

Date : 02/19/08

Count Number : TMC0801

Location : CSAH/CR 52 (Radisson Rd.)

@ CSAH 116 (Bunker Lk. Blvd.)

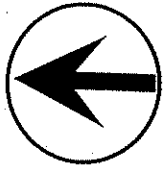
CR 52

4218

#2

2192	78	F
1637		E
477		D

2026



North

CSAH 116

2559

#3

1324	116	G
	874	H
	334	J

1235

CSAH 52

2695	292	K
1388		L
1015		M

2720

#4

5415

4502

#1

2366

2136	522	C
	865	B
	749	A

CSAH 116

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

Anoka County Highway Department  
 Traffic Volume and Turning  
 Movement Study

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

File Name : TMC0801  
 Site Code : 08010101  
 Start Date : 02/19/200  
 Page No : 1

Weather: Cold and Clear  
 Meter: DB-400  
 Counted by: Josie/Terri

Groups Printed- Unshifted

Start Time	CR 52 Southbound					CSAH 116 Westbound					CSAH 52 Northbound					CSAH 116 Eastbound					Exclu. Total	Inclu. Total	Int. Total			
	Factor	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	1.0	0	65	4	0	69	1.0	5	10	1	0	16	1.0	1	2	0	0	3	2	4	20	0	26	0	114	114
06:15		1	93	6	0	100		7	7	0	0	14		4	4	1	1	9	1	8	19	4	28	5	151	156
06:30		0	103	17	0	120		13	15	0	0	28		5	5	1	0	11	1	15	31	3	47	3	206	209
06:45		4	115	15	0	134		17	25	3	3	45		12	9	4	2	25	2	8	35	5	45	10	249	259
Total		5	376	42	0	423		42	57	4	3	103		22	20	6	3	48	6	35	105	12	146	18	720	738
07:00		3	101	24	4	128		22	34	1	1	57		26	11	4	1	41	2	14	28	1	44	7	270	277
07:15		4	93	19	1	116		13	47	1	2	61		36	17	3	2	56	3	22	38	2	63	7	296	303
07:30		5	102	17	1	124		17	21	0	1	38		12	7	2	1	21	3	22	33	2	58	5	241	246
07:45		3	78	22	2	103		14	24	1	1	39		14	5	2	1	21	5	29	28	1	62	5	225	230
Total		15	374	82	8	471		66	126	3	5	195		88	40	11	5	139	13	87	127	6	227	24	1032	1056
08:00		1	48	10	2	59		7	19	0	3	26		9	5	0	2	14	6	15	19	2	40	9	139	148
08:15		1	43	15	2	59		12	12	0	0	24		7	4	4	1	15	3	8	20	4	31	7	129	136
08:30		0	36	8	1	44		2	19	0	1	21		7	13	2	2	22	4	11	16	4	31	8	118	126
08:45		2	31	2	1	35		6	7	3	0	16		9	14	4	1	27	5	10	15	1	30	3	108	111
Total		4	158	35	6	197		27	57	3	4	87		32	36	10	6	78	18	44	70	11	132	27	494	521
09:00		0	33	7	0	40		7	20	2	1	29		7	8	2	2	17	2	10	17	3	29	6	115	121
09:15		2	27	7	0	36		5	12	0	0	17		6	6	3	0	15	2	10	15	3	27	3	95	98
09:30		1	23	6	1	30		2	11	1	0	14		8	3	3	2	14	4	18	4	2	26	5	84	89
09:45		3	23	6	0	32		6	9	0	2	15		4	8	2	0	14	3	9	9	1	21	3	82	85
Total		6	106	26	1	138		20	52	3	3	75		25	25	10	4	60	11	47	45	9	103	17	376	393
10:00		1	13	9	0	23		3	7	0	0	10		11	8	1	4	20	1	11	12	5	24	9	77	86
10:15		1	17	6	0	24		4	11	3	1	18		10	8	3	1	21	3	12	6	1	21	3	84	87
10:30		2	13	6	0	21		2	15	0	0	17		10	6	6	1	22	6	7	8	1	21	2	81	83
10:45		1	6	10	1	17		4	5	2	1	11		7	5	2	0	14	10	11	7	2	28	4	70	74
Total		5	49	31	1	85		13	38	5	2	56		38	27	12	6	77	20	41	33	9	94	18	312	330
11:00		2	12	5	2	19		8	8	0	1	16		9	5	5	2	19	10	4	14	4	28	9	82	91
11:15		1	14	5	1	20		3	9	0	0	12		12	8	1	2	21	4	6	7	1	17	4	70	74
11:30		0	12	3	1	15		5	8	2	0	15		16	6	5	4	27	5	13	10	0	28	5	85	90
11:45		1	9	7	0	17		4	7	2	3	13		3	7	2	0	12	4	8	7	0	19	3	61	64
Total		4	47	20	4	71		20	32	4	4	56		40	26	13	8	79	23	31	38	5	92	21	298	319
12:00		1	13	7	0	21		5	12	0	0	17		3	9	2	0	14	7	11	12	5	30	5	82	87
12:15		1	15	9	0	25		4	5	0	0	9		9	11	8	2	28	2	10	5	1	17	3	79	82
12:30		2	16	12	1	30		6	15	1	1	22		10	6	5	1	21	6	10	3	0	19	3	92	95
12:45		1	18	6	0	25		6	7	3	1	16		11	12	7	5	30	9	6	11	1	26	7	97	104
Total		5	62	34	1	101		21	39	4	2	64		33	38	22	8	93	24	37	31	7	92	18	350	368
13:00		0	11	7	1	18		3	12	1	0	16		8	18	2	2	28	5	12	8	1	25	4	87	91
13:15		1	8	4	0	13		6	11	1	2	18		3	16	3	0	22	10	15	3	0	28	2	81	83
13:30		2	14	2	0	18		2	18	1	1	21		8	21	4	4	33	12	9	4	1	25	6	97	103
13:45		1	17	6	0	24		5	11	0	0	16		13	18	2	0	33	5	16	6	2	27	2	100	102
Total		4	50	19	1	73		16	52	3	3	71		32	73	11	6	116	32	52	21	4	105	14	365	379
14:00		4	13	9	2	26		1	17	4	1	22		12	19	6	1	37	10	10	6	0	26	4	111	115
14:15		1	13	8	0	22		4	14	1	2	19		17	29	3	3	49	7	19	9	0	35	5	125	130
14:30		0	14	3	0	17		1	5	4	0	10		14	31	4	3	49	31	31	23	5	85	8	161	169
14:45		1	13	6	1	20		6	18	6	1	30		21	20	3	1	44	16	20	16	3	52	6	146	152
Total		6	53	26	3	85		12	54	15	4	81		64	99	16	8	179	64	80	54	8	198	23	543	566
15:00		1	11	14	3	26		0	14	5	3	19		20	41	10	2	71	22	16	8	1	46	9	162	171
15:15		0	18	9	0	27		3	18	4	2	25		28	47	4	2	79	12	20	6	4	38	8	169	177
15:30		1	23	8	2	32		6	16	6	1	28		34	39	7	2	80	10	17	14	1	41	6	181	187
15:45		1	14	5	0	20		3	19	2	3	24		38	68	10	5	116	15	19	12	2	46	10	206	216
Total		3	66	36	5	105		12	67	17	9	96		120	195	31	11	346	59	72	40	8	171	33	718	751
16:00		0	17	7	0	24		5	18	2	1	25		37	55	5	5	97	17	18	10	1	45	7	191	198
16:15		2	13	10	0	25		3	24	8	0	35		48	65	9	2	122	18	31	12	0	61	2	243	245
16:30		1	22	14	3	37		6	33	2	3	41		57	72	5	0	134	17	39	16	4	72	10	284	294
16:45		4	25	10	1	39		5	24	7	1	36		49	88	10	3	147	14	24	21	1	59	6	281	287
Total		7	77	41	4	125		19	99	19	5	137		191	280	29	10	500	66	112	59	6	237	25	999	1024
17:00		1	24	7	0	32		11	22	4	0	37		54	82	12	1	148	14	18	16	1	48	2	265	267
17:15		1	17	7	0	25		2	16	4	0	22		52	67	14	0	133	22	29</						

