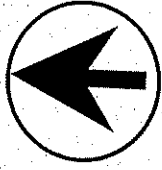


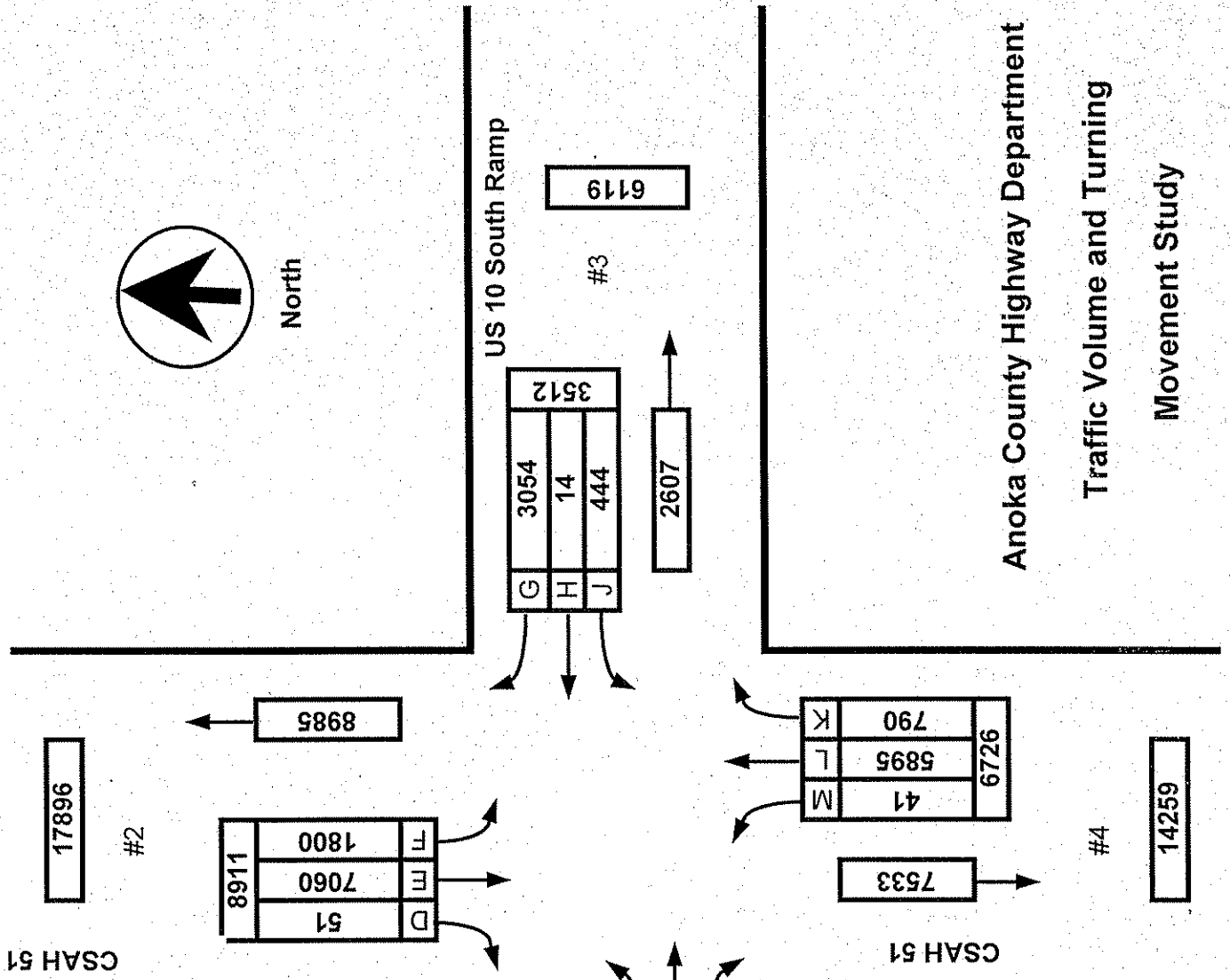
Date: 10/06/05

Count Number: TMC0532

Location: CSAH 51 (University Ave.)
 @ 94th Circle/US 10 South Ramp



North



#1

188	82	C
		B
		A

94th Circle

#2

8911	D
7060	E
1800	F

#3

3054	G
14	H
444	J

3512

2607

#4

41	M
5895	L
790	K

6726

	LANES OF APPROACH			TOTAL
	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	
#1	0	1	1	2
#2	1	2	2	5
#3	1	1	1	3
#4	1	1	2	4

