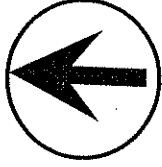


Date : 7/24/06

Count Number : TMC0623

Location : CSAH 22 (Viking Blvd.)

@ CSAH 9 (Rum River Blvd.)



North

5429

#2

3316	578	199
D	M	T

2113

CSAH 22 (Viking Blvd.)

9086

#3

66	2319	495
G	H	J

2926

3445

#1

5956

197	1643	671
C	B	A

CSAH 22 (Viking Blvd.)

705	1850	927
K	L	M

3705

#4

7187

CSAH 9

	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

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

File Name : TMC0623
Site Code : 06230101
Start Date : 07/24/2006
Page No : 2

Weather: sunny and hot
Counter: DB-400
Counted by: Jordan/Tom

Groups Printed- Unshifted

Start Time	CSAH 9 Southbound					CSAH 22 Westbound					CSAH 9 Northbound					CSAH 22 Eastbound					Exclu. Total	Inclu. Total	Int. 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			
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				
19:00	4	28	2	1	34	4	19	5	2	28	24	32	12	2	68	8	19	19	2	46	7	176	183
19:15	4	23	4	0	31	9	26	2	0	37	11	40	7	0	58	4	20	11	2	35	2	161	163
19:30	4	22	5	1	31	1	20	7	0	28	14	38	9	3	61	4	11	4	0	19	4	139	143
19:45	7	29	4	0	40	7	27	6	3	40	12	18	8	2	38	1	11	4	0	16	5	134	139
Total	19	102	15	2	136	21	92	20	5	133	61	128	36	7	225	17	61	38	4	116	18	610	628
20:00	6	22	1	0	29	8	23	3	2	34	14	17	8	0	39	1	10	9	2	20	4	122	126
20:15	5	18	2	0	25	4	17	4	1	25	12	32	10	0	54	2	10	4	0	16	1	120	121
20:30	3	15	0	0	18	6	23	4	2	33	12	23	8	1	43	2	18	6	2	26	5	120	125
20:45	10	11	3	0	24	3	27	2	1	32	12	32	8	1	52	1	7	3	1	11	3	119	122
Total	24	66	6	0	96	21	90	13	6	124	50	104	34	2	188	6	45	22	5	73	13	481	494
21:00	5	14	2	0	21	6	10	7	0	23	4	14	8	0	26	2	17	7	0	26	0	96	96
21:15	2	21	1	0	24	7	9	3	0	19	8	16	8	0	32	1	9	5	1	15	1	90	91
21:30	4	17	1	0	22	6	18	6	1	30	15	22	5	0	42	1	12	6	1	19	2	113	115
21:45	0	0	0	0	0	0	0	0	0	0	11	17	6	0	34	1	8	7	0	16	0	50	50
Total	11	52	4	0	67	19	37	16	1	72	38	69	27	0	134	5	46	25	2	76	3	349	352
Grand Total	578	2539	199	145	3316	796	2319	495	362	3610	927	1850	705	121	3482	197	1643	671	286	2511	914	12919	13833
Approch %	17.4	76.6	6.0			22.0	64.2	13.7			26.6	53.1	20.2			7.8	65.4	26.7			6.6	93.4	
Total %	4.5	19.7	1.5		25.7	6.2	18.0	3.8		27.9	7.2	14.3	5.5		27.0	1.5	12.7	5.2		19.4			

