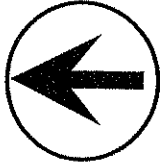


Date: 05/11/2009

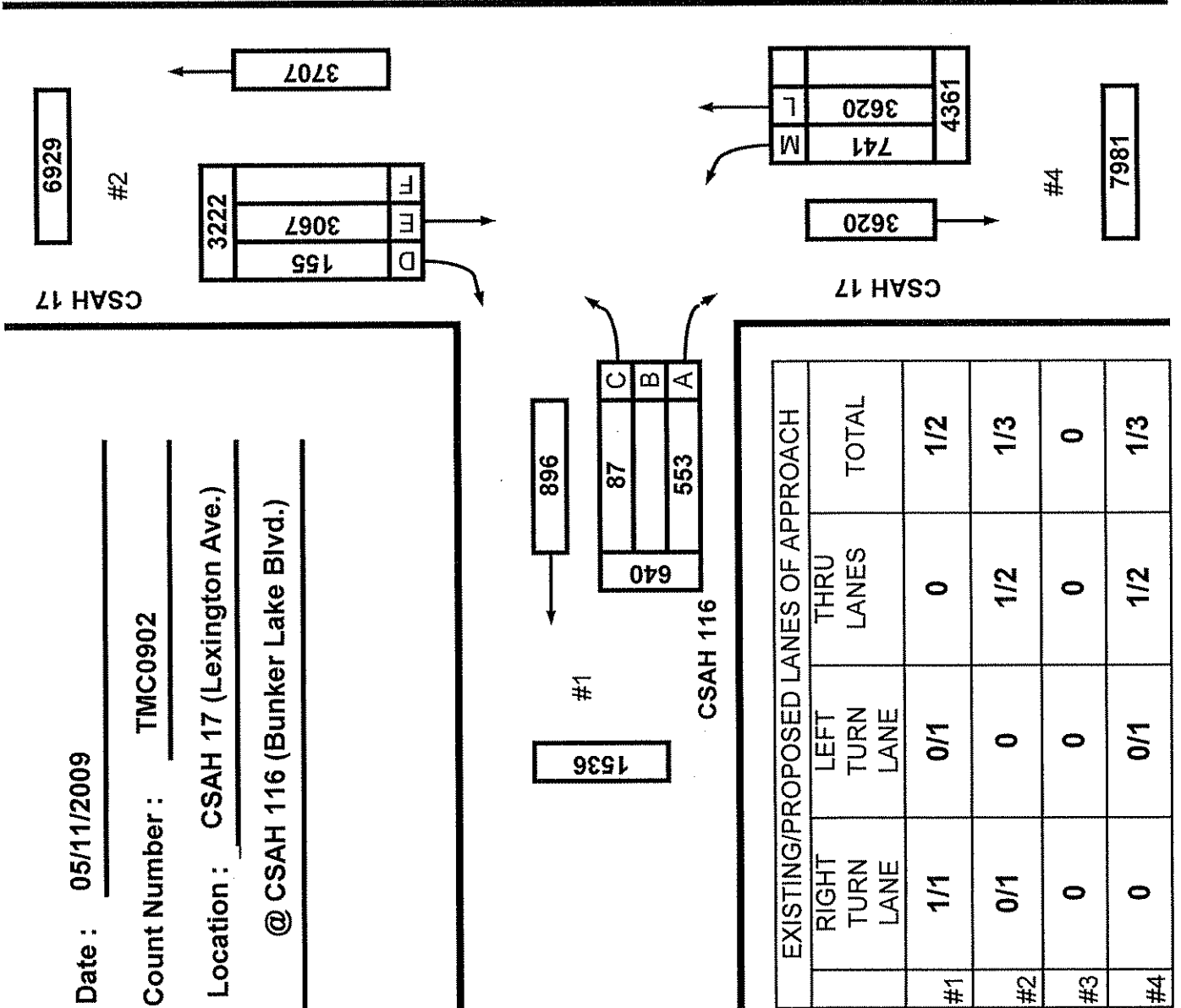
Count Number: TMC0902

Location: CSAH 17 (Lexington Ave.)

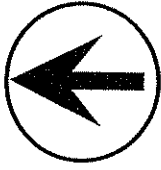
@ CSAH 116 (Bunker Lake Blvd.)



