

Date : 07/16/07

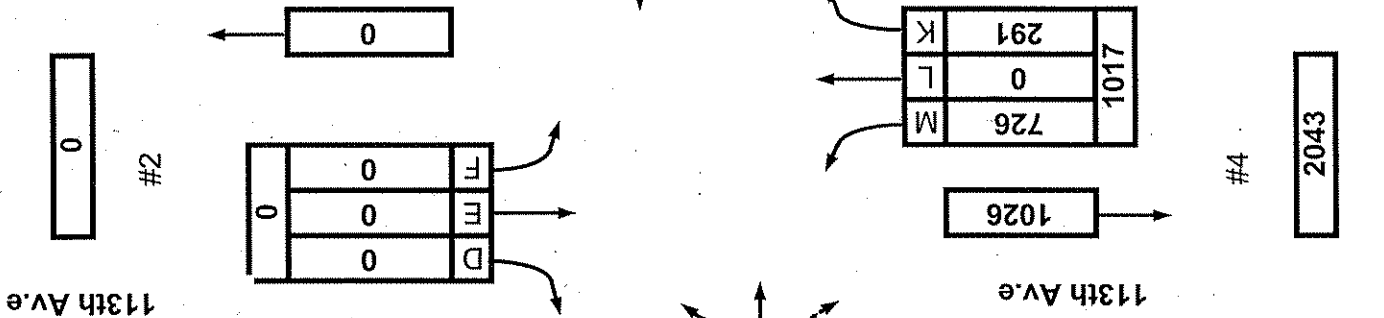
Count Number : TMC0722

Location : CSAH 51 (University Ave.)

@ 113th Ave. (Four Seasons)



