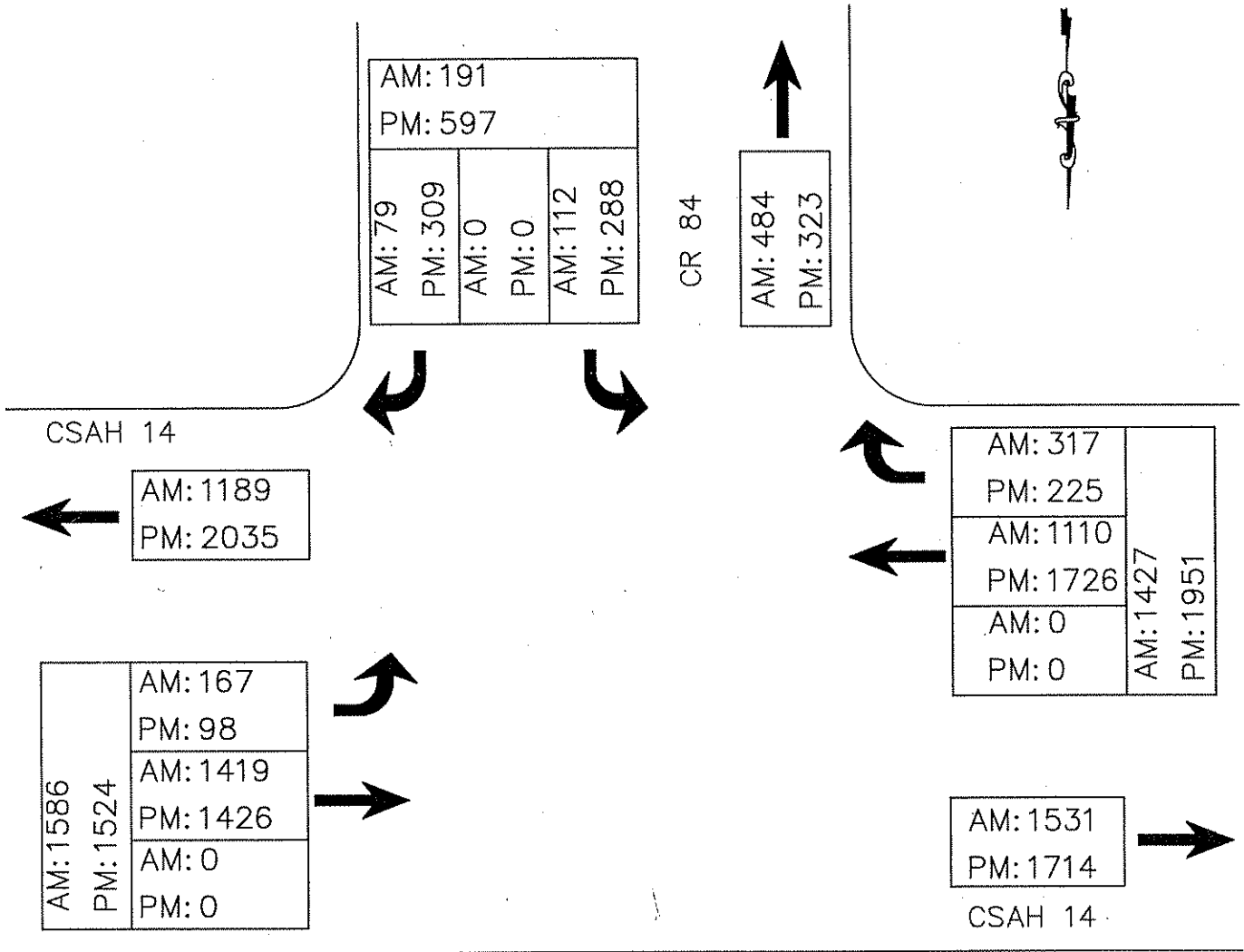


**ANOKA COUNTY HIGHWAY DEPARTMENT
PEAK AM/PM TURNING MOVEMENT DIAGRAM**

Location: C. S. A. H. 14 (MAIN ST.) @ C. R. 84 (OTTER LK. RD.)



