

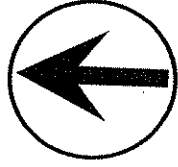
Date : 06/15/09

Count Number : TMC0916

Location : CSAH 116 (Bunker Lake Blvd)

@ 38th Ave.

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



North

0

#2

None

0				

CSAH 116 (Bunker Lake Blvd)

#1

14513

6487

8026			

CSAH 116 (Bunker Lake Blvd)

#3

16775

7768			

9007

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

38th Ave.

#4

1432

1132			

2564

Anoka County Highway Department

Traffic Volume and Turning

Movement Study

Date : 06/15/09

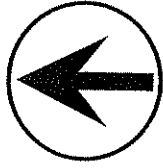
Count Number : TMC0916

Location : CSAH 116 (Bunker Lake Blvd)

@ 38th Ave.

Collection Period : AM PEAK

Hour : 6:45 - 7:45AM



North

#2

None

#2

0			

CSAH 116 (Bunker Lake Blvd)

H	244	356
J	112	

#3

#1

890

#1

645		
	B	
	A	

CSAH 116 (Bunker Lake Blvd)

685

1041

38th Ave.

K	52	
L		53
M	1	

#4

124

177

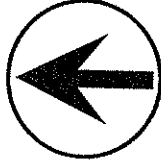
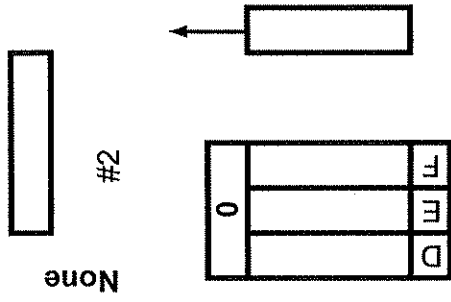
EXISTING LANES OF APPROACH				TOTAL
	RIGHT TURN LANE	LEFT TURN LANE	THRU LANES	
#1	1	0	1	2
#2	0	0	0	0
#3	0	1	2	3
#4	1	1	0	2

Anoka County Highway Department

Traffic Volume and Turning

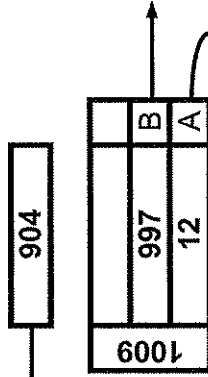
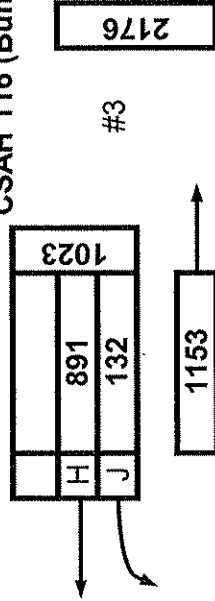
Movement Study

Date : 06/15/09
 Count Number : TMC0916
 Location : CSAH 116 (Bunker Lake Blvd)
 @ 38th Ave.
 Collection Period : PM PEAK
 Hour : 4:45 - 5:45PM



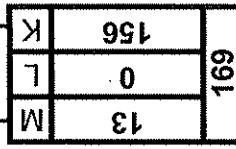
North

CSAH 116 (Bunker Lake Blvd)



CSAH 116 (Bunker Lake Blvd)

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



38th Ave.