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

14259

Anoka County Highway Department
 Traffic Engineering
 Traffic Volume and Turning Movement Stud

File Name : TMC0532
 Site Code : 05320101
 Start Date : 10/06/2005
 Page No : 1

Weather: Clear and Mild
 Counter: TDC-8
 Counted by: Josie/Terri

Groups Printed- 1 - Unshifted

Start Time	CSAH 51 Southbound					US 10 South Ramp Westbound					CSAH 51 Northbound					94th Circle Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Righ t	Hea vy	App. Total	Left	Thru	Righ t	Hea vy	App. Total	Left	Thru	Righ t	Hea vy	App. Total	Left	Thru	Righ t	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				
06:00	73	101	0	6	174	0	0	8	0	8	0	24	9	3	33	0	0	1	0	1	9	216	225
06:15	81	155	0	1	236	3	0	26	1	29	0	22	11	2	33	1	0	0	0	1	4	299	303
06:30	78	165	0	1	243	1	0	24	1	25	0	36	9	4	45	2	0	0	0	2	6	315	321
06:45	66	209	2	8	277	4	0	32	0	36	0	34	12	2	46	1	0	2	1	3	11	362	373
Total	298	630	2	16	930	8	0	90	2	98	0	116	41	11	157	4	0	3	1	7	30	1192	1222
07:00	92	243	0	6	335	4	0	30	1	34	0	36	11	5	47	0	0	0	0	0	12	416	428
07:15	66	260	1	4	327	10	0	36	1	46	0	35	6	2	41	1	0	2	0	3	7	417	424
07:30	50	234	0	5	284	12	0	33	0	45	0	45	5	1	50	0	3	1	0	4	6	383	389
07:45	65	268	0	10	333	12	0	22	1	34	0	26	5	5	31	0	0	0	0	0	16	398	414
Total	273	1005	1	25	1279	38	0	121	3	159	0	142	27	13	169	1	3	3	0	7	41	1614	1655
08:00	57	158	1	5	216	3	0	30	1	33	0	37	5	3	42	0	0	2	0	2	9	293	302
08:15	46	142	0	10	188	8	0	17	1	25	1	41	5	2	47	0	0	1	0	1	13	261	274
08:30	45	122	0	6	167	9	0	21	1	30	1	32	7	2	40	0	2	0	0	2	9	239	248
08:45	38	110	1	10	149	12	1	26	3	39	1	47	3	2	51	0	0	0	0	0	15	239	254
Total	186	532	2	31	720	32	1	94	6	127	3	157	20	9	180	0	2	3	0	5	46	1032	1078
09:00	32	98	2	5	132	4	0	19	0	23	1	56	7	6	64	0	0	2	0	2	11	221	232
09:15	32	97	0	6	129	3	0	17	0	20	0	49	2	3	51	1	0	0	0	1	9	201	210
09:30	34	118	0	4	152	3	1	22	1	26	0	55	15	5	70	2	3	0	0	5	10	253	263
09:45	24	102	1	4	127	3	0	24	2	27	2	55	8	3	65	0	1	0	0	1	9	220	229
Total	122	415	3	19	540	13	1	82	3	96	3	215	32	17	250	3	4	2	0	9	39	895	934
10:00	27	109	0	4	136	4	2	11	1	17	0	60	6	2	66	1	0	0	0	1	7	220	227
10:15	26	93	0	2	119	7	0	19	2	26	1	49	10	6	60	1	0	1	0	2	10	207	217
10:30	16	80	0	5	96	8	0	26	2	34	1	77	9	4	87	0	0	0	0	0	11	217	228
10:45	24	123	1	6	148	6	0	24	4	30	1	62	17	4	80	0	0	0	0	0	14	258	272
Total	93	405	1	17	499	25	2	80	9	107	3	248	42	16	293	2	0	1	0	3	42	902	944
11:00	17	76	0	4	93	14	0	24	2	38	2	78	10	5	90	2	0	0	0	2	11	223	234
