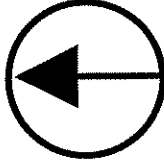


Date : 6/9/98PM 6/10/98AM

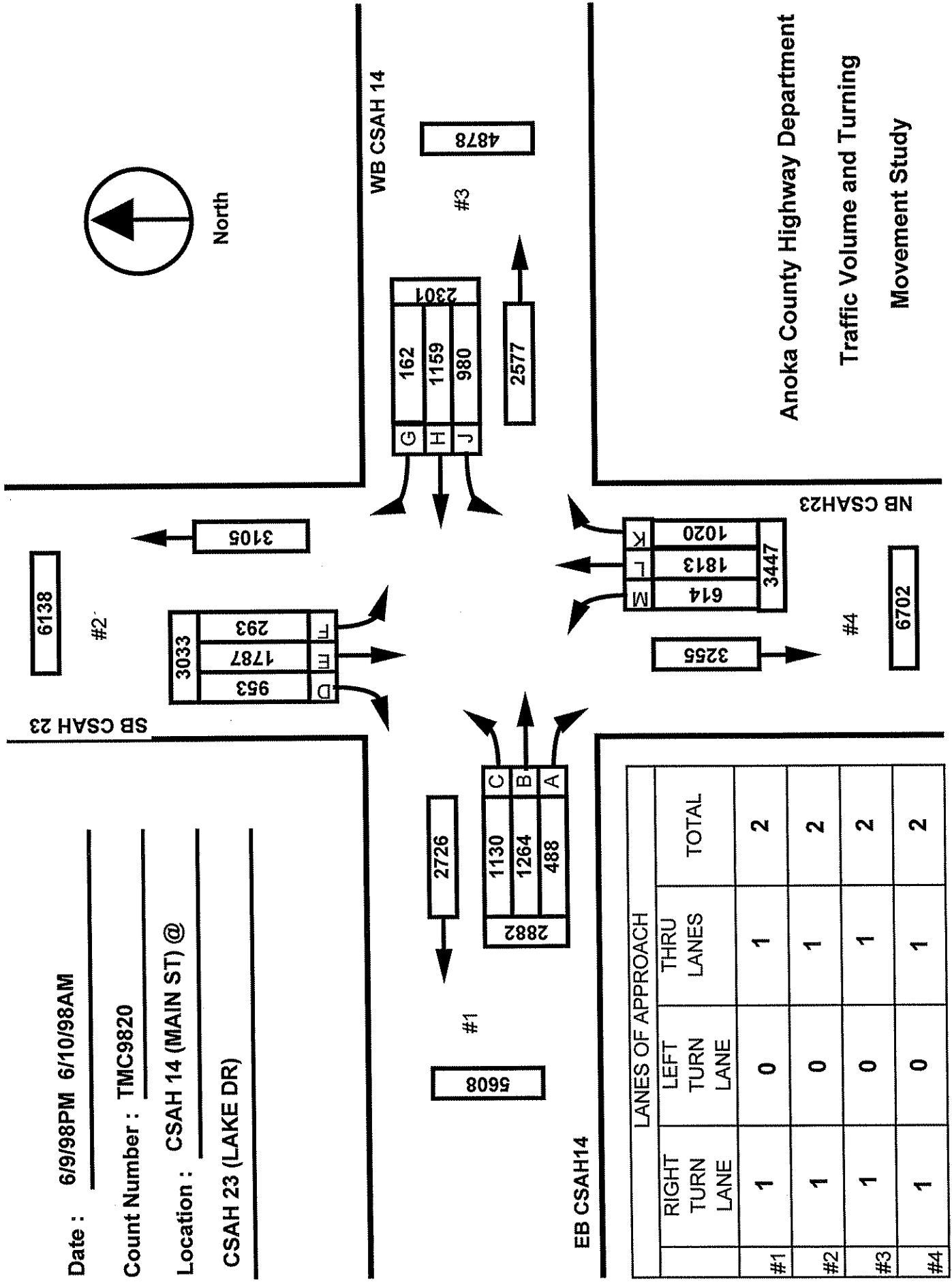
Count Number : TMC9820

Location : CSAH 14 (MAIN ST) @

CSAH 23 (LAKE DR)



North



	LANES OF APPROACH			TOTAL
	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	
#1	1	0	1	2
#2	1	0	1	2
#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: TMC9820
 Site Code : 98200202
 Start Date: 06/10/98
 Page : 1

