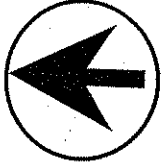


Date: 5/23/05

Count Number: TMC0508

Location: CSAH 116 (Industry Ave.)
 @ CSAH 57 (Sunfish Lk. Blvd.)



North

CR 57

6253

#2

3126			
D	E	T	
346	2226	554	

3127

CSAH 116

#1

7145

3512			
A	B	C	
999	2198	315	

CR 116

3633

#3

669			
G	H	J	
2377	3928	882	

3797

7725

CSAH 57

4107

910			
M	L	K	
2143	1045	4098	

#4

8205

	LANES OF APPROACH			TOTAL
	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	
#1	1	0	1	2
#2	0	0	1	1
#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 : TMC0508
 Site Code : 05080101
 Start Date : 05/23/2005
 Page No : 2

Weather: Cloudy and Mild
 Counter: TDC-8
 Counted by: Ashley/Jena

Groups Printed- Unshifted

Start Time	CR 57 Southbound					CSAH 116 Westbound					CSAH 57 Northbound					CR 116 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				
18:00	5	28	4	1	37	15	51	16	1	82	28	67	11	1	106	3	36	27	1	66	4	291	295
18:15	7	21	7	0	35	21	53	21	1	95	20	65	34	1	119	5	31	14	0	50	2	299	301
18:30	3	34	9	1	46	6	38	14	0	58	8	52	16	0	76	4	24	11	1	39	2	219	221
18:45	5	34	9	0	48	9	39	10	0	58	15	54	9	1	78	7	28	6	0	41	1	225	226
Total	20	117	29	2	166	51	181	61	2	293	71	238	70	3	379	19	119	58	2	196	9	1034	1043
19:00	3	31	4	0	38	11	26	16	1	53	7	45	9	0	61	4	28	10	1	42	2	194	196
19:15	5	23	1	0	29	11	29	13	0	53	9	39	7	1	55	1	20	4	0	25	1	162	163
19:30	2	28	3	0	33	9	17	8	1	34	8	34	22	1	64	4	17	7	0	28	2	159	161
19:45	8	29	4	2	41	3	24	8	0	35	8	32	5	0	45	0	6	5	0	11	2	132	134
Total	18	111	12	2	141	34	96	45	2	175	32	150	43	2	225	9	71	26	1	106	7	647	654
20:00	8	21	3	0	32	9	19	10	0	38	9	40	6	0	55	4	9	4	0	17	0	142	142
20:15	7	28	4	0	39	7	26	7	0	40	14	33	10	2	57	1	18	3	0	22	2	158	160
20:30	14	26	6	0	46	10	12	7	0	29	7	29	7	0	43	1	9	7	0	17	0	135	135
20:45	8	25	5	0	38	8	14	2	1	24	8	31	17	1	56	4	12	2	0	18	2	136	138
Total	37	100	18	0	155	34	71	26	1	131	38	133	40	3	211	10	48	16	0	74	4	571	575
21:00	7	34	1	1	42	13	12	4	0	29	6	34	21	0	61	2	16	5	0	23	1	155	156
21:15	3	14	3	0	20	18	17	1	0	36	9	32	10	1	51	9	13	5	1	27	2	134	136
21:30	6	11	6	0	23	5	10	8	0	23	7	34	12	0	53	5	14	1	0	20	0	119	119
21:45	4	8	1	1	13	3	15	1	0	19	10	27	5	1	42	3	6	4	0	13	2	87	89
Total	20	67	11	2	98	39	54	14	0	107	32	127	48	2	207	19	49	15	1	83	5	495	500
Grand Total	554	2226	346	152	3126	882	2377	669	208	3928	910	2143	1045	246	4098	315	2198	999	265	3512	871	14664	15535
Approch %	17.7	71.2	11.1			22.5	60.5	17.0			22.2	52.3	25.5			9.0	62.6	28.4			5.6	94.4	
Total %	3.8	15.2	2.4		21.3	6.0	16.2	4.6		26.8	6.2	14.6	7.1		27.9	2.1	15.0	6.8		23.9			

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

Study Name : TMC0508
Study Date : 06/30/05
Page No. : 1

Signal Warrants - Summary

Major Street Approaches

Eastbound: CR 116
Number of Lanes: 2
Approach Speed: 55
Total Approach Volume: 3,512

Westbound: CSAH 116
Number of Lanes: 2
Approach Speed: 50
Total Approach Volume: 3,928

