

Date : 6/26/07

Count Number : TMC0718

Location : CSAH 32 (Ash St.)

@ CSAH 21 (Centerville Rd.)

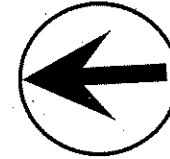
CSAH 32

0

#2

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0
0
D
E
F

0



North

5385

#1

3361

2024	0	C
	1814	B
	210	A

CSAH 21

G	0	5302
H	3068	
J	2234	

CSAH 21

#3

9550

4248

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

CSAH 32

2444

#4

5171

M	L	K
293	0	2434
2727		

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 : 0718\_TMC

Site Code : 07180202

Start Date : 06/26/200

Page No : 2

Weather: Hot and Sunny

Counter: DB-400

Counted by: Anthony/Isaac

Groups Printed- Unshifted - Bank 1

Start Time	Centerville Rd. Southbound					CSAH 32 Westbound					Centerville Rd. Northbound					CSAH 32 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			
19:00	0	12	3	0	15	0	0	0	0	0	22	52	0	0	74	6	0	40	0	46	0	135	135
19:15	0	15	2	0	17	0	0	0	0	0	47	50	0	2	97	3	0	21	0	24	2	138	140
19:30	0	14	3	0	17	0	0	0	0	0	48	50	0	0	98	4	0	26	0	30	0	145	145
19:45	0	18	7	0	25	0	0	0	0	0	16	30	0	1	46	5	0	25	0	30	1	101	102
Total	0	59	15	0	74	0	0	0	0	0	133	182	0	3	315	18	0	112	0	130	3	519	522
20:00	0	10	4	0	14	0	0	0	0	0	9	26	0	0	35	5	0	21	0	26	0	75	75
20:15	0	11	1	0	12	0	0	0	0	0	32	60	0	0	92	4	0	27	1	31	1	135	136
20:30	0	18	3	0	21	0	0	0	0	0	35	53	0	0	88	4	0	21	0	25	0	134	134
20:45	0	11	3	0	14	0	0	0	0	0	27	51	0	0	78	4	0	19	0	23	0	115	115
Total	0	50	11	0	61	0	0	0	0	0	103	190	0	0	293	17	0	88	1	105	1	459	460
21:00	0	12	3	0	15	0	0	0	0	0	14	32	0	0	46	4	0	18	0	22	0	83	83
21:15	0	10	2	0	12	0	0	0	0	0	20	30	0	0	50	4	0	6	0	10	0	72	72
21:30	0	7	1	0	8	0	0	0	0	0	24	49	0	0	73	0	0	16	0	16	0	97	97
21:45	0	11	2	0	13	0	0	0	0	0	17	37	0	0	54	1	0	16	0	17	0	84	84
Total	0	40	8	0	48	0	0	0	0	0	75	148	0	0	223	9	0	56	0	65	0	336	336
Grand Total	0	1814	210	4	2024	0	1	0	0	1	2234	3068	1	70	5303	293	3	2434	67	2730	141	10058	10199
Approch %	0	89.6	10.4			0	100	0			42.1	57.9	0			10.7	0.1	89.2					
Total %	0	18	2.1		20.1	0	0	0		0	22.2	30.5	0		52.7	2.9	0	24.2		27.1	1.4	98.6	
Unshifted	0	1814	210		2028	0	1	0		1	2234	3068	1		5373	293	3	2434		2797	0	0	10199
% Unshifted	0	100	100	100	100	0	100	0	0	100	100	100	100	100	100	100	100	100	100	100	0	0	100
Bank 1	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0
% Bank 1	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0

