

Date : 05/21/08

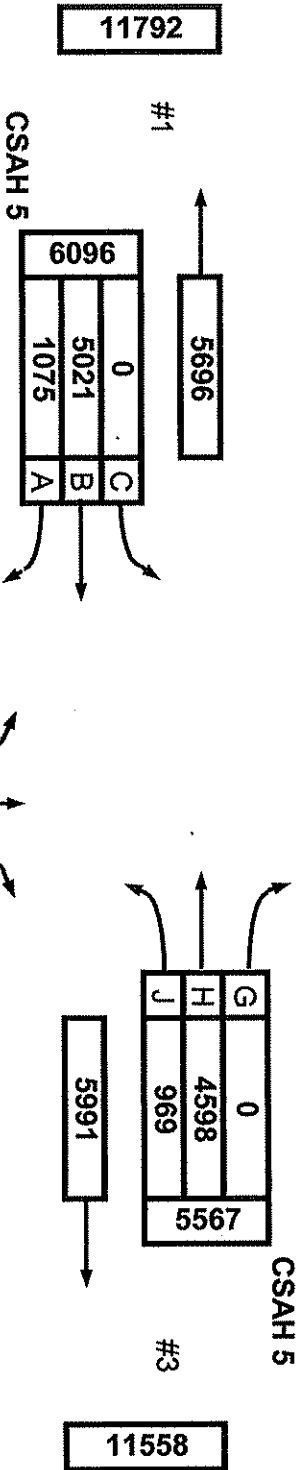
Count Number : TMC0807

Location : CSAH 11 (Northdale Blvd.)

@ Raven St.



North



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

Anoka County Highway Department  
 Traffic Volume and Turning  
 Movement Study

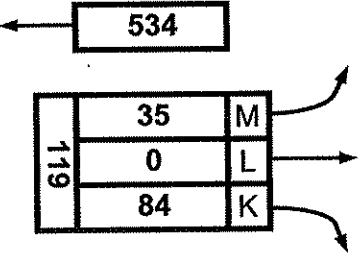
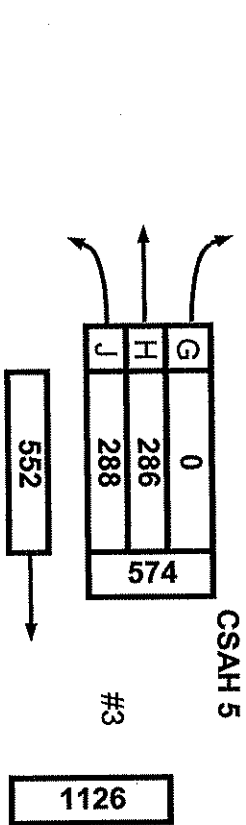
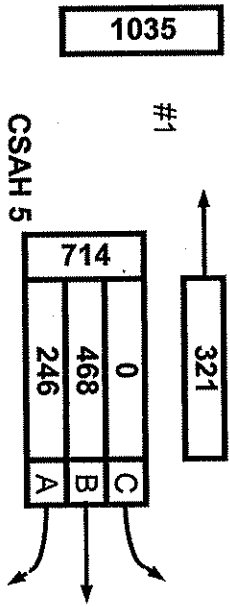
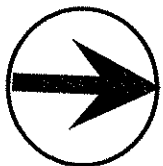
Date : 05/21/08

Count Number : TMC0807

Location : CSAH 11 (Northdale Blvd.)

@ Raven St.