Vehicle group 1

Start Time	CSAH 23 (LAKE DR) Southbound				CSAH 14 (MAIN ST) Westbound				CSAH 23 (LAKE DR) Northbound				CSAH 14 (MAIN ST) Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
06/10/98																			
06:00	8	69	16	2	20	12	1	8	4	12	4	4	13	26	3	4	206	18	188
06:15	6	66	26	7	23	14	1	5	4	10	8	0	10	31	3	5	219	17	202
06:30	8	73	32	16	21	21	3	2	4	11	5	5	21	56	15	4	297	27	270
06:45	12	68	14	7	26	14	2	4	2	11	10	3	19	42	17	10	261	24	237
Hour	34	276	88	32	90	61	7	19	14	44	27	12	63	155	38	23	983	86	897
07:00	2	76	14	5	24	12	0	0	4	7	14	2	11	46	18	3	238	10	228
07:15	7	69	18	9	28	12	0	6	5	17	11	3	16	44	9	6	260	24	236
07:30	9	50	17	10	27	13	1	11	4	8	14	4	22	59	10	4	263	29	234
07:45	4	63	11	4	26	24	2	12	4	12	12	3	13	51	3	7	251	26	225
Hour	22	258	60	28	105	61	3	29	17	44	51	12	62	200	40	20	1012	89	923
08:00	4	37	15	6	27	15	3	6	7	13	14	7	9	18	14	6	201	25	176
08:15	7	30	16	3	24	15	2	5	4	20	19	11	14	22	4	11	207	30	177
08:30	3	35	14	5	18	11	3	8	7	13	18	6	10	20	14	6	191	25	166
08:45	2	32	12	9	13	11	1	9	6	13	13	14	16	17	4	8	180	40	140
Hour	16	134	57	23	82	52	9	28	24	59	64	38	49	77	36	31	779	120	659
09:00	6	28	13	5	22	9	0	7	2	15	12	7	7	12	2	1	148	20	128
09:15	3	28	8	3	14	8	7	8	6	11	16	8	14	13	17	4	168	23	145
09:30	3	24	13	5	15	13	3	9	6	11	15	7	9	20	12	5	170	26	144
09:45	9	24	10	4	13	9	2	8	4	16	15	4	9	13	8	4	152	20	132
Hour	21	104	44	17	64	39	12	32	18	53	58	26	39	58	39	14	638	89	549
10:00	1	17	15	6	13	6	5	9	7	15	16	9	7	17	3	4	150	28	122
10:15	5	21	17	4	17	14	3	12	5	17	16	8	17	18	11	3	188	27	161
10:30	5	26	9	4	12	11	7	7	5	24	8	8	8	14	7	4	159	23	136
10:45	6	21	16	8	20	14	2	4	10	20	20	9	13	14	4	2	183	23	160
Hour	17	85	57	22	62	45	17	32	27	76	60	34	45	63	25	13	680	101	579
11:00	4	25	16	3	16	9	4	8	5	26	6	3	8	10	2	0	145	14	131
11:15	5	30	16	0	16	12	2	11	5	26	19	8	18	21	5	3	197	22	175
11:30	7	30	11	3	13	8	1	6	14	20	20	7	25	15	8	2	190	18	172
11:45	1	21	12	2	13	17	2	8	7	32	11	12	14	17	4	1	174	23	151
Hour	17	106	55	8	58	46	9	33	31	104	56	30	65	63	19	6	706	77	629
12:00	5	26	15	2	17	16	4	5	7	24	11	8	11	12	6	7	176	22	154
12:15	5	24	19	3	8	16	3	5	15	18	18	4	15	13	7	4	177	16	161
12:30	6	21	11	8	12	18	1	3	10	20	18	5	18	13	5	6	175	22	153
12:45	2	14	18	4	16	6	3	7	16	19	19	5	21	12	13	4	179	20	159
Hour	18	85	63	17	53	56	11	20	48	81	66	22	65	50	31	21	707	80	627

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Weather :
 Counted by: SARAH AND VALLIE
 Board # :
 Character :

