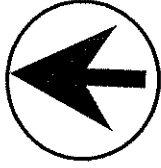


Date : 7/08/03

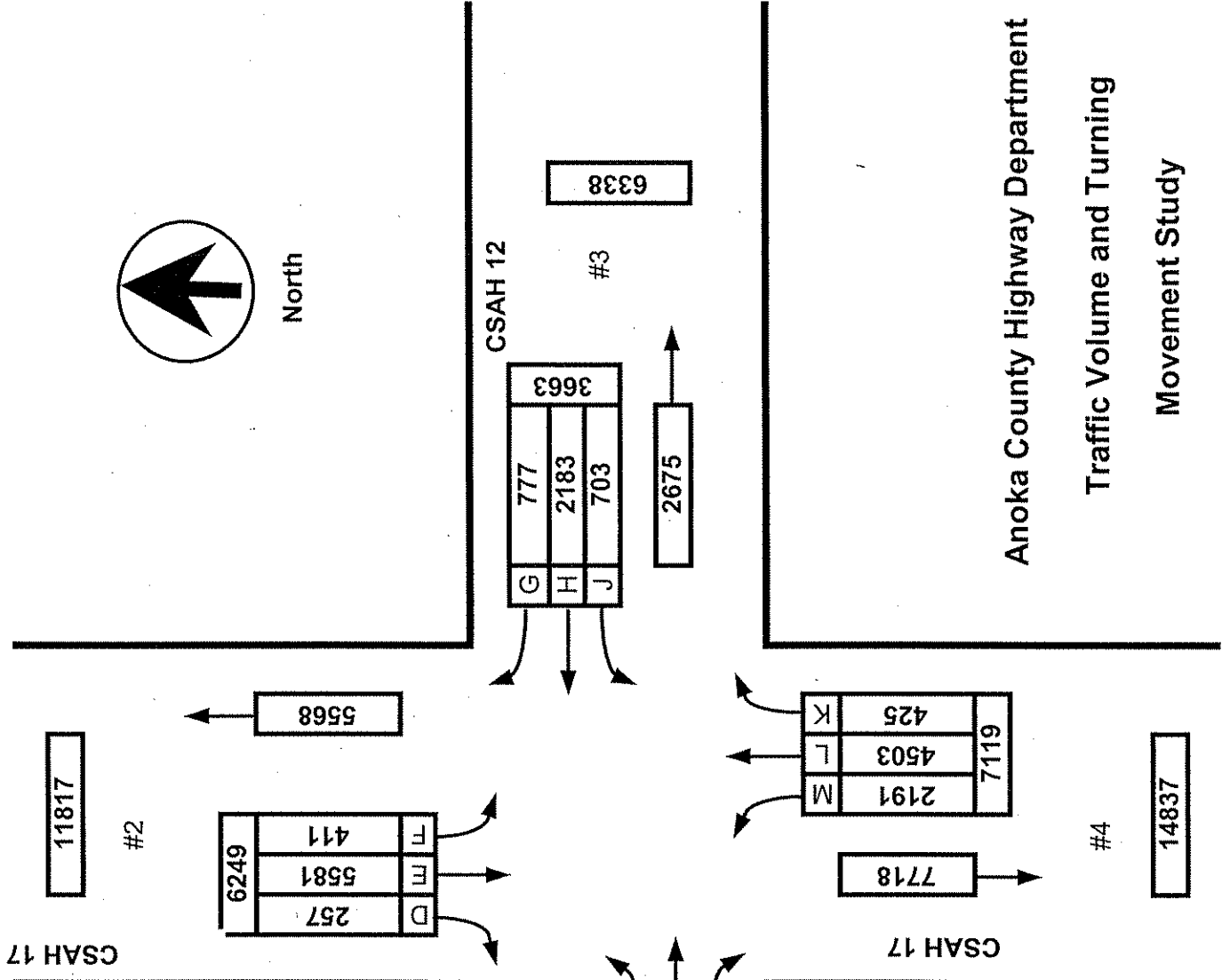
Count Number : TMC0332

Location : CSAH 17 (Lexington Blvd.) @

CSAH 12 (109th Ave.)