North



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

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : 0722_TMC

Site Code : 07220102

Start Date : 07/19/200

Page No : 1

Weather: Hot and Warm

Counter: DB-400

Counted by: Anthony/Isaac

Groups Printed- Unshifted - Bank 1

Start Time	CSAH 51 Southbound					113th Ave. Westbound					CSAH 51 Northbound					Eastbound					Exclu. Total	Inclu. Total	Inl. Total
	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	0	37	0	0	37	3	0	5	0	8	0	32	3	2	35	0	0	0	0	0	2	80	82
06:15	1	129	0	0	130	15	0	10	1	25	0	36	3	1	39	0	0	0	0	0	2	194	196
06:30	2	309	0	3	311	28	0	5	1	33	0	29	4	0	33	0	0	0	0	0	4	377	381
06:45	3	284	0	1	287	20	0	3	1	23	0	29	1	0	30	0	0	0	0	0	2	340	342
Total	6	759	0	4	765	66	0	23	3	89	0	126	11	3	137	0	0	0	0	0	10	991	1001
07:00	1	298	0	1	299	18	0	2	0	20	0	30	5	2	35	0	0	0	0	0	3	354	357
07:15	1	281	0	0	282	18	0	3	3	21	0	33	7	4	40	0	0	0	0	0	7	343	350
07:30	0	261	0	0	261	21	0	3	1	24	0	54	3	4	57	0	0	0	0	0	5	342	347
07:45	0	225	0	0	225	8	0	4	0	12	0	47	8	4	55	0	0	0	0	0	4	292	296
Total	2	1065	0	1	1067	65	0	12	4	77	0	164	23	14	187	0	0	0	0	0	19	1331	1350
08:00	0	146	0	0	146	17	0	4	1	21	0	40	3	1	43	0	0	0	0	0	2	210	212
08:15	0	94	0	0	94	14	0	4	1	18	0	41	6	1	47	0	0	0	0	0	2	159	161
08:30	0	64	0	0	64	13	0	5	3	18	0	33	6	1	39	0	0	0	0	0	4	121	125
08:45	1	56	0	0	57	4	0	0	0	4	0	51	5	4	56	0	0	0	0	0	4	117	121
Total	1	360	0	0	361	48	0	13	5	61	0	165	20	7	185	0	0	0	0	0	12	607	619
09:00	2	56	0	0	58	9	0	3	0	12	0	46	7	2	53	0	0	0	0	0	2	123	125
09:15	0	54	0	0	54	12	0	1	1	13	0	59	10	1	69	0	0	0	0	0	2	136	138
09:30	1	55	0	0	56	11	0	3	0	14	0	54	14	2	68	0	0	0	0	0	2	138	140
09:45	7	52	1	0	60	15	0	5	0	20	0	52	7	1	59	0	0	0	0	0	1	139	140
Total	10	217	1	0	228	47	0	12	1	59	0	211	38	6	249	0	0	0	0	0	7	536	543
10:00	2	71	0	0	73	8	0	1	0	9	0	60	7	2	67	0	0	0	0	0	2	149	151
10:15	2	64	0	0	66	12	0	2	1	14	0	65	14	5	79	0	0	0	0	0	6	159	165
10:30	2	53	0	0	55	6	0	2	1	8	0	68	7	1	75	0	0	0	0	0	2	138	140
10:45	2	57	0	0	59	13	0	4	0	17	0	77	6	2	83	0	0	0	0	0	2	159	161
Total	8	245	0	0	253	39	0	9	2	48	0	270	34	10	304	0	0	0	0	0	12	605	617
11:00	3	56	0	0	59	14	0	6	1	20	0	76	15	4	91	0	0	0	0	0	5	170	175
11:15	1	63	0	0	64	12	0	3	1	15	0	78	9	2	87	0	0	0	0	0	3	166	169
11:30	3	50	0	0	53	13	0	2	1	15	0	74	7	1	81	0	0	0	0	0	2	149	151
11:45	2	41	0	0	43	11	0	3	1	14	0	64	9	3	73	0	0	0	0	0	4	130	134
Total	9	210	0	0	219	50	0	14	4	64	0	292	40	10	332	0	0	0	0	0	14	615	629
12:00	4	52	0	0	56	11	0	3	3	14	0	82	12	4	94	0	0	0	0	0	7	164	171
12:15	7	45	0	0	52	13	0	7	1	20	0	79	10	3	89	0	0	0	0	0	4	161	165
12:30	3	45	0	0	48	16	0	5	1	21	0	81	10	2	91	0	0	0	0	0	3	160	163
12:45	3	44	0	0	47	11	0	4	2	15	0	76	15	3	91	0	0	0	0	0	5	153	158
Total	17	186	0	0	203	51	0	19	7	70	0	318	47	12	365	0	0	0	0	0	19	638	657
13:00	5	45	0	0	50	13	0	7	2	20	0	75	9	2	84	0	0	0	0	0	4	154	158
13:15	5	54	0	0	59	11	0	9	1	20	0	91	21	3	112	0	0	0	0	0	4	191	195
13:30	1	32	0	0	33	15	0	7	1	22	0	84	11	2	95	0	0	0	0	0	3	150	153
13:45	9	46	0	0	55	11	0	7	8	18	0	91	9	5	100	0	0	0	0	0	13	173	186
Total	20	177	0	0	197	50	0	30	12	80	0	341	50	12	391	0	0	0	0	0	24	668	692
14:00	1	25	0	1	26	4	0	3	0	7	0	72	9	0	81	0	0	0	0	0	1	114	115
14:15	3	39	0	1	42	3	0	3	1	6	0	110	16	1	126	0	0	0	0	0	3	174	177
14:30	4	64	0	0	68	13	0	3	1	16	0	109	16	0	125	0	0	0	0	0	1	209	210
14:45	5	86	0	0	91	10	0	4	1	14	0	153	17	2	170	0	0	0	0	0	3	275	278
Total	13	214	0	2	227	30	0	13	3	43	0	444	58	3	502	0	0	0	0	0	8	772	780
15:00	8	93	0	0	101	8	0	4	0	12	0	135	13	1	148	0	0	0	0	0	1	261	262
15:15	10	85	0	0	95	7	0	4	1	11	0	204	23	3	227	0	0	0	0	0	4	333	337
15:30	5	101	0	0	106	9	0	5	0	14	0	206	15	2	221	0	0	0	0	0	2	341	343
15:45	7	76	0	0	83	6	0	9	1	15	0	229	19	2	248	0	0	0	0	0	3	346	349
Total	30	355	0	0	385	30	0	22	2	52	0	774	70	8	844	0	0	0	0	0	10	1281	1291
16:00	13	87	0	0	100	13	0	5	0	18	0	250	15	3	265	0	0	0	0	0	3	383	386
16:15	11	131	0	0	142	11	0	6	0	17	0	259	13	4	272	0	0	0	0	0	4	431	435
16:30	12	114	0	0	126	16	0	2	1	18	0	276	22	1	298	0	0	0	0	0	2	442	444
16:45	12	106	0	2	118	11	0	4	0	15	0	302	26	0	328	0	0	0	0	0	2	461	463
Total	48	438	0	2	486	51	0	17	1	68	0	1087	76	8	1163	0	0	0	0	0	11	1717	1728
17:00	7	109	0	0	116	12	0	7	0	19	0	256	23	2	279	0	0	0	0	0	2	414	416
17:15	9	93	0	0	102	13	0	5	0	18	0	320	21	3	341	0	0	0	0	0	3	461	464
17:30	8	117	0	0	125	14	0	8	1	22	0	306	25	1	331	0	0	0	0	0	2	478	480
17:45	10	93	0	0	103	19	0	6	0	25	0	270	24	2	294	0	0	0	0	0	2	422	424
Total	34	412	0	0	446	58	0	26	1	84	0	1152	93	8	1245	0	0	0	0	0	9	1775	1784
18																							