Anoka County Highway Department
 Traffic Volume and Turning
 Movement Study

Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC0916

Site Code : 09160201

Start Date : 06/16/2009

Page No : 1

Weather: Cloudy and Cloudy/Rain

Counter: DB-400

Counted by: Jake/Laura

Groups Printed- Unshifted - Bank 1

Start Time	None Southbound					CSAH 116 (Bunker Lake Blvd) Westbound					38th Ave Northbound					CSAH 116 (Bunker Lake Blvd) Eastbound					Exclu. Total	Inclu. Total	Inl. 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	0	0	0	0	14	27	0	1	41	0	0	7	0	7	0	42	3	1	45	2	93	95
06:15	0	0	0	0	0	14	24	0	3	38	0	0	6	1	6	0	70	1	0	71	4	115	119
06:30	0	0	0	0	0	19	47	0	2	66	0	0	12	0	12	0	106	0	2	106	4	184	188
06:45	0	0	0	0	0	40	49	0	2	89	0	0	10	0	10	0	149	3	10	152	12	251	263
Total	0	0	0	0	0	87	147	0	8	234	0	0	35	1	35	0	367	7	13	374	22	643	665
07:00	0	0	0	0	0	15	56	0	2	71	1	0	11	0	12	0	170	4	4	174	6	257	263
07:15	0	0	0	0	0	28	69	0	3	97	0	0	21	0	21	0	159	3	1	162	4	280	284
07:30	0	0	0	0	0	29	70	0	2	99	0	0	10	0	10	0	155	2	3	157	5	266	271
07:45	0	0	0	0	0	35	91	0	2	126	1	0	9	0	10	0	105	3	5	108	7	244	251
Total	0	0	0	0	0	107	286	0	9	393	2	0	51	0	53	0	589	12	13	601	22	1047	1069
08:00	0	0	0	0	0	19	42	0	1	61	0	0	7	1	7	0	100	2	5	102	7	170	177
08:15	0	0	0	0	0	19	39	0	2	58	1	0	6	0	7	0	80	1	1	81	3	126	129
08:30	0	0	0	0	0	10	19	0	0	29	1	0	14	0	15	0	92	1	4	93	4	137	141
08:45	0	0	0	0	0	19	38	0	2	57	0	0	7	0	7	0	107	1	1	108	3	172	175
Total	0	0	0	0	0	67	138	0	5	205	2	0	34	1	36	0	359	5	11	364	17	605	622
09:00	0	0	0	0	0	18	61	0	5	79	3	0	7	0	10	0	115	2	4	117	9	206	215
09:15	0	0	0	0	0	11	48	0	3	59	0	0	5	0	5	0	94	2	2	96	5	160	165
09:30	0	0	0	0	0	17	67	0	6	84	0	0	20	2	20	0	83	3	1	86	9	190	199
09:45	0	0	0	0	0	9	66	0	1	75	0	0	15	0	15	0	90	0	6	90	7	180	187
Total	0	0	0	0	0	55	242	0	15	297	3	0	47	2	50	0	382	7	13	389	30	736	766
10:00	0	0	0	0	0	13	60	0	3	73	0	0	21	1	21	0	103	0	3	103	7	197	204
10:15	0	0	0	0	0	19	59	0	4	78	0	0	5	0	5	0	82	0	3	82	7	165	172
10:30	0	0	0	0	0	16	57	0	2	73	0	0	4	0	4	0	52	0	1	52	3	129	132
10:45	0	0	0	0	0	12	83	0	4	95	1	0	14	0	15	0	80	1	0	81	4	191	195
Total	0	0	0	0	0	60	259	0	13	319	1	0	44	1	45	0	317	1	7	318	21	682	703
11:00	0	0	0	0	0	19	82	0	2	101	0	0	16	0	16	0	104	0	2	104	4	221	225
11:15	0	0	0	0	0	27	77	0	4	104	1	0	19	0	20	0	71	1	1	72	5	196	201
11:30	0	0	0	0	0	11	91	0	2	102	0	0	21	1	21	0	95	1	2	96	5	219	224
11:45	0	0	0	0	0	14	71	0	1	85	0	0	24	2	24	0	129	3	3	132	6	241	247
Total	0	0	0	0	0	71	321	0	9	392	1	0	80	3	81	0	399	5	8	404	20	877	897
12:00	0	0	0	0	0	9	84	0	0	93	1	0	32	0	33	0	132	1	3	133	3	259	262
12:15	0	0	0	0	0	19	106	0	4	125	0	0	24	1	24	0	54	1	1	55	6	204	210
12:30	0	0	0	0	0	17	96	0	4	113	1	0	9	0	10	0	91	0	2	91	6	214	220
12:45	0	0	0	0	0	34	99	0	4	133	1	0	16	1	17	0	74	1	1	75	6	225	231
Total	0	0	0	0	0	79	385	0	12	464	3	0	81	2	84	0	351	3	7	354	21	902	923
13:00	0	0	0	0	0	17	113	0	5	130	1	0	13	0	14	0	109	0	0	109	5	253	258
13:15	0	0	0	0	0	23	86	0	1	109	0	0	35	1	35	0	160	0	3	160	5	304	309
13:30	0	0	0	0	0	18	100	0	1	118	2	0	15	2	17	0	117	0	3	117	6	252	258
13:45	0	0	0	0	0	18	76	0	2	94	0	0	20	1	20	0	159	2	3	161	6	275	281
Total	0	0	0	0	0	76	375	0	9	451	3	0	83	4	86	0	545	2	9	547	22	1084	1106
14:00	0	0	0	0	0	16	122	0	5	138	3	0	14	0	17	0	133	9	1	142	6	297	303
14:15	0	0	0	0	0	25	104	0	1	129	2	0	12	1	14	0	167	2	3	169	5	312	317
14:30	0	0	0	0	0	26	141	0	5	167	0	0	14	0	14	0	195	1	4	196	9	377	386
14:45	0	0	0	0	0	19	134	0	3	153	0	0	11	0	11	0	160	1	5	161	8	325	333
Total	0	0	0	0	0	86	501	0	14	587	5	0	51	1	56	0	655	13	13	668	28	1311	1339
15:00	0	0	0	0	0	29	137	0	7	166	0	0	9	0	9	0	99	0	2	99	9	274	283
15:15	0	0	0	0	0	25	150	0	4	175	1	0	14	0	15	0	130	1	3	131	7	321	328
15:30	0	0	0	0	0	26	175	0	2	201	0	0	17	0	17	0	168	0	1	168	3	386	389
15:45	0	0	0	0	0	29	152	0	1	181	0	0	14	0	14	0	173	2	2	175	3	370	373
Total	0	0	0	0	0	109	614	0	14	723	1	0	54	0	55	0	570	3	8	573	22	1351	1373
16:00	0	0	0	0	0	22	198	0	2	220	1	0	32	0	33	0	215	0	1	215	3	468	471
16:15	0	0	0	0	0	29	202	0	1	231	0	0	32	1	32	0	257	1	5	258	7	521	528
16:30	0	0	0	0	0	32	175	0	1	207	1	0	37	1	38	0	262	1	6	263	8	508	516
16:45	0	0	0	0	0	30	219	0	0	249	4	0	45	0	49	0	295	1	2	296	2	594	596
Total	0	0	0	0	0	113	794	0	4	907	6	0	146	2	152	0	1029	3	14	1032	20	2091	2111
17:00	0	0	0	0	0	33	241	0	0	274	4	0	56	1	60	0	181	6	3	187	4	621	625
17:15	0	0	0	0	0	28	222	0	2	250	2	0	46	1	48	0	202	4	0	206	3	504	507
17:30	0	0	0	0	0	41	209	0	1	250	3	0	9	2	12	0	319	1	4	320	7	582	589
17:45	0	0	0	0	0	37	174	0	0	211	0	0	39	2	39	0	279	3	2	282	4	532	536
Total	0	0	0	0	0	139	846	0	3	985	9	0	150	6	159	0	981	14	9	995	18	2139	2157
18:00	0	0	0	0	0	30	191	0	2	221	1	0	22	1	23	0	181	3	3	184	6	428	434
18:15	0	0	0	0	0	35	143	0	0	178	0	0	17	1	17	0	134	0	1	134	2	329	331
18:30	0	0	0	0	0	26	115	0	0	141	1	0	11	0	12	0	137	0	0	137	0	290	290
18:45	0	0	0	0	0	20	126	0	0	146	1	0	8	0	9	0	91	1	1	92	1	247	248
Total	0	0	0	0	0	111	575	0	2	686	3	0	58	2	61	0	543	4	5	547	9	1294	1303