North



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

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Anoka County Highway Department
Traffic Engineering

Weather: Cloudy & Wet
Counter TDC-8

Traffic Volume and Turning Movement Stud

File Name : TMC0332
Site Code : 03320201
Start Date : 07/08/2003
Page No : 2

Groups Printed- 1 - Unshifted

Start Time	CSAH 17 Southbound					CSAH 12 Westbound					CSAH 17 Northbound					CSAH 12 Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Rig ht	Hea vy	App. Total	Left	Thru	Rig ht	Hea vy	App. Total	Left	Thru	Rig ht	Hea vy	App. Total	Left	Thru	Rig ht	Hea vy	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				
17:00	4	34	1	1	39	9	119	48	3	176	66	106	5	4	177	4	98	51	5	153	13	545	558
17:15	3	38	2	3	43	10	54	19	3	83	69	131	10	5	210	19	58	20	2	97	13	433	446
17:30	4	44	4	0	52	15	100	25	2	140	86	110	5	4	201	10	35	39	2	84	8	477	485
17:45	8	57	5	3	70	21	71	27	0	119	55	171	14	7	240	9	53	41	3	103	13	532	545
Total	19	173	12	7	204	55	344	119	8	518	276	518	34	20	828	42	244	151	12	437	47	1987	2034
18:00	13	23	2	0	38	17	49	15	0	81	66	113	12	6	191	6	43	42	1	91	7	401	408
18:15	5	22	5	1	32	10	61	25	3	96	57	89	4	5	150	4	46	32	0	82	9	360	369
18:30	8	43	3	2	54	15	97	25	1	137	43	77	4	3	124	11	42	39	1	92	7	407	414
18:45	5	29	2	1	36	9	59	32	1	100	41	51	9	6	101	4	50	42	0	96	8	333	341
Total	31	117	12	4	160	51	266	97	5	414	207	330	29	20	566	25	181	155	2	361	31	1501	1532
19:00	4	16	6	2	26	8	63	28	0	99	25	70	7	2	102	8	48	23	1	79	5	306	311
19:15	6	29	1	1	36	9	32	15	1	56	22	41	7	3	70	2	29	25	0	56	5	218	223
19:30	11	22	5	2	38	9	61	15	1	85	31	26	5	1	62	3	38	21	1	62	5	247	252
19:45	4	17	2	1	23	8	59	13	1	80	25	32	1	3	58	2	58	41	1	101	6	262	268
Total	25	84	14	6	123	34	215	71	3	320	103	169	20	9	292	15	173	110	3	298	21	1033	1054
20:00	0	12	3	0	15	15	56	16	0	87	22	21	7	1	50	4	33	29	2	66	3	218	221
20:15	6	45	1	0	52	2	47	21	2	70	29	43	1	1	73	6	41	21	0	68	3	263	266
20:30	2	18	2	1	22	9	40	13	2	62	23	54	5	6	82	3	18	18	0	39	9	205	214
20:45	4	5	1	0	10	11	57	13	1	81	9	19	2	0	30	19	57	15	1	91	2	212	214
Total	12	80	7	1	99	37	200	63	5	300	83	137	15	8	235	32	149	83	3	264	17	898	915
21:00	5	15	1	1	21	3	17	11	0	31	29	41	7	0	77	4	14	6	0	24	1	153	154
21:15	4	19	0	2	23	6	26	7	2	39	22	28	9	0	59	1	16	21	0	38	4	159	163
21:30	2	15	4	0	21	6	17	1	1	24	30	41	7	2	78	1	14	11	0	26	3	149	152
21:45	6	23	2	0	31	4	20	10	0	34	19	25	12	2	56	0	15	23	0	38	2	159	161
Total	17	72	7	3	96	19	80	29	3	128	100	135	35	4	270	6	59	61	0	126	10	620	630
Grand Total	411	558	257	237	6249	703	218	777	120	3663	219	450	425	328	7119	288	183	143	143	3561	828	2059	2142
Apprch %	6.6	89.3	4.1			19.2	59.6	21.2			30.8	63.3	6.0			8.1	51.6	40.3				2	0
Total %	2.0	27.1	1.2		30.3	3.4	10.6	3.8		17.8	10.6	21.9	2.1		34.6	1.4	8.9	7.0		17.3	3.9	96.1	

ANOKA COUNTY HIGHWAY DEPARTMENT

PC-WARRANTS TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name : TMC0332
Study Date : 08/26/03
Page No. : 1

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 17

Number of Lanes: 2
Approach Speed: 55
Total Approach Volume: 7,119

Southbound: CSAH 17

Number of Lanes: 2
Approach Speed: 55
Total Approach Volume: 6,249

Minor Street Approaches

Eastbound: CSAH 12

Number of Lanes: 2

Total Approach Volume: 3,561

Westbound: CSAH 12

Number of Lanes: 1

Total Approach Volume: 3,663

Warrant Summary (Rural values apply.)