Hour: 7:00-8:00 AM



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

Anoka County Highway Department

Traffic Volume and Turning

Movement Study

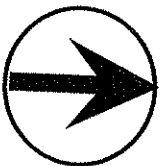
Date : 05/21/08

Count Number : TMC0807

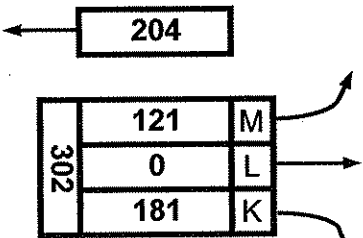
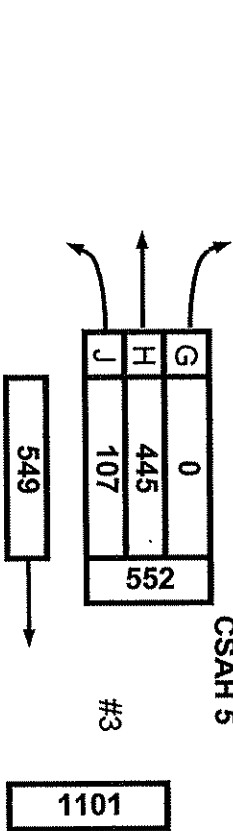
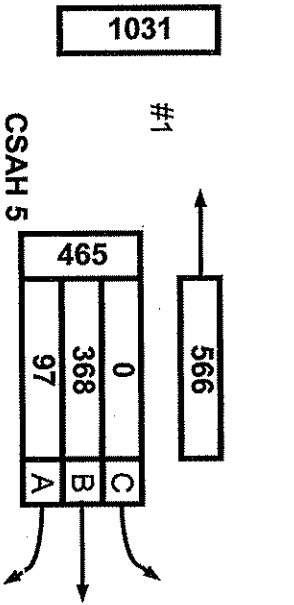
Location : CSAH 11 (Northdale Blvd.)

@ Raven St.

Hour: 2:00-3:00 PM



North



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

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 : TMC0807  
 Site Code : 08070201  
 Start Date : 05/22/2008  
 Page No : 1