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

File Name : TMC0801  
Site Code : 08010101  
Start Date : 02/19/200  
Page No : 2

Weather: Cold and Clear  
Counter: DB-400  
Counted by: Josie/Terri

Groups Printed- Unshifted

Start Time	CR 52 Southbound					CSAH 116 Westbound					CSAH 52 Northbound					CSAH 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	0	31	5	0	36	6	21	2	1	29	27	54	9	1	90	13	15	16	0	44	2	199	201
18:15	2	16	9	0	27	11	13	3	0	27	25	40	5	0	70	12	17	10	0	39	0	163	163
18:30	3	20	11	0	34	3	16	3	0	22	23	31	8	0	62	8	14	9	0	31	0	149	149
18:45	1	16	12	0	29	7	16	1	0	24	27	32	9	2	68	12	19	4	0	35	2	156	158
Total	6	83	37	0	126	27	66	9	1	102	102	157	31	3	290	45	65	39	0	149	4	667	671
19:00	2	16	9	1	27	4	12	2	0	18	18	18	11	0	47	14	16	7	0	37	1	129	130
19:15	1	15	2	0	18	2	10	3	0	15	3	29	7	0	39	13	21	5	1	39	1	111	112
19:30	1	7	3	0	11	2	11	2	0	15	7	26	7	0	40	13	16	10	0	39	0	105	105
19:45	0	13	6	0	19	5	11	3	1	19	5	17	14	0	36	9	14	11	0	34	1	108	109
Total	4	51	20	1	75	13	44	10	1	67	33	90	39	0	162	49	67	33	1	149	3	453	456
Grand Total	78	163	477	37	2192	334	874	116	48	1324	1015	1388	292	83	2695	522	865	749	87	2136	255	8347	8602
Approch %	3.6	74.7	21.8			25.2	66.0	8.8			37.7	51.5	10.8			24.4	40.5	35.1					
Total %	0.9	19.6	5.7		26.3	4.0	10.5	1.4		15.9	12.2	16.6	3.5		32.3	6.3	10.4	9.0		25.6	3.0	97.0	