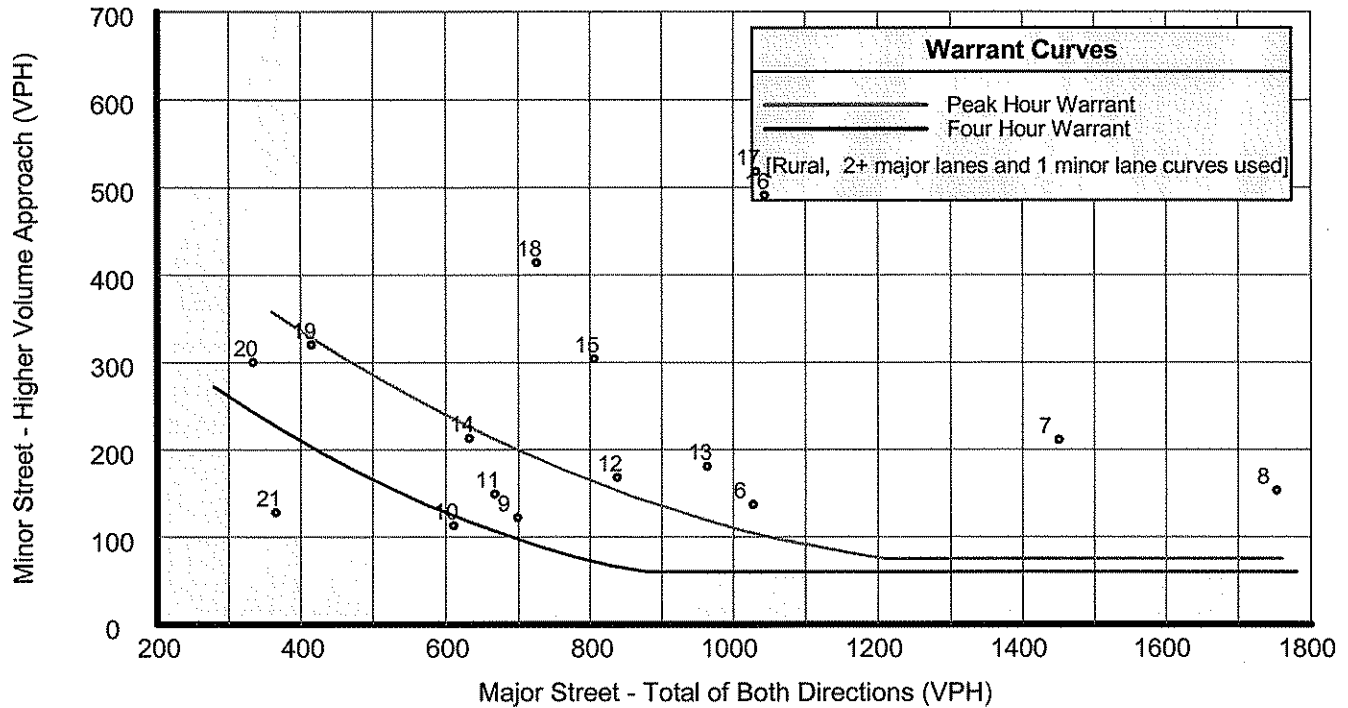
Warrant 1 - Eight Hour Vehicular Volumes	Satisfied
Warrant 1A - Minimum Vehicular Volume	Satisfied
Required volumes reached for 13 hours, 8 are needed	
Warrant 1B - Interruption of Continuous Traffic	Satisfied
Required volumes reached for 12 hours, 8 are needed	
Warrant 1 A&B - Combination of Warrants	Satisfied
Required volumes reached for 13 hours, 8 are needed	
Warrant 2 - Four Hour Volumes	Satisfied
Number of hours (14) volumes exceed minimum \geq minimum required (4).	
Warrant 3 - Peak Hour	Satisfied
Warrant 3A - Peak Hour Volumes	Satisfied
Volumes exceed minimums for at least one hour.	
Warrant 3B - Peak Hour Delay	Satisfied
Number of hours (50) volumes exceed minimum \geq required (1). Delay data not evaluated.	
Warrant 4 - Pedestrian Volumes	Not Evaluated
Warrant 5 - School Crossing	Not Evaluated
Warrant 6 - Coordinated Signal System	Not Evaluated
Warrant 7 - Crash Experience	Not Evaluated
Warrant 8 - Roadway Network	Not Evaluated