**ANOKA COUNTY HIGHWAY
PC-WARRANTS
TRAFFIC SIGNAL WARRANT ANALYSIS**

Study Name :
Study Date : 07/20/07
Page No. : 1

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 51

Number of Lanes: 2
Approach Speed: 40
Total Approach Volume: 7,739

Southbound: CSAH 51

Number of Lanes: 1
Approach Speed: 40
Total Approach Volume: 5,629

Minor Street Approaches

Eastbound:

Number of Lanes: 1

Total Approach Volume: 0

Westbound: 113th Ave.

Number of Lanes: 2

Total Approach Volume: 1,017

Warrant Summary (Urban values apply.)

- Warrant 1 - Eight Hour Vehicular Volumes Not Satisfied
 - Warrant 1A - Minimum Vehicular Volume Not Satisfied
Required volumes reached for 0 hours, 8 are needed
 - Warrant 1B - Interruption of Continuous Traffic Not Satisfied
Required volumes reached for 0 hours, 8 are needed
 - Warrant 1 A&B - Combination of Warrants Not Satisfied
Required volumes reached for 0 hours, 8 are needed

- Warrant 2 - Four Hour Volumes Not Satisfied
Number of hours (0) volumes exceed minimum < minimum required (4).

- Warrant 3 - Peak Hour Not Satisfied
 - Warrant 3A - Peak Hour Delay Not Satisfied
Approach volumes on minor street don't exceed minimums for any hour. Delay data not evaluated.
 - Warrant 3B - Peak Hour Volumes Not Satisfied
Volumes do not exceed minimums for any hour.