Study Name: TMC9820
 Site Code : 98200202
 Start Date: 06/10/98
 Page : 2

Vehicle group 1

Start Time	CSAH 23 (LAKE DR) Southbound				CSAH 14 (MAIN ST) Westbound				CSAH 23 (LAKE DR) Northbound				CSAH 14 (MAIN ST) Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
13:00	6	28	14	5	12	15	8	6	10	29	13	10	13	14	8	1	192	22	170
13:15	3	29	13	3	14	13	1	7	8	27	16	6	13	15	17	2	187	18	169
13:30	6	16	14	5	11	11	4	7	12	21	15	7	25	17	7	9	187	28	159
13:45	0	0	0	0	0	0	0	0	10	33	13	7	21	14	11	4	113	11	102
Hour	15	73	41	13	37	39	13	20	40	110	57	30	72	60	43	16	679	79	600
14:00	6	30	22	3	21	19	5	7	10	20	11	6	12	16	1	1	190	17	173
14:15	4	23	26	12	17	16	4	7	6	22	11	6	19	15	4	9	201	34	167
14:30	6	30	15	7	21	15	3	8	11	34	19	8	18	19	8	5	227	28	199
14:45	5	32	20	2	21	28	4	9	12	40	23	7	25	15	9	7	259	25	234
Hour	21	115	83	24	80	78	16	31	39	116	64	27	74	65	22	22	877	104	773
15:00	3	22	14	4	15	17	6	14	13	33	19	9	16	17	7	5	214	32	182
15:15	5	19	20	6	14	28	5	8	9	38	25	8	21	20	7	2	235	24	211
15:30	5	18	22	3	21	29	6	7	18	47	17	10	22	21	14	4	264	24	240
15:45	7	20	12	3	19	50	4	8	14	65	28	6	30	13	7	4	290	21	269
Hour	20	79	68	16	69	124	21	37	54	183	89	33	89	71	35	15	1003	101	902
16:00	7	31	26	4	14	33	3	8	18	70	30	11	35	19	8	5	322	28	294
16:15	2	30	21	3	24	50	0	6	13	67	34	15	32	21	12	11	341	35	306
16:30	8	30	22	0	19	40	2	8	24	68	25	8	24	21	8	9	316	25	291
16:45	7	29	21	3	15	50	0	6	19	68	18	8	28	34	2	6	314	23	291
Hour	24	120	90	10	72	173	5	28	74	273	107	42	119	95	30	31	1293	111	1182
17:00	4	35	26	1	14	52	2	3	23	56	25	8	31	28	4	2	314	14	300
17:15	2	32	23	2	16	42	2	5	12	78	32	6	27	25	9	5	318	18	300
17:30	4	27	18	1	23	45	2	2	26	62	27	6	41	21	5	4	314	13	301
17:45	3	21	10	1	29	32	4	6	10	52	34	9	19	19	10	1	260	17	243
Hour	13	115	77	5	82	171	10	16	71	248	118	29	118	93	28	12	1206	62	1144
18:00	10	27	14	3	14	29	3	2	18	43	32	5	24	26	7	0	257	10	247
18:15	0	0	0	0	0	0	0	0	17	43	17	3	23	18	8	2	131	5	126
18:30	7	25	21	0	9	25	4	2	11	38	12	6	29	18	8	1	216	9	207
18:45	6	25	17	1	10	25	3	0	7	27	19	1	23	18	10	0	192	2	190
Hour	23	77	52	4	33	79	10	4	53	151	80	15	99	80	33	3	796	26	770
19:00	2	15	15	0	13	25	2	1	13	27	15	0	13	16	12	2	171	3	168
19:15	4	21	18	2	9	8	1	3	13	38	9	2	12	9	3	0	152	7	145
19:30	2	19	13	2	6	6	2	2	8	21	8	0	19	11	2	3	124	7	117
19:45	2	20	9	0	8	11	4	1	5	21	16	1	18	12	8	1	137	3	134
Hour	10	75	55	4	36	50	9	7	39	107	48	3	62	48	25	6	584	20	564

PETRA Software

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Horsham, PA.

Weather :
 Counted by: SARAH AND VALLIE
 Board # :
 Character :