ANOKA COUNTY HIGHWAY DEPARTMENT

PC-WARRANTS TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name : TMC0332
Study Date : 08/26/03
Page No. : 2

Signal Warrants - Summary



Analysis of 8-Hour Volume Warrants:

Hour Begin	Major Total	Higher Minor Vol	Dir	War-1A			War-1B			War-1A&B		
				Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?
00:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
01:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
02:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
03:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
04:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
05:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
06:00	1,028	137	EB	420-Yes	105-Yes	Both	630-Yes	52-Yes	Both	504-Yes	84-Yes	Both
07:00	1,451	211	EB	420-Yes	105-Yes	Both	630-Yes	52-Yes	Both	504-Yes	84-Yes	Both
08:00	1,753	153	EB	420-Yes	105-Yes	Both	630-Yes	52-Yes	Both	504-Yes	84-Yes	Both
09:00	699	122	EB	420-Yes	105-Yes	Both	630-Yes	52-Yes	Both	504-Yes	84-Yes	Both
10:00	611	113	EB	420-Yes	105-Yes	Both	630-No	52-Yes	Minor	504-Yes	84-Yes	Both
11:00	668	149	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
12:00	838	168	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
13:00	964	181	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
14:00	633	213	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
15:00	806	304	EB	420-Yes	105-Yes	Both	630-Yes	52-Yes	Both	504-Yes	84-Yes	Both
16:00	1,044	491	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
17:00	1,032	518	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
18:00	726	414	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
19:00	415	320	WB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
20:00	334	300	WB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
21:00	366	128	WB	420-No	140-No	---	630-No	70-Yes	Minor	504-No	112-Yes	Minor
22:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
23:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---

ANOKA COUNTY HIGHWAY DEPARTMENT

PC-WARRANTS TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name : TMC0332

Study Date : 08/26/03

Multi-Way Stop Warrant Report

Major Street Approaches

Northbound: CSAH 17

Total Approach Volume: 7,119
Approach Speed: 55

Southbound: CSAH 17

Total Approach Volume: 6,249
Approach Speed: 55

Minor Street Approaches

Eastbound: CSAH 12

Total Approach Volume: 3,561

Westbound: CSAH 12

Total Approach Volume: 3,663

Warrant Summary

Criteria A - Interim Measure Not Evaluated

If traffic signals are justified, stop signs can be installed as an interim measure.

Criteria B - Crash Experience Not Evaluated

Number of crashes (0) is less than the minimum required (5).

Criteria C - Minimum Volumes and Delays Satisfied

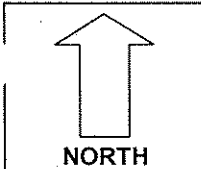
Delay data not evaluated
Required volumes reached for 16 hours, 8 are needed

Criteria D - 80% of Volumes, Delays, and Crashes Not Evaluated

Delay data not evaluated
Required volumes reached for 0 hours, 8 are needed

Analysis of 8-Hour Volume Warrants:

Time	Major Crit		Crit C			Crit D		
	Total	Minor Total	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?
00:00 - 01:00	0	0	210-No	140-No	No	240-No	160-No	No
01:00 - 02:00	0	0	210-No	140-No	No	240-No	160-No	No
02:00 - 03:00	0	0	210-No	140-No	No	240-No	160-No	No
03:00 - 04:00	0	0	210-No	140-No	No	240-No	160-No	No
04:00 - 05:00	0	0	210-No	140-No	No	240-No	160-No	No
05:00 - 06:00	0	0	210-No	140-No	No	240-No	160-No	No
06:00 - 07:00	1,028	237	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
07:00 - 08:00	1,451	326	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
08:00 - 09:00	1,753	248	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
09:00 - 10:00	699	207	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
10:00 - 11:00	611	220	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
11:00 - 12:00	668	226	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
12:00 - 13:00	838	294	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
13:00 - 14:00	964	345	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
14:00 - 15:00	633	393	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
15:00 - 16:00	806	583	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
16:00 - 17:00	1,044	979	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
17:00 - 18:00	1,032	955	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
18:00 - 19:00	726	775	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
19:00 - 20:00	415	618	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
20:00 - 21:00	334	564	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
21:00 - 22:00	366	254	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
22:00 - 23:00	0	0	210-No	140-No	No	240-No	160-No	No
23:00 - 00:00	0	0	210-No	140-No	No	240-No	160-No	No