Minor Street Approaches

Northbound: CSAH 57
Number of Lanes: 2

Total Approach Volume: 4,098

Southbound: CR 57
Number of Lanes: 2

Total Approach Volume: 3,126

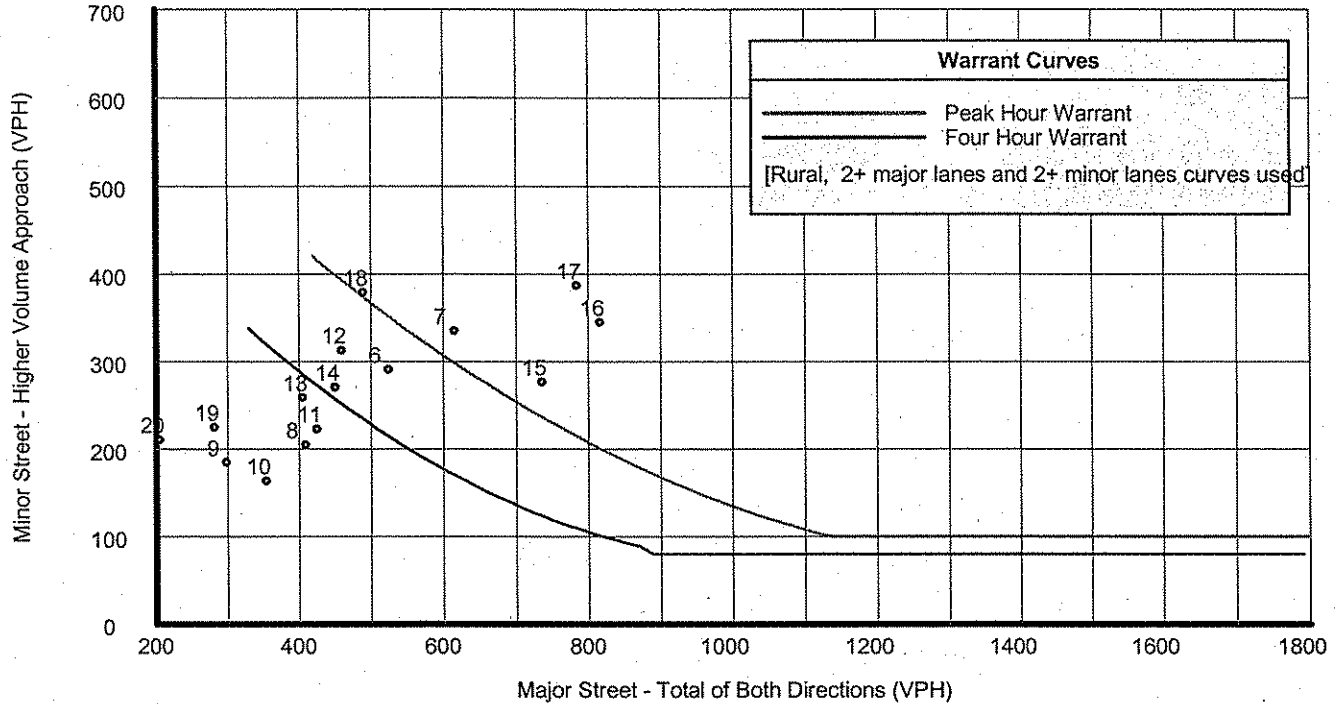
Warrant Summary (Rural values apply.)

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 Not Satisfied	
Required volumes reached for 3 hours, 8 are needed	
Warrant 1 A&B - Combination of Warrants Not Satisfied	
Required volumes reached for 5 hours, 8 are needed	
Warrant 2 - Four Hour Volumes	Satisfied
Number of hours (8) volumes exceed minimum >= minimum required (4).	
Warrant 3 - Peak Hour	Satisfied
Warrant 3A - Peak Hour Delay Satisfied	
Number of hours (40) 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 : TMC0508
Study Date : 06/30/05
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	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
01:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
02:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
03:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
04:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
05:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
06:00	524	291	SB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-Yes	112-Yes	Both
07:00	615	335	SB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-Yes	112-Yes	Both
08:00	409	205	SB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
09:00	298	185	NB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
10:00	354	164	SB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
11:00	425	223	NB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-No	112-Yes	Minor
12:00	459	313	NB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-No	112-Yes	Minor
13:00	405	259	NB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
14:00	450	271	NB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-No	112-Yes	Minor
15:00	736	277	NB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
16:00	816	345	NB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
17:00	784	387	NB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
18:00	489	379	NB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-No	112-Yes	Minor
19:00	281	225	NB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
20:00	205	211	NB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
21:00	190	207	NB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
22:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
23:00	0	0	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---

ANOKA COUNTY HIGHWAY PC-WARRANTS TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name : TMC0508
Study Date : 06/30/05

Multi-Way Stop Warrant Report

Major Street Approaches

Eastbound: CR 116
Total Approach Volume: 3,512
Approach Speed: 55

Westbound: CSAH 116
Total Approach Volume: 3,928
Approach Speed: 50

Minor Street Approaches

Northbound: CSAH 57
Total Approach Volume: 4,098

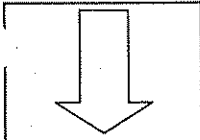
Southbound: CR 57
Total Approach Volume: 3,126