Study Name: TMC9820
 Site Code : 98200202
 Start Date: 06/10/98
 Page : 3

Vehicle group 1

Start Time	CSAH 23 (LAKE DR) Southbound				CSAH 14 (MAIN ST) Westbound				CSAH 23 (LAKE DR) Northbound				CSAH 14 (MAIN ST) Eastbound				Intvl	Exclu	Inclu
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other			
20:00	5	11	9	1	11	8	2	0	11	25	13	1	17	10	4	4	132	6	126
20:15	2	15	12	2	4	9	3	0	11	24	7	3	18	17	2	5	134	10	124
20:30	2	1	5	1	1	8	0	0	12	18	12	2	15	15	10	1	103	4	99
20:45	4	9	3	0	10	9	0	0	10	18	13	3	14	12	11	0	116	3	113
Hour	13	36	29	4	26	34	5	0	44	85	45	9	64	54	27	10	485	23	462
21:00	2	10	3	1	8	10	0	0	6	27	10	0	12	8	8	2	107	3	104
21:15	4	21	13	1	8	18	1	2	8	20	6	1	21	6	2	1	133	5	128
21:30	2	12	10	0	7	11	2	1	1	22	9	0	8	6	2	0	93	1	92
21:45	1	6	8	0	8	12	2	1	6	10	5	0	4	12	5	0	80	1	79
Hour	9	49	34	2	31	51	5	4	21	79	30	1	45	32	17	3	413	10	403
Total	293	1787	953	229	980	1159	162	340	614	1813	1020	363	1130	1264	488	246	12841	1178	11663
% Apr.	8.9	54.7	29.2	7.0	37.1	43.8	6.1	12.8	16.1	47.5	26.7	9.5	36.1	40.4	15.6	7.8	-	-	-
% Int.	2.2	13.9	7.4	1.7	7.6	9.0	1.2	2.6	4.7	14.1	7.9	2.8	8.7	9.8	3.8	1.9	-	-	-

Major Street Approaches:

Northbound:

CSAH 23 (LAKE DR)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9820.PDF
 Count Type: IMC. Channel: 0. Count Date: 6/10/98
 Number of Lanes: 2
 Approach Speed: 50
 Total Approach Traffic: 3447

Southbound:

CSAH 23 (LAKE DR)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9820.PDF
 Count Type: IMC. Channel: 0. Count Date: 6/10/98
 Number of Lanes: 2
 Approach Speed: 55
 Total Approach Traffic: 3033

Minor Street Approaches:

Eastbound:

CSAH 14 (MAIN ST)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9820.PDF
 Count Type: IMC. Channel: 0. Count Date: 6/10/98
 Number of Lanes: 2
 Approach Speed: 40
 Total Approach Traffic: 2882

Westbound:

CSAH 14 (MAIN ST)

Data File: C:\APPS\PETRA2\DATAFILE\TMC9820.PDF
 Count Type: IMC. Channel: 0. Count Date: 6/10/98
 Number of Lanes: 2
 Approach Speed: 40
 Total Approach Traffic: 2301

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	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	483	256 E 3	--BOTH-- 140	SIDE 70	SIDE 112
7	452	302 E 1	--BOTH-- 140	SIDE 70	SIDE 112
8	354	162 E 9	SIDE 140	SIDE 70	SIDE 112
9	298	136 E 13	140	SIDE 70	SIDE 112
10	322	133 E 15	140	SIDE 70	SIDE 112
11	369	147 E 10	SIDE 140	SIDE 70	SIDE 112
12	361	146 E 11	SIDE 140	SIDE 70	SIDE 112
13	336	175 E 7	SIDE 140	SIDE 70	SIDE 112
14	438	174 W 8	--BOTH-- 140	SIDE 70	SIDE 112
15	493	214 W 5	--BOTH-- 140	SIDE 70	SIDE 112
16	688	250 W 4	--BOTH-- 140	--BOTH-- 70	--BOTH-- 112
17	642	263 W 2	--BOTH-- 140	--BOTH-- 70	--BOTH-- 112
18	436	212 E 6	--BOTH-- 140	SIDE 70	SIDE 112
19	334	135 E 14	140	SIDE 70	SIDE 112
20	252	145 E 12	SIDE 140	SIDE 70	SIDE 112
21	222	94 E 16	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

NOT SATISFIED. Required values reached for 7 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: 1182.

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

Warrant 9 - Four Hour Volumes

NOT SATISFIED for 4 hours.

Warrant 10 - Peak Hour Delay

NOT SATISFIED. Peak hour (1600 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 (UPH)

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

Major St. Total of Both Approaches (UPH)

600

500

400

300

200

100

0

200

400

600

800

1000

1200

1400

1600

7

6

15

14

13

11

10

21

17

6

COUNT LOCATION:

CSAH 14 (MAIN STREET)

DATE:

6/10/98

@ CSAH 23 (LAKE DRIVE)

NORTH

APP. #1=EB CSAH 14 (MAIN STREET)
APP. #2 =SB CSAH 23 (LAKE DRIVE)
APP. #3=WB CSAH 14 (MAIN STREET)
APP. #4=NB CSAH 23 (LAKE DRIVE)

APP.
#2

- 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.