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

Study Name :  
Study Date : 06/29/07  
Page No. : 1

**Signal Warrants - Summary**

**Major Street Approaches**

**Northbound: Centerville Rd.**  
Number of Lanes: 1  
Approach Speed: 50  
Total Approach Volume: 5,303

**Southbound: Centerville Rd.**  
Number of Lanes: 1  
Approach Speed: 50  
Total Approach Volume: 2,024

**Minor Street Approaches**

**Eastbound: CSAH 32**  
Number of Lanes: 2  
  
Total Approach Volume: 2,730

**Westbound: CSAH 32**  
Number of Lanes: 1  
  
Total Approach Volume: 1

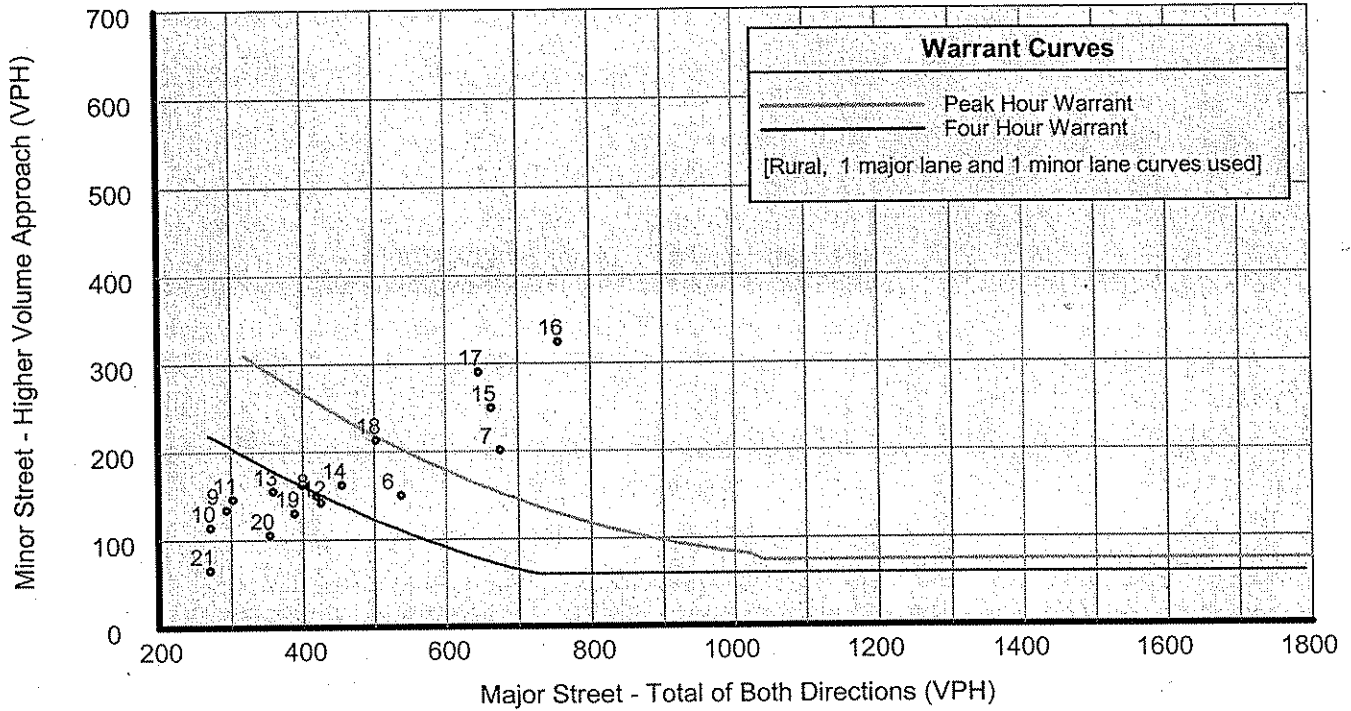
**Warrant Summary (Rural values apply.)**

<b>Warrant 1 - Eight Hour Vehicular Volumes</b> .....	<b>Satisfied</b>
<b>Warrant 1A - Minimum Vehicular Volume</b> .....	<b>Satisfied</b>
Required volumes reached for 12 hours, 8 are needed	
<b>Warrant 1B - Interruption of Continuous Traffic</b> .....	<b>Not Satisfied</b>
Required volumes reached for 5 hours, 8 are needed	
<b>Warrant 1 A&amp;B - Combination of Warrants</b> .....	<b>Satisfied</b>
Required volumes reached for 8 hours, 8 are needed	
<b>Warrant 2 - Four Hour Volumes</b> .....	<b>Satisfied</b>
Number of hours (7) volumes exceed minimum >= minimum required (4).	
<b>Warrant 3 - Peak Hour</b> .....	<b>Satisfied</b>
<b>Warrant 3A - Peak Hour Delay</b> .....	<b>Not Satisfied</b>
Approach volumes on minor street don't exceed minimums for any hour. Delay data not evaluated.	
<b>Warrant 3B - Peak Hour Volumes</b> .....	<b>Satisfied</b>
Volumes exceed minimums for at least one hour.	
<b>Warrant 4 - Pedestrian Volumes</b> .....	<b>Not Evaluated</b>
<b>Warrant 5 - School Crossing</b> .....	<b>Not Evaluated</b>
<b>Warrant 6 - Coordinated Signal System</b> .....	<b>Not Evaluated</b>
<b>Warrant 7 - Crash Experience</b> .....	<b>Not Evaluated</b>
<b>Warrant 8 - Roadway Network</b> .....	<b>Not Evaluated</b>

