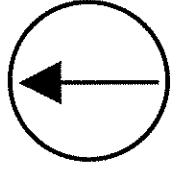


Date : 7/19/99PM 7/21/99AM

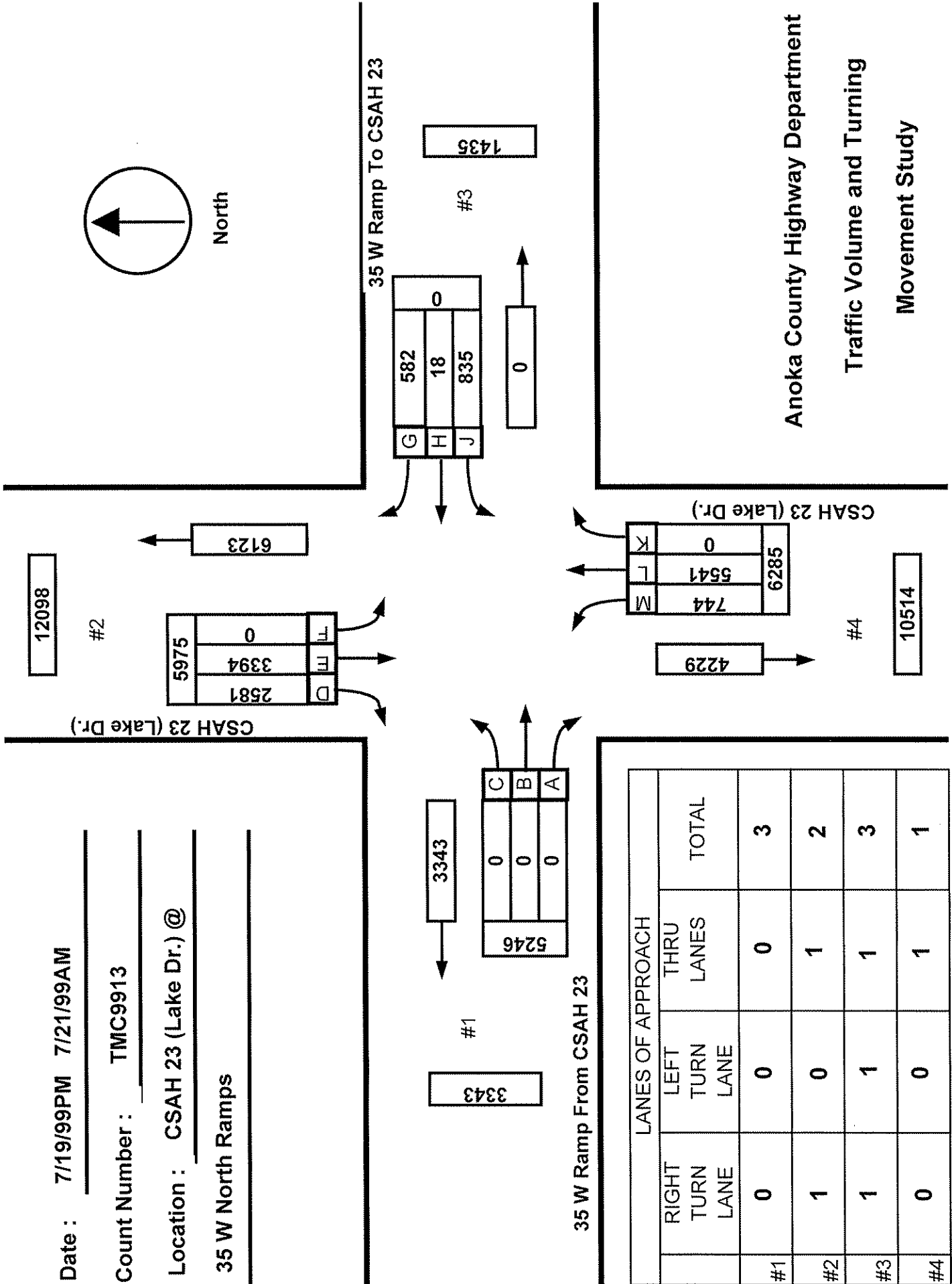
Count Number : TMC9913

Location : CSAH 23 (Lake Dr.) @

35 W North Ramps



North



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

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Anoka County Highway Department Traffic Volume & Turning Movement Study