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

Study Name : **TMC0623**
Study Date : **07/28/06**
Page No. : **1**

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 9

Number of Lanes: **2**
Approach Speed: **55**
Total Approach Volume: **3,482**

Southbound: CSAH 9

Number of Lanes: **2**
Approach Speed: **55**
Total Approach Volume: **3,316**

Minor Street Approaches

Eastbound: CSAH 22

Number of Lanes: **2**

Total Approach Volume: **2,511**

Westbound: CSAH 22

Number of Lanes: **2**

Total Approach Volume: **3,610**

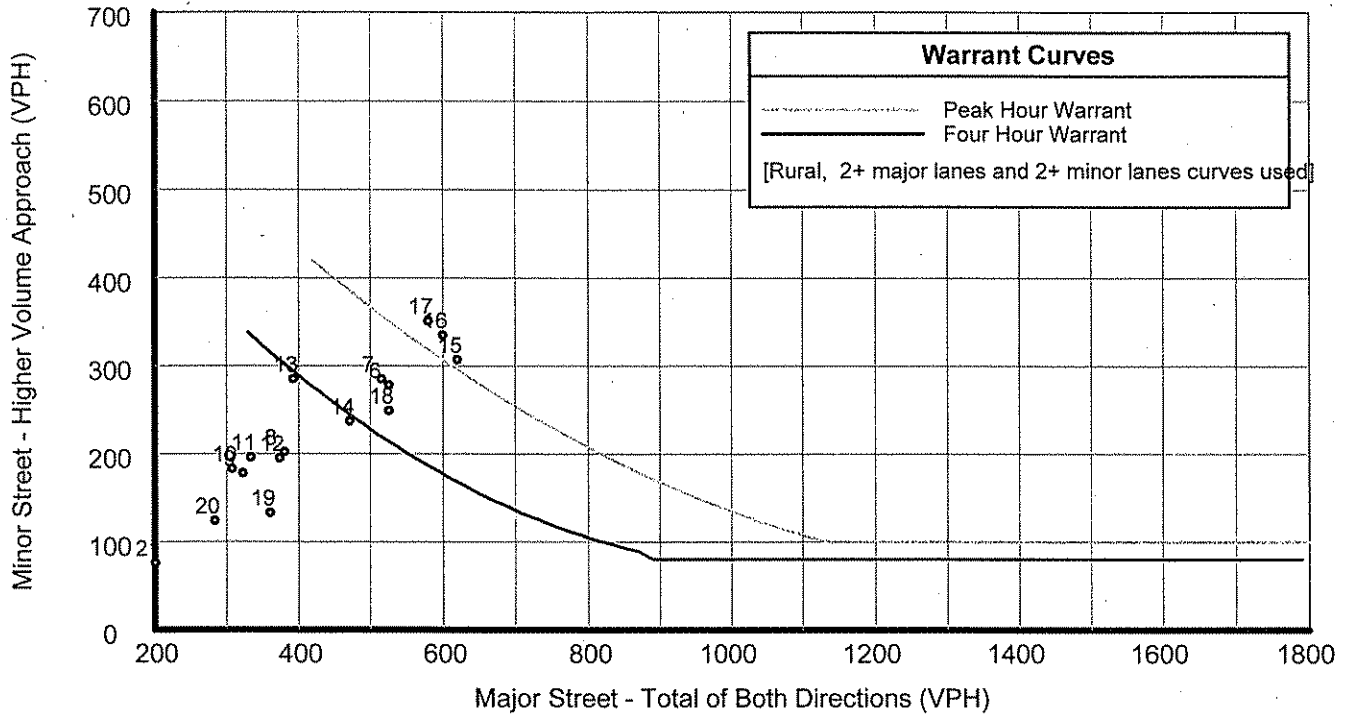
Warrant Summary (Rural values apply.)

Warrant 1 - Eight Hour Vehicular Volumes	Not Satisfied
Warrant 1A - Minimum Vehicular Volume	Not Satisfied
Required volumes reached for 7 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 6 hours, 8 are needed	
Warrant 2 - Four Hour Volumes	Satisfied
Number of hours (6) volumes exceed minimum >= minimum required (4).	
Warrant 3 - Peak Hour	Satisfied
Warrant 3A - Peak Hour Delay	Satisfied
Number of hours (24) 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 : TMC0623
Study Date : 07/28/06
Page No. : 2

Signal Warrants - Summary



Analysis of 8-Hour Volume Warrants:

Hour Begin	Major Total	Higher Minor		War-1A			War-1B			War-1A&B		
		Vol	Dir	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	526	278	WB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-Yes	112-Yes	Both
07:00	516	285	WB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-Yes	112-Yes	Both
08:00	381	202	WB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
09:00	323	178	WB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
10:00	308	183	WB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
11:00	334	196	WB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
12:00	374	195	WB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
13:00	393	285	WB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
14:00	471	237	WB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-No	112-Yes	Minor
15:00	620	307	WB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-Yes	112-Yes	Both
16:00	600	335	WB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-Yes	112-Yes	Both
17:00	580	351	WB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-Yes	112-Yes	Both
18:00	526	249	WB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-Yes	112-Yes	Both
19:00	361	133	WB	420-No	140-No	---	630-No	70-Yes	Minor	504-No	112-Yes	Minor
20:00	284	124	WB	420-No	140-No	---	630-No	70-Yes	Minor	504-No	112-Yes	Minor
21:00	201	76	EB	420-No	140-No	---	630-No	70-Yes	Minor	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 : **TMC0623**
Study Date : **07/28/06**
Page No. : **1**

Multi-Way Stop Warrant Report

Major Street Approaches

Northbound: CSAH 9

Total Approach Volume: **3,482**
Approach Speed: **55**

Southbound: CSAH 9

Total Approach Volume: **3,316**
Approach Speed: **55**

Minor Street Approaches

Eastbound: CSAH 22

Total Approach Volume: **2,511**

Westbound: CSAH 22

Total Approach Volume: **3,610**

Warrant Summary

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

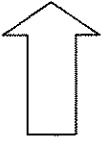
Criteria B - Crash Experience Not Evaluated