- Warrant 4 - Pedestrian Volumes Not Evaluated

- Warrant 5 - School Crossing Not Evaluated

- Warrant 6 - Coordinated Signal System Not Evaluated

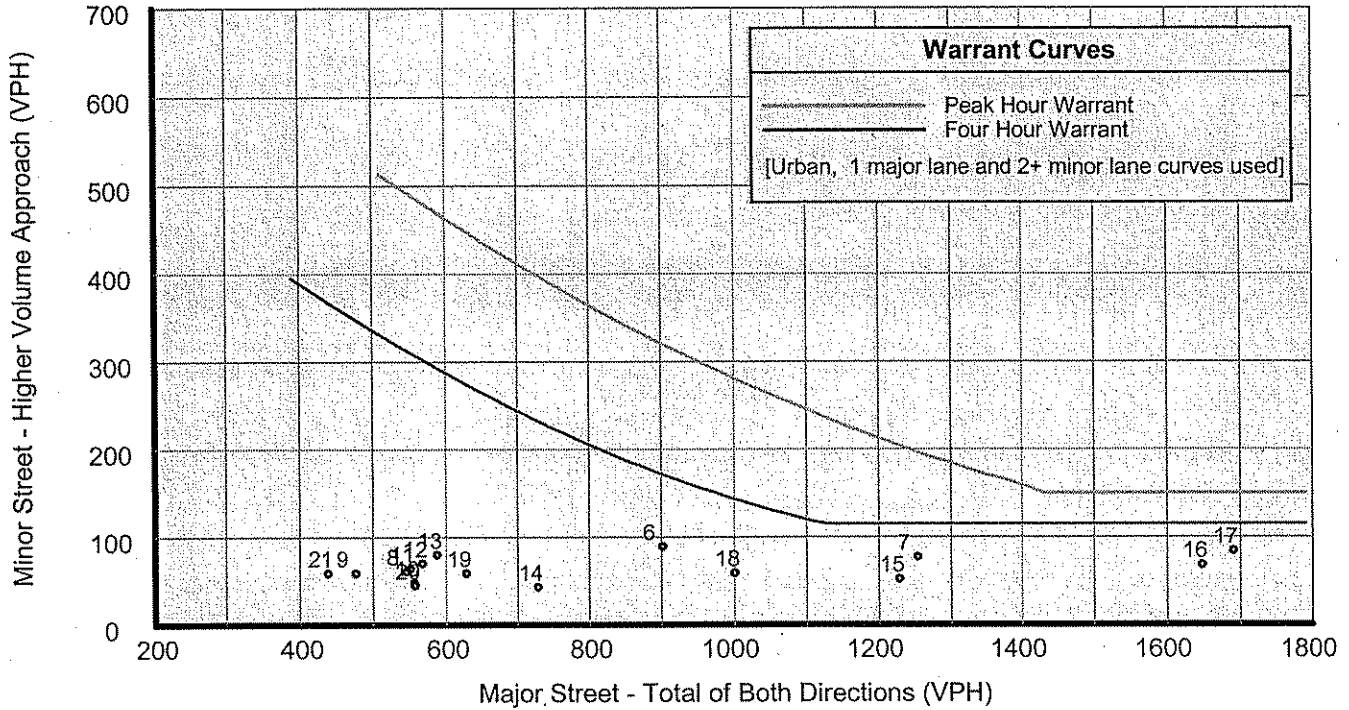
- Warrant 7 - Crash Experience Not Evaluated

- Warrant 8 - Roadway Network Not Evaluated

ANOKA COUNTY HIGHWAY PC-WARRANTS TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name :
Study Date : 07/20/07
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	500-No	200-No	---	750-No	100-No	---	600-No	160-No	---
01:00	0	0	EB	500-No	200-No	---	750-No	100-No	---	600-No	160-No	---
02:00	0	0	EB	500-No	200-No	---	750-No	100-No	---	600-No	160-No	---
03:00	0	0	EB	500-No	200-No	---	750-No	100-No	---	600-No	160-No	---
04:00	0	0	EB	500-No	200-No	---	750-No	100-No	---	600-No	160-No	---
05:00	0	0	EB	500-No	200-No	---	750-No	100-No	---	600-No	160-No	---
06:00	902	89	WB	500-Yes	200-No	Major	750-Yes	100-No	Major	600-Yes	160-No	Major
07:00	1,254	77	WB	500-Yes	200-No	Major	750-Yes	100-No	Major	600-Yes	160-No	Major
08:00	546	61	WB	500-Yes	200-No	Major	750-No	100-No	---	600-No	160-No	---
09:00	477	59	WB	500-No	200-No	---	750-No	100-No	---	600-No	160-No	---
10:00	557	48	WB	500-Yes	200-No	Major	750-No	100-No	---	600-No	160-No	---
11:00	551	64	WB	500-Yes	200-No	Major	750-No	100-No	---	600-No	160-No	---
12:00	568	70	WB	500-Yes	200-No	Major	750-No	100-No	---	600-No	160-No	---
13:00	588	80	WB	500-Yes	200-No	Major	750-No	100-No	---	600-No	160-No	---
14:00	729	43	WB	500-Yes	200-No	Major	750-No	100-No	---	600-Yes	160-No	Major
15:00	1,229	52	WB	500-Yes	200-No	Major	750-Yes	100-No	Major	600-Yes	160-No	Major
16:00	1,649	68	WB	500-Yes	200-No	Major	750-Yes	100-No	Major	600-Yes	160-No	Major
17:00	1,691	84	WB	500-Yes	200-No	Major	750-Yes	100-No	Major	600-Yes	160-No	Major
18:00	1,001	59	WB	500-Yes	200-No	Major	750-Yes	100-No	Major	600-Yes	160-No	Major
19:00	629	59	WB	500-Yes	200-No	Major	750-No	100-No	---	600-Yes	160-No	Major
20:00	558	45	WB	500-Yes	200-No	Major	750-No	100-No	---	600-No	160-No	---
21:00	439	59	WB	500-No	200-No	---	750-No	100-No	---	600-No	160-No	---
22:00	0	0	EB	500-No	200-No	---	750-No	100-No	---	600-No	160-No	---
23:00	0	0	EB	500-No	200-No	---	750-No	100-No	---	600-No	160-No	---