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

**Signal Warrants - Summary**

**Major Street Approaches**

**Northbound: CSAH 52**

Number of Lanes: 1  
Approach Speed: 55  
Total Approach Volume: 2,695

**Southbound: CR 52**

Number of Lanes: 1  
Approach Speed: 55  
Total Approach Volume: 2,192

**Minor Street Approaches**

**Eastbound: CSAH 116**

Number of Lanes: 1  
  
Total Approach Volume: 2,136

**Westbound: CSAH 116**

Number of Lanes: 1  
  
Total Approach Volume: 1,324

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

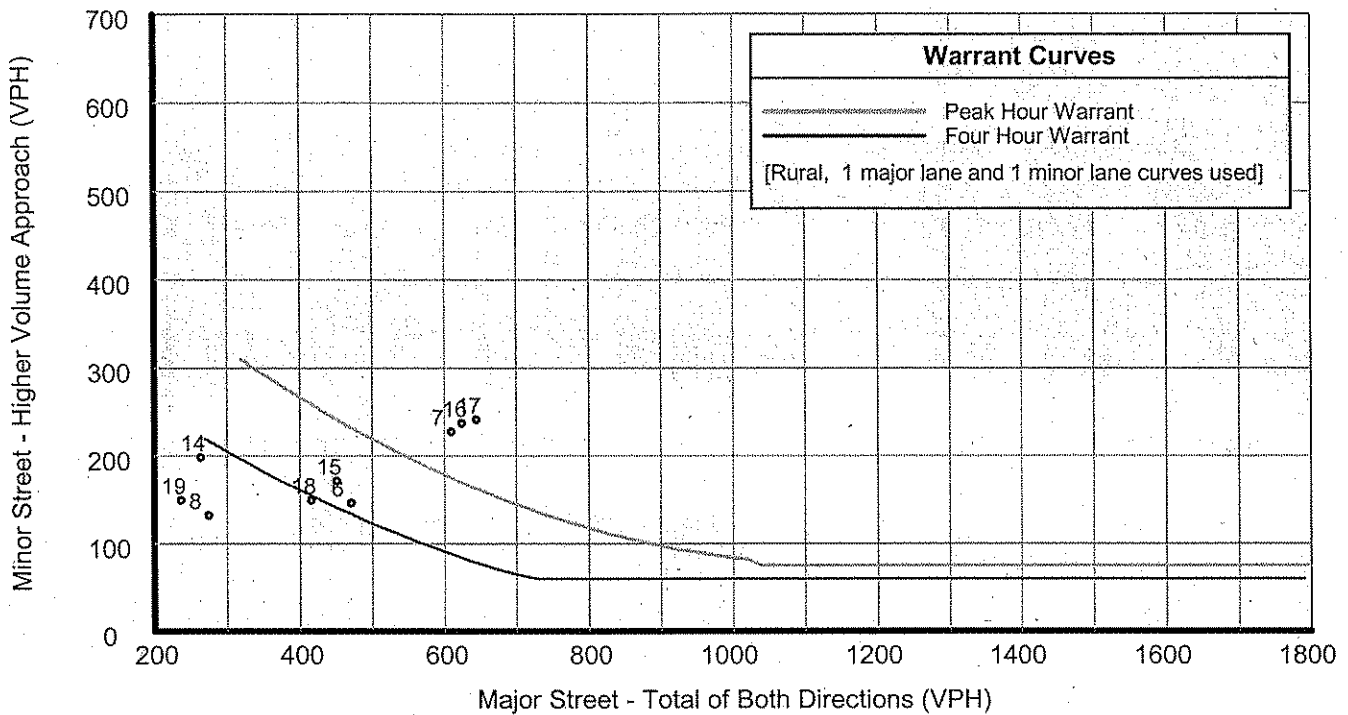
<b>Warrant 1 - Eight Hour Vehicular Volumes</b> .....	<b>Not Satisfied</b>
<b>Warrant 1A - Minimum Vehicular Volume</b> .....	<b>Not Satisfied</b>
Required volumes reached for 6 hours, 8 are needed	
<b>Warrant 1B - Interruption of Continuous Traffic</b> .....	<b>Not Satisfied</b>
Required volumes reached for 3 hours, 8 are needed	
<b>Warrant 1 A&amp;B - Combination of Warrants</b> .....	<b>Not Satisfied</b>
Required volumes reached for 5 hours, 8 are needed	
<b>Warrant 2 - Four Hour Volumes</b> .....	<b>Satisfied</b>
Number of hours (5) 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>
Total approach volumes and delays on minor street do not exceed minimums for any hour.	
<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