Comment Line 1
Comment Line 2
Comment Line 3
Comment Line 4

File Name : TMC9913
Site Code : 99130201
Start Date : 07/21/1999
Page No : 1

Groups Printed 1 - 1 - Unshifted

Start Time	CSAH 23 (Lake Dr.) Southbound					35 W Ramps (North) Westbound					CSAH 23 (Lake Dr.) Northbound					35 W Ramps (North) Eastbound					Exclu. Total	Inclu. Total	Int. Total	
	Factor	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	Heavy	App. Total	Left	Thru	Right	Heavy				App. Total
06:00 AM	1.0	45	91	10	136	5	0	13	1	18	22	25	0	5	47	0	0	0	0	0	0	16	201	217
06:15 AM	0	56	101	13	157	13	0	13	0	26	29	55	0	7	84	0	0	0	0	0	0	20	267	287
06:30 AM	0	77	94	10	171	15	0	13	1	28	25	70	0	8	95	0	0	0	0	0	0	19	294	313
06:45 AM	0	71	111	16	182	25	1	17	0	43	13	65	0	4	78	0	0	0	0	0	0	20	303	323
Total	0	249	397	49	646	58	1	56	2	115	89	215	0	24	304	0	0	0	0	0	0	75	1065	1140
07:00 AM	0	74	97	13	171	12	0	14	1	26	33	44	0	4	77	0	0	0	0	0	0	18	274	292
07:15 AM	0	72	112	7	184	17	0	28	0	45	29	70	0	3	99	0	0	0	0	0	0	10	328	338
07:30 AM	0	71	85	18	156	14	0	16	0	30	27	55	0	5	82	0	0	0	0	0	0	23	268	291
07:45 AM	0	56	90	9	146	12	0	12	1	24	26	60	0	12	86	0	0	0	0	0	0	22	256	278
Total	0	273	384	47	657	55	0	70	2	125	115	229	0	24	344	0	0	0	0	0	0	73	1126	1199
08:00 AM	0	50	75	11	125	22	0	6	0	28	20	56	0	5	76	0	0	0	0	0	0	16	229	245
08:15 AM	0	40	41	5	81	17	0	12	1	29	18	39	0	3	57	0	0	0	0	0	0	9	167	176
08:30 AM	0	49	44	5	93	12	0	6	0	18	13	62	0	9	75	0	0	0	0	0	0	14	186	200
08:45 AM	0	36	44	8	80	16	0	10	3	26	12	73	0	9	85	0	0	0	0	0	0	20	191	211
Total	0	175	204	29	379	67	0	34	4	101	63	230	0	26	293	0	0	0	0	0	0	59	773	832
09:00 AM	0	30	21	4	51	10	0	11	1	21	8	57	0	9	65	0	0	0	0	0	0	14	137	151
09:15 AM	0	44	37	6	81	6	0	6	0	12	9	52	0	5	61	0	0	0	0	0	0	11	154	165
09:30 AM	0	47	32	6	79	5	1	8	2	14	17	41	0	7	58	0	0	0	0	0	0	15	151	166
09:45 AM	0	54	32	8	86	10	0	8	2	18	12	69	0	12	81	0	0	0	0	0	0	22	185	207
Total	0	175	122	24	297	31	1	33	5	65	46	219	0	33	265	0	0	0	0	0	0	62	627	689
10:00 AM	0	45	31	9	76	5	0	6	2	11	8	59	0	11	67	0	0	0	0	0	0	22	154	176
10:15 AM	0	29	21	5	50	8	0	4	1	12	9	44	0	6	53	0	0	0	0	0	0	12	115	127
10:30 AM	0	46	36	8	82	16	0	11	4	27	12	60	0	10	72	0	0	0	0	0	0	22	181	203
10:45 AM	0	43	27	7	70	8	0	9	1	17	13	45	0	12	58	0	0	0	0	0	0	20	145	165
Total	0	163	115	29	278	37	0	30	8	67	42	208	0	39	250	0	0	0	0	0	0	76	595	671
11:00 AM	0	50	40	13	90	13	0	3	1	16	10	52	0	11	62	0	0	0	0	0	0	25	168	193
