

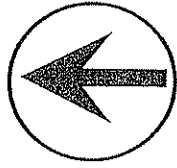
Date : 05/05/10

Count Number : TMC1007

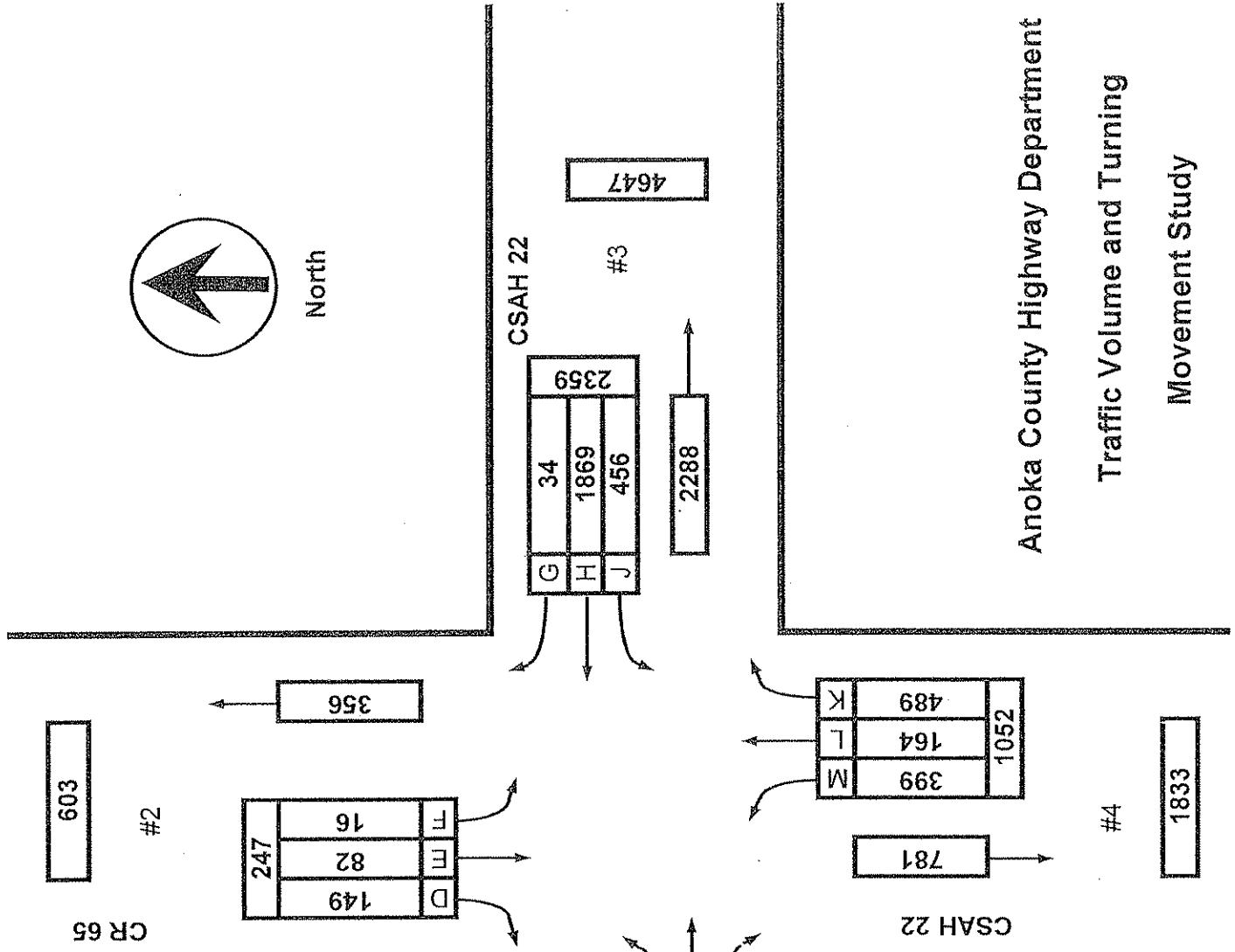
Location : CSAH 22/CSAH 65 (Viking Blvd.)