11:15	16	107	1	5	124	8	0	20	1	28	0	86	11	2	97	0	0	0	0	0	8	249	257
11:30	27	93	3	4	123	6	0	24	3	30	0	85	14	3	99	1	0	0	0	1	10	253	263
11:45	17	109	0	4	126	8	0	23	0	31	0	87	14	1	101	0	0	0	0	0	5	258	263
Total	77	385	4	17	466	36	0	91	6	127	2	336	49	11	387	3	0	0	0	3	34	983	1017
12:00	19	99	0	4	118	7	0	25	2	32	2	68	12	2	82	0	0	0	0	0	8	232	240
12:15	14	113	1	3	128	7	0	16	0	23	1	92	20	1	113	0	0	2	1	2	5	266	271
12:30	25	112	0	2	137	6	0	30	1	36	1	98	9	1	108	2	0	2	0	4	4	285	289
12:45	23	110	0	3	133	9	0	43	3	52	0	94	16	2	110	0	0	0	0	0	8	295	303
Total	81	434	1	12	516	29	0	114	6	143	4	352	57	6	413	2	0	4	1	6	25	1078	1103
13:00	32	113	2	6	147	5	0	28	3	33	0	85	16	5	101	3	4	0	0	7	14	288	302
13:15	26	98	1	6	125	6	0	38	1	44	1	85	20	1	106	0	0	1	0	1	8	276	284
13:30	30	136	2	5	168	7	1	36	0	44	1	100	9	5	110	1	0	0	0	1	10	323	333
13:45	26	101	1	4	128	5	0	39	2	44	1	102	10	1	113	0	0	2	0	2	7	287	294
Total	114	448	6	21	568	23	1	141	6	165	3	372	55	12	430	4	4	3	0	11	39	1174	1213
14:00	17	101	1	3	119	14	0	42	3	56	1	111	18	7	130	0	0	1	0	1	13	306	319
14:15	29	121	0	9	150	8	0	61	0	69	1	128	8	2	137	1	1	0	0	2	11	358	369
14:30	14	132	1	8	147	8	0	71	4	79	2	126	18	3	146	0	0	1	1	1	16	373	389
14:45	22	128	0	9	150	10	0	90	0	100	0	136	20	5	156	1	0	0	0	1	14	407	421
Total	82	482	2	29	566	40	0	264	7	304	4	501	64	17	569	2	1	2	1	5	54	1444	1498
15:00	28	124	2	4	154	7	0	79	1	86	2	154	16	6	172	2	0	0	0	2	11	414	425
15:15	17	109	0	3	126	11	1	106	1	118	0	150	19	0	169	1	0	0	0	1	4	414	418
15:30	33	146	2	4	181	9	1	118	1	128	1	215	23	6	239	1	0	0	1	1	12	549	561
15:45	23	139	1	8	163	19	1	130	1	150	2	184	13	1	199	2	1	0	0	3	10	515	525
Total	101	518	5	19	624	46	3	433	4	482	5	703	71	13	779	6	1	0	1	7	37	1892	1929
16:00	12	121	2	1	135	8	0	103	4	111	0	206	33	8	239	1	0	0	0	1	13	486	499
16:15	20	123	6	1	149	9	1	132	2	142	0	239	24	2	263	1	0	0	0	1	5	555	560
16:30	32	105	1	3	138	16	1	134	1	151	1	216	33	3	250	1	0	1	0	2	7	541	548
16:45	25	108	1	2	134	15	0	132	0	147	1	254	26	1	281	1	0	1	0	2	3	564	567
Total	89	457	10	7	556	48	2	501	7	551	2	915	116	14	1033	4	0	2	0	6	28	2146	2174
17:00	24	134	2	0	160	13	1	141	0	155	3	273	21	4	297	1	0	1	0	2	4	614	618
17:15	30	127	2	3	159	12	0	128	4	140	2	213	15	3	230	1	0	0	0	1	10	530	540
17:30	28	113	1	2	142	10	0	139	1	149	1	220	36	2	257	2	0	0	0	2	5	550	555
17:45	25	133	0	3	158	11	0	99	3	110	3	173	11	2	187	0	1	1	0	2	8	457	465
Total	107	507	5	8	619	46	1	507	8	554	9	879	83	11	971	4	1	2	0	7	27	2151	2178