11:15 AM	0	43	33	7	76	9	2	5	2	16	9	58	0	3	67	0	0	0	0	0	0	12	159	171
11:30 AM	0	55	23	6	78	5	0	7	0	12	7	66	0	12	73	0	0	0	0	0	0	18	163	181
11:45 AM	0	43	25	5	68	10	1	7	3	18	12	96	0	11	108	0	0	0	0	0	0	19	194	213
Total	0	191	121	31	312	37	3	22	6	62	38	272	0	37	310	0	0	0	0	0	0	74	684	757
12:00 PM	0	53	42	10	95	19	1	2	1	22	6	89	0	10	95	0	0	0	0	0	0	21	212	233
12:15 PM	0	49	23	3	72	6	0	4	0	10	8	93	0	7	101	0	0	0	0	0	0	10	183	193
12:30 PM	0	54	31	12	85	9	0	11	1	20	5	74	0	7	79	0	0	0	0	0	0	20	184	204
12:45 PM	0	58	37	7	95	14	0	8	2	22	11	81	0	10	92	0	0	0	0	0	0	19	209	228
Total	0	214	133	32	347	48	1	25	4	74	30	337	0	34	367	0	0	0	0	0	0	70	788	858
01:00 PM	0	62	35	10	97	10	0	12	3	22	7	79	0	8	86	0	0	0	0	0	0	21	205	226
01:15 PM	0	51	29	4	80	10	0	10	0	20	5	70	0	8	75	0	0	0	0	0	0	12	175	187
01:30 PM	0	56	33	9	89	19	0	7	2	26	12	77	0	14	89	0	0	0	0	0	0	25	204	229
01:45 PM	0	67	35	10	102	20	0	9	8	29	15	84	0	8	99	0	0	0	0	0	0	26	230	256
Total	0	236	132	33	368	59	0	38	13	97	39	310	0	38	349	0	0	0	0	0	0	84	814	898
02:00 PM	0	69	33	11	102	26	1	14	4	41	15	68	0	6	83	0	0	0	0	0	0	21	226	247
02:15 PM	0	51	33	9	84	5	0	11	1	16	14	77	0	5	91	0	0	0	0	0	0	15	191	206
02:30 PM	0	59	41	10	100	7	0	9	2	16	7	85	0	7	92	0	0	0	0	0	0	19	208	227
02:45 PM	0	51	46	13	97	20	0	20	0	40	9	118	0	7	127	0	0	0	0	0	0	20	264	284
Total	0	230	153	43	383	58	1	54	7	113	45	348	0	25	393	0	0	0	0	0	0	75	889	964
03:00 PM	0	62	57	5	119	10	0	7	0	17	16	108	0	11	124	0	0	0	0	0	0	16	260	276
03:15 PM	0	56	49	6	105	15	2	11	0	28	23	152	0	12	175	0	0	0	0	0	0	18	308	326
03:30 PM	0	58	41	7	99	12	0	4	0	16	8	137	0	9	145	0	0	0	0	0	0	16	260	276
03:45 PM	0	68	37	2	105	18	0	18	2	36	15	169	0	3	184	0	0	0	0	0	0	7	325	332
Total	0	244	184	20	428	55	2	40	2	97	62	586	0	35	628	0	0	0	0	0	0	57	1153	1210
04:00 PM	0	85	38	6	123	11	1	10	0	22	9	143	0	10	152	0	0	0	0	0	0	16	297	313
04:15 PM	0	73	37	4	110	12	1	11	2	24	6	227	0	5	233	0	0	0	0	0	0	11	367	378
04:30 PM	0	89	46	6	135	26	0	12	2	38	14	150	0	3	164	0	0	0	0	0	0	11	337	348
04:45 PM	0	70	33	3	103	26	0	17	4	43	12	203	0	14	215	0	0	0	0	0	0	21	361	382
Total	0	317	154	19	471	75	2	50	8	127	41	723	0	32	764	0	0	0	0	0	0	59	1362	1421
05:00 PM	0	86	43	7	129	19	0	10	0	29	10	211	0	9	221	0	0	0	0	0	0	16	379	395
05:15 PM	0	75	36	5	111	22	1	8	0	31	8	187	0	13	195	0	0	0	0	0	0	18	337	355
05:30 PM	0	73	37	9	110	18	0	11	3	29	9	174	0	10	183	0	0	0	0	0	0	22	322	344
05:45 PM	0	55	24	5	79	19																		