Criteria C - Minimum Volumes and Delays Satisfied
Delay data not evaluated
Required volumes reached for 15 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 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	526	528	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
07:00 - 08:00	516	542	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
08:00 - 09:00	381	393	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
09:00 - 10:00	323	333	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
10:00 - 11:00	308	327	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
11:00 - 12:00	334	357	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
12:00 - 13:00	374	336	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
13:00 - 14:00	393	439	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
14:00 - 15:00	471	400	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
15:00 - 16:00	620	478	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
16:00 - 17:00	600	522	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
17:00 - 18:00	580	495	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
18:00 - 19:00	526	377	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
19:00 - 20:00	361	249	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
20:00 - 21:00	284	197	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
21:00 - 22:00	201	148	210-No	140-Yes	Minor	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



NORTH

COUNT LOCATION:

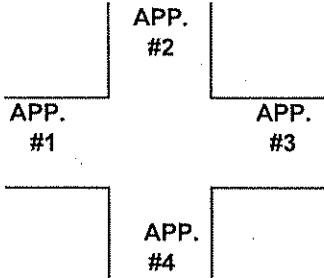
CSAH 22 (Viking Blvd.)

DATE:

07/24/2006

@ CSAH 9 (Lake Geroge Blvd.)

APP.#1= CSAH 22
APP.#2= CSAH 9
APP.#3= CSAH 22
APP.#4= CSAH 9

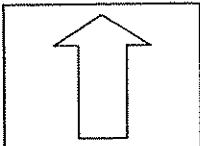


HEAVY VEHICLE- ANY VEHICLE HAVING MORE THAN FOUR TIRES TOUCHING THE PAVEMENT

- 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						18		
2:15-2:30						25		
2:30-2:45						18		1
2:45-3:00						24		
HOURLY TOTAL						HOURLY TOTAL		86
3:00-3:15						13		
3:15-3:30						17		
3:30-3:45						30		1
3:45-4:00						16		3
HOURLY TOTAL						HOURLY TOTAL		80
4:00-4:15						15		
4:15-4:30						20		
4:30-4:45						11		
4:45-5:00						13		
HOURLY TOTAL						HOURLY TOTAL		59
5:00-5:15						11		
5:15-5:30						14		
5:30-5:45						11		
5:45-6:00						4	1	
HOURLY TOTAL						HOURLY TOTAL		41
6:00-6:15						6		
6:15-6:30						6		
6:30-6:45						5		
6:45-7:00						5		
HOURLY TOTAL						HOURLY TOTAL		22
7:00-7:15						7		
7:15-7:30						5		
7:30-7:45						3		
7:45-8:00						3		
HOURLY TOTAL						HOURLY TOTAL		18
8:00-8:15						5		
8:15-8:30						2		
8:30-8:45						4		
8:45-9:00						4		
HOURLY TOTAL						HOURLY TOTAL		15
9:00-9:15						1		
9:15-9:30						1		
9:30-9:45						1		
9:45-10:00						1		
HOURLY TOTAL						HOURLY TOTAL		4
					TOTAL		TOTAL	898

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COUNT LOCATION:

CSAH 22 (Viking Blvd.)

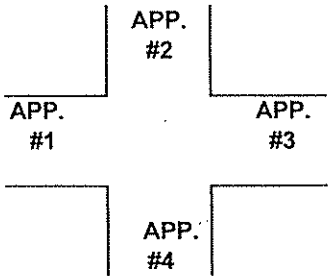
DATE:

07/25/2006

@ CSAH 9 (Lake Geroge Blvd.)

NORTH

APP.#1= CSAH 22
APP.#2= CSAH 9
APP.#3= CSAH 22
APP.#4= CSAH 9



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						8		
6:15-6:30						21		
6:30-6:45						17		
6:45-7:00						14		
HOURLY TOTAL						HOURLY TOTAL		60
7:00-7:15						13		
7:15-7:30						17		2
7:30-7:45						15		
7:45-8:00						25		
HOURLY TOTAL						HOURLY TOTAL		72
8:00-8:15						20		1
8:15-8:30						21		
8:30-8:45						13		
8:45-9:00						25		1
HOURLY TOTAL						HOURLY TOTAL		81
9:00-9:15						21		3
9:15-9:30						14		1
9:30-9:45						15		2
9:45-10:00						17		1
HOURLY TOTAL						HOURLY TOTAL		74
10:00-10:15						20		
10:15-10:30						18		
10:30-10:45						15		
10:45-11:00						15		
HOURLY TOTAL						HOURLY TOTAL		68
11:00-11:15						19		
11:15-11:30						20		1
11:30-11:45						16		
11:45-12:00						26		
HOURLY TOTAL						HOURLY TOTAL		82
12:00-12:15						15		
12:15-12:30						20		1
12:30-12:45						10		
12:45-1:00						21	1	
HOURLY TOTAL						HOURLY TOTAL		68
1:00-1:15						17		2
1:15-1:30						28		
1:30-1:45						9		
1:45-2:00						12		
HOURLY TOTAL						HOURLY TOTAL		68
TOTAL						TOTAL		573

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