
 Approach Speed: 40
 Total Approach Traffic: 2036

Southbound:

CSAH 18 (CROSSTOWN BLVD)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9805.PDF
 Count Type: IMC. Channel: 0. Count Date: 7/24/98
 Number of Lanes: 2
 Approach Speed: 40
 Total Approach Traffic: 4008

Minor Street Approaches:

Eastbound:

CROSSTOWN DR.

Data File: C:\APPS\PETRA2\DATAFILE\TMC9805.PDF
 Count Type: IMC. Channel: 0. Count Date: 7/24/98
 Number of Lanes: 2
 Approach Speed: 0
 Total Approach Traffic: 2517

Westbound:

139TH AVE.

Data File: C:\APPS\PETRA2\DATAFILE\TMC9805.PDF
 Count Type: IMC. Channel: 0. Count Date: 7/24/98
 Number of Lanes: 1
 Approach Speed: 0
 Total Approach Traffic: 354

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

Hour	Main (Total)	Side			Warrant 1		Warrant 2		Warrant 8	
		Vol.	Dir.	Rank	Meets?	Criteria	Meets?	Criteria	Meets?	Criteria
0	0	0	W	17		150		75		120
1	0	0	W	18		150		75		120
2	0	0	W	19		150		75		120
3	0	0	W	20		150		75		120
4	0	0	W	21		150		75		120
5	0	0	W	22		150		75		120
6	429	70	E	16		200		100		160
7	395	133	E	11		200	SIDE	100		160
8	279	101	E	13		200	SIDE	100		160
9	258	80	E	15		200		100		160
10	293	95	E	14		200		100		160
11	329	122	E	12		200	SIDE	100		160
12	349	167	E	6		200	SIDE	100	SIDE	160
13	300	142	E	8		200	SIDE	100		160
14	306	141	E	9		200	SIDE	100		160
15	393	156	E	7		200	SIDE	100		160
16	540	243	E	2	SIDE	200	SIDE	100	SIDE	160
17	593	305	E	1	SIDE	200	SIDE	100	SIDE	160
18	501	232	E	3	SIDE	200	SIDE	100	SIDE	160
19	483	203	E	4	SIDE	200	SIDE	100	SIDE	160
20	355	192	E	5		200	SIDE	100	SIDE	160
21	241	135	E	10		200	SIDE	100		160
22	0	0	W	23		150		75		120
23	0	0	W	24		150		75		120

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 0 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. Peak hour total entering volume 922 does not meet criteria of 1000

- 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 (1700 hours) volume not adequate.

Criteria--Main St.: 800 (4 approaches), 650 (3 approaches); Side St.: 150.

Warrant 11 - Peak Hour Volume

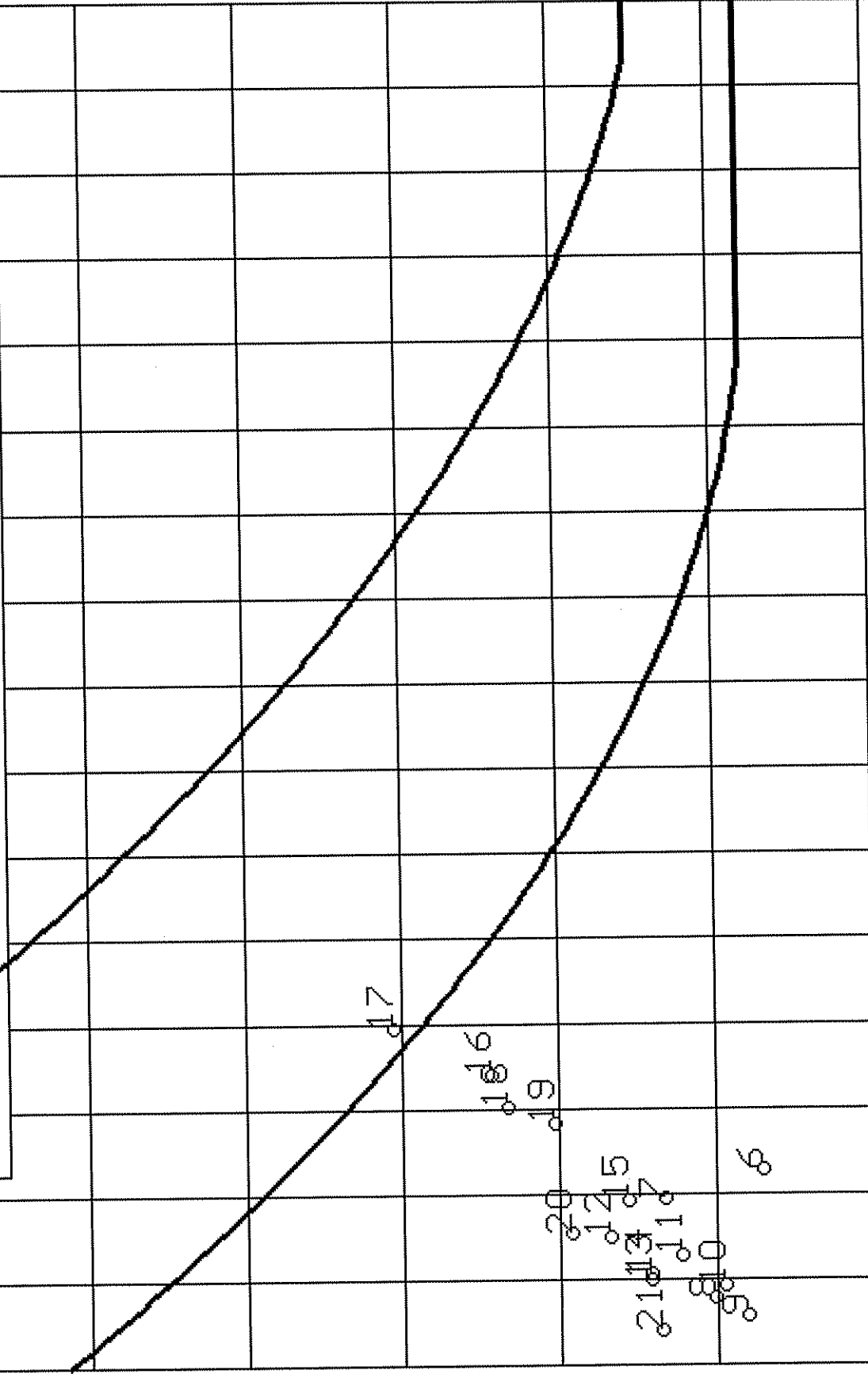
NOT SATISFIED.