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

File Name : TMC 0403
Site Code : 04030201
Start Date : 05/06/2004
Page No : 1

Weather: Clear and Warm
Counter: TDC-8
Printed by: Josie/Sean

Groups Printed- Unshifted

Start Time	NONE Southbound					CSAH 14 Westbound					CR 84 Northbound					CSAH 14 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				
06:00	0	0	0	0	0	15	138	0	15	153	5	0	4	1	9	0	71	17	8	88	24	250	274
06:15	0	0	0	0	0	7	115	0	4	122	6	0	3	0	9	0	78	12	4	90	8	221	229
06:30	0	0	0	0	0	20	139	0	9	159	5	0	1	0	6	0	112	34	9	146	18	311	329
06:45	0	0	0	0	0	26	138	0	8	164	7	0	6	2	13	0	100	19	9	119	19	296	315
Total	0	0	0	0	0	68	530	0	36	598	23	0	14	3	37	0	361	82	30	443	69	1078	1147
07:00	0	0	0	0	0	20	138	0	12	158	14	0	10	1	24	0	136	32	15	168	28	350	378
07:15	0	0	0	0	0	22	114	0	10	136	11	0	5	2	16	0	103	36	20	139	32	291	323
07:30	0	0	0	0	0	13	124	0	9	137	10	0	9	1	19	0	109	48	16	157	26	313	339
07:45	0	0	0	0	0	13	101	0	14	114	17	0	10	8	27	0	88	37	12	125	34	266	300
Total	0	0	0	0	0	68	477	0	45	545	52	0	34	12	86	0	436	153	63	589	120	1220	1340
08:00	0	0	0	0	0	11	123	0	14	134	9	0	5	5	14	0	78	20	17	98	36	246	282
08:15	0	0	0	0	0	6	109	0	11	115	9	0	6	4	15	0	88	25	20	113	35	243	278
08:30	0	0	0	0	0	5	95	0	16	100	8	0	13	7	21	0	91	20	15	111	38	232	270
08:45	0	0	0	0	0	9	85	0	11	94	11	0	7	0	18	0	56	17	14	73	25	185	210
Total	0	0	0	0	0	31	412	0	52	443	37	0	31	16	68	0	313	82	66	395	134	906	1040
*** BREAK ***																							
15:00	0	0	0	0	0	6	99	0	7	105	19	0	17	5	36	0	117	27	19	144	31	285	316
15:15	0	0	0	0	0	6	103	0	12	109	27	0	23	9	50	0	143	18	11	161	32	320	352
15:30	0	0	0	0	0	2	122	0	9	124	31	0	20	3	51	0	142	20	15	162	27	337	364
15:45	0	0	0	0	0	4	136	0	12	140	11	0	25	4	36	0	143	21	18	164	34	340	374
Total	0	0	0	0	0	18	460	0	40	478	88	0	85	21	173	0	545	86	63	631	124	1282	1406
16:00	0	0	0	0	0	8	115	0	7	123	27	0	25	5	52	0	143	20	11	163	23	338	361
16:15	0	0	0	0	0	9	112	0	5	121	22	0	19	5	41	0	142	18	9	160	19	322	341
16:30	0	0	0	0	0	9	125	0	7	134	39	0	40	8	79	0	147	18	7	165	22	378	400
16:45	0	0	0	0	0	9	136	0	3	145	19	0	35	2	54	0	161	10	8	171	13	370	383
Total	0	0	0	0	0	35	488	0	22	523	107	0	119	20	226	0	593	66	35	659	77	1408	1485
17:00	0	0	0	0	0	8	133	0	4	141	26	0	23	3	49	0	149	20	9	169	16	359	375
17:15	0	0	0	0	0	13	121	0	6	134	27	0	34	4	61	0	141	20	7	161	17	356	373
17:30	0	0	0	0	0	15	128	0	6	143	18	0	16	1	34	0	156	20	6	176	13	353	366
17:45	0	0	0	0	0	9	96	0	7	105	22	0	32	1	54	0	142	13	8	155	16	314	330
Total	0	0	0	0	0	45	478	0	23	523	93	0	105	9	198	0	588	73	30	661	62	1382	1444
Grand Total	0	0	0	0	0	265	2845	0	218	3110	400	0	388	81	788	0	2836	542	287	3378	586	7276	7862
Apprch %	0.0	0.0	0.0			8.5	91.5	0.0			50.8	0.0	49.2			0.0	84.0	16.0					
Total %	0.0	0.0	0.0		0.0	3.6	39.1	0.0		42.7	5.5	0.0	5.3		10.8	0.0	39.0	7.4		46.4	7.5	92.5	

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

Study Name : TMC0403
Study Date : 05/11/04
Page No. : 1

Signal Warrants - Summary

Major Street Approaches

Eastbound: CSAH 14
Number of Lanes: 2
Approach Speed: 50
Total Approach Volume: 3,378

Westbound: CSAH 14
Number of Lanes: 1
Approach Speed: 55
Total Approach Volume: 3,110