@ CSAH 22/CR 65 (Baugh St.)

Collection Period : 6:00AM - 10:00PM



North



	EXISTING 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

Date: 05/06/10

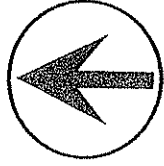
Count Number: TMC1007

Location: CSAH 22/CSAH 65 (Viking Blvd.)

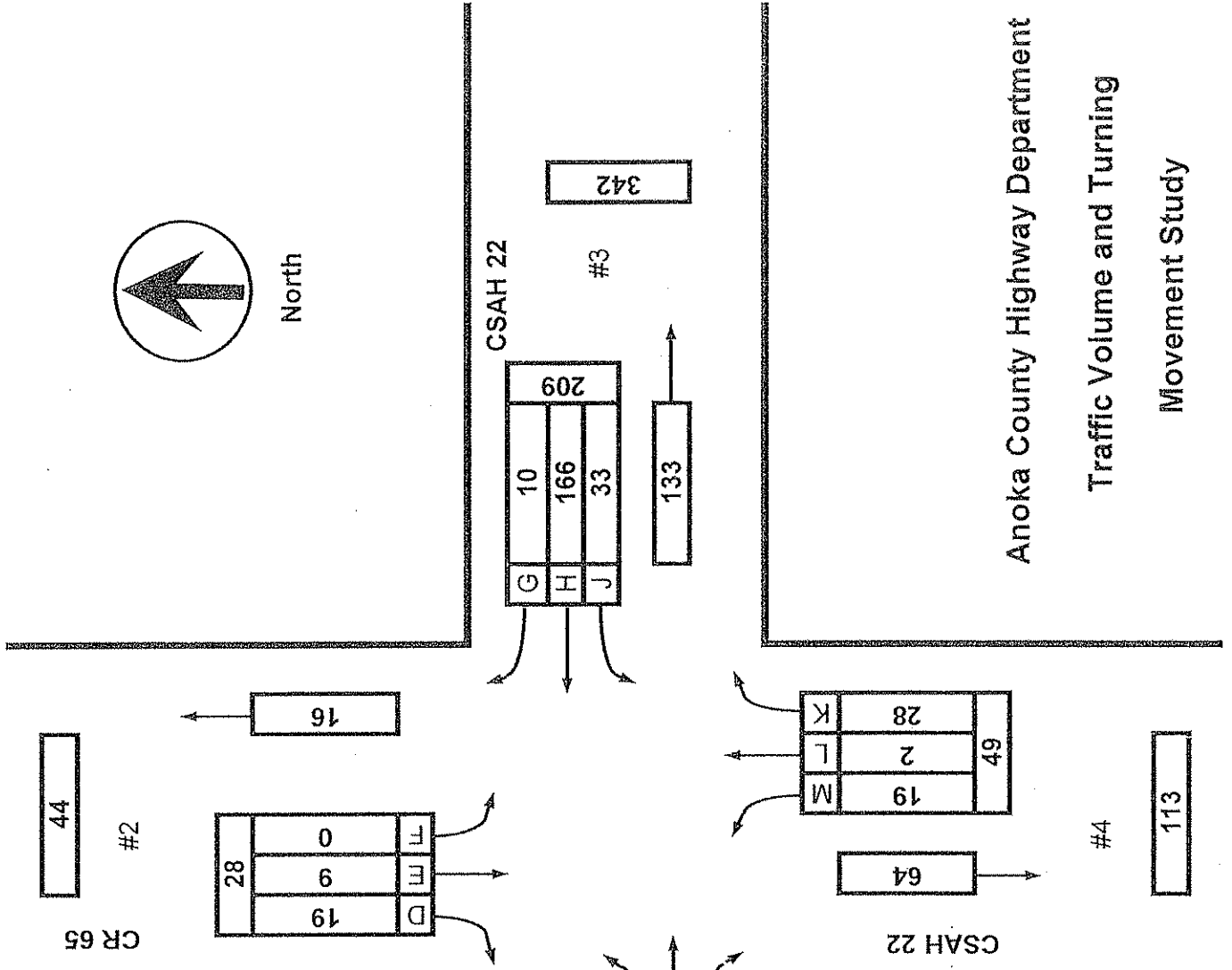
@ CSAH 22/CR 65 (Baugh St.)