APP.
#1

APP.
#3

APP.
#4

TIME	PEDESTRIANS					HEAVY VEHICLES		
	APP. #1	APP. #2	APP. #3	APP. #4	15 MIN TOT	TRUCKS	RV	BUS
6:00-6:15AM						15	2	
6:15-6:30						17		
6:30-6:45						25	2	
6:45-7:00						19	2	1
HOURLY TOTAL						HOURLY TOTAL		83
7:00-7:15						8	2	
7:15-7:30						20	3	
7:30-7:45						28	2	
7:45-8:00						22	3	
HOURLY TOTAL						HOURLY TOTAL		88
8:00-8:15						24		
8:15-8:30						27	1	1
8:30-8:45						25	1	
8:45-9:00						39	2	
HOURLY TOTAL						HOURLY TOTAL		120
9:00-9:15						19	1	
9:15-9:30						19	5	
9:30-9:45						21	2	
9:45-10:00		1	1		2	18	2	
HOURLY TOTAL					2	HOURLY TOTAL		87
10:00-10:15						27	1	
10:15-10:30			1		1	26	1	
10:30-10:45	2				2	24		
10:45-11:00	1				1	20	3	
HOURLY TOTAL					4	HOURLY TOTAL		102
11:00-11:15						12		
11:15-11:30						21	1	
11:30-11:45						17		
11:45-12:00						22	1	
HOURLY TOTAL						HOURLY TOTAL		74
12:00-12:15						20	1	1
12:15-12:30						16	1	
12:30-12:45			1		1	19	2	2
12:45-1:00						15	3	1
HOURLY TOTAL					1	HOURLY TOTAL		81
1:00-1:15						20	2	
1:15-1:30		2	1		3	17		
1:30-1:45	1				1	23	4	1
1:45-2:00						21	2	
HOURLY TOTAL					4	HOURLY TOTAL		90



NORTH

COUNT LOCATION:

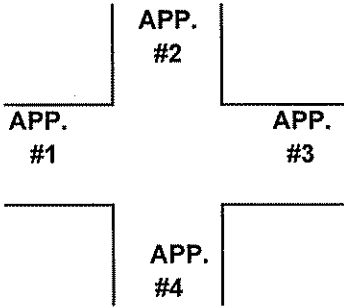
CSAH 14 (MAIN STREET)

DATE:

6/9/98

@ CSAH 23 (LAKE DRIVE)

APP. #1=EB CSAH 14 (MAIN STREET)
APP. #2 =SB CSAH 23 (LAKE DRIVE)
APP. #3=WB CSAH 14 (MAIN STREET)
APP. #4=NB CSAH 23 (LAKE DRIVE)



- 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						16		
2:15-2:30						29	2	
2:30-2:45				2	2	28	2	
2:45-3:00		1			1	22		1
HOURLY TOTAL					3	HOURLY TOTAL		100
3:00-3:15			2		2	31	1	
3:15-3:30						23	1	
3:30-3:45		2	2		4	23	1	
3:45-4:00						18	5	
HOURLY TOTAL					6	HOURLY TOTAL		103
4:00-4:15						25	1	
4:15-4:30	1	1			2	33		
4:30-4:45						25		1
4:45-5:00						15	1	
HOURLY TOTAL					2	HOURLY TOTAL		101
5:00-5:15						9	3	
5:15-5:30						18		1
5:30-5:45						8	3	
5:45-6:00						15	2	
HOURLY TOTAL						HOURLY TOTAL		59
6:00-6:15						7	2	1
6:15-6:30						8	4	
6:30-6:45						4	3	
6:45-7:00						3		
HOURLY TOTAL						HOURLY TOTAL		32
7:00-7:15						2	1	
7:15-7:30	2				2	3	3	
7:30-7:45		2	2		4	6		
7:45-8:00		1			1	4	4	
HOURLY TOTAL					7	HOURLY TOTAL		23
8:00-8:15						6		
8:15-8:30						7	2	
8:30-8:45						5	1	
8:45-9:00						2	1	
HOURLY TOTAL						HOURLY TOTAL		24
9:00-9:15						2	1	
9:15-9:30						2	2	
9:30-9:45						1		
9:45-10:00							1	
HOURLY TOTAL						HOURLY TOTAL		9