Minor Street Approaches

Northbound: CR 84
Number of Lanes: 2
Total Approach Volume: 788

Southbound: NONE
Number of Lanes: 2
Total Approach Volume: 0

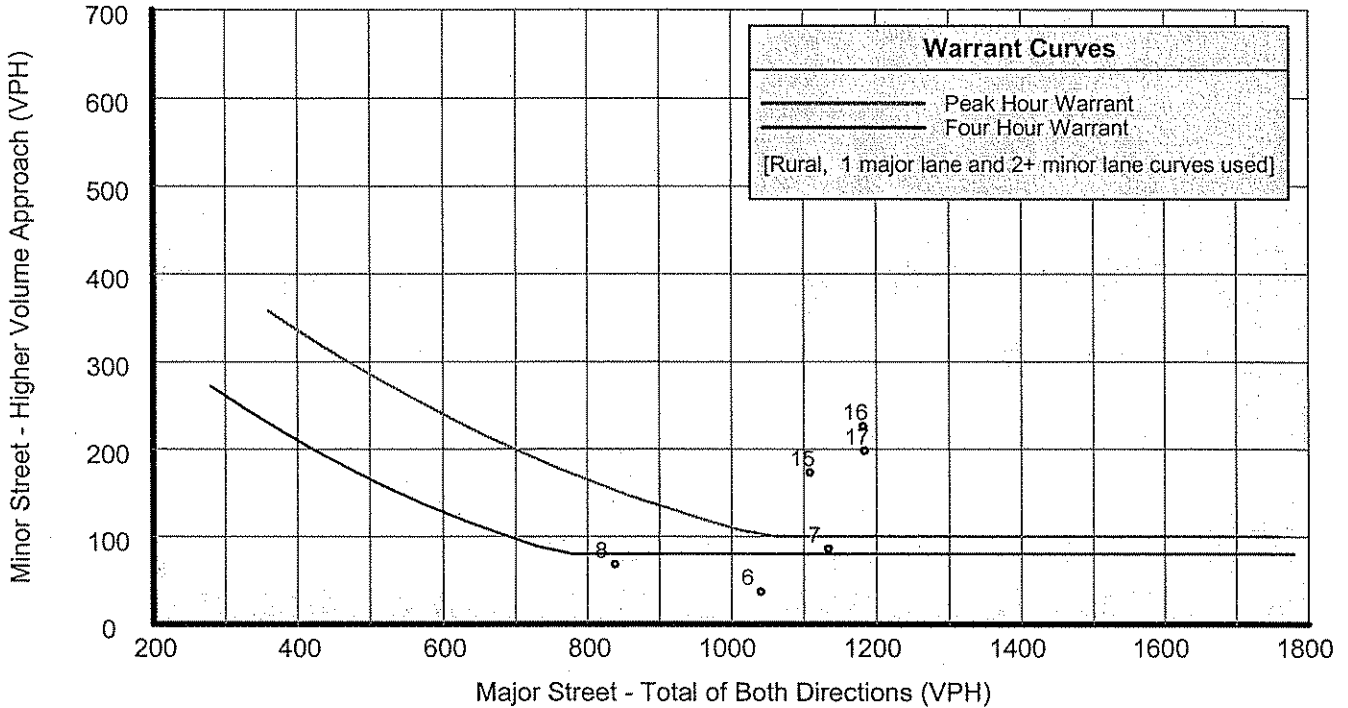
Warrant Summary (Rural values apply.)

Warrant 1 - Eight Hour Vehicular Volumes	Not Satisfied
Warrant 1A - Minimum Vehicular Volume	Not Satisfied
Required volumes reached for 3 hours, 8 are needed	
Warrant 1B - Interruption of Continuous Traffic	Not Satisfied
Required volumes reached for 4 hours, 8 are needed	
Warrant 1 A&B - Combination of Warrants	Not Satisfied
Required volumes reached for 3 hours, 8 are needed	
Warrant 2 - Four Hour Volumes	Satisfied
Number of hours (4) volumes exceed minimum >= minimum required (4).	
Warrant 3 - Peak Hour	Satisfied
Warrant 3A - Peak Hour Volumes	Satisfied
Volumes exceed minimums for at least one hour.	
Warrant 3B - Peak Hour Delay	Satisfied
Number of hours (9) volumes exceed minimum >= required (1). Delay data not evaluated.	
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

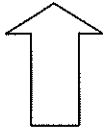
Study Name : TMC0403
Study Date : 05/11/04
Page No. : 2