Anoka County Highway Department

Traffic Engineering Section

Traffic Volume and Turning Movement Study

File Name : TMC0916

Site Code : 09160201

Start Date : 06/16/2009

Page No : 2

Weather: Cloudy and Cloudy/Rain

Counter: DB-400

Counted by: Jake/Laura

Groups Printed- Unshifted - Bank 1

Start Time	None Southbound					CSAH 116 (Bunker Lake Blvd) Westbound					38th Ave Northbound					CSAH 116 (Bunker Lake Blvd) 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			
19:00	0	0	0	0	0	22	101	0	1	123	1	0	17	0	18	0	64	4	0	68	1	209	210
19:15	0	0	0	0	0	19	117	0	1	136	1	0	8	0	9	0	57	1	0	58	1	203	204
19:30	0	0	0	0	0	16	90	0	0	106	0	0	23	0	23	0	110	0	0	110	0	239	239
19:45	0	0	0	0	0	18	77	0	2	95	2	0	15	0	17	0	101	0	0	101	2	213	215
Total	0	0	0	0	0	75	385	0	4	460	4	0	63	0	67	0	332	5	0	337	4	864	868
20:00	0	0	0	0	0	20	95	0	2	115	1	0	22	0	23	0	71	1	0	72	2	210	212
20:15	0	0	0	0	0	14	105	0	1	119	3	0	20	0	23	0	111	0	1	111	2	253	255
20:30	0	0	0	0	0	20	70	0	1	90	1	0	11	0	12	0	85	4	2	89	3	191	194
20:45	0	0	0	0	0	13	76	0	0	89	3	0	9	0	12	0	66	0	1	66	1	167	168
Total	0	0	0	0	0	67	346	0	4	413	8	0	62	0	70	0	333	5	4	338	8	821	829
21:00	0	0	0	0	0	9	76	0	2	85	2	0	9	0	11	0	57	2	0	59	2	155	157
21:15	0	0	0	0	0	6	60	0	1	66	1	0	12	0	13	0	58	2	0	60	1	139	140
21:30	0	0	0	0	0	12	44	0	0	56	3	0	5	0	8	0	42	0	0	42	0	106	106
21:45	0	0	0	0	0	10	35	0	0	45	1	0	9	0	10	0	24	0	0	24	0	79	79
Total	0	0	0	0	0	37	215	0	3	252	7	0	35	0	42	0	181	4	0	185	3	479	482
Grand Total	0	0	0	0	0	1339	6429	0	128	7768	58	0	1074	25	1132	0	7933	93	134	8026	287	16926	17213
Apprch %	0	0	0			17.2	82.8	0		45.9	5.1	0	94.9		6.7	0	98.8	1.2		47.4	1.7	98.3	
Total %	0	0	0			7.9	38	0		45.9	0.3	0	6.3		6.7	0	46.9	0.5		47.4	1.7	98.3	
Unshifted	0	0	0			1339	6429	0		7896	58	0	1074		1157	0	7933	93		8160	0	0	17213
% Unshifted	0	0	0			100	100	0	100	100	100	0	100	100	100	0	100	100	100	100	0	0	100
Bank 1	0	0	0			0	0	0		0	0	0	0		0	0	0	0		0	0	0	0
% Bank 1	0	0	0			0	0	0		0	0	0	0		0	0	0	0		0	0	0	0