COUNT LOCATION:

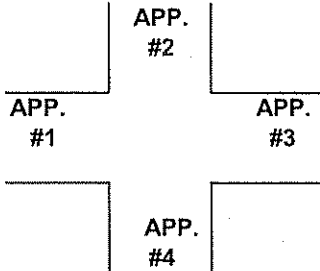
CSAH 17 (Lexington Ave.) @

DATE:

7/9/03

CSAH 12 (109th Ave.)

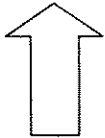
APP. #1 = CSAH 12
APP. #2 = CSAH 17
APP. #3 = CSAH 12
APP. #4 = CSAH 17



- 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						11	1	
6:15-6:30						12	1	2
6:30-6:45						11		
6:45-7:00						9		1
HOURLY TOTAL						HOURLY TOTAL		48
7:00-7:15						26	1	
7:15-7:30						14		
7:30-7:45						7		
7:45-8:00						15		
HOURLY TOTAL						HOURLY TOTAL		63
8:00-8:15						14		
8:15-8:30						15		
8:30-8:45						11	1	
8:45-9:00						16	3	
HOURLY TOTAL						HOURLY TOTAL		60
9:00-9:15						6		
9:15-9:30						18	1	
9:30-9:45						14	2	
9:45-10:00						11		
HOURLY TOTAL						HOURLY TOTAL		52
10:00-10:15						15		
10:15-10:30						16	1	3
10:30-10:45						14		
10:45-11:00	1				1	14		
HOURLY TOTAL					1	HOURLY TOTAL		63
11:00-11:15						11		
11:15-11:30						18	1	
11:30-11:45						14		
11:45-12:00						19	2	1
HOURLY TOTAL						HOURLY TOTAL		66
12:00-12:15						17	1	
12:15-12:30						23	1	
12:30-12:45						18	1	
12:45-1:00				1	1	16	1	
HOURLY TOTAL					1	HOURLY TOTAL		78
1:00-1:15						14	1	
1:15-1:30						18	1	
1:30-1:45						18	1	
1:45-2:00						16		1
HOURLY TOTAL						HOURLY TOTAL		70
					TOTAL		TOTAL	

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NORTH

COUNT LOCATION:

CSAH 17 (Lexington Ave.) @

DATE:

7/9/03

CSAH 12 (109th Ave.)

APP. #1 = CSAH 12
APP. #2 = CSAH 17
APP. #3 = CSAH 12
APP. #4 = CSAH 17

APP. #1	APP. #2	APP. #3	APP. #4
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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						15		
2:15-2:30						15		
2:30-2:45						15	2	
2:45-3:00						15		
HOURLY TOTAL						HOURLY TOTAL	62	
3:00-3:15						15		
3:15-3:30						14	1	
3:30-3:45						18	1	
3:45-4:00						11	1	1
HOURLY TOTAL						HOURLY TOTAL	62	
4:00-4:15						11		1
4:15-4:30	1				1	18		
4:30-4:45			1		1	12		
4:45-5:00						13		
HOURLY TOTAL	2					HOURLY TOTAL	55	
5:00-5:15						10		
5:15-5:30						11	1	1
5:30-5:45						9	1	
5:45-6:00						10	1	
HOURLY TOTAL						HOURLY TOTAL	44	
6:00-6:15						8	1	
6:15-6:30						5	1	
6:30-6:45						5		
6:45-7:00	1				1	10	1	
HOURLY TOTAL	1					HOURLY TOTAL	31	
7:00-7:15						5		
7:15-7:30						5		
7:30-7:45						4		
7:45-8:00						6		
HOURLY TOTAL						HOURLY TOTAL	20	
8:00-8:15						5	1	
8:15-8:30						1		
8:30-8:45						8		
8:45-9:00						3		
HOURLY TOTAL						HOURLY TOTAL	18	
9:00-9:15						1		
9:15-9:30						3		
9:30-9:45						2	1	
9:45-10:00						2		
HOURLY TOTAL						HOURLY TOTAL	9	
	TOTAL						TOTAL	

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