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

Study Name : TMC0532
Study Date : 10/26/05
Page No. : 1

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 51
Number of Lanes: 2
Approach Speed: 45
Total Approach Volume: 6,726

Southbound: CSAH 51
Number of Lanes: 2
Approach Speed: 45
Total Approach Volume: 8,911

Minor Street Approaches

Eastbound: 94th Circle
Number of Lanes: 2
Total Approach Volume: 82

Westbound: US 10 South Ramp
Number of Lanes: 2
Total Approach Volume: 3,512

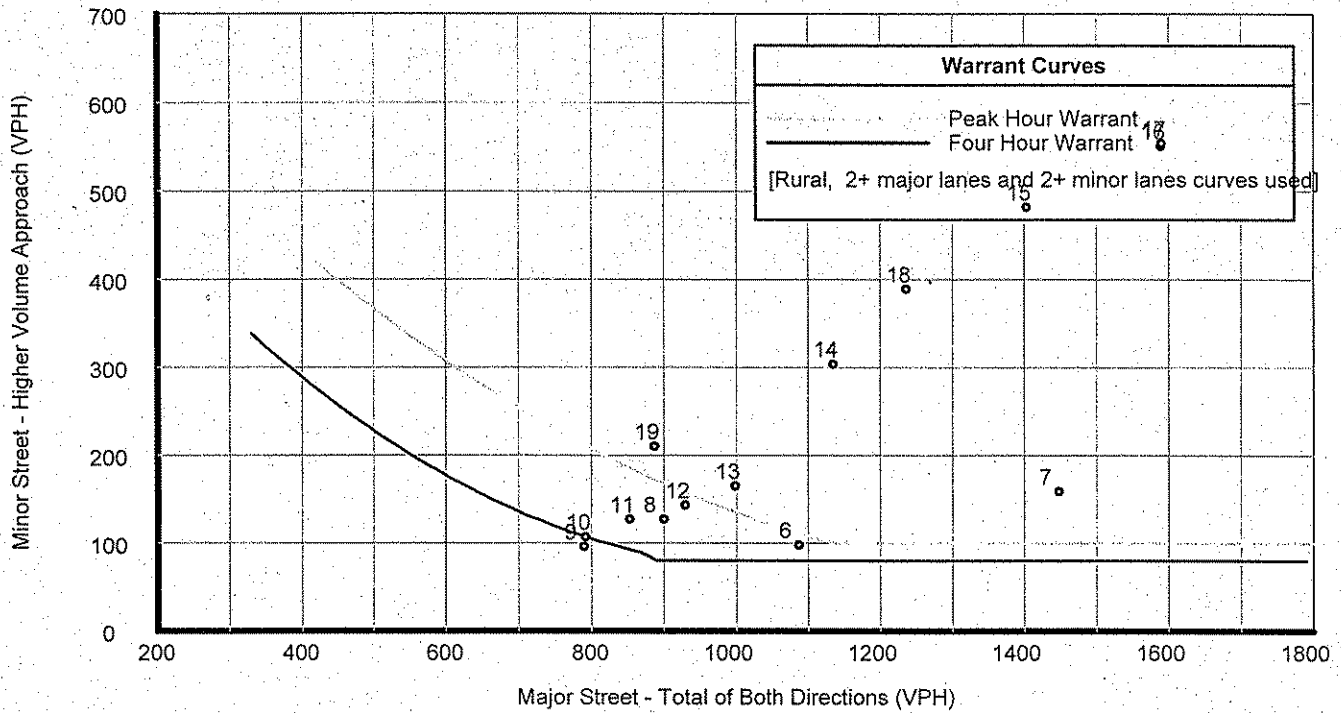
Warrant Summary (Rural values apply.)