Collection Period: AM PEAK

Hour: 7:00-8:00 AM



North



Anoka County Highway Department
Traffic Volume and Turning
Movement Study

	EXISTING 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

Date : 05/05/10

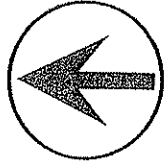
Count Number : TMC1007

Location : CSAH 22/CSAH 65 (Viking Blvd.)

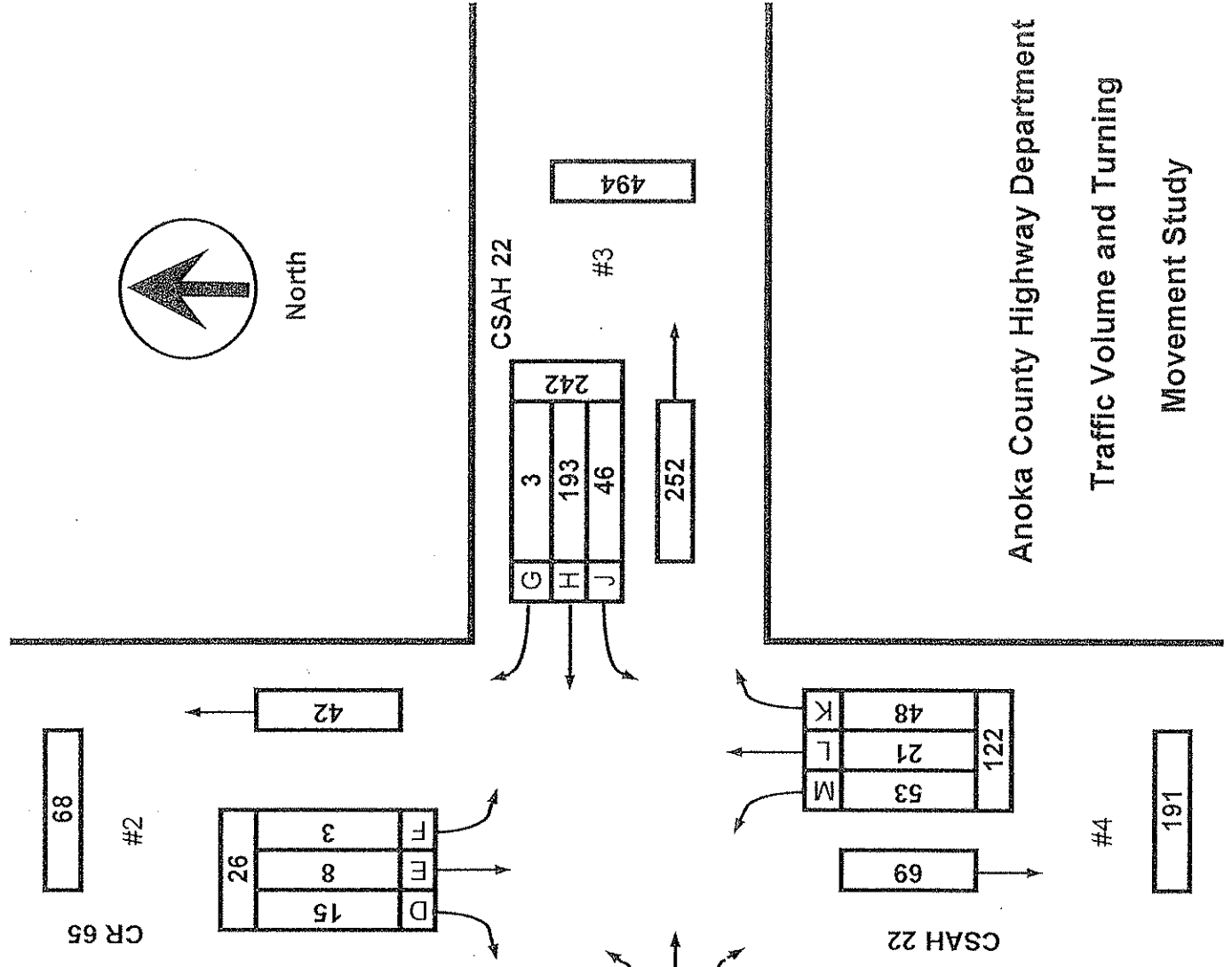
@ CSAH 22/CR 65 (Baugh St.)