#### 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	105-No	---	525-No	53-No	---	420-No	84-No	---
01:00	0	0	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
02:00	0	0	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
03:00	0	0	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
04:00	0	0	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
05:00	0	0	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
06:00	471	146	EB	350-Yes	105-Yes	Both	525-No	53-Yes	Minor	420-Yes	84-Yes	Both
07:00	610	227	EB	350-Yes	105-Yes	Both	525-Yes	53-Yes	Both	420-Yes	84-Yes	Both
08:00	275	132	EB	350-No	105-Yes	Minor	525-No	53-Yes	Minor	420-No	84-Yes	Minor
09:00	198	103	EB	350-No	105-No	---	525-No	53-Yes	Minor	420-No	84-Yes	Minor
10:00	162	94	EB	350-No	105-No	---	525-No	53-Yes	Minor	420-No	84-Yes	Minor
11:00	150	92	EB	350-No	105-No	---	525-No	53-Yes	Minor	420-No	84-Yes	Minor
12:00	194	92	EB	350-No	105-No	---	525-No	53-Yes	Minor	420-No	84-Yes	Minor
13:00	189	105	EB	350-No	105-Yes	Minor	525-No	53-Yes	Minor	420-No	84-Yes	Minor
14:00	264	198	EB	350-No	105-Yes	Minor	525-No	53-Yes	Minor	420-No	84-Yes	Minor
15:00	451	171	EB	350-Yes	105-Yes	Both	525-No	53-Yes	Minor	420-Yes	84-Yes	Both
16:00	625	237	EB	350-Yes	105-Yes	Both	525-Yes	53-Yes	Both	420-Yes	84-Yes	Both
17:00	645	241	EB	350-Yes	105-Yes	Both	525-Yes	53-Yes	Both	420-Yes	84-Yes	Both
18:00	416	149	EB	350-Yes	105-Yes	Both	525-No	53-Yes	Minor	420-No	84-Yes	Minor
19:00	237	149	EB	350-No	105-Yes	Minor	525-No	53-Yes	Minor	420-No	84-Yes	Minor
20:00	0	0	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
21:00	0	0	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
22:00	0	0	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
23:00	0	0	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