Weather: Sunny and Warm  
 nter: DB-400  
 Counted by: Jake/Mike

#### Groups Printed- Unshifted - Bank 1

Start Time	None Southbound					CSAH 11 Westbound					Raven Northbound					CSAH 11 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	0	0	0	0	9	37	0	3	46	5	0	4	0	9	0	49	2	3	51	6	106	112
06:15	0	0	0	0	0	5	39	0	3	44	7	0	6	0	13	0	63	6	2	69	5	126	131
06:30	0	0	0	0	0	15	52	0	1	67	2	0	7	0	9	0	79	17	4	96	5	172	177
06:45	0	0	0	0	0	39	85	0	1	124	7	0	12	0	19	0	90	24	3	114	4	257	261
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>68</b>	<b>213</b>	<b>0</b>	<b>8</b>	<b>281</b>	<b>21</b>	<b>0</b>	<b>29</b>	<b>0</b>	<b>50</b>	<b>0</b>	<b>281</b>	<b>49</b>	<b>12</b>	<b>330</b>	<b>20</b>	<b>661</b>	<b>681</b>
07:00	0	0	0	0	0	78	102	0	20	180	5	0	19	1	24	0	115	42	11	157	32	361	393
07:15	0	0	0	0	0	122	96	0	9	218	2	0	18	0	20	0	117	85	17	202	26	440	466
07:30	0	0	0	0	0	65	61	0	3	126	10	0	26	0	36	0	136	66	8	202	11	364	375
07:45	0	0	0	0	0	23	27	0	6	50	18	0	21	6	39	0	100	53	11	153	23	242	265
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>288</b>	<b>286</b>	<b>0</b>	<b>38</b>	<b>574</b>	<b>35</b>	<b>0</b>	<b>84</b>	<b>7</b>	<b>119</b>	<b>0</b>	<b>468</b>	<b>246</b>	<b>47</b>	<b>714</b>	<b>92</b>	<b>1407</b>	<b>1499</b>
08:00	0	0	0	0	0	30	51	0	6	81	26	0	27	12	53	0	59	35	4	94	22	228	250
08:15	0	0	0	0	0	5	30	0	1	35	6	0	4	1	10	0	52	5	2	57	4	102	106
08:30	0	0	0	0	0	6	45	0	5	51	8	0	11	1	19	0	50	5	2	55	8	125	133
08:45	0	0	0	0	0	8	45	0	7	53	18	0	13	4	31	0	52	10	3	62	14	146	160
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>49</b>	<b>171</b>	<b>0</b>	<b>19</b>	<b>220</b>	<b>58</b>	<b>0</b>	<b>55</b>	<b>18</b>	<b>113</b>	<b>0</b>	<b>213</b>	<b>55</b>	<b>11</b>	<b>288</b>	<b>48</b>	<b>601</b>	<b>649</b>
09:00	0	0	0	0	0	9	57	0	5	66	20	0	3	0	23	0	65	17	7	82	12	171	183
09:15	0	0	0	0	0	2	22	0	1	24	9	0	5	1	14	0	61	4	5	65	7	103	110
09:30	0	0	0	0	0	4	52	0	3	56	11	0	2	0	13	0	42	5	1	47	4	116	120
09:45	0	0	0	0	0	4	47	0	4	51	7	0	8	0	15	0	61	5	3	66	7	132	139
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>19</b>	<b>178</b>	<b>0</b>	<b>13</b>	<b>197</b>	<b>47</b>	<b>0</b>	<b>18</b>	<b>1</b>	<b>65</b>	<b>0</b>	<b>229</b>	<b>31</b>	<b>16</b>	<b>260</b>	<b>30</b>	<b>522</b>	<b>552</b>
10:00	0	0	0	0	0	1	19	0	1	20	11	0	2	0	13	0	52	5	2	57	3	90	93
10:15	0	0	0	0	0	13	56	0	4	69	6	0	4	1	10	0	53	7	4	60	9	139	148
10:30	0	0	0	0	0	9	57	0	2	66	14	0	8	2	22	0	74	15	7	89	11	177	188
10:45	0	0	0	0	0	7	43	0	0	50	21	0	11	1	32	0	50	8	3	58	4	140	144
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>175</b>	<b>0</b>	<b>7</b>	<b>205</b>	<b>52</b>	<b>0</b>	<b>25</b>	<b>4</b>	<b>77</b>	<b>0</b>	<b>229</b>	<b>35</b>	<b>16</b>	<b>264</b>	<b>27</b>	<b>546</b>	<b>573</b>
11:00	0	0	0	0	0	3	51	0	3	54	13	0	7	0	20	0	45	8	3	53	6	127	133
11:15	0	0	0	0	0	8	51	0	1	59	9	0	4	1	13	0	58	17	0	75	2	147	149
11:30	0	0	0	0	0	2	30	0	2	32	18	0	13	2	31	0	72	7	4	79	8	142	150
11:45	0	0	0	0	0	3	37	0	1	40	16	0	13	2	29	0	42	13	3	55	6	124	130
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>169</b>	<b>0</b>	<b>7</b>	<b>185</b>	<b>56</b>	<b>0</b>	<b>37</b>	<b>5</b>	<b>93</b>	<b>0</b>	<b>217</b>	<b>45</b>	<b>10</b>	<b>262</b>	<b>22</b>	<b>540</b>	<b>562</b>