Collection Period : PM PEAK

Hour : 4:15-5:15 PM



North



	EXISTING 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 Section

Traffic Volume and Turning Movement Study

Weather: Cool and Rainy
 Counter: DB-400
 Counted by: Andy/Brett

File Name : TMC1007
 Site Code : 10070202
 Start Date : 5/5/2010
 Page No : 2

Groups Printed- Unshifted

Start Time	CR 65 Southbound					CSAH 22 Westbound					CSAH 22 Northbound					CSAH 65 Eastbound					Excl. Total	Incls. 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			
18:00	0	2	2	0	4	10	31	0	5	41	8	6	17	0	31	1	34	3	0	38	5	114	119
18:15	1	3	3	0	7	7	36	1	2	44	4	4	13	1	21	3	30	6	1	39	4	111	115
18:30	0	1	1	0	2	10	34	0	1	44	11	7	6	0	24	0	36	4	0	40	1	110	111
18:45	0	4	3	0	7	6	33	0	1	39	7	3	12	0	22	1	28	3	0	32	1	100	101
Total	1	10	9	0	20	33	134	1	9	168	30	20	48	1	98	5	128	16	1	149	11	435	446
19:00	0	1	2	0	3	7	28	0	0	35	4	2	9	0	15	3	35	5	1	43	1	96	97
19:15	0	0	3	0	3	5	20	0	0	25	6	4	9	0	19	1	22	5	1	28	1	75	76
19:30	0	1	2	0	3	4	19	0	0	23	2	3	7	0	12	2	26	2	1	30	1	68	69
19:45	0	0	4	0	4	9	15	0	0	24	6	2	4	0	12	2	22	6	1	30	1	70	71
Total	0	2	11	0	13	25	82	0	0	107	18	11	29	0	58	8	105	18	4	131	4	309	313
20:00	0	0	0	0	0	5	22	0	0	27	5	3	9	0	17	5	31	3	1	39	1	83	84
20:15	0	2	1	0	3	8	21	0	2	29	4	0	9	1	13	7	32	7	1	46	4	91	95
20:30	0	1	0	0	1	8	25	0	0	33	6	3	3	0	12	2	25	3	0	30	0	76	76
20:45	0	0	0	0	0	5	17	1	1	23	7	1	6	1	14	6	28	3	2	37	4	74	78
Total	0	3	1	0	4	26	85	1	3	112	22	7	27	2	56	20	116	16	4	152	9	324	333
21:00	0	1	1	0	2	6	17	0	1	23	3	4	8	1	15	0	22	2	0	24	2	64	66
21:15	1	0	0	0	1	6	19	0	0	25	1	0	5	0	6	3	17	1	0	21	0	53	53
21:30	0	0	0	0	0	1	7	1	0	9	2	0	7	1	9	1	14	1	0	16	1	34	35
21:45	1	2	0	0	3	6	6	1	0	13	3	2	6	0	11	1	8	0	0	9	0	36	36
Total	2	3	1	0	6	19	49	2	1	70	9	6	26	2	41	5	61	4	0	70	3	187	190
Grand Total	16	82	149	12	247	456	1869	34	145	2359	399	164	489	55	1052	158	1763	243	125	2184	337	5842	6179
brch %	6.5	33.2	60.3			19.3	79.2	1.4			37.9	15.6	46.5			7.2	81.6	11.1					
otal %	0.3	1.4	2.6		4.2	7.8	32	0.6		40.4	6.8	2.8	8.4		18	2.7	30.5	4.2		37.4	5.5	94.5	