## Signal Warrants - Summary

### Major Street Approaches

#### Northbound: CSAH 52

Number of Lanes: 2  
Approach Speed: 55  
Total Approach Volume: 2,695

#### Southbound: CR 52

Number of Lanes: 2  
Approach Speed: 55  
Total Approach Volume: 2,192

### Minor Street Approaches

#### Eastbound: CSAH 116

Number of Lanes: 2  
  
Total Approach Volume: 2,136

#### Westbound: CSAH 116

Number of Lanes: 2  
  
Total Approach Volume: 1,324

### Warrant Summary (Rural values apply.)

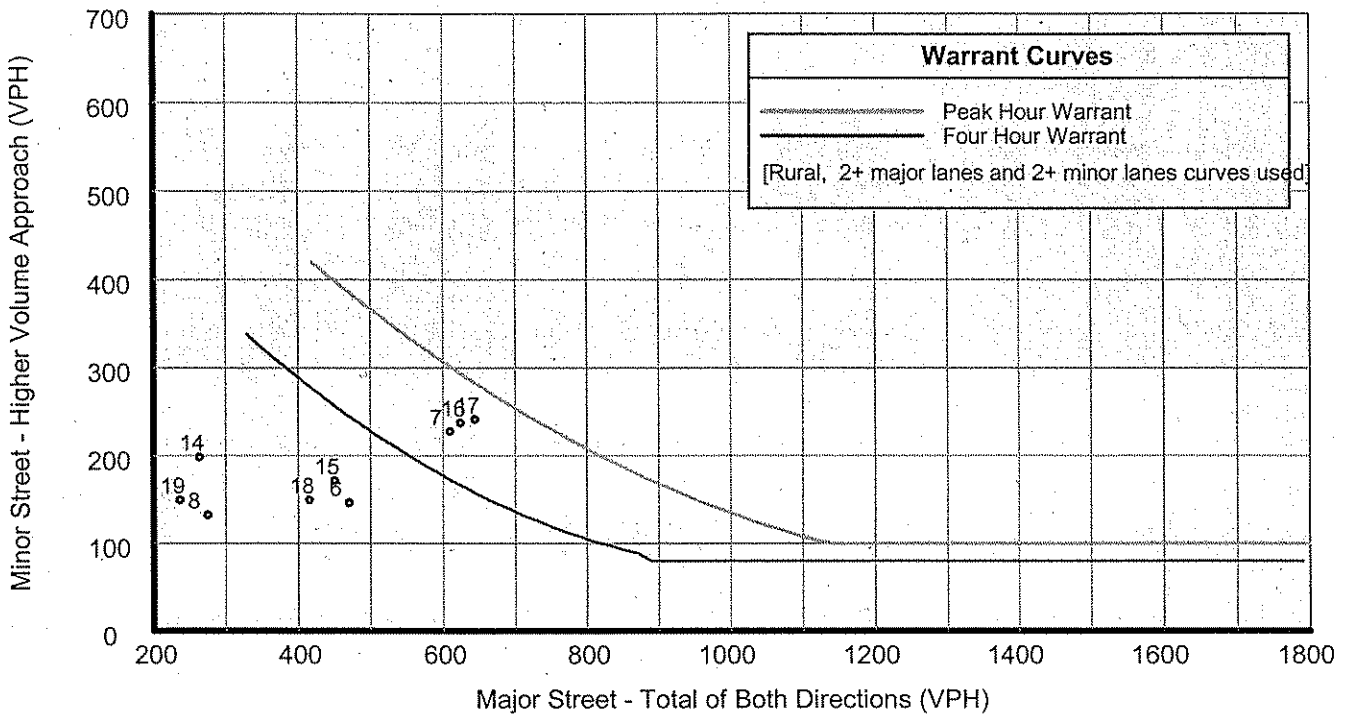
<b>Warrant 1 - Eight Hour Vehicular Volumes</b> .....	<b>Not Satisfied</b>
<b>Warrant 1A - Minimum Vehicular Volume</b> .....	<b>Not Satisfied</b>
Required volumes reached for 5 hours, 8 are needed	
<b>Warrant 1B - Interruption of Continuous Traffic</b> .....	<b>Not Satisfied</b>
Required volumes reached for 1 hours, 8 are needed	
<b>Warrant 1 A&amp;B - Combination of Warrants</b> .....	<b>Not Satisfied</b>
Required volumes reached for 3 hours, 8 are needed	
<b>Warrant 2 - Four Hour Volumes</b> .....	<b>Not Satisfied</b>
Number of hours (3) volumes exceed minimum < minimum required (4).	
<b>Warrant 3 - Peak Hour</b> .....	<b>Not Satisfied</b>
<b>Warrant 3A - Peak Hour Delay</b> .....	<b>Not Satisfied</b>
Total approach volumes and delays on minor street do not exceed minimums for any hour.	
<b>Warrant 3B - Peak Hour Volumes</b> .....	<b>Not Satisfied</b>
Volumes do not exceed minimums for any 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

## 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	471	146	EB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-No	112-Yes	Minor
07:00	610	227	EB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-Yes	112-Yes	Both
08:00	275	132	EB	420-No	140-No	---	630-No	70-Yes	Minor	504-No	112-Yes	Minor
09:00	198	103	EB	420-No	140-No	---	630-No	70-Yes	Minor	504-No	112-No	---
10:00	162	94	EB	420-No	140-No	---	630-No	70-Yes	Minor	504-No	112-No	---
11:00	150	92	EB	420-No	140-No	---	630-No	70-Yes	Minor	504-No	112-No	---
12:00	194	92	EB	420-No	140-No	---	630-No	70-Yes	Minor	504-No	112-No	---
13:00	189	105	EB	420-No	140-No	---	630-No	70-Yes	Minor	504-No	112-No	---
14:00	264	198	EB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
15:00	451	171	EB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-No	112-Yes	Minor
16:00	625	237	EB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-Yes	112-Yes	Both
17:00	645	241	EB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
18:00	416	149	EB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
19:00	237	149	EB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
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**