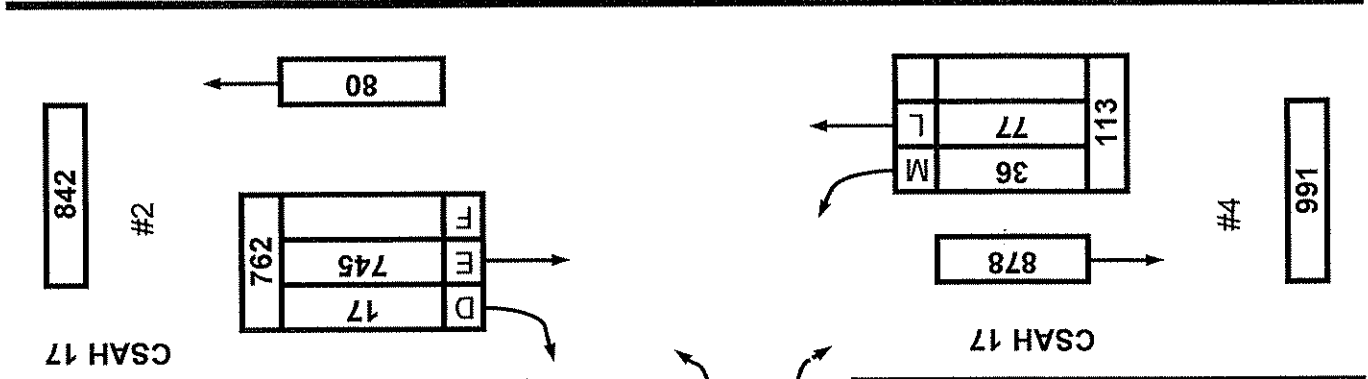
North



Date : 05/11/2009
 Count Number : TMC0902
 Location : CSAH 17 (Lexington Ave.)
 @ CSAH 116 (Bunker Lake Blvd.)
 Collection Period : AM PEAK
 Hour : 6:30 - 7:30AM



North



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

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Date : 05/11/2009

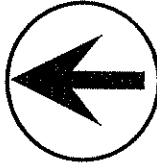
Count Number : TMC0902

Location : CSAH 17 (Lexington Ave.)

@ CSAH 116 (Bunker Lake Blvd.)