Start Time	CR 65 Southbound				CSAH 22 Westbound				CSAH 22 Northbound				CSAH 65 Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00	0	3	4	7	7	50	1	58	5	1	13	19	2	18	7	27	111
07:15	0	2	5	7	6	38	0	44	4	0	4	8	0	27	5	32	91
07:30	0	3	8	11	9	48	0	57	4	1	5	10	1	30	7	38	116
07:45	0	1	2	3	11	30	9	50	6	0	6	12	1	30	3	34	99
Total Volume	0	9	19	28	33	166	10	209	19	2	28	49	4	105	22	131	417
% App. Total	0	32.1	67.9		15.8	79.4	4.8		38.8	4.1	57.1		3.1	80.2	16.8		
PHF	.000	.750	.594	.636	.750	.830	.278	.901	.792	.500	.538	.645	.500	.875	.786	.862	.899

Start Time	CR 65 Southbound				CSAH 22 Westbound				CSAH 22 Northbound				CSAH 65 Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
16:15	0	2	2	4	15	42	1	58	15	4	16	35	7	46	2	55	152
16:30	0	1	4	5	7	47	2	56	15	8	10	33	4	52	3	59	153
16:45	2	5	4	11	14	61	0	75	11	5	13	29	4	45	6	55	170
17:00	1	0	5	6	10	43	0	53	12	4	9	25	3	58	4	65	149
Total Volume	3	8	15	26	46	193	3	242	53	21	48	122	18	201	15	234	624
% App. Total	11.5	30.8	57.7		19	79.8	1.2		43.4	17.2	39.3		7.7	85.9	6.4		
PHF	.375	.400	.750	.591	.767	.791	.375	.807	.883	.656	.750	.871	.643	.866	.625	.900	.918

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

Study Name : TMC1007
Study Date : 05/10/10
Page No. : 1

Signal Warrants - Summary

Major Street Approaches

Eastbound: CSAH 65
Number of Lanes: 1
Approach Speed: 55
Total Approach Volume: 2,184

Westbound: CSAH 22
Number of Lanes: 1
Approach Speed: 55
Total Approach Volume: 2,359