**Signal Warrants - Summary**

**Major Street Approaches**

**Northbound: CSAH 52**  
 Number of Lanes: 2  
 Approach Speed: 55  
 Total Approach Volume: 2,695

**Southbound: CR 52**  
 Number of Lanes: 2  
 Approach Speed: 55  
 Total Approach Volume: 2,192

**Minor Street Approaches**

**Eastbound: CSAH 116**  
 Number of Lanes: 1  
 Total Approach Volume: 2,136

**Westbound: CSAH 116**  
 Number of Lanes: 1  
 Total Approach Volume: 1,324

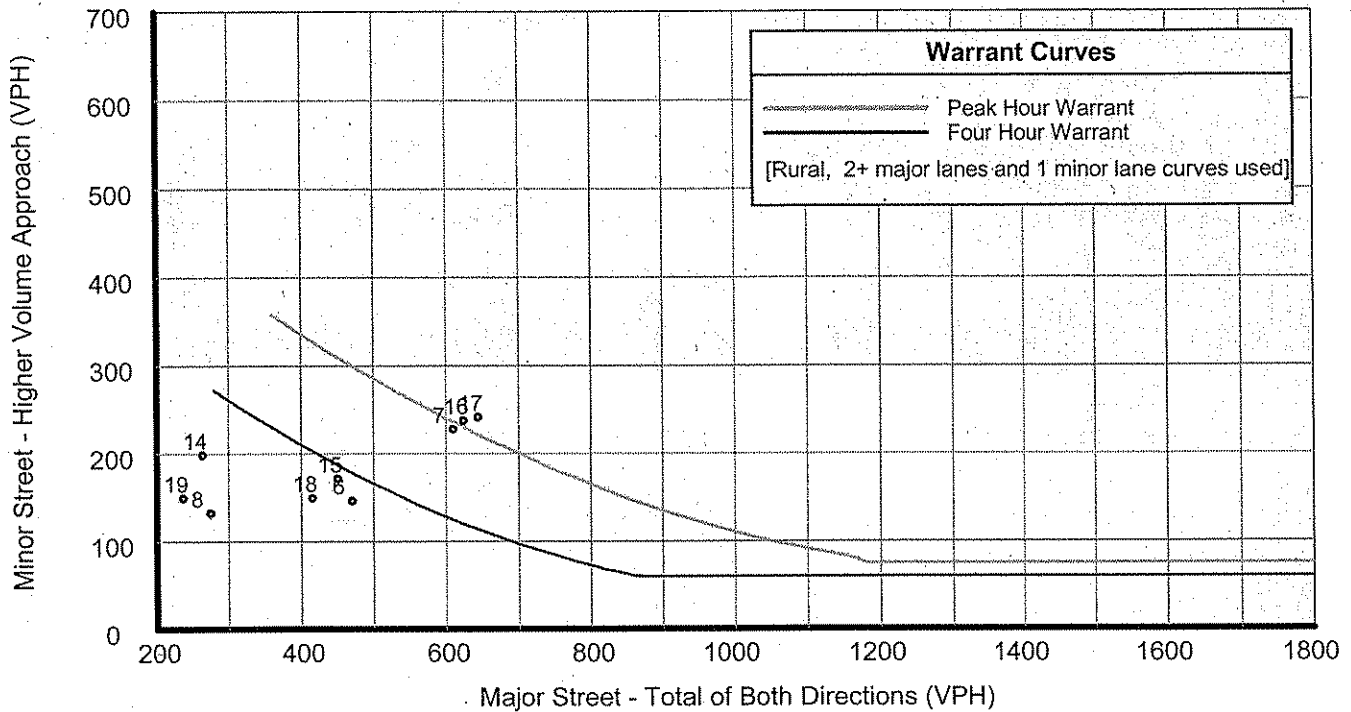
**Warrant Summary (Rural values apply.)**

<b>Warrant 1 - Eight Hour Vehicular Volumes</b> .....	<b>Not Satisfied</b>
<b>Warrant 1A - Minimum Vehicular Volume</b> .....	<b>Not Satisfied</b>
Required volumes reached for 5 hours, 8 are needed	
<b>Warrant 1B - Interruption of Continuous Traffic</b> .....	<b>Not Satisfied</b>
Required volumes reached for 1 hours, 8 are needed	
<b>Warrant 1 A&amp;B - Combination of Warrants</b> .....	<b>Not Satisfied</b>
Required volumes reached for 3 hours, 8 are needed	
<b>Warrant 2 - Four Hour Volumes</b> .....	<b>Not Satisfied</b>
Number of hours (3) volumes exceed minimum < minimum required (4).	
<b>Warrant 3 - Peak Hour</b> .....	<b>Satisfied</b>
<b>Warrant 3A - Peak Hour Delay</b> .....	<b>Satisfied</b>
Number of hours (14) volumes exceed minimum >= required (1). 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