Start Time	None Southbound				CSAH 116 (Bunker Lake Blvd) Westbound				38th Ave Northbound				CSAH 116 (Bunker Lake Blvd) 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 06:45																	
06:45	0	0	0	0	40	49	0	89	0	0	10	10	0	149	3	152	251
07:00	0	0	0	0	15	56	0	71	1	0	11	12	0	170	4	174	257
07:15	0	0	0	0	28	69	0	97	0	0	21	21	0	159	3	162	280
07:30	0	0	0	0	29	70	0	99	0	0	10	10	0	155	2	157	266
Total Volume	0	0	0	0	112	244	0	356	1	0	52	53	0	633	12	645	1054
% App. Total	0	0	0		31.5	68.5	0		1.9	0	98.1		0	98.1	1.9		
PHF	.000	.000	.000	.000	.700	.871	.000	.899	.250	.000	.619	.631	.000	.931	.750	.927	.941
Peak Hour Analysis From 12:00 to 21:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:45																	
16:45	0	0	0	0	30	219	0	249	4	0	45	49	0	295	1	296	594
17:00	0	0	0	0	33	241	0	274	4	0	56	60	0	181	6	187	521
17:15	0	0	0	0	28	222	0	250	2	0	46	48	0	202	4	206	504
17:30	0	0	0	0	41	209	0	250	3	0	9	12	0	319	1	320	582
Total Volume	0	0	0	0	132	891	0	1023	13	0	156	169	0	997	12	1009	2201
% App. Total	0	0	0		12.9	87.1	0		7.7	0	92.3		0	98.8	1.2		
PHF	.000	.000	.000	.000	.805	.924	.000	.933	.813	.000	.696	.704	.000	.781	.500	.788	.926

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

Study Name : **TMC0916**
Study Date : **06/17/09**
Page No. : **1**

Signal Warrants - Summary

Major Street Approaches

Eastbound: CSAH 116
Number of Lanes: 1
Approach Speed: 50
Total Approach Volume: 8,041

Westbound: CASH 116
Number of Lanes: 2
Approach Speed: 45
Total Approach Volume: 7,772