Minor Street Approaches

Northbound: CSAH 22
Number of Lanes: 1

Total Approach Volume: 1,052

Southbound: CR 65
Number of Lanes: 1

Total Approach Volume: 247

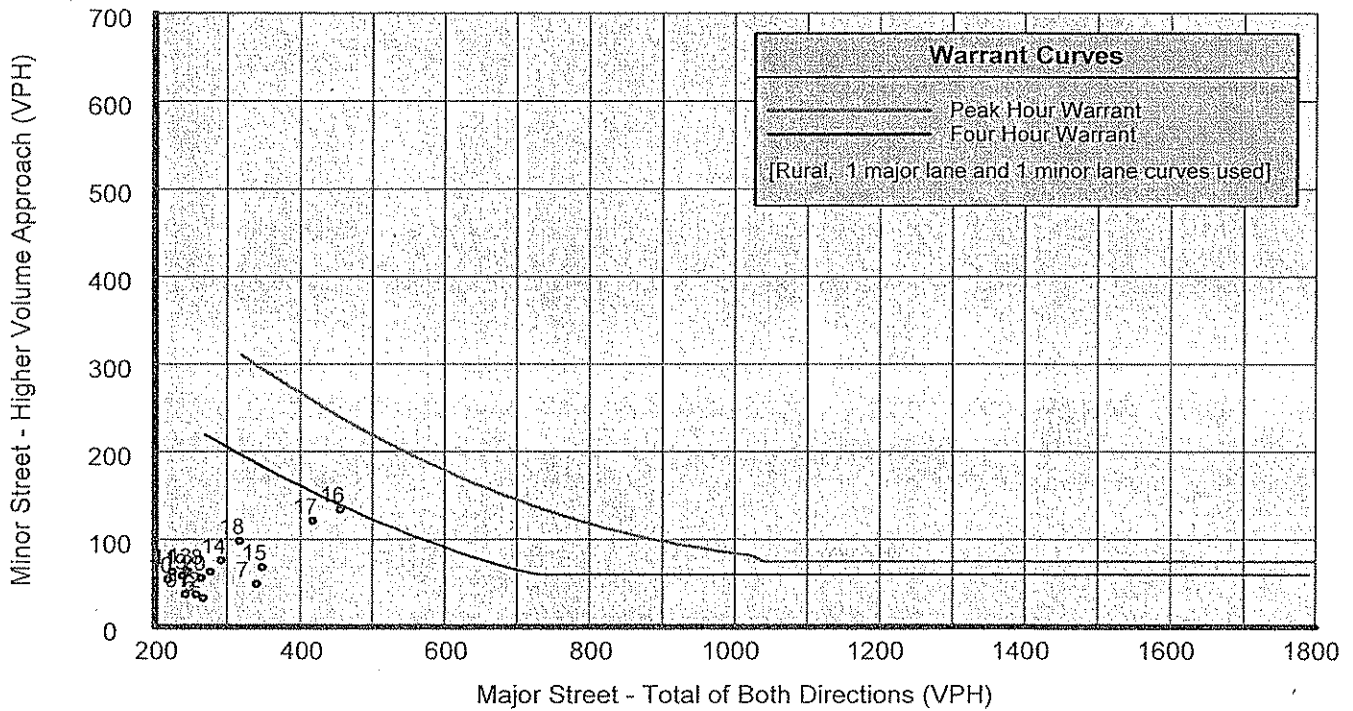
Warrant Summary (Rural values apply.)

- Warrant 1 - Eight Hour Vehicular Volumes** **Not Satisfied**
 Warrant 1A - Minimum Vehicular Volume **Not Satisfied**
 Required volumes reached for 2 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 1 hours, 8 are needed
- Warrant 2 - Four Hour Volumes** **Not Satisfied**
 Number of hours (0) volumes exceed minimum < minimum required (4).
- Warrant 3 - Peak Hour** **Not Satisfied**
 Warrant 3A - Peak Hour Delay **Not Satisfied**
 Approach volumes on minor street don't exceed minimums for any hour. Delay data not evaluated.
- Warrant 3B - Peak Hour Volumes** **Not Satisfied**
 Volumes do not exceed minimums for any 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 : TMC1007
Study Date : 05/10/10
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	NB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
01:00	0	0	NB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
02:00	0	0	NB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
03:00	0	0	NB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
04:00	0	0	NB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
05:00	0	0	NB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
06:00	267	33	NB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
07:00	340	49	NB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
08:00	277	63	NB	350-No	105-No	---	525-No	53-Yes	Minor	420-No	84-No	---
09:00	242	37	NB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
10:00	218	54	NB	350-No	105-No	---	525-No	53-Yes	Minor	420-No	84-No	---
11:00	224	63	NB	350-No	105-No	---	525-No	53-Yes	Minor	420-No	84-No	---
12:00	257	37	NB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
13:00	245	64	NB	350-No	105-No	---	525-No	53-Yes	Minor	420-No	84-No	---
14:00	292	76	NB	350-No	105-No	---	525-No	53-Yes	Minor	420-No	84-No	---
15:00	348	68	NB	350-No	105-No	---	525-No	53-Yes	Minor	420-No	84-No	---
16:00	456	134	NB	350-Yes	105-Yes	Both	525-No	53-Yes	Minor	420-Yes	84-Yes	Both
17:00	418	121	NB	350-Yes	105-Yes	Both	525-No	53-Yes	Minor	420-No	84-Yes	Minor
18:00	317	98	NB	350-No	105-No	---	525-No	53-Yes	Minor	420-No	84-Yes	Minor
19:00	238	58	NB	350-No	105-No	---	525-No	53-Yes	Minor	420-No	84-No	---
20:00	264	56	NB	350-No	105-No	---	525-No	53-Yes	Minor	420-No	84-No	---
21:00	140	41	NB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
22:00	0	0	NB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
23:00	0	0	NB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---