12:00	0	0	0	0	0	6	37	0	4	43	9	0	9	0	18	0	75	6	5	81	9	142	151
12:15	0	0	0	0	0	5	33	0	3	38	24	0	13	1	37	0	66	12	5	78	9	153	162
12:30	0	0	0	0	0	4	40	0	1	44	6	0	6	1	12	0	82	6	3	88	5	144	149
12:45	0	0	0	0	0	2	64	0	3	66	5	0	9	0	14	0	81	7	0	88	3	168	171
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>174</b>	<b>0</b>	<b>11</b>	<b>191</b>	<b>44</b>	<b>0</b>	<b>37</b>	<b>2</b>	<b>81</b>	<b>0</b>	<b>304</b>	<b>31</b>	<b>13</b>	<b>335</b>	<b>26</b>	<b>607</b>	<b>633</b>
13:00	0	0	0	0	0	4	45	0	3	49	13	0	10	0	23	0	71	14	1	85	4	157	161
13:15	0	0	0	0	0	5	54	0	5	59	9	0	10	1	19	0	62	14	5	76	11	154	165
13:30	0	0	0	0	0	1	51	0	3	52	11	0	7	0	18	0	79	7	3	86	6	156	162
13:45	0	0	0	0	0	4	106	0	17	110	14	0	11	2	25	0	88	11	15	99	34	234	266
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>256</b>	<b>0</b>	<b>28</b>	<b>270</b>	<b>47</b>	<b>0</b>	<b>38</b>	<b>3</b>	<b>85</b>	<b>0</b>	<b>300</b>	<b>46</b>	<b>24</b>	<b>346</b>	<b>55</b>	<b>701</b>	<b>756</b>
14:00	0	0	0	0	0	20	104	0	20	124	16	0	18	1	34	0	89	16	7	105	28	263	291
14:15	0	0	0	0	0	24	124	0	9	148	38	0	78	1	116	0	81	17	29	98	39	362	401
14:30	0	0	0	0	0	28	126	0	6	154	34	0	43	1	77	0	105	31	4	136	11	367	378
14:45	0	0	0	0	0	35	91	0	8	126	33	0	42	3	75	0	93	33	6	126	17	327	344
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>107</b>	<b>445</b>	<b>0</b>	<b>43</b>	<b>552</b>	<b>121</b>	<b>0</b>	<b>181</b>	<b>6</b>	<b>302</b>	<b>0</b>	<b>368</b>	<b>97</b>	<b>46</b>	<b>465</b>	<b>95</b>	<b>1319</b>	<b>1414</b>
15:00	0	0	0	0	0	9	92	0	7	101	56	0	65	19	121	0	94	17	5	111	31	333	364
15:15	0	0	0	0	0	5	82	0	6	87	27	0	31	3	58	0	116	19	4	135	13	280	293
15:30	0	0	0	0	0	8	125	0	11	133	21	0	19	1	40	0	104	18	5	122	17	295	312
15:45	0	0	0	0	0	14	108	0	4	122	32	0	11	1	43	0	88	24	1	112	6	277	283
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>36</b>	<b>407</b>	<b>0</b>	<b>28</b>	<b>443</b>	<b>136</b>	<b>0</b>	<b>126</b>	<b>24</b>	<b>262</b>	<b>0</b>	<b>402</b>	<b>78</b>	<b>15</b>	<b>480</b>	<b>67</b>	<b>1185</b>	<b>1252</b>
16:00	0	0	0	0	0	10	119	0	1	129	36	0	20	3	56	0	118	20	5	138	9	323	332
16:15	0	0	0	0	0	10	146	0	7	156	29	0	9	1	38	0	93	14	1	107	9	301	310
16:30	0	0	0	0	0	9	139	0	5	148	28	0	11	1	39	0	89	13	4	102	10	289	299
16:45	0	0	0	0	0	14	146	0	3	160	29	0	16	0	45	0	125	29	2	154	5	359	364
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>43</b>	<b>550</b>	<b>0</b>	<b>16</b>	<b>593</b>	<b>122</b>	<b>0</b>	<b>56</b>	<b>5</b>	<b>178</b>	<b>0</b>	<b>425</b>	<b>76</b>	<b>12</b>	<b>501</b>	<b>33</b>	<b>1272</b>	<b>1305</b>
17:00	0	0	0	0	0	7	140	0	3	147	23	0	22	2	45	0	113	26	0	139	5	331	336
17:15	0	0	0	0	0	10	94	0	2	104	27	0	15	1	42	0	108	18	2	126	5	272	277
17:30	0	0	0	0	0	4	158	0	2	162	22	0	12	0	34	0	105	11	1	116	3	312	315
17:45	0	0	0	0	0	9	107	0	3	116	29	0	27	5	56	0	101	8	2	109	10	281	291
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>499</b>	<b>0</b>	<b>10</b>	<b>529</b>	<b>101</b>	<b>0</b>	<b>76</b>	<b>8</b>	<b>177</b>	<b>0</b>	<b>427</b>	<b>63</b>	<b>5</b>	<b>490</b>	<b>23</b>	<b>1196</b>	<b>1219</b>
18:00	0	0	0	0	0	13	107	0	2	120	28	0	8	0	36	0	119	14	3	133	5	289	294
18:15	0	0	0	0	0	21	106	0	4	127	29	0	10	1	39	0	99	13	2	112	7	278</	