**ANOKA COUNTY HIGHWAY
PC-WARRANTS
TRAFFIC SIGNAL WARRANT ANALYSIS**

Study Name :
Study Date : 07/20/07
Page No. : 1

Multi-Way Stop Warrant Report

Major Street Approaches

Northbound: CSAH 51
Total Approach Volume: 7,739
Approach Speed: 40

Southbound: CSAH 51
Total Approach Volume: 5,629
Approach Speed: 40

Minor Street Approaches

Eastbound:
Total Approach Volume: 0

Westbound: 113th Ave.
Total Approach Volume: 1,017

Warrant Summary

Criteria A - Interim Measure Not Evaluated
If traffic signals are justified, stop signs can be installed as an interim measure.

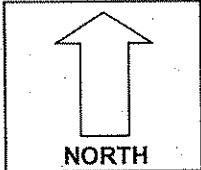
Criteria B - Crash Experience Not Evaluated

Criteria C - Minimum Volumes and Delays Not Satisfied
Delay data not evaluated
Required volumes reached for 1 hours, 8 are needed

Criteria D - 80% of Volumes, Delays, and Crashes Not Evaluated
Delay data not evaluated
Number of crashes (-1) is less than the minimum required (4).
Required volumes reached for 1 hours, 8 are needed

Analysis of 8 Hour Volume Warrants:

Time	Major Total	Minor Total	Crit C			Crit D		
			Major	Minor	Crit Meets?	Major	Minor	Crit Meets?
00:00 - 01:00	0	0	300-No	200-No	No	240-No	160-No	No
01:00 - 02:00	0	0	300-No	200-No	No	240-No	160-No	No
02:00 - 03:00	0	0	300-No	200-No	No	240-No	160-No	No
03:00 - 04:00	0	0	300-No	200-No	No	240-No	160-No	No
04:00 - 05:00	0	0	300-No	200-No	No	240-No	160-No	No
05:00 - 06:00	0	0	300-No	200-No	No	240-No	160-No	No
06:00 - 07:00	902	89	300-Yes	200-No	Major	240-Yes	160-No	Major
07:00 - 08:00	1,254	77	300-Yes	200-No	Major	240-Yes	160-No	Major
08:00 - 09:00	546	61	300-Yes	200-No	Major	240-Yes	160-No	Major
09:00 - 10:00	477	59	300-Yes	200-No	Major	240-Yes	160-No	Major
10:00 - 11:00	557	48	300-Yes	200-No	Major	240-Yes	160-No	Major
11:00 - 12:00	551	64	300-Yes	200-No	Major	240-Yes	160-No	Major
12:00 - 13:00	568	70	300-Yes	200-No	Major	240-Yes	160-No	Major
13:00 - 14:00	588	80	300-Yes	200-No	Major	240-Yes	160-No	Major
14:00 - 15:00	729	43	300-Yes	200-No	Major	240-Yes	160-No	Major
15:00 - 16:00	1,229	52	300-Yes	200-No	Major	240-Yes	160-No	Major
16:00 - 17:00	1,649	68	300-Yes	200-No	Major	240-Yes	160-No	Major
17:00 - 18:00	1,691	84	300-Yes	200-No	Major	240-Yes	160-No	Major
18:00 - 19:00	1,001	59	300-Yes	200-No	Major	240-Yes	160-No	Major
19:00 - 20:00	629	59	300-Yes	200-No	Major	240-Yes	160-No	Major
20:00 - 21:00	558	45	300-Yes	200-No	Major	240-Yes	160-No	Major
21:00 - 22:00	439	59	300-Yes	200-No	Major	240-Yes	160-No	Major
22:00 - 23:00	0	0	300-No	200-No	No	240-No	160-No	No
23:00 - 00:00	0	0	300-No	200-No	No	240-No	160-No	No