Minor Street Approaches

Northbound: 38th
Number of Lanes: 1
Total Approach Volume: 1,135

Southbound: N/A
Number of Lanes: 1
Total Approach Volume: 0

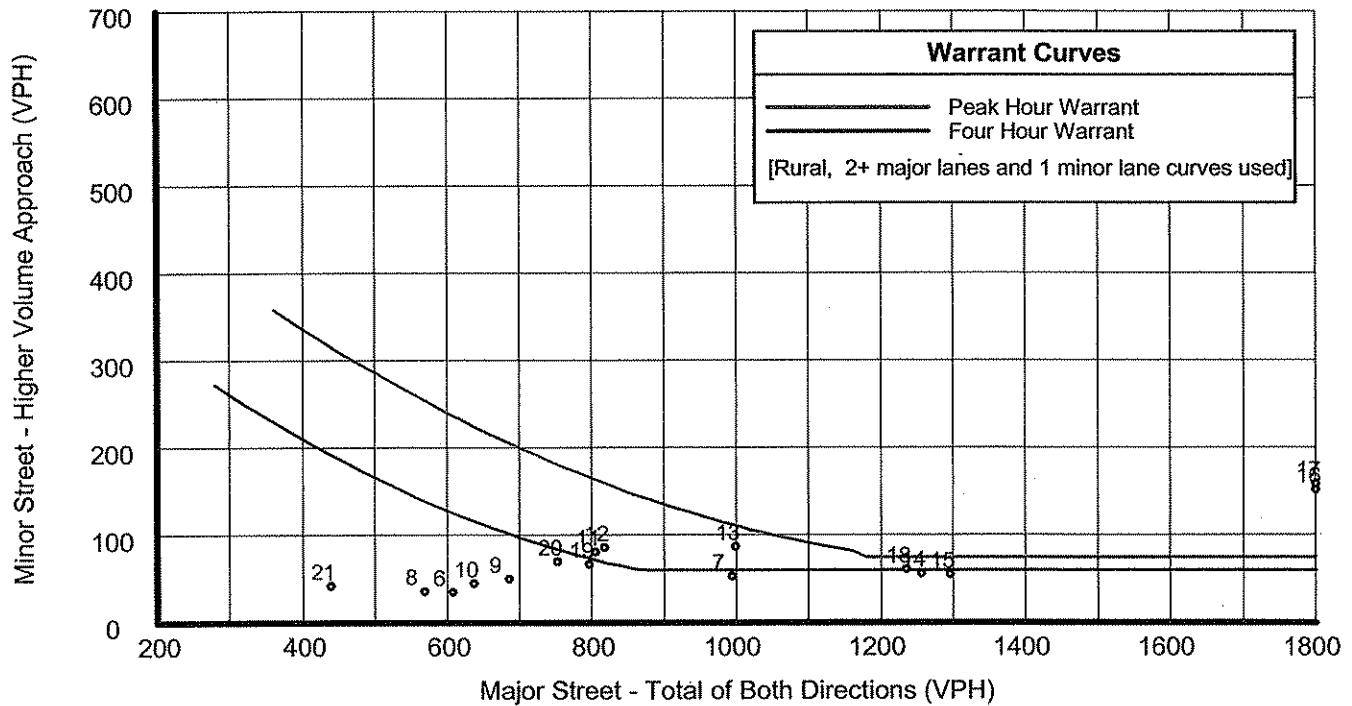
Warrant Summary (Rural values apply.)

Warrant 1 - Eight Hour Vehicular Volumes	Satisfied
Warrant 1A - Minimum Vehicular Volume Not Satisfied	
Required volumes reached for 2 hours, 8 are needed	
Warrant 1B - Interruption of Continuous Traffic Satisfied	
Required volumes reached for 11 hours, 8 are needed	
Warrant 1 A&B - Combination of Warrants Not Satisfied	
Required volumes reached for 4 hours, 8 are needed	
Warrant 2 - Four Hour Volumes	Satisfied
Number of hours (6) volumes exceed minimum \geq 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

Study Name : TMC0916
Study Date : 06/17/09
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	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
01:00	0	0	NB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
02:00	0	0	NB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
03:00	0	0	NB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
04:00	0	0	NB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
05:00	0	0	NB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
06:00	608	35	NB	420-Yes	105-No	Major	630-No	53-No	---	504-Yes	84-No	Major
07:00	994	53	NB	420-Yes	105-No	Major	630-Yes	53-Yes	Both	504-Yes	84-No	Major
08:00	569	36	NB	420-Yes	105-No	Major	630-No	53-No	---	504-Yes	84-No	Major
09:00	686	50	NB	420-Yes	105-No	Major	630-Yes	53-No	Major	504-Yes	84-No	Major
10:00	637	45	NB	420-Yes	105-No	Major	630-Yes	53-No	Major	504-Yes	84-No	Major
11:00	806	81	NB	420-Yes	105-No	Major	630-Yes	53-Yes	Both	504-Yes	84-No	Major
12:00	818	86	NB	420-Yes	105-No	Major	630-Yes	53-Yes	Both	504-Yes	84-Yes	Both
13:00	999	87	NB	420-Yes	105-No	Major	630-Yes	53-Yes	Both	504-Yes	84-Yes	Both
14:00	1,256	56	NB	420-Yes	105-No	Major	630-Yes	53-Yes	Both	504-Yes	84-No	Major
15:00	1,296	55	NB	420-Yes	105-No	Major	630-Yes	53-Yes	Both	504-Yes	84-No	Major
16:00	1,939	152	NB	420-Yes	105-Yes	Both	630-Yes	53-Yes	Both	504-Yes	84-Yes	Both
17:00	1,981	159	NB	420-Yes	105-Yes	Both	630-Yes	53-Yes	Both	504-Yes	84-Yes	Both
18:00	1,235	61	NB	420-Yes	105-No	Major	630-Yes	53-Yes	Both	504-Yes	84-No	Major
19:00	797	67	NB	420-Yes	105-No	Major	630-Yes	53-Yes	Both	504-Yes	84-No	Major
20:00	753	70	NB	420-Yes	105-No	Major	630-Yes	53-Yes	Both	504-Yes	84-No	Major
21:00	439	42	NB	420-Yes	105-No	Major	630-No	53-No	---	504-No	84-No	---
22:00	0	0	NB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---
23:00	0	0	NB	420-No	105-No	---	630-No	53-No	---	504-No	84-No	---