Anoka County Highway Department
 Traffic Volume & Turning Movement Study

File Name : TMC9913
 Site Code : 99130201
 Start Date : 07/21/1999
 Page No : 2

Groups Printed 1 - 1 - Unshifted

Start Time	CSAH 23 (Lake Dr.) Southbound					35 W Ramps (North) Westbound					CSAH 23 (Lake Dr.) Northbound					35 W Ramps (North) Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Heav y	App. Total	Left	Thru	Right	Heav y	App. Total	Left	Thru	Right	Heav y	App. Total	Left	Thru	Right	Heav y	App. Total			
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0				
08:00 PM	0	45	16	0	61	2	0	7	1	9	14	90	0	2	104	0	0	0	0	0	3	174	177
08:15 PM	0	33	29	0	62	9	1	3	0	13	15	59	0	3	74	0	0	0	0	0	3	149	152
08:30 PM	0	29	13	0	42	8	0	4	2	12	3	47	0	1	50	0	0	0	0	0	3	104	107
08:45 PM	0	29	15	0	44	11	0	4	0	15	5	54	0	1	59	0	0	0	0	0	1	118	119
Total	0	136	73	0	209	30	1	18	3	49	37	250	0	7	287	0	0	0	0	0	10	545	555
09:00 PM	0	27	22	0	49	16	0	14	0	30	2	61	0	0	63	0	0	0	0	0	0	142	142
09:15 PM	0	23	20	1	43	10	2	5	0	17	3	51	0	1	54	0	0	0	0	0	2	114	116
09:30 PM	0	19	11	0	30	6	0	1	0	7	5	49	0	1	54	0	0	0	0	0	1	91	92
09:45 PM	0	31	12	0	43	2	0	6	0	8	2	44	0	3	46	0	0	0	0	0	3	97	100
Total	0	100	65	1	165	34	2	26	0	62	12	205	0	5	217	0	0	0	0	0	6	444	450
Grand Total	0	3394	2581	402	5975	835	18	582	75	1435	744	5541	0	440	6285	0	0	0	0	0	917	13695	14612
Apprch %	0.0	56.8	43.2			58.2	1.3	40.6			11.8	88.2	0.0			0.0	0.0	0.0			6.3	93.7	
Total %	0.0	24.8	18.8		43.6	6.1	0.1	4.2		10.5	5.4	40.5	0.0		45.9	0.0	0.0	0.0		0.0			

or Street Approaches:

Northbound:

CSAH 23 (Lake Dr.)
 Data File: C:\APPS\Data Files\TMC9913.war
 Count Type: IMC. Channel: 0. Count Date: 7/21/99
 Number of Lanes: 1
 Approach Speed: 50
 Total Approach Traffic: 6285

Southbound:

CSAH 23 (Lake Dr.)
 Data File: C:\APPS\Data Files\TMC9913.war
 Count Type: IMC. Channel: 0. Count Date: 7/21/99
 Number of Lanes: 2
 Approach Speed: 50
 Total Approach Traffic: 5975

Minor Street Approaches:

Eastbound:

35 W Ramps (North)
 Data File: C:\APPS\Data Files\TMC9913.war
 Count Type: IMC. Channel: 0. Count Date: 7/21/99
 Number of Lanes: 1
 Approach Speed: 0
 Total Approach Traffic: 0

Westbound:

35 W Ramps (North)
 Data File: C:\APPS\Data Files\TMC9913.war
 Count Type: IMC. Channel: 0. Count Date: 7/21/99
 Number of Lanes: 1
 Approach Speed: 0
 Total Approach Traffic: 1435

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	950	115	W	4	--BOTH--	105	--BOTH--	52	--BOTH--	84
7	1001	125	W	2	--BOTH--	105	--BOTH--	52	--BOTH--	84
8	672	101	W	6	MAIN	105	--BOTH--	52	--BOTH--	84
9	562	65	W	13	MAIN	105	SIDE	52	MAIN	84
10	528	67	W	12	MAIN	105	SIDE	52	MAIN	84
11	622	62	W	14	MAIN	105	SIDE	52	MAIN	84
12	714	74	W	10	MAIN	105	--BOTH--	52	MAIN	84
13	717	97	W	7	MAIN	105	--BOTH--	52	--BOTH--	84
14	776	113	W	5	--BOTH--	105	--BOTH--	52	--BOTH--	84
15	1056	97	W	8	MAIN	105	--BOTH--	52	--BOTH--	84
16	1235	127	W	1	--BOTH--	105	--BOTH--	52	--BOTH--	84
17	1147	118	W	3	--BOTH--	105	--BOTH--	52	--BOTH--	84
18	833	94	W	9	MAIN	105	--BOTH--	52	--BOTH--	84
19	569	69	W	11	MAIN	105	SIDE	52	MAIN	84
20	496	49	W	16	MAIN	105		52		84
21	382	62	W	15		105	SIDE	52		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 5 hours. Criteria--Main St.: 420; Side St.: See Volume Summary.