## 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	105-No	---	630-No	53-No	---	504-No	84-No	---
01:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
02:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
03:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
04:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
05:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
06:00	471	146	EB	420-Yes	105-Yes	Both	630-No	53-Yes	Minor	504-No	84-Yes	Minor
07:00	610	227	EB	420-Yes	105-Yes	Both	630-No	53-Yes	Minor	504-Yes	84-Yes	Both
08:00	275	132	EB	420-No	105-Yes	Minor	630-No	53-Yes	Minor	504-No	84-Yes	Minor
09:00	198	103	EB	420-No	105-No	---	630-No	53-Yes	Minor	504-No	84-Yes	Minor
10:00	162	94	EB	420-No	105-No	---	630-No	53-Yes	Minor	504-No	84-Yes	Minor
11:00	150	92	EB	420-No	105-No	---	630-No	53-Yes	Minor	504-No	84-Yes	Minor
12:00	194	92	EB	420-No	105-No	---	630-No	53-Yes	Minor	504-No	84-Yes	Minor
13:00	189	105	EB	420-No	105-Yes	Minor	630-No	53-Yes	Minor	504-No	84-Yes	Minor
14:00	264	198	EB	420-No	105-Yes	Minor	630-No	53-Yes	Minor	504-No	84-Yes	Minor
15:00	451	171	EB	420-Yes	105-Yes	Both	630-No	53-Yes	Minor	504-No	84-Yes	Minor
16:00	625	237	EB	420-Yes	105-Yes	Both	630-No	53-Yes	Minor	504-Yes	84-Yes	Both
17:00	645	241	EB	420-Yes	105-Yes	Both	630-Yes	53-Yes	Both	504-Yes	84-Yes	Both
18:00	416	149	EB	420-No	105-Yes	Minor	630-No	53-Yes	Minor	504-No	84-Yes	Minor
19:00	237	149	EB	420-No	105-Yes	Minor	630-No	53-Yes	Minor	504-No	84-Yes	Minor
20:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
21:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
22:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
23:00	0	0	EB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---

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

**Multi-Way Stop Warrant Report**

**Major Street Approaches**

**Northbound: CSAH 52**  
Total Approach Volume: 2,695  
Approach Speed: 55

**Southbound: CR 52**  
Total Approach Volume: 2,192  
Approach Speed: 55

**Minor Street Approaches**

**Eastbound: CSAH 116**  
Total Approach Volume: 2,136

**Westbound: CSAH 116**  
Total Approach Volume: 1,324

**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  
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	471	249	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
07:00 - 08:00	610	422	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
08:00 - 09:00	275	219	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
09:00 - 10:00	198	178	210-No	140-Yes	Minor	240-No	160-Yes	Minor
10:00 - 11:00	162	150	210-No	140-Yes	Minor	240-No	160-No	No
11:00 - 12:00	150	148	210-No	140-Yes	Minor	240-No	160-No	No
12:00 - 13:00	194	156	210-No	140-Yes	Minor	240-No	160-No	No
13:00 - 14:00	189	176	210-No	140-Yes	Minor	240-No	160-Yes	Minor
14:00 - 15:00	264	279	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
15:00 - 16:00	451	267	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
16:00 - 17:00	625	374	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
17:00 - 18:00	645	375	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
18:00 - 19:00	416	251	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
19:00 - 20:00	237	216	210-Yes	140-Yes	Both	240-No	160-Yes	Minor
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

# Anoka County Highway Department

## Traffic Engineering Section Stop Sign Delay Study

Weather: Snowy and Cool  
Counter: TDC-12  
Observer: Sean

File Name : tmc0801\_sd  
Site Code : 08010102  
Start Date : 02/28/2008  
Page No : 1

### Summary Information:

4:14:00 PM - 4:29:00 PM	Lane 1
Total Vehicle Count:	67
Delayed Vehicle Count:	60
Through Vehicle Count:	7
Average Stopped Time:	10.49
Maximum Stopped Time:	48
Min. Secs. for Delay:	2
Average Queue:	0.80
Queue Density:	2.26
Maximum Queue:	8
Delay in Vehicle Hour:	0.80
Total Delay:	703

### Summary Information:

4:29:00 PM - 4:44:00 PM	Lane 1
Total Vehicle Count:	70
Delayed Vehicle Count:	66
Through Vehicle Count:	4
Average Stopped Time:	12.51
Maximum Stopped Time:	58
Min. Secs. for Delay:	2
Average Queue:	1.04
Queue Density:	2.46
Maximum Queue:	8
Delay in Vehicle Hour:	1.04
Total Delay:	876

### Summary Information:

4:44:00 PM - 4:59:00 PM	Lane 1
Total Vehicle Count:	57
Delayed Vehicle Count:	54
Through Vehicle Count:	3
Average Stopped Time:	7.00
Maximum Stopped Time:	23
Min. Secs. for Delay:	2
Average Queue:	0.52
Queue Density:	1.50
Maximum Queue:	4
Delay in Vehicle Hour:	0.52
Total Delay:	399

### Summary Information:

4:59:00 PM - 5:14:00 PM	Lane 1
Total Vehicle Count:	58
Delayed Vehicle Count:	49
Through Vehicle Count:	9
Average Stopped Time:	7.07
Maximum Stopped Time:	23
Min. Secs. for Delay:	2
Average Queue:	0.47
Queue Density:	1.61
Maximum Queue:	7
Delay in Vehicle Hour:	0.47
Total Delay:	410