Collection Period : PM PEAK

Hour : 4:30 - 5:30PM



North

949

#2

208			
190	D	M	T
18			

741

145

#1

195

55	C
	B
39	A

CSAH 116

857		
127	M	L
730		

229

CSAH 17

#4

1086

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

Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

Weather: Sunny and Warm
 Counter: DB-400
 Counted by: Laura/Jake

File Name : TMC0902
 Site Code : 09020102
 Start Date : 05/11/2009
 Page No : 1

Groups Printed- Unshifted

Start Time	CSAH 17 Southbound					None Westbound					CSAH 17 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			
06:00	0	93	2	1	95	0	0	0	0	0	0	3	0	1	3	0	0	4	0	4	2	102	104
06:15	0	167	4	2	171	0	0	0	0	0	3	13	0	4	16	1	0	10	0	11	6	198	204
06:30	0	171	6	4	177	0	0	0	0	0	5	20	0	5	25	0	0	23	2	23	11	225	236
06:45	0	182	5	3	187	0	0	0	0	0	14	29	0	3	43	1	0	24	3	25	9	255	264
Total	0	613	17	10	630	0	0	0	0	0	22	65	0	13	87	2	0	61	5	63	28	780	808
07:00	0	184	4	10	188	0	0	0	0	0	10	14	0	1	24	0	0	31	1	31	12	243	255
07:15	0	208	2	8	210	0	0	0	0	0	7	14	0	0	21	2	0	55	3	57	11	288	299
07:30	0	140	2	3	142	0	0	0	0	0	7	26	0	5	33	2	0	42	0	44	8	219	227
07:45	0	152	3	9	155	0	0	0	0	0	7	21	0	3	28	2	0	28	3	30	15	213	228
Total	0	684	11	30	695	0	0	0	0	0	31	75	0	9	106	6	0	156	7	162	46	963	1009
08:00	0	71	6	4	77	0	0	0	0	0	7	17	0	6	24	2	0	18	2	20	12	121	133
08:15	0	51	0	3	51	0	0	0	0	0	9	25	0	6	34	1	0	7	1	8	10	93	103
08:30	0	78	3	4	81	0	0	0	0	0	5	23	0	4	28	1	0	12	2	13	10	122	132
08:45	0	68	1	7	69	0	0	0	0	0	11	35	0	7	46	1	0	10	0	11	14	126	140
Total	0	268	10	18	278	0	0	0	0	0	32	100	0	23	132	5	0	47	5	52	46	462	508
09:00	0	59	3	10	62	0	0	0	0	0	5	27	0	10	32	0	0	5	0	5	20	99	119
09:15	0	48	2	7	50	0	0	0	0	0	8	21	0	1	29	1	0	3	0	4	8	83	91
09:30	0	32	4	2	36	0	0	0	0	0	10	31	0	3	41	0	0	4	0	4	5	81	86
09:45	0	44	4	4	48	0	0	0	0	0	9	27	0	13	36	0	0	6	0	6	17	90	107
Total	0	183	13	23	196	0	0	0	0	0	32	106	0	27	138	1	0	18	0	19	50	353	403
10:00	0	37	1	6	38	0	0	0	0	0	4	18	0	2	22	0	0	2	0	2	8	62	70
10:15	0	42	1	4	43	0	0	0	0	0	2	26	0	3	28	3	0	6	0	9	7	80	87
10:30	0	33	1	3	34	0	0	0	0	0	3	30	0	10	33	0	0	4	0	4	13	71	84
10:45	0	36	0	9	36	0	0	0	0	0	3	25	0	5	28	4	0	5	1	9	15	73	86
Total	0	148	3	22	151	0	0	0	0	0	12	99	0	20	111	7	0	17	1	24	43	286	329
11:00	0	42	3	4	45	0	0	0	0	0	11	22	0	3	33	0	0	12	1	12	8	90	98
11:15	0	40	4	5	44	0	0	0	0	0	8	30	0	5	38	1	0	5	0	6	10	88	96
11:30	0	25	1	11	26	0	0	0	0	0	2	38	0	5	40	0	0	4	1	4	17	70	87
11:45	0	5	1	1	6	0	0	0	0	0	12	59	0	8	71	1	0	1	0	2	9	79	88
Total	0	112	9	21	121	0	0	0	0	0	33	149	0	21	182	2	0	22	2	24	44	327	371
12:00	0	21	4	1	25	0	0	0	0	0	11	46	0	4	57	0	0	1	0	1	5	83	88
12:15	0	46	1	5	47	0	0	0	0	0	13	42	0	6	55	3	0	5	0	8	11	110	121
12:30	0	48	2	9	50	0	0	0	0	0	8	32	0	5	40	2	0	10	1	12	15	102	117
12:45	0	44	3	3	47	0	0	0	0	0	9	34	0	4	43	5	0	8	1	13	8	103	111
Total	0	159	10	18	169	0	0	0	0	0	41	154	0	19	195	10	0	24	2	34	39	398	437
13:00	0	57	1	4	58	0	0	0	0	0	10	58	0	4	68	2	0	4	2	6	10	132	142
13:15	0	41	2	6	43	0	0	0	0	0	11	52	0	7	63	2	0	11	0	13	13	119	132
13:30	0	45	2	6	47	0	0	0	0	0	8	52	0	4	60	1	0	5	0	6	10	113	123
13:45	0	20	1	3	21	0	0	0	0	0	11	41	0	2	52	1	0	0	0	1	5	74	79
Total	0	163	6	19	169	0	0	0	0	0	40	203	0	17	243	6	0	20	2	26	38	438	476
14:00	0	34	3	3	37	0	0	0	0	0	9	37	0	3	46	0	0	8	0	8	6	91	97
14:15	0	34	4	3	38	0	0	0	0	0	17	65	0	2	82	3	0	9	0	12	5	132	137
14:30	0	20	1	1	21	0	0	0	0	0	10	78	0	1	88	0	0	6	1	6	3	115	118
14:45	0	37	2	3	39	0	0	0	0	0	18	100	0	0	118	3	0	10	0	13	3	170	173
Total	0	125	10	10	135	0	0	0	0	0	54	280	0	6	334	6	0	33	1	39	17	508	525
15:00	0	29	0	7	29	0	0	0	0	0	15	91	0	3	106	1	0	11	0	12	10	147	157
15:15	0	30	5	6	35	0	0	0	0	0	22	108	0	4	130	0	0	8	1	8	11	173	184
15:30	0	27	1	0	28	0	0	0	0	0	24	146	0	5	170	4	0	8	1	12	6	210	216
15:45	0	18	1	0	19	0	0	0	0	0	14	131	0	6	145	0	0	3	0	3	6	167	173
Total	0	104	7	13	111	0	0	0	0	0	75	476	0	18	551	5	0	30	2	35	33	697	730
16:00	0	41	1	4	42	0	0	0	0	0	24	145	0	2	169	1	0	11	1	12	7	223	230
16:15	0	25	4	2	29	0	0	0	0	0	28	152	0	1	180	1	0	3	0	4	3	213	216
16:30	0	44	2	0	46	0	0	0	0	0	32	170	0	4	202	2	0	12	0	14	4	262	266
16:45	0	44	7	4	51	0	0	0	0	0	26	199	0	2	225	0	0	9	0	9	6	285	291
Total	0	154	14	10	168	0	0	0	0	0	110	666	0	9	776	4	0	35	1	39	20	983	1003
17:00	0	50	4	1	54	0	0	0	0	0	34	193	0	5	227	6	0	9	0	15	6	296	302
17:15	0	52	5	1	57	0	0	0	0	0	35	168	0	3	203	3	0	9	0	12	4	272	276
17:30	0	14	2	1	16	0	0	0	0	0	27	147	0	2	174	1	0	3	0	4	3	194	197
17:45	0	11	4	0	15	0	0	0	0	0	24	115	0	2	139	1	0	6	1	7	3	161	164
Total	0	127	15	3	142	0	0	0	0	0	120	623	0	12	743	11	0	27	1	38	16	923	939



Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

Weather: Sunny and Warm
 Counter: DB-400
 Counted by: Laura/Jake

File Name : TMC0902
 Site Code : 09020102
 Start Date : 05/11/2009
 Page No : 2

Groups Printed- Unshifted

Start Time	CSAH 17 Southbound					None Westbound					CSAH 17 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				
18:00	0	18	3	1	21	0	0	0	0	0	16	95	0	3	111	0	0	3	0	3	0	4	135	139
18:15	0	19	0	0	19	0	0	0	0	0	22	82	0	0	104	2	0	4	0	6	0	129	129	
18:30	0	13	4	0	17	0	0	0	0	0	20	47	0	0	67	3	0	4	0	7	0	91	91	
18:45	0	10	2	0	12	0	0	0	0	0	15	46	0	0	61	1	0	1	0	2	0	75	75	
Total	0	60	9	1	69	0	0	0	0	0	73	270	0	3	343	6	0	12	0	18	4	430	434	
19:00	0	11	3	0	14	0	0	0	0	0	5	29	0	0	34	1	0	2	0	3	0	51	51	
19:15	0	35	2	0	37	0	0	0	0	0	11	41	0	2	52	1	0	6	0	7	2	96	98	
19:30	0	6	3	0	9	0	0	0	0	0	10	39	0	0	49	0	0	2	0	2	0	60	60	
19:45	0	19	0	1	19	0	0	0	0	0	4	34	0	2	38	6	0	12	0	18	3	75	78	
Total	0	71	8	1	79	0	0	0	0	0	30	143	0	4	173	8	0	22	0	30	5	282	287	
20:00	0	8	3	0	11	0	0	0	0	0	4	31	0	2	35	3	0	3	0	6	2	52	54	
20:15	0	10	3	0	13	0	0	0	0	0	7	26	0	0	33	1	0	3	0	4	0	50	50	
20:30	0	16	1	0	17	0	0	0	0	0	4	24	0	0	28	3	0	5	0	8	0	53	53	
20:45	0	21	0	0	21	0	0	0	0	0	5	33	0	0	38	1	0	6	1	7	1	66	67	
Total	0	55	7	0	62	0	0	0	0	0	20	114	0	2	134	8	0	17	1	25	3	221	224	
21:00	0	14	1	0	15	0	0	0	0	0	2	37	0	0	39	0	0	5	0	5	0	59	59	
21:15	0	9	3	0	12	0	0	0	0	0	9	39	0	0	48	0	0	4	1	4	1	64	65	
21:30	0	18	2	0	20	0	0	0	0	0	5	21	0	1	26	0	0	3	0	3	1	49	50	
Grand Total	0	3067	155	199	3222	0	0	0	0	0	741	3620	0	204	4361	87	0	553	31	640	434	8223	8657	
Approch %	0	95.2	4.8			0	0	0			17	83	0			13.6	0	86.4						
Total %	0	37.3	1.9		39.2	0	0	0			9	44	0		53	1.1	0	6.7		7.8	5	95		

Start Time	CSAH 17 Southbound				None Westbound				CSAH 17 Northbound				CSAH 116 Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:00 to 11:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:30																	
06:30	0	171	6	177	0	0	0	0	5	20	0	25	0	0	23	23	225
06:45	0	182	5	187	0	0	0	0	14	29	0	43	1	0	24	25	255
07:00	0	184	4	188	0	0	0	0	10	14	0	24	0	0	31	31	243
07:15	0	208	2	210	0	0	0	0	7	14	0	21	2	0	55	57	288
Total Volume	0	745	17	762	0	0	0	0	36	77	0	113	3	0	133	136	1011
% App. Total	0	97.8	2.2		0	0	0		31.9	68.1	0		2.2	0	97.8		
PHF	.000	.895	.708	.907	.000	.000	.000	.000	.643	.664	.000	.657	.375	.000	.605	.596	.878