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

Study Name : TMC0916B
Study Date : 06/17/09
Page No. : 1

Signal Warrants - Summary

Major Street Approaches

Eastbound: CSAH 116
Number of Lanes: 2
Approach Speed: 50
Total Approach Volume: 8,041

Westbound: CASH 116
Number of Lanes: 2
Approach Speed: 45
Total Approach Volume: 7,772

Minor Street Approaches

Northbound: 38th
Number of Lanes: 2
Total Approach Volume: 1,135

Southbound: N/A
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 2 hours, 8 are needed
 - Warrant 1B - Interruption of Continuous Traffic** **Not Satisfied**
Required volumes reached for 6 hours, 8 are needed
 - Warrant 1 A&B - Combination of Warrants** **Not Satisfied**
Required volumes reached for 2 hours, 8 are needed

- Warrant 2 - Four Hour Volumes** **Not Satisfied**
Number of hours (3) 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**

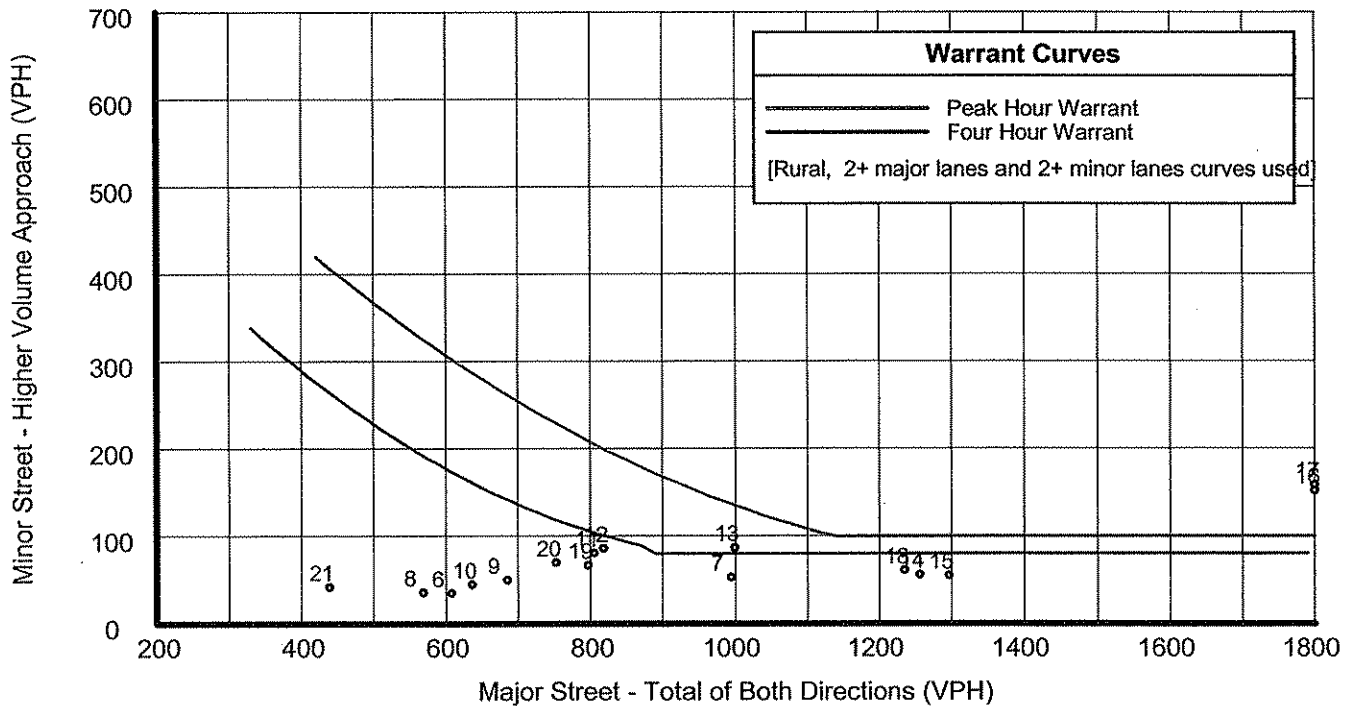
- Warrant 7 - Crash Experience** **Not Evaluated**