# Anoka County Highway Department

## Traffic Engineering Section

### Traffic Volume and Turning Movement Study

File Name : TMC0807  
 Site Code : 08070201  
 Start Date : 05/22/2008  
 Page No : 2

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

**Groups Printed- Unshifted - Bank 1**

Start Time	None Southbound					CSAH 11 Westbound					Raven Northbound					CSAH 11 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	59	102	0	1	161	18	0	7	0	25	0	91	40	1	131	2	317	319
19:15	0	0	0	0	0	21	89	0	1	110	17	0	8	0	25	0	94	17	1	111	2	246	248
19:30	0	0	0	0	0	8	56	0	1	64	14	0	12	0	26	0	74	11	0	85	1	175	176
19:45	0	0	0	0	0	5	45	0	0	50	9	0	11	0	20	0	58	5	0	63	0	133	133
<b>Total</b>	0	0	0	0	0	93	292	0	3	385	58	0	38	0	96	0	317	73	2	390	5	871	876
20:00	0	0	0	0	0	7	56	0	0	63	21	0	6	0	27	0	84	12	0	96	0	186	186
20:15	0	0	0	0	0	1	54	0	0	55	9	0	12	0	21	0	50	10	1	60	1	136	137
20:30	0	0	0	0	0	6	49	0	0	55	5	0	12	0	17	0	54	9	0	63	0	135	135
20:45	0	0	0	0	0	5	43	0	2	48	8	0	9	0	17	0	60	4	0	64	2	129	131
<b>Total</b>	0	0	0	0	0	19	202	0	2	221	43	0	39	0	82	0	248	35	1	283	3	586	589
21:00	0	0	0	0	0	6	41	0	0	47	13	0	6	0	19	0	63	2	0	65	0	131	131
21:15	0	0	0	0	0	7	59	0	0	66	6	0	3	0	9	0	43	10	0	53	0	128	128
21:30	0	0	0	0	0	3	42	0	1	45	29	0	66	4	95	0	50	10	0	60	5	200	205
21:45	0	0	0	0	0	5	28	0	0	33	8	0	24	0	32	0	37	6	0	43	0	108	108
<b>Total</b>	0	0	0	0	0	21	170	0	1	191	56	0	99	4	155	0	193	28	0	221	5	567	572
<b>Grand Total</b>	0	0	0	0	0	969	4598	0	243	5567	1098	0	978	88	2076	0	5021	1075	238	6096	569	13739	14308
<b>Approch %</b>	0	0	0			17.4	82.6	0		40.5	52.9	0	47.1		15.1	0	82.4	17.6		44.4	4	96	
<b>Total %</b>	0	0	0			7.1	33.5	0		40.5	8	0	7.1		15.1	0	36.5	7.8		44.4	4	96	
<b>Unshifted</b>	0	0	0			969	4598	0		5810	1098	0	978		2164	0	5021	1075		6334	0	0	14308
<b>% Unshifted</b>	0	0	0			100	100	0		100	100	0	100	100	100	0	100	100	100	100	0	0	100
<b>Bank 1</b>	0	0	0			0	0	0		0	0	0	0		0	0	0	0		0	0	0	0
<b>% Bank 1</b>	0	0	0			0	0	0		0	0	0	0		0	0	0	0		0	0	0	0