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

Study Name : TMC1007
Study Date : 05/10/10
Page No. : 1

Multi-Way Stop Warrant Report

Major Street Approaches

Eastbound: CSAH 65
Total Approach Volume: 2,184
Approach Speed: 55

Westbound: CSAH 22
Total Approach Volume: 2,359
Approach Speed: 55

Minor Street Approaches

Northbound: CSAH 22
Total Approach Volume: 1,052

Southbound: CR 65
Total Approach Volume: 247

Warrant Summary

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

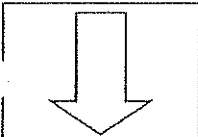
Criteria B - Crash Experience Not Evaluated

Criteria C - Minimum Volumes and Delays Not Satisfied
Delay data not evaluated
Required volumes reached for 2 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 8 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?
15:45 - 16:45	421	142	210-Yes	140-Yes	Both	240-Yes	160-No	Major
17:15 - 18:15	379	141	210-Yes	140-Yes	Both	240-Yes	160-No	Major
06:00 - 07:00	267	52	210-Yes	140-No	Major	240-Yes	160-No	Major
06:15 - 07:15	299	68	210-Yes	140-No	Major	240-Yes	160-No	Major
06:30 - 07:30	310	69	210-Yes	140-No	Major	240-Yes	160-No	Major
06:45 - 07:45	322	78	210-Yes	140-No	Major	240-Yes	160-No	Major
07:00 - 08:00	340	77	210-Yes	140-No	Major	240-Yes	160-No	Major
07:15 - 08:15	334	69	210-Yes	140-No	Major	240-Yes	160-No	Major
07:30 - 08:30	332	76	210-Yes	140-No	Major	240-Yes	160-No	Major
07:45 - 08:45	288	68	210-Yes	140-No	Major	240-Yes	160-No	Major
08:00 - 09:00	277	84	210-Yes	140-No	Major	240-Yes	160-No	Major
08:15 - 09:15	278	76	210-Yes	140-No	Major	240-Yes	160-No	Major
08:30 - 09:30	271	72	210-Yes	140-No	Major	240-Yes	160-No	Major
08:45 - 09:45	277	72	210-Yes	140-No	Major	240-Yes	160-No	Major
09:00 - 10:00	242	47	210-Yes	140-No	Major	240-Yes	160-No	Major
09:15 - 10:15	218	48	210-Yes	140-No	Major	240-No	160-No	No
09:30 - 10:30	217	51	210-Yes	140-No	Major	240-No	160-No	No
09:45 - 10:45	211	52	210-Yes	140-No	Major	240-No	160-No	No
10:00 - 11:00	218	65	210-Yes	140-No	Major	240-No	160-No	No
11:00 - 12:00	224	75	210-Yes	140-No	Major	240-No	160-No	No
11:15 - 12:15	248	72	210-Yes	140-No	Major	240-Yes	160-No	Major
11:30 - 12:30	258	55	210-Yes	140-No	Major	240-Yes	160-No	Major
11:45 - 12:45	274	56	210-Yes	140-No	Major	240-Yes	160-No	Major
12:00 - 13:00	257	48	210-Yes	140-No	Major	240-Yes	160-No	Major



COUNT LOCATION:

CSAH 22/CSAH 65 (Viking Blvd.)