Minor St. High Vol. Approach (VPH)

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

200 400 600 800 1000 1200 1400 1600

Major St. Total of Both Approaches (VPH)



←

NORTH

APP. #1= SB CSAH 18
(CROSSTOWN BLVD)

APP. #2 = WB
(139TH AVE)

APP. #3= NB
CROSSTOWN DR

APP. #4= EB
CROSSTOWN DR

COUNT LOCATION: CSAH 18 (CROSSTOWN BLVD) @ **DATE:** 7/24/98
CROSSTOWN DR

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
6:00-6:15AM						3		
6:15-6:30						3		
6:30-6:45						2	3	
6:45-7:00						4	2	
HOURLY TOTAL						HOURLY TOTAL		17
7:00-7:15	2				2	2	3	
7:15-7:30						2	1	
7:30-7:45			1		1	6	2	
7:45-8:00						7	3	
HOURLY TOTAL					3	HOURLY TOTAL		26
8:00-8:15						9		
8:15-8:30						5		1
8:30-8:45						3		
8:45-9:00						7	2	2
HOURLY TOTAL						HOURLY TOTAL		29
9:00-9:15				1	1	6	2	
9:15-9:30						5	1	
9:30-9:45						3	1	
9:45-10:00						4	1	
HOURLY TOTAL					1	HOURLY TOTAL		23
10:00-10:15						5	2	
10:15-10:30						9		
10:30-10:45						7	3	
10:45-11:00						1	3	
HOURLY TOTAL						HOURLY TOTAL		30
11:00-11:15				2	2	1	3	
11:15-11:30						2	1	
11:30-11:45	1	1	2	1	5	7	5	
11:45-12:00			1			6	2	
HOURLY TOTAL					7	HOURLY TOTAL		27
12:00-12:15		2	1	5	8	10	2	
12:15-12:30				6	6	8	3	
12:30-12:45						6	5	
12:45-1:00		7	9			7	1	
HOURLY TOTAL					14	HOURLY TOTAL		42
1:00-1:15		2	4		6	5	2	1
1:15-1:30			8		8	8	2	
1:30-1:45			3		3	7	3	
1:45-2:00								
HOURLY TOTAL					17	HOURLY TOTAL		28



NORTH

APP. #1= SB CSAH 18
(CROSSTOWN BLVD)
APP. #2 = WB
(139TH AVE)
APP. #3= NB
CROSSTOWN DR
APP. #4= EB
CROSSTOWN DR

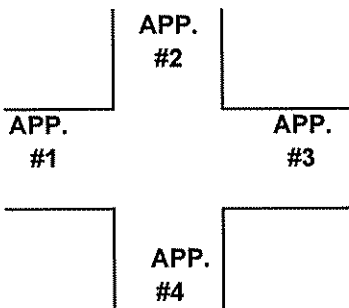
COUNT LOCATION:

CSAH 18 (CROSSTOWN BLVD) @

DATE:

7/6/98

CROSSTOWN DR



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						7	1	
2:15-2:30			1		1	3	2	
2:30-2:45						5	1	
2:45-3:00				2	2	2	1	
HOURLY TOTAL					3	HOURLY TOTAL		22
3:00-3:15						6	4	
3:15-3:30			3	1	4	6	3	
3:30-3:45						2	2	
3:45-4:00	1	2			3	2	2	
HOURLY TOTAL					7	HOURLY TOTAL		27
4:00-4:15		2	2	1	5	4	3	1
4:15-4:30			1		1	14	1	
4:30-4:45			1		1	5		
4:45-5:00		2	2		4	2	3	
HOURLY TOTAL					11	HOURLY TOTAL		33
5:00-5:15		3	2	1	6	4	2	
5:15-5:30						1	1	
5:30-5:45							5	
5:45-6:00		2	3		5	4	2	
HOURLY TOTAL					11	HOURLY TOTAL		19
6:00-6:15			1		1	1	2	
6:15-6:30						1	3	
6:30-6:45						1	6	
6:45-7:00			3		3	2	2	
HOURLY TOTAL					4	HOURLY TOTAL		18
7:00-7:15			4		4	1	2	
7:15-7:30								
7:30-7:45		2	2		4	1	1	
7:45-8:00			1		1	2		
HOURLY TOTAL					9	HOURLY TOTAL		7
8:00-8:15							1	
8:15-8:30		1			1	1	2	
8:30-8:45				2	2		2	
8:45-9:00							1	
HOURLY TOTAL					3	HOURLY TOTAL		7
9:00-9:15							1	
9:15-9:30							1	
9:30-9:45								
9:45-10:00		2	2		4		1	
HOURLY TOTAL					4	HOURLY TOTAL		3