Warrant 2 - Interruption of Continuous Traffic

SATISFIED for 10 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: 1362.

- 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

SATISFIED for 9 hours. Criteria--Main: 504; Side: See Volume Summary.

Warrant 9 - Four Hour Volumes

SATISFIED for 8 hours.

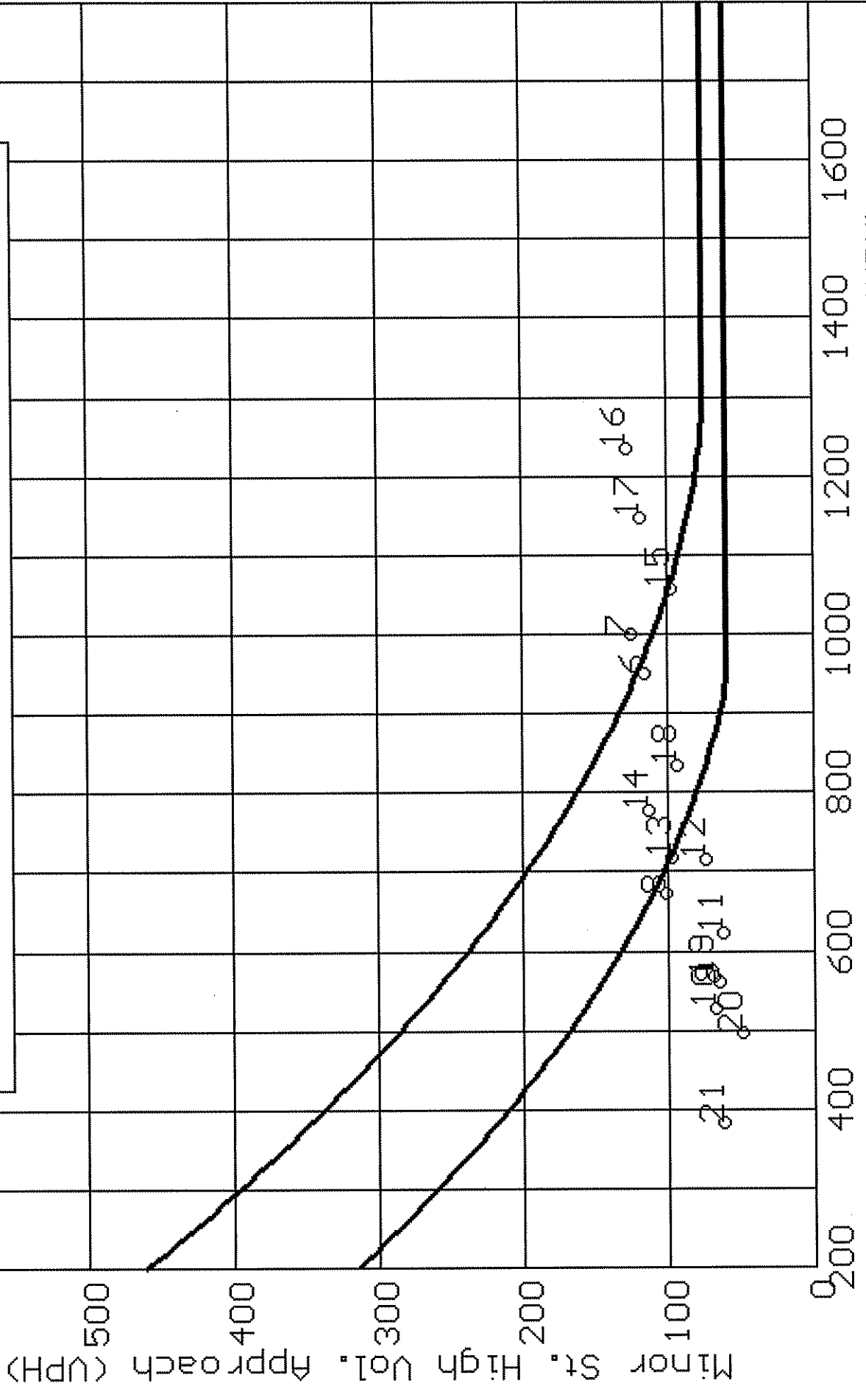
Warrant 10 - Peak Hour Delay

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 4 hours.



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

Major St. Total of Both Approaches (VPH)



COUNT LOCATION:

CSAH 23 (LAKE DR.) @
35 W RAMPS (NORTH)

DATE:

7/19/99

NORTH

APP. #1= 35 W
RAMP TO CSAH 23

APP. #2 =CSAH 23
(LAKE DR.)

APP. #3=35 W
RAMP FROM CSAH 23

APP. #4=CSAH 23
(LAKE DR.)

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						16		
6:15-6:30						19		1
6:30-6:45						17		1
6:45-7:00						20		
HOURLY TOTAL						HOURLY TOTAL		74
7:00-7:15						16		
7:15-7:30						10		
7:30-7:45						20		3
7:45-8:00						20		1
HOURLY TOTAL						HOURLY TOTAL		70
8:00-8:15						13		3
8:15-8:30						7		1
8:30-8:45						13		1
8:45-9:00						19		
HOURLY TOTAL						HOURLY TOTAL		57
9:00-9:15						15		
9:15-9:30						10		
9:30-9:45						16		
9:45-10:00						22		
HOURLY TOTAL						HOURLY TOTAL		63
10:00-10:15						22		
10:15-10:30						12		
10:30-10:45						21		
10:45-11:00						20		
HOURLY TOTAL						HOURLY TOTAL		75
11:00-11:15						25		
11:15-11:30						13		
11:30-11:45						18		1
11:45-12:00						17		1