Warrant 1 - Eight Hour Vehicular Volumes	Satisfied
Warrant 1A - Minimum Vehicular Volume Satisfied	
Required volumes reached for 9 hours, 8 are needed	
Warrant 1B - Interruption of Continuous Traffic Satisfied	
Required volumes reached for 14 hours, 8 are needed	
Warrant 1 A&B - Combination of Warrants Satisfied	
Required volumes reached for 11 hours, 8 are needed	
Warrant 2 - Four Hour Volumes	Satisfied
Number of hours (13) volumes exceed minimum >= minimum required (4).	
Warrant 3 - Peak Hour	Satisfied
Warrant 3A - Peak Hour Delay Satisfied	
Number of hours (30) volumes exceed minimum >= required (1). Delay data not evaluated.	
Warrant 3B - Peak Hour Volumes Satisfied	
Volumes exceed minimums for at least one 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 : TMC0532
Study Date : 10/26/05
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	1,087	98	WB	420-Yes	140-No	Major	630-Yes	70-Yes	Both	504-Yes	112-No	Major
07:00	1,448	159	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
08:00	900	127	WB	420-Yes	140-No	Major	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
09:00	790	96	WB	420-Yes	140-No	Major	630-Yes	70-Yes	Both	504-Yes	112-No	Major
10:00	792	107	WB	420-Yes	140-No	Major	630-Yes	70-Yes	Both	504-Yes	112-No	Major
11:00	853	127	WB	420-Yes	140-No	Major	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
12:00	929	143	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
13:00	998	165	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
14:00	1,135	304	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
15:00	1,403	482	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
16:00	1,589	551	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
17:00	1,590	554	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
18:00	1,236	389	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
19:00	887	210	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
20:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
21:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
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
PC-WARRANTS
TRAFFIC SIGNAL WARRANT ANALYSIS**

Study Name : TMC0532
Study Date : 10/26/05

Multi-Way Stop Warrant Report

Major Street Approaches

Northbound: CSAH 51
Total Approach Volume: 6,726
Approach Speed: 45

Southbound: CSAH 51
Total Approach Volume: 8,911
Approach Speed: 45

Minor Street Approaches

Eastbound: 94th Circle
Total Approach Volume: 82

Westbound: US 10 South Ramp
Total Approach Volume: 3,512

Warrant Summary

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

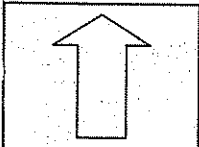
Criteria B - Crash Experience Not Evaluated

Criteria C - Minimum Volumes and Delays Satisfied
Delay data not evaluated
Required volumes reached for 9 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 Total	Minor Total	Crit C			Crit D		
			Major	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	1,087	105	210-Yes	140-No	Major	240-Yes	160-No	Major
07:00 - 08:00	1,448	166	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
08:00 - 09:00	900	132	210-Yes	140-No	Major	240-Yes	160-No	Major
09:00 - 10:00	790	105	210-Yes	140-No	Major	240-Yes	160-No	Major
10:00 - 11:00	792	110	210-Yes	140-No	Major	240-Yes	160-No	Major
11:00 - 12:00	853	130	210-Yes	140-No	Major	240-Yes	160-No	Major
12:00 - 13:00	929	149	210-Yes	140-Yes	Both	240-Yes	160-No	Major
13:00 - 14:00	998	176	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
14:00 - 15:00	1,135	309	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
15:00 - 16:00	1,403	489	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
16:00 - 17:00	1,589	557	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
17:00 - 18:00	1,590	561	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
18:00 - 19:00	1,236	391	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
19:00 - 20:00	887	214	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
20:00 - 21:00	0	0	210-No	140-No	No	240-No	160-No	No
21:00 - 22:00	0	0	210-No	140-No	No	240-No	160-No	No
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 51 (University Ave.) @
94th Circle/ US 10 South Ramp