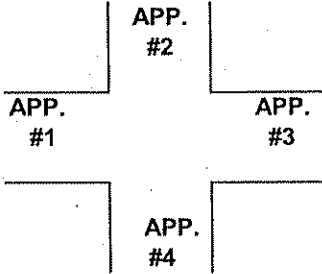
COUNT LOCATION:

CSAH 51 @ 113th Ave

DATE:

07/19/2007

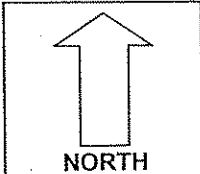
APP. #1 =
APP. #2 = CSAH 51
APP. #3 = 113th Ave.
APP. #4 = CSAH 51



- 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						2		
6:30-6:45						1		3
6:45-7:00						2		
HOURLY TOTAL						HOURLY TOTAL		10
7:00-7:15						3		
7:15-7:30						4		1
7:30-7:45								5
7:45-8:00						4		2
HOURLY TOTAL						HOURLY TOTAL		19
8:00-8:15								2
8:15-8:30								2
8:30-8:45						3		1
8:45-9:00								4
HOURLY TOTAL						HOURLY TOTAL		12
9:00-9:15								2
9:15-9:30								2
9:30-9:45						1		
9:45-10:00						2		
HOURLY TOTAL						HOURLY TOTAL		7
10:00-10:15								2
10:15-10:30						2		4
10:30-10:45								2
10:45-11:00								2
HOURLY TOTAL						HOURLY TOTAL		12
11:00-11:15								5
11:15-11:30								3
11:30-11:45						2		
11:45-12:00						4		
HOURLY TOTAL						HOURLY TOTAL		14
12:00-12:15						3		4
12:15-12:30								4
12:30-12:45						3		
12:45-1:00						1		4
HOURLY TOTAL						HOURLY TOTAL		19
1:00-1:15						3		
1:15-1:30						3		1
1:30-1:45								4
1:45-2:00						5		6
HOURLY TOTAL						HOURLY TOTAL		22
TOTAL						TOTAL		105

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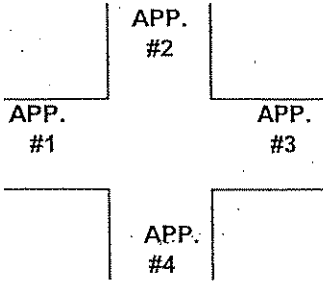
COUNT LOCATION:

CSAH 51 @ 113th Ave

DATE:

07/16/2006

APP. #1 =
APP. #2 = CSAH 51
APP. #3 = 113th Ave.
APP. #4 = CSAH 51



- 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								1
2:15-2:30						1	1	1
2:30-2:45						2		1
2:45-3:00								1
HOURLY TOTAL								8
3:00-3:15						1		
3:15-3:30								4
3:30-3:45								2
3:45-4:00						1	2	
HOURLY TOTAL								10
4:00-4:15						3		
4:15-4:30						1	2	1
4:30-4:45								2
4:45-5:00								2
HOURLY TOTAL								11
5:00-5:15								2
5:15-5:30						3		
5:30-5:45								2
5:45-6:00								2
HOURLY TOTAL								9
6:00-6:15								
6:15-6:30								2
6:30-6:45								
6:45-7:00								
HOURLY TOTAL								2
7:00-7:15								1
7:15-7:30								
7:30-7:45								
7:45-8:00								
HOURLY TOTAL								1
8:00-8:15						1		
8:15-8:30								1
8:30-8:45								
8:45-9:00								
HOURLY TOTAL								2
9:00-9:15								
9:15-9:30								
9:30-9:45								
9:45-10:00								
HOURLY TOTAL								0
TOTAL							TOTAL	148

1
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