# ANOKA COUNTY HIGHWAY PC-WARRANTS TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name :  
Study Date : 06/29/07  
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	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
01:00	0	0	EB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
02:00	0	0	EB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
03:00	0	0	EB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
04:00	0	0	EB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
05:00	0	0	EB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
06:00	538	150	EB	350-Yes	105-Yes	Both	525-Yes	52-Yes	Both	420-Yes	84-Yes	Both
07:00	676	201	EB	350-Yes	105-Yes	Both	525-Yes	52-Yes	Both	420-Yes	84-Yes	Both
08:00	419	150	EB	350-Yes	105-Yes	Both	525-No	52-Yes	Minor	420-No	84-Yes	Minor
09:00	294	134	EB	350-No	105-Yes	Minor	525-No	52-Yes	Minor	420-No	84-Yes	Minor
10:00	272	114	EB	350-No	105-Yes	Minor	525-No	52-Yes	Minor	420-No	84-Yes	Minor
11:00	303	146	EB	350-No	105-Yes	Minor	525-No	52-Yes	Minor	420-No	84-Yes	Minor
12:00	426	142	EB	350-Yes	105-Yes	Both	525-No	52-Yes	Minor	420-Yes	84-Yes	Both
13:00	359	155	EB	350-Yes	105-Yes	Both	525-No	52-Yes	Minor	420-No	84-Yes	Minor
14:00	455	162	EB	350-Yes	105-Yes	Both	525-No	52-Yes	Minor	420-Yes	84-Yes	Both
15:00	664	249	EB	350-Yes	105-Yes	Both	525-Yes	52-Yes	Both	420-Yes	84-Yes	Both
16:00	757	324	EB	350-Yes	105-Yes	Both	525-Yes	52-Yes	Both	420-Yes	84-Yes	Both
17:00	647	290	EB	350-Yes	105-Yes	Both	525-Yes	52-Yes	Both	420-Yes	84-Yes	Both
18:00	503	213	EB	350-Yes	105-Yes	Both	525-No	52-Yes	Minor	420-Yes	84-Yes	Both
19:00	389	130	EB	350-Yes	105-Yes	Both	525-No	52-Yes	Minor	420-No	84-Yes	Minor
20:00	354	105	EB	350-Yes	105-Yes	Both	525-No	52-Yes	Minor	420-No	84-Yes	Minor
21:00	271	65	EB	350-No	105-No	---	525-No	52-Yes	Minor	420-No	84-No	---
22:00	0	0	EB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
23:00	0	0	EB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---

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

Study Name :  
Study Date : 06/29/07  
Page No. : 1

**Multi-Way Stop Warrant Report**

**Major Street Approaches**

**Northbound: Centerville Rd.**  
Total Approach Volume: 5,303  
Approach Speed: 50

**Southbound: Centerville Rd.**  
Total Approach Volume: 2,024  
Approach Speed: 50

**Minor Street Approaches**

**Eastbound: CSAH 32**  
Total Approach Volume: 2,730

**Westbound: CSAH 32**  
Total Approach Volume: 1

**Warrant Summary**

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

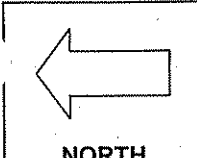
**Criteria B - Crash Experience** ..... Not Evaluated

**Criteria C - Minimum Volumes and Delays** ..... Satisfied  
Delay data not evaluated  
Required volumes reached for 11 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 6 hours, 8 are needed