Start Time	CSAH 17 Southbound				None Westbound				CSAH 17 Northbound				CSAH 116 Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 12:00 to 21:30 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	0	44	2	46	0	0	0	0	32	170	0	202	2	0	12	14	262
16:45	0	44	7	51	0	0	0	0	26	199	0	225	0	0	9	9	285
17:00	0	50	4	54	0	0	0	0	34	193	0	227	6	0	9	15	296
17:15	0	52	5	57	0	0	0	0	35	168	0	203	3	0	9	12	272
Total Volume	0	190	18	208	0	0	0	0	127	730	0	857	11	0	39	50	1115
% App. Total	0	91.3	8.7		0	0	0		14.8	85.2	0		2.2	0	78		
PHF	.000	.913	.643	.912	.000	.000	.000	.000	.907	.917	.000	.944	.458	.000	.813	.833	.942

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

Signal Warrants - Summary

Major Street Approaches

Northbound: CSAH 17
 Number of Lanes: 2
 Approach Speed: 55
 Total Approach Volume: 4,361

Southbound: CSAH 17
 Number of Lanes: 2
 Approach Speed: 55
 Total Approach Volume: 3,222

Minor Street Approaches

Eastbound: CSAH 116
 Number of Lanes: 2
 Total Approach Volume: 640

Westbound: 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 1 hours, 8 are needed
 - Warrant 1B - Interruption of Continuous Traffic** **Not Satisfied**
 Required volumes reached for 1 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 (1) 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**

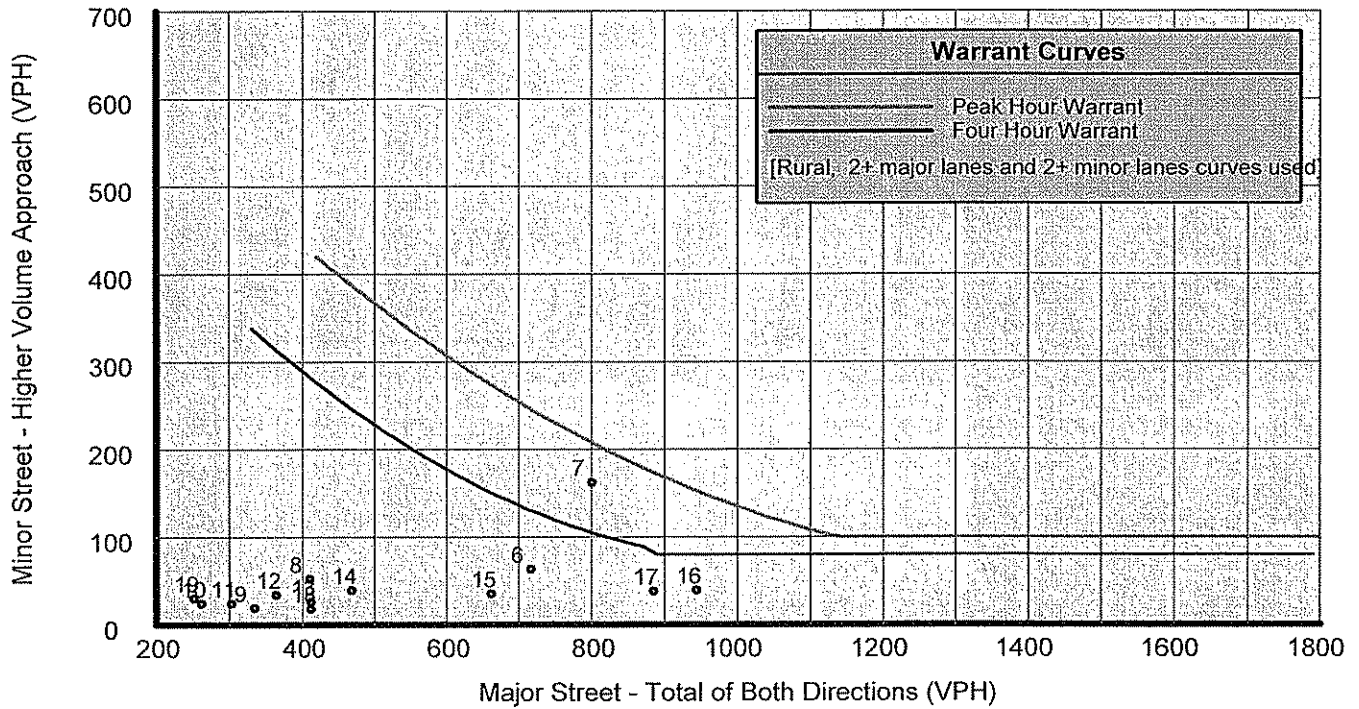
- Warrant 6 - Coordinated Signal System** **Not Evaluated**