DATE:

10/06/2005

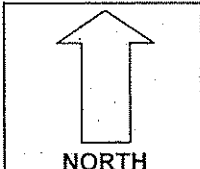
NORTH
APP.#1= 94th Circle
APP.#2= CSAH 51
APP.#3= US10 South Ram
APP.#4= CSAH 51

APP. #2	APP. #3
APP. #1	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						5		4
6:15-6:30						3		1
6:30-6:45				2	2	4		2
6:45-7:00				1	1	3		8
HOURLY TOTAL					3	HOURLY TOTAL		30
7:00-7:15						4		7
7:15-7:30						7		
7:30-7:45						3		2
7:45-8:00						12		7
HOURLY TOTAL						HOURLY TOTAL		42
8:00-8:15						5		5
8:15-8:30						13		
8:30-8:45						8		1
8:45-9:00						4		10
HOURLY TOTAL						HOURLY TOTAL		46
9:00-9:15						7		6
9:15-9:30						8		1
9:30-9:45						8		3
9:45-10:00						6		1
HOURLY TOTAL						HOURLY TOTAL		40
10:00-10:15						5		2
10:15-10:30						9		1
10:30-10:45			1		1	12		
10:45-11:00						11	1	1
HOURLY TOTAL					1	HOURLY TOTAL		42
11:00-11:15						9		1
11:15-11:30						8		
11:30-11:45						9		1
11:45-12:00						3		2
HOURLY TOTAL						HOURLY TOTAL		33
12:00-12:15						5		2
12:15-12:30		1			1	5		
12:30-12:45						1		3
12:45-1:00						7		1
HOURLY TOTAL					1	HOURLY TOTAL		24
1:00-1:15						12		2
1:15-1:30						8		
1:30-1:45						10		
1:45-2:00						7		
HOURLY TOTAL						HOURLY TOTAL		39
TOTAL					5	TOTAL		296

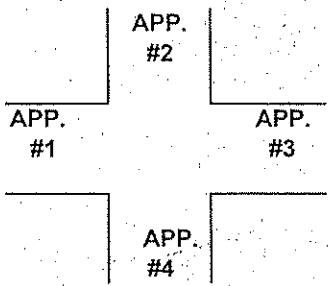
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COUNT LOCATION: CSAH 51 (University Ave.) @ DATE: 10/10/2005

94th Circle/ US 10 South Ramp

APP.#1= 94th Circle
APP.#2= CSAH 51
APP.#3= US10 South Ram
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			2		2	9		4
2:15-2:30						4		7
2:30-2:45	1		1		2	10		6
2:45-3:00			4		4	5		9
HOURLY TOTAL					8	HOURLY TOTAL		54
3:00-3:15						6		5
3:15-3:30			2	1	3	3		2
3:30-3:45						8		3
3:45-4:00						4		4
HOURLY TOTAL					3	HOURLY TOTAL		35
4:00-4:15			1		1	4		9
4:15-4:30						2		3
4:30-4:45						4		3
4:45-5:00								2
HOURLY TOTAL					1	HOURLY TOTAL		27
5:00-5:15			4	1	5	1		3
5:15-5:30						8		2
5:30-5:45			1	1	2	4		2
5:45-6:00			1		1	4		3
HOURLY TOTAL					8	HOURLY TOTAL		27
6:00-6:15			1		1	2		1
6:15-6:30			2		2	3		1
6:30-6:45			1		1	2		1
6:45-7:00			1		1	1		1
HOURLY TOTAL					5	HOURLY TOTAL		12
7:00-7:15			1		1	10		
7:15-7:30						1		
7:30-7:45			1		1	1		
7:45-8:00						1		
HOURLY TOTAL					2	HOURLY TOTAL		13
			TOTAL		32		TOTAL	464

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