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

ANOKA COUNTY HIGHWAY PC-WARRANTS TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name : TMC0916B
Study Date : 06/17/09
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	608	35	NB	420-Yes	140-No	Major	630-No	70-No	---	504-Yes	112-No	Major
07:00	994	53	NB	420-Yes	140-No	Major	630-Yes	70-No	Major	504-Yes	112-No	Major
08:00	569	36	NB	420-Yes	140-No	Major	630-No	70-No	---	504-Yes	112-No	Major
09:00	686	50	NB	420-Yes	140-No	Major	630-Yes	70-No	Major	504-Yes	112-No	Major
10:00	637	45	NB	420-Yes	140-No	Major	630-Yes	70-No	Major	504-Yes	112-No	Major
11:00	806	81	NB	420-Yes	140-No	Major	630-Yes	70-Yes	Both	504-Yes	112-No	Major
12:00	818	86	NB	420-Yes	140-No	Major	630-Yes	70-Yes	Both	504-Yes	112-No	Major
13:00	999	87	NB	420-Yes	140-No	Major	630-Yes	70-Yes	Both	504-Yes	112-No	Major
14:00	1,256	56	NB	420-Yes	140-No	Major	630-Yes	70-No	Major	504-Yes	112-No	Major
15:00	1,296	55	NB	420-Yes	140-No	Major	630-Yes	70-No	Major	504-Yes	112-No	Major
16:00	1,939	152	NB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
17:00	1,981	159	NB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
18:00	1,235	61	NB	420-Yes	140-No	Major	630-Yes	70-No	Major	504-Yes	112-No	Major
19:00	797	67	NB	420-Yes	140-No	Major	630-Yes	70-No	Major	504-Yes	112-No	Major
20:00	753	70	NB	420-Yes	140-No	Major	630-Yes	70-Yes	Both	504-Yes	112-No	Major
21:00	439	42	NB	420-Yes	140-No	Major	630-No	70-No	---	504-No	112-No	---
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 : **TMC0916**
Study Date : **06/17/09**
Page No. : **1**

Multi-Way Stop Warrant Report

Major Street Approaches

Eastbound: CSAH 116 (Bunker Lake Blvd)

Total Approach Volume: **8,026**

Approach Speed: **50**

Westbound: CSAH 116 (Bunker Lake Blvd)

Total Approach Volume: **7,768**

Approach Speed: **45**

Minor Street Approaches

Northbound: 38th Ave

Total Approach Volume: **1,132**

Southbound: 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 2 hours, 8 are needed

Criteria D - 80% of Volumes, Delays, and Crashes **Not Evaluated**

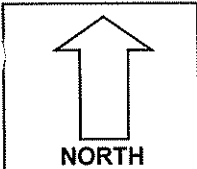
Delay data not evaluated

Number of crashes (-1) is less than the minimum required (4).

Required volumes reached for 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?
16:00 - 17:00	1,939	152	210-Yes	140-Yes	Both	240-Yes	160-No	Major
17:00 - 18:00	1,980	159	210-Yes	140-Yes	Both	240-Yes	160-No	Major
05:45 - 06:45	367	25	210-Yes	140-No	Major	240-Yes	160-No	Major
06:00 - 07:00	608	35	210-Yes	140-No	Major	240-Yes	160-No	Major
06:15 - 07:15	767	40	210-Yes	140-No	Major	240-Yes	160-No	Major
06:30 - 07:30	917	55	210-Yes	140-No	Major	240-Yes	160-No	Major
06:45 - 07:45	1,001	53	210-Yes	140-No	Major	240-Yes	160-No	Major
07:00 - 08:00	994	53	210-Yes	140-No	Major	240-Yes	160-No	Major
07:15 - 08:15	912	48	210-Yes	140-No	Major	240-Yes	160-No	Major
07:30 - 08:30	772	34	210-Yes	140-No	Major	240-Yes	160-No	Major
07:45 - 08:45	638	39	210-Yes	140-No	Major	240-Yes	160-No	Major
08:00 - 09:00	569	36	210-Yes	140-No	Major	240-Yes	160-No	Major
08:15 - 09:15	602	39	210-Yes	140-No	Major	240-Yes	160-No	Major
08:30 - 09:30	638	37	210-Yes	140-No	Major	240-Yes	160-No	Major
08:45 - 09:45	686	42	210-Yes	140-No	Major	240-Yes	160-No	Major
09:00 - 10:00	686	50	210-Yes	140-No	Major	240-Yes	160-No	Major
09:15 - 10:15	666	61	210-Yes	140-No	Major	240-Yes	160-No	Major
09:30 - 10:30	671	61	210-Yes	140-No	Major	240-Yes	160-No	Major
09:45 - 10:45	626	45	210-Yes	140-No	Major	240-Yes	160-No	Major
10:00 - 11:00	637	45	210-Yes	140-No	Major	240-Yes	160-No	Major
10:15 - 11:15	666	40	210-Yes	140-No	Major	240-Yes	160-No	Major
10:30 - 11:30	682	55	210-Yes	140-No	Major	240-Yes	160-No	Major
10:45 - 11:45	755	72	210-Yes	140-No	Major	240-Yes	160-No	Major
11:00 - 12:00	796	81	210-Yes	140-No	Major	240-Yes	160-No	Major