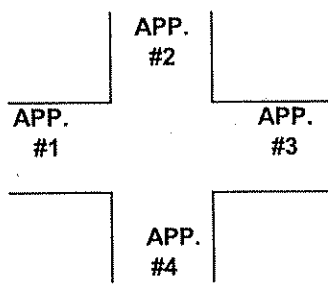
**Analysis of 8 Hour Volume Warrants:**

Time	Major Total	Minor Total	Crit C			Crit D		
			Major	Minor	Meets?	Major	Minor	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	538	150	210-Yes	140-Yes	Both	240-Yes	160-No	Major
07:00 - 08:00	676	201	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
08:00 - 09:00	419	150	210-Yes	140-Yes	Both	240-Yes	160-No	Major
09:00 - 10:00	294	134	210-Yes	140-No	Major	240-Yes	160-No	Major
10:00 - 11:00	272	114	210-Yes	140-No	Major	240-Yes	160-No	Major
11:00 - 12:00	303	146	210-Yes	140-Yes	Both	240-Yes	160-No	Major
12:00 - 13:00	426	142	210-Yes	140-Yes	Both	240-Yes	160-No	Major
13:00 - 14:00	359	156	210-Yes	140-Yes	Both	240-Yes	160-No	Major
14:00 - 15:00	455	162	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
15:00 - 16:00	664	249	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
16:00 - 17:00	757	324	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
17:00 - 18:00	647	290	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
18:00 - 19:00	503	213	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
19:00 - 20:00	389	130	210-Yes	140-No	Major	240-Yes	160-No	Major
20:00 - 21:00	354	105	210-Yes	140-No	Major	240-Yes	160-No	Major
21:00 - 22:00	271	65	210-Yes	140-No	Major	240-Yes	160-No	Major
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 32 (Ash St.) @ Centerville Rd. DATE: 06/26/2007

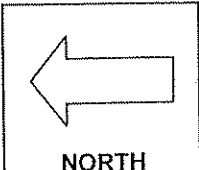
**NORTH**  
 APP. #1 =  
 Centerville Rd.  
 APP. #2 =  
 APP. #3 =  
 Centerville Rd.  
 APP. #4 =  
 CSAH 32



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								
6:15-6:30						6		
6:30-6:45						3		
6:45-7:00						5		1
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>15</b>
7:00-7:15						4		
7:15-7:30						3		
7:30-7:45						5		
7:45-8:00						2		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>14</b>
8:00-8:15								
8:15-8:30						3		
8:30-8:45						3		
8:45-9:00								
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>6</b>
9:00-9:15								
9:15-9:30						3		
9:30-9:45						2		
9:45-10:00								
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>5</b>
10:00-10:15						2		2
10:15-10:30						1		1
10:30-10:45								
10:45-11:00						2		1
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>9</b>
11:00-11:15						3		
11:15-11:30						3		2
11:30-11:45						2		1
11:45-12:00						4		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>15</b>
12:00-12:15						2		
12:15-12:30						4		
12:30-12:45						4		
12:45-1:00						4		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>14</b>
1:00-1:15								
1:15-1:30						5		2
1:30-1:45						3		2
1:45-2:00						1		1
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>14</b>
					<b>TOTAL</b>		<b>TOTAL</b>	<b>77</b>

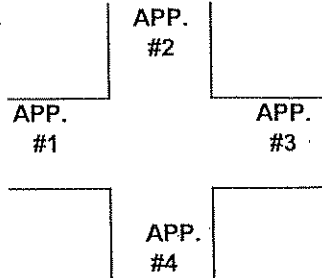
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COUNT LOCATION: CSAH 32 (Ash St.) @ Centerville Rd.

DATE: 06/27/2006

APP. #1 = Centerville Rd.
APP. #2 =
APP. #3 = Centerville Rd.
APP. #4 = CSAH 32



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						4		
2:15-2:30						4		
2:30-2:45								
2:45-3:00						3		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>11</b>
3:00-3:15						1		
3:15-3:30						1		1
3:30-3:45						2		
3:45-4:00								
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>5</b>
4:00-4:15						2		
4:15-4:30								2
4:30-4:45						5		1
4:45-5:00						2		1
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>13</b>
5:00-5:15						2		
5:15-5:30								
5:30-5:45								
5:45-6:00								
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>2</b>
6:00-6:15						2		
6:15-6:30						3		
6:30-6:45						1		
6:45-7:00								
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>6</b>
7:00-7:15								
7:15-7:30						3		
7:30-7:45								
7:45-8:00						1		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>4</b>
8:00-8:15								
8:15-8:30						1		
8:30-8:45								
8:45-9:00								
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>1</b>
9:00-9:15								
9:15-9:30								
9:30-9:45								
9:45-10:00								
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>119</b>
					<b>TOTAL</b>		<b>TOTAL</b>	<b>119</b>

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