- Warrant 7 - Crash Experience** **Not Evaluated**

- Warrant 8 - Roadway Network** **Not Evaluated**

ANOKA COUNTY HIGHWAY PC-WARRANTS TRAFFIC SIGNAL WARRANT ANALYSIS

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	717	63	EB	420-Yes	140-No	Major	630-Yes	70-No	Major	504-Yes	112-No	Major
07:00	801	162	EB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
08:00	410	52	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
09:00	334	19	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
10:00	262	24	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
11:00	303	24	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
12:00	364	34	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
13:00	412	26	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
14:00	469	39	EB	420-Yes	140-No	Major	630-No	70-No	---	504-No	112-No	---
15:00	662	35	EB	420-Yes	140-No	Major	630-Yes	70-No	Major	504-Yes	112-No	Major
16:00	944	39	EB	420-Yes	140-No	Major	630-Yes	70-No	Major	504-Yes	112-No	Major
17:00	885	38	EB	420-Yes	140-No	Major	630-Yes	70-No	Major	504-Yes	112-No	Major
18:00	412	18	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
19:00	252	30	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
20:00	196	25	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
21:00	160	12	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 17

Number of Lanes: 1
Approach Speed: 55
Total Approach Volume: 4,361

Southbound: CSAH 17

Number of Lanes: 1
Approach Speed: 55
Total Approach Volume: 3,222

Minor Street Approaches

Eastbound: CSAH 116

Number of Lanes: 1

Total Approach Volume: 640

Westbound: None

Number of Lanes: 1

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 1 hours, 8 are needed
 - Warrant 1B - Interruption of Continuous Traffic** **Not Satisfied**

Required volumes reached for 2 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 (2) volumes exceed minimum < minimum required (4).

- Warrant 3 - Peak Hour** **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** **Satisfied**

Volumes exceed minimums for at least one hour.

- Warrant 4 - Pedestrian Volumes** **Not Evaluated**

- Warrant 5 - School Crossing** **Not Evaluated**

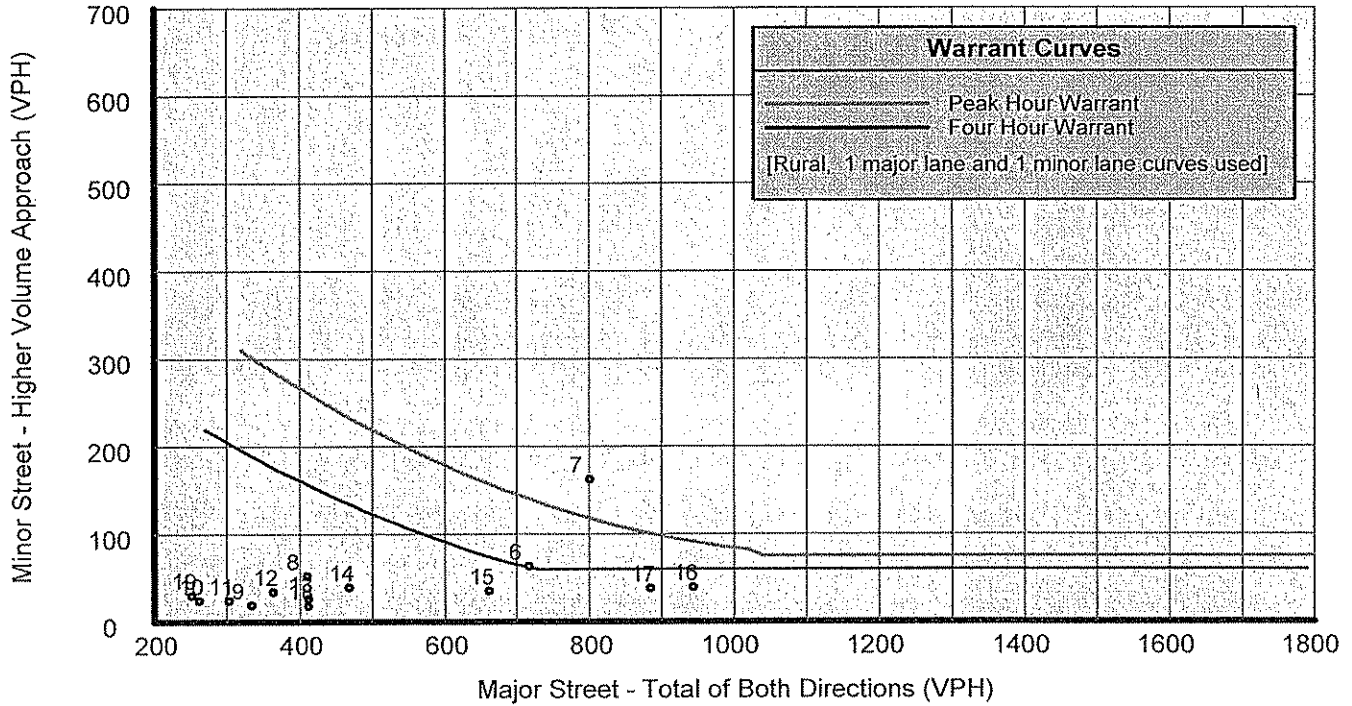
- Warrant 6 - Coordinated Signal System** **Not Evaluated**