COUNT LOCATION:

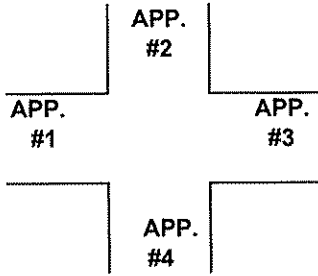
CSAH 116 (Bunker Lake Blvd.)

DATE:

06/16/2009

@ 38th Ave.

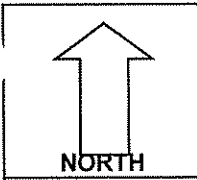
APP. #1 = CSAH 116
APP. #2 = na
APP. #3 = CSAH 116.
APP. #4 = 38th Ave



- 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						2		2
6:30-6:45						4		
6:45-7:00						9		3
HOURLY TOTAL						HOURLY TOTAL		22
7:00-7:15						6		
7:15-7:30						3		1
7:30-7:45						5		
7:45-8:00						7		
HOURLY TOTAL						HOURLY TOTAL		22
8:00-8:15						6		1
8:15-8:30						4		
8:30-8:45						4		
8:45-9:00						3		
HOURLY TOTAL						HOURLY TOTAL		18
9:00-9:15						8		1
9:15-9:30						4		1
9:30-9:45						9		
9:45-10:00						7		
HOURLY TOTAL						HOURLY TOTAL		30
10:00-10:15						7		
10:15-10:30						7		
10:30-10:45						2		
10:45-11:00						4		
HOURLY TOTAL						HOURLY TOTAL		20
11:00-11:15						4		
11:15-11:30						5		
11:30-11:45						4		
11:45-12:00						5		
HOURLY TOTAL						HOURLY TOTAL		18
12:00-12:15						3		
12:15-12:30						6		
12:30-12:45						6		
12:45-1:00						6		
HOURLY TOTAL						HOURLY TOTAL		21
1:00-1:15						5		1
1:15-1:30						4		
1:30-1:45						5		1
1:45-2:00						6		
HOURLY TOTAL						HOURLY TOTAL		22
					TOTAL		TOTAL	173

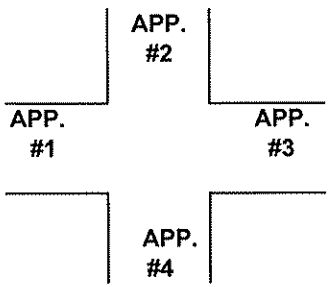
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COUNT LOCATION: CSAH 116 (Bunker Lake Blvd.)
@ 38th Ave.

DATE: 06/15/2008 ²⁰⁰⁹

APP. #1 = CSAH 116
APP. #2 = na
APP. #3 = CSAH 116.
APP. #4 = 38th Ave



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						9		
2:45-3:00						7		
HOURLY TOTAL						HOURLY TOTAL		27
3:00-3:15						9		
3:15-3:30						7		
3:30-3:45						3		
3:45-4:00						1	1	1
HOURLY TOTAL						HOURLY TOTAL		22
4:00-4:15						2		
4:15-4:30						5		1
4:30-4:45						4		4
4:45-5:00						2		
HOURLY TOTAL						HOURLY TOTAL		18
5:00-5:15						2		1
5:15-5:30						2		1
5:30-5:45						7		4
5:45-6:00								3
HOURLY TOTAL						HOURLY TOTAL		20
6:00-6:15						5		1
6:15-6:30						1		1
6:30-6:45								
6:45-7:00						1		
HOURLY TOTAL						HOURLY TOTAL		9
7:00-7:15						1		
7:15-7:30						1		
7:30-7:45								
7:45-8:00						2		
HOURLY TOTAL						HOURLY TOTAL		4
8:00-8:15						2		
8:15-8:30						2		
8:30-8:45						3		
8:45-9:00						1		
HOURLY TOTAL						HOURLY TOTAL		8
9:00-9:15						2		
9:15-9:30							1	
9:30-9:45								
9:45-10:00								
HOURLY TOTAL						HOURLY TOTAL		3
					TOTAL		TOTAL	284

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