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 14 hours, 8 are needed
- Criteria D - 80% of Volumes, Delays, and Crashes** Not Evaluated
Delay data not evaluated
Required volumes reached for 2 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	524	509	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
07:00 - 08:00	615	589	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
08:00 - 09:00	409	391	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
09:00 - 10:00	298	356	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
10:00 - 11:00	354	322	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
11:00 - 12:00	425	414	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
12:00 - 13:00	459	487	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
13:00 - 14:00	405	418	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
14:00 - 15:00	450	504	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
15:00 - 16:00	736	495	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
16:00 - 17:00	816	546	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
17:00 - 18:00	784	611	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
18:00 - 19:00	489	545	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
19:00 - 20:00	281	366	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
20:00 - 21:00	205	366	210-No	140-Yes	Minor	240-No	160-Yes	Minor
21:00 - 22:00	190	305	210-No	140-Yes	Minor	240-No	160-Yes	Minor
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 116 (Industry Ave.) @

DATE:

05/23/2005

CSAH 57 (Sunfish Lk. Blvd.)

NORTH

APP. #1 = CR 116

APP. #2 = CR 57

APP. #3 = CSAH 116

APP. #4 = CSAH 57

APP. #2

APP. #1

APP. #3

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	1	
6:15-6:30						13		2
6:30-6:45						12		1
6:45-7:00						7	1	4
HOURLY TOTAL						HOURLY TOTAL		46
7:00-7:15						17		1
7:15-7:30						18		6
7:30-7:45						10		
7:45-8:00		1		1	2	26		3
HOURLY TOTAL					2	HOURLY TOTAL		81
8:00-8:15						12		4
8:15-8:30						19		5
8:30-8:45	1				1	9		2
8:45-9:00						12		6
HOURLY TOTAL					1	HOURLY TOTAL		69
9:00-9:15	1			1	2	20		3
9:15-9:30						14		
9:30-9:45				1	1	16		
9:45-10:00						20		
HOURLY TOTAL					3	HOURLY TOTAL		73
10:00-10:15						11		
10:15-10:30						16		
10:30-10:45						14		
10:45-11:00						26		
HOURLY TOTAL						HOURLY TOTAL		67
11:00-11:15						16		2
11:15-11:30						24		1
11:30-11:45				2	2	26		2
11:45-12:00						19		1
HOURLY TOTAL					2	HOURLY TOTAL		91
12:00-12:15						21		
12:15-12:30						16		
12:30-12:45	1	1			2	16		2
12:45-1:00			1	1	2	27		1
HOURLY TOTAL					4	HOURLY TOTAL		83
1:00-1:15			1	1	2	27		
1:15-1:30						26	1	1
1:30-1:45						26		
1:45-2:00						26		3
HOURLY TOTAL					2	HOURLY TOTAL		110
TOTAL					14	TOTAL		620

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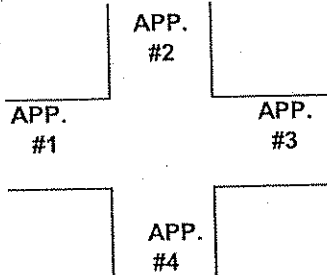
COUNT LOCATION:

CSAH 116 (Industry Ave.) @
CSAH 57 (Sunfish Lk. Blvd.)

DATE:

05/25/2005

APP. #1 = CR 116
APP. #2 = CR 57
APP. #3 = CSAH 116
APP. #4 = CSAH 57



- 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						23		3
2:15-2:30						11		
2:30-2:45						6		
2:45-3:00			1	1	2	10	1	5
HOURLY TOTAL					2	HOURLY TOTAL		59
3:00-3:15			1		1	17		11
3:15-3:30			1	1	2	16		3
3:30-3:45						14		3
3:45-4:00						11		3
HOURLY TOTAL					3	HOURLY TOTAL		78
4:00-4:15						11		1
4:15-4:30						10		2
4:30-4:45						12	1	4
4:45-5:00						5		
HOURLY TOTAL						HOURLY TOTAL		46
5:00-5:15						9		1
5:15-5:30						7		
5:30-5:45						4	1	1
5:45-6:00						1	2	
HOURLY TOTAL						HOURLY TOTAL		26
6:00-6:15			1		1	4		
6:15-6:30						2		
6:30-6:45						2		1
6:45-7:00			1		1	1		
HOURLY TOTAL					2	HOURLY TOTAL		10
7:00-7:15						1	1	
7:15-7:30							1	
7:30-7:45						2		
7:45-8:00	1				1	2		
HOURLY TOTAL					1	HOURLY TOTAL		7
8:00-8:15								
8:15-8:30						1	1	
8:30-8:45								
8:45-9:00						2		
HOURLY TOTAL						HOURLY TOTAL		4
9:00-9:15						1		
9:15-9:30						2		
9:30-9:45								
9:45-10:00						2		
HOURLY TOTAL						HOURLY TOTAL		5
					TOTAL	22	TOTAL	855

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