- Warrant 7 - Crash Experience** **Not Evaluated**

- Warrant 8 - Roadway Network** **Not Evaluated**

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

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	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	717	63	EB	350-Yes	105-No	Major	525-Yes	53-Yes	Both	420-Yes	84-No	Major
07:00	801	162	EB	350-Yes	105-Yes	Both	525-Yes	53-Yes	Both	420-Yes	84-Yes	Both
08:00	410	52	EB	350-Yes	105-No	Major	525-No	53-No	---	420-No	84-No	---
09:00	334	19	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
10:00	262	24	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
11:00	303	24	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
12:00	364	34	EB	350-Yes	105-No	Major	525-No	53-No	---	420-No	84-No	---
13:00	412	26	EB	350-Yes	105-No	Major	525-No	53-No	---	420-No	84-No	---
14:00	469	39	EB	350-Yes	105-No	Major	525-No	53-No	---	420-Yes	84-No	Major
15:00	662	35	EB	350-Yes	105-No	Major	525-Yes	53-No	Major	420-Yes	84-No	Major
16:00	944	39	EB	350-Yes	105-No	Major	525-Yes	53-No	Major	420-Yes	84-No	Major
17:00	885	38	EB	350-Yes	105-No	Major	525-Yes	53-No	Major	420-Yes	84-No	Major
18:00	412	18	EB	350-Yes	105-No	Major	525-No	53-No	---	420-No	84-No	---
19:00	252	30	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
20:00	196	25	EB	350-No	105-No	---	525-No	53-No	---	420-No	84-No	---
21:00	160	12	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**

Multi-Way Stop Warrant Report

Major Street Approaches

Northbound: CSAH 17
 Total Approach Volume: 4,361
 Approach Speed: 55

Southbound: CSAH 17
 Total Approach Volume: 3,222
 Approach Speed: 55

Minor Street Approaches

Eastbound: CSAH 116
 Total Approach Volume: 640

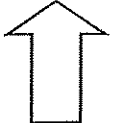
Westbound: None
 Total Approach Volume: 0

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 1 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?
06:45 - 07:45	848	157	210-Yes	140-Yes	Both	240-Yes	160-No	Major
06:30 - 06:30	285	15	210-Yes	140-No	Major	240-Yes	160-No	Major
05:45 - 06:45	487	38	210-Yes	140-No	Major	240-Yes	160-No	Major
06:00 - 07:00	717	63	210-Yes	140-No	Major	240-Yes	160-No	Major
06:15 - 07:15	831	90	210-Yes	140-No	Major	240-Yes	160-No	Major
06:30 - 07:30	875	136	210-Yes	140-No	Major	240-Yes	160-No	Major
07:45 - 08:45	478	71	210-Yes	140-No	Major	240-Yes	160-No	Major
08:00 - 09:00	410	52	210-Yes	140-No	Major	240-Yes	160-No	Major
08:15 - 09:15	403	37	210-Yes	140-No	Major	240-Yes	160-No	Major
08:30 - 09:30	397	33	210-Yes	140-No	Major	240-Yes	160-No	Major
08:45 - 09:45	365	24	210-Yes	140-No	Major	240-Yes	160-No	Major
09:00 - 10:00	334	19	210-Yes	140-No	Major	240-Yes	160-No	Major
09:15 - 10:15	300	16	210-Yes	140-No	Major	240-Yes	160-No	Major
09:30 - 10:30	292	21	210-Yes	140-No	Major	240-Yes	160-No	Major
09:45 - 10:45	282	21	210-Yes	140-No	Major	240-Yes	160-No	Major
10:00 - 11:00	262	24	210-Yes	140-No	Major	240-Yes	160-No	Major
10:15 - 11:15	280	34	210-Yes	140-No	Major	240-Yes	160-No	Major
10:30 - 11:30	291	31	210-Yes	140-No	Major	240-Yes	160-No	Major
10:45 - 11:45	290	31	210-Yes	140-No	Major	240-Yes	160-No	Major
11:00 - 12:00	303	24	210-Yes	140-No	Major	240-Yes	160-No	Major
11:15 - 12:15	307	13	210-Yes	140-No	Major	240-Yes	160-No	Major
11:30 - 12:30	327	15	210-Yes	140-No	Major	240-Yes	160-No	Major
11:45 - 12:45	351	23	210-Yes	140-No	Major	240-Yes	160-No	Major
12:00 - 13:00	364	34	210-Yes	140-No	Major	240-Yes	160-No	Major