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

Study Name : **TMC0807**  
Study Date : **05/23/08**  
Page No. : **1**

**Signal Warrants - Summary**

**Major Street Approaches**

**Eastbound: CSAH 11**  
Number of Lanes: 2  
Approach Speed: 35  
Total Approach Volume: 6,096

**Westbound: CSAH 11**  
Number of Lanes: 2  
Approach Speed: 35  
Total Approach Volume: 5,567

**Minor Street Approaches**

**Northbound: Raven**  
Number of Lanes: 2  
  
Total Approach Volume: 2,076

**Southbound: None**  
Number of Lanes: 2  
  
Total Approach Volume: 0

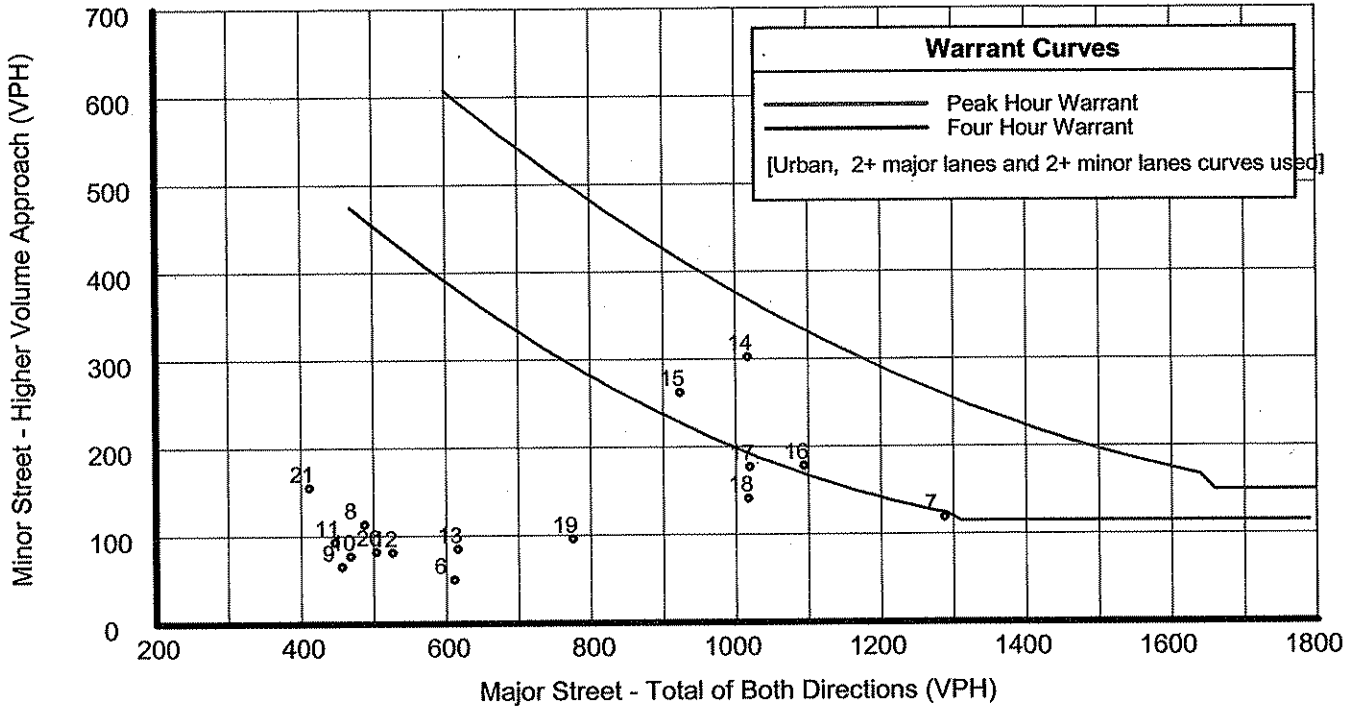
**Warrant Summary (Urban values apply.)**

- 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 4 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 : TMC0807  
Study Date : 05/23/08  
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	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
01:00	0	0	NB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
02:00	0	0	NB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
03:00	0	0	NB