# Anoka County Highway Department

Traffic Engineering Section

Stop Sign Delay Study

Weather: Snowy and Cool

Counter: TDC-12

Observer: Sean

File Name : tmc0801\_sd

Site Code : 08010102

Start Date : 02/28/2008

Page No : 2

## Summary Information:

5:14:00 PM - 5:29:00 PM	Lane 1
Total Vehicle Count:	62
Delayed Vehicle Count:	61
Through Vehicle Count:	1
Average Stopped Time:	17.95
Maximum Stopped Time:	50
Min. Secs. for Delay:	2
Average Queue:	1.33
Queue Density:	2.87
Maximum Queue:	11
Delay in Vehicle Hour:	1.33
Total Delay:	1113

## Summary Information:

5:29:00 PM - 5:44:00 PM	Lane 1
Total Vehicle Count:	52
Delayed Vehicle Count:	48
Through Vehicle Count:	4
Average Stopped Time:	11.42
Maximum Stopped Time:	41
Min. Secs. for Delay:	2
Average Queue:	0.67
Queue Density:	1.93
Maximum Queue:	6
Delay in Vehicle Hour:	0.68
Total Delay:	594

## Summary Information:

5:44:00 PM - 5:59:00 PM	Lane 1
Total Vehicle Count:	49
Delayed Vehicle Count:	39
Through Vehicle Count:	10
Average Stopped Time:	8.51
Maximum Stopped Time:	31
Min. Secs. for Delay:	2
Average Queue:	0.48
Queue Density:	1.99
Maximum Queue:	6
Delay in Vehicle Hour:	0.48
Total Delay:	417

## Summary Information:

4:14:00 PM - 5:59:00 PM	Lane 1
Total Vehicle Count:	415
Delayed Vehicle Count:	377
Through Vehicle Count:	38
Average Stopped Time:	10.87
Maximum Stopped Time:	58
Min. Secs. for Delay:	2
Average Queue:	0.72
Queue Density:	2.15
Maximum Queue:	11
Delay in Vehicle Hour:	0.72
Total Delay:	4512



COUNT LOCATION:

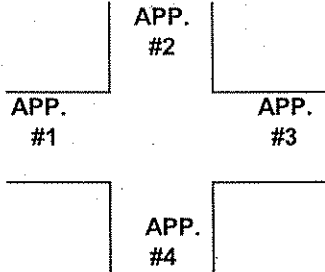
CSAH/CR 52 (Radisson Rd.) @

DATE:

02/19/2008

CSAH 116 (Bunker Lk. Blvd.)

<b>NORTH</b>
APP. #1 = CSAH 52
APP. #2 = CSAH 116
APP. #3 = CR 52
APP. #4 = CSAH 116



- 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
6:00-6:15								
6:15-6:30						1		4
6:30-6:45								3
6:45-7:00						1		9
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>18</b>
7:00-7:15						3		4
7:15-7:30						4		3
7:30-7:45						3		2
7:45-8:00								5
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>24</b>
8:00-8:15						5		4
8:15-8:30						4		3
8:30-8:45								8
8:45-9:00						2		1
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>27</b>
9:00-9:15						4		2
9:15-9:30						3		
9:30-9:45						5		
9:45-10:00						3		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>17</b>
10:00-10:15						9		
10:15-10:30						3		
10:30-10:45						2		
10:45-11:00						3		1
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>18</b>
11:00-11:15						8		
11:15-11:30						5		
11:30-11:45						4		
11:45-12:00						3		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>20</b>
12:00-12:15						5		
12:15-12:30						3		
12:30-12:45						3		
12:45-1:00						6		1
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>18</b>
				<b>TOTAL</b>			<b>TOTAL</b>	<b>142</b>

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COUNT LOCATION:

CSAH/CR 52 (Radisson Rd.) @  
CSAH 116 (Bunker Lk. Blvd.)

DATE:

02/20/2007

NORTH
APP. #1 = CSAH 52
APP. #2 = CSAH 116
APP. #3 = CR 52
APP. #4 = CSAH 116

APP. #1	APP. #2	APP. #3	APP. #4
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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
1:00-1:15						2		2
1:15-1:30						2		
1:30-1:45						6		
1:45-2:00						1		1
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>14</b>
2:00-2:15PM						4		
2:15-2:30						5		
2:30-2:45						1		7
2:45-3:00						3		3
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>23</b>
3:00-3:15						5		4
3:15-3:30						4		4
3:30-3:45						5		2
3:45-4:00						6		3
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>33</b>
4:00-4:15						3		4
4:15-4:30						2		
4:30-4:45						5		5
4:45-5:00						5		1
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>25</b>
5:00-5:15						2		
5:15-5:30								
5:30-5:45						5		
5:45-6:00						2		1
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>10</b>
6:00-6:15						1		1
6:15-6:30								
6:30-6:45								
6:45-7:00						2		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>4</b>
7:00-7:15						1		
7:15-7:30						1		
7:30-7:45								
7:45-8:00								
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>2</b>
				<b>TOTAL</b>			<b>TOTAL</b>	<b>253</b>

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