NORTH

COUNT LOCATION:

CSAH 17 (Lexington Ave.) @
CSAH 116 (Bunker Lake Blvd.)

DATE:

05/14/2009

APP. #1 = CSAH 116
APP. #2 = CSAH 17
APP. #3 = None
APP. #4 = CSAH 17

APP. #2
APP. #1
APP. #4

HEAVY VEHICLE- ANY VEHICLE HAVING MORE THAN FOUR TIRES TOUCHING THE PAVEMENT

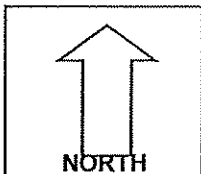
A. TRUCKS- A HEAVY VEHICLE INVOLVED PRIMARILY IN THE TRANSPORT OF GOODS OR IN THE DELIVERY OF A SERVICE.

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						2		
6:15-6:30						6		
6:30-6:45						9		2
6:45-7:00						6		3
HOURLY TOTAL						HOURLY TOTAL		28
7:00-7:15						12		
7:15-7:30						10		1
7:30-7:45						7		1
7:45-8:00						13		2
HOURLY TOTAL						HOURLY TOTAL		46
8:00-8:15						12		
8:15-8:30						10		
8:30-8:45						7		2
8:45-9:00						10		4
HOURLY TOTAL						HOURLY TOTAL		45
9:00-9:15						19		
9:15-9:30						9		
9:30-9:45						4		1
9:45-10:00						17		
HOURLY TOTAL						HOURLY TOTAL		50
10:00-10:15						8		
10:15-10:30		1			1	7		1
10:30-10:45						13		
10:45-11:00						16		
HOURLY TOTAL					1	HOURLY TOTAL		45
11:00-11:15						8		
11:15-11:30						10		
11:30-11:45						16		1
11:45-12:00						9		
HOURLY TOTAL						HOURLY TOTAL		44
12:00-12:15						6		
12:15-12:30						11		
12:30-12:45						16		
12:45-1:00						8		
HOURLY TOTAL						HOURLY TOTAL		41
1:00-1:15						10		
1:15-1:30						12		
1:30-1:45						10		
1:45-2:00						3		1
HOURLY TOTAL						HOURLY TOTAL		36
TOTAL					1	TOTAL		335

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COUNT LOCATION:

CSAH 17 (Lexington Ave.) @

DATE:

05/11/2009

CSAH 116 (Bunker Lake Blvd.)

APP. #1 = CSAH 116
APP. #2 = CSAH 17
APP. #3 = None
APP. #4 = CSAH 17

APP.
#1

APP.
#2

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
2:00-2:15PM						6		
2:15-2:30						5		
2:30-2:45						4		
2:45-3:00						4		
HOURLY TOTAL						HOURLY TOTAL		19
3:00-3:15						8		2
3:15-3:30						8		2
3:30-3:45						4		3
3:45-4:00						4		
HOURLY TOTAL						HOURLY TOTAL		31
4:00-4:15						5		2
4:15-4:30						2		1
4:30-4:45						4		
4:45-5:00						5		
HOURLY TOTAL						HOURLY TOTAL		19
5:00-5:15						6		
5:15-5:30						4		
5:30-5:45						4		
5:45-6:00						2		
HOURLY TOTAL						HOURLY TOTAL		16
6:00-6:15						5		
6:15-6:30								
6:30-6:45								
6:45-7:00								
HOURLY TOTAL						HOURLY TOTAL		5
7:00-7:15								
7:15-7:30						2		
7:30-7:45								
7:45-8:00						2	1	
HOURLY TOTAL						HOURLY TOTAL		5
8:00-8:15						2		
8:15-8:30								
8:30-8:45								
8:45-9:00								
HOURLY TOTAL						HOURLY TOTAL		2
9:00-9:15								
9:15-9:30						1		
9:30-9:45						1		
9:45-10:00								
HOURLY TOTAL						HOURLY TOTAL		2
					TOTAL		TOTAL	434
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