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	140-No	---	525-No	70-No	---	420-No	112-No	---
01:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
02:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
03:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
04:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
05:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
06:00	1,041	37	NB	350-Yes	140-No	Major	525-Yes	70-No	Major	420-Yes	112-No	Major
07:00	1,134	86	NB	350-Yes	140-No	Major	525-Yes	70-Yes	Both	420-Yes	112-No	Major
08:00	838	68	NB	350-Yes	140-No	Major	525-Yes	70-No	Major	420-Yes	112-No	Major
09:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
10:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
11:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
12:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
13:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
14:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
15:00	1,109	173	NB	350-Yes	140-Yes	Both	525-Yes	70-Yes	Both	420-Yes	112-Yes	Both
16:00	1,182	226	NB	350-Yes	140-Yes	Both	525-Yes	70-Yes	Both	420-Yes	112-Yes	Both
17:00	1,184	198	NB	350-Yes	140-Yes	Both	525-Yes	70-Yes	Both	420-Yes	112-Yes	Both
18:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
19:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
20:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
21:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
22:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---
23:00	0	0	NB	350-No	140-No	---	525-No	70-No	---	420-No	112-No	---



NORTH

COUNT LOCATION:

CSAH 14 (Main St.) @

DATE:

05/06/2004

CR 84 (Otter Lk. Rd.)

APP. #1 = CSAH 14
APP. #2 =
APP. #3 = CSAH 14
APP. #4 = CR 84

APP.
#1

APP.
#3

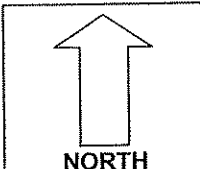
APP.
#4

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						23		1
6:15-6:30						6		2
6:30-6:45						16		3
6:45-7:00						19		
HOURLY TOTAL						HOURLY TOTAL		70
7:00-7:15						28		
7:15-7:30						31		1
7:30-7:45						23		2
7:45-8:00						32		2
HOURLY TOTAL						HOURLY TOTAL		119
8:00-8:15						35		
8:15-8:30						34		1
8:30-8:45						37		2
8:45-9:00						23		2
HOURLY TOTAL						HOURLY TOTAL		134
9:00-9:15								
9:15-9:30								
9:30-9:45								
9:45-10:00								
HOURLY TOTAL						HOURLY TOTAL		
10:00-10:15								
10:15-10:30								
10:30-10:45								
10:45-11:00								
HOURLY TOTAL						HOURLY TOTAL		
11:00-11:15								
11:15-11:30								
11:30-11:45								
11:45-12:00								
HOURLY TOTAL						HOURLY TOTAL		
12:00-12:15								
12:15-12:30								
12:30-12:45								
12:45-1:00								
HOURLY TOTAL						HOURLY TOTAL		
1:00-1:15								
1:15-1:30								
1:30-1:45								
1:45-2:00								
HOURLY TOTAL						HOURLY TOTAL		
					TOTAL		TOTAL	323

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:

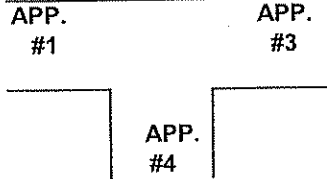
CSAH 14 (Main St.) @

DATE:

05/06/2004

CR 84 (Otter Lk. Rd.)

APP. #1 = CSAH 14
APP. #2 =
APP. #3 = CSAH 14
APP. #4 = CR 84



- 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								
2:15-2:30								
2:30-2:45								
2:45-3:00								
HOURLY TOTAL						HOURLY TOTAL		
3:00-3:15						31		
3:15-3:30						29		2
3:30-3:45						24		3
3:45-4:00						32		2
HOURLY TOTAL						HOURLY TOTAL		123
4:00-4:15				1	1	21		2
4:15-4:30						19		
4:30-4:45				2	2	21		
4:45-5:00						13		
HOURLY TOTAL					3	HOURLY TOTAL		76
5:00-5:15						15		
5:15-5:30						17		
5:30-5:45						14		
5:45-6:00						16		
HOURLY TOTAL						HOURLY TOTAL		62
6:00-6:15								
6:15-6:30								
6:30-6:45								
6:45-7:00								
HOURLY TOTAL						HOURLY TOTAL		
7:00-7:15								
7:15-7:30								
7:30-7:45								
7:45-8:00								
HOURLY TOTAL						HOURLY TOTAL		
8:00-8:15								
8:15-8:30								
8:30-8:45								
8:45-9:00								
HOURLY TOTAL						HOURLY TOTAL		
9:00-9:15								
9:15-9:30								
9:30-9:45								
9:45-10:00								
HOURLY TOTAL						HOURLY TOTAL		
					TOTAL		TOTAL	584

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