DATE:

5/6/2010

@ CSAH 22/CR 65 (Baugh St.)

NORTH

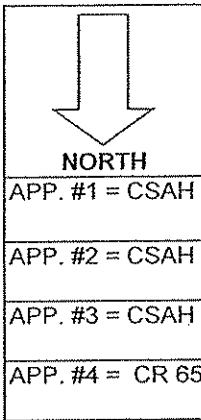
APP. #1 = CSAH 22
APP. #2 = CSAH 22
APP. #3 = CSAH 65
APP. #4 = CR 65

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						8		1
6:15-6:30						3		2
6:30-6:45						6		1
6:45-7:00						2		1
HOURLY TOTAL						HOURLY TOTAL		24
7:00-7:15						6		1
7:15-7:30						3		1
7:30-7:45						11		1
7:45-8:00						6		
HOURLY TOTAL						HOURLY TOTAL		29
8:00-8:15						5		1
8:15-8:30						3		2
8:30-8:45						6		
8:45-9:00						7		
HOURLY TOTAL						HOURLY TOTAL		24
9:00-9:15						6		
9:15-9:30						10		
9:30-9:45						12		
9:45-10:00								
HOURLY TOTAL						HOURLY TOTAL		28
10:00-10:15						7		
10:15-10:30						8		
10:30-10:45						10		
10:45-11:00						3		
HOURLY TOTAL						HOURLY TOTAL		28
11:00-11:15						7		
11:15-11:30						3		
11:30-11:45						4		
11:45-12:00						8		
HOURLY TOTAL						HOURLY TOTAL		22
12:00-12:15						7		
12:15-12:30						7		1
12:30-12:45						2		
12:45-1:00						4		
HOURLY TOTAL						HOURLY TOTAL		21
1:00-1:15						6		1
1:15-1:30						5		
1:30-1:45						9		
1:45-2:00						10		
HOURLY TOTAL						HOURLY TOTAL		31
					TOTAL		TOTAL	207

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32



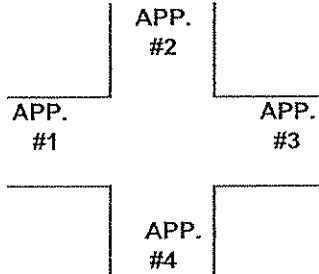
COUNT LOCATION:

CSAH 22/CSAH 65 (Viking Blvd.)

DATE:

5/5/2010

@ CSAH 22/CR 65 (Baugh St.)



- 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						9		1
2:15-2:30						4		
2:30-2:45						4		3
2:45-3:00						6		1
HOURLY TOTAL						HOURLY TOTAL		28
3:00-3:15						7		
3:15-3:30						3		2
3:30-3:45						2		1
3:45-4:00						8		
HOURLY TOTAL						HOURLY TOTAL		23
4:00-4:15						6		2
4:15-4:30						6		
4:30-4:45						9		2
4:45-5:00						4		
HOURLY TOTAL						HOURLY TOTAL		29
5:00-5:15						8		1
5:15-5:30						6		
5:30-5:45						3		
5:45-6:00						3		
HOURLY TOTAL						HOURLY TOTAL		21
6:00-6:15						5		
6:15-6:30						4		
6:30-6:45						1		
6:45-7:00						1		
HOURLY TOTAL						HOURLY TOTAL		11
7:00-7:15						1		
7:15-7:30						1		
7:30-7:45						1		
7:45-8:00						1		
HOURLY TOTAL						HOURLY TOTAL		4
8:00-8:15						1		
8:15-8:30						4		
8:30-8:45								
8:45-9:00						4		
HOURLY TOTAL						HOURLY TOTAL		9
9:00-9:15						2		
9:15-9:30								
9:30-9:45						1		
9:45-10:00								
HOURLY TOTAL						HOURLY TOTAL		3
					TOTAL		TOTAL	335

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32