HOURLY TOTAL						HOURLY TOTAL		75
12:00-12:15						18		4
12:15-12:30						9		
12:30-12:45						20		
12:45-1:00						17		1
HOURLY TOTAL						HOURLY TOTAL		69
1:00-1:15						17	1	1
1:15-1:30						15		
1:30-1:45						19		2
1:45-2:00						22	1	3
HOURLY TOTAL						HOURLY TOTAL		81



COUNT LOCATION:

CSAH 23 (LAKE DR.) @
35 W RAMPS (NORTH)

DATE:

7/21/99

NORTH

APP. #1=35 W
RAMP TO CSAH 23

APP. #2 =CSAH 23
(LAKE DR.)

APP. #3=35 W
RAMP FROM CSAH 23

APP. #4=CSAH 23
(LAKE DR.)

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
2:00-2:15PM						21		
2:15-2:30						15		
2:30-2:45						18		1
2:45-3:00						18		1
HOURLY TOTAL						HOURLY TOTAL		74
3:00-3:15						16		
3:15-3:30						17	1	
3:30-3:45						17		
3:45-4:00						10		
HOURLY TOTAL						HOURLY TOTAL		61
4:00-4:15						14		
4:15-4:30						12		
4:30-4:45						10		
4:45-5:00						21	1	
HOURLY TOTAL						HOURLY TOTAL		58
5:00-5:15						17		
5:15-5:30						14	1	
5:30-5:45						20		1
5:45-6:00						12		
HOURLY TOTAL						HOURLY TOTAL		65
6:00-6:15						13		1
6:15-6:30						15		
6:30-6:45						5		
6:45-7:00						9		
HOURLY TOTAL						HOURLY TOTAL		43
7:00-7:15						7		
7:15-7:30						2		1
7:30-7:45						7		
7:45-8:00						2		
HOURLY TOTAL						HOURLY TOTAL		19
8:00-8:15						2		
8:15-8:30						3		
8:30-8:45						2		
8:45-9:00						1		
HOURLY TOTAL						HOURLY TOTAL		8
9:00-9:15						1		
9:15-9:30						1		
9:30-9:45						1		
9:45-10:00						3		
HOURLY TOTAL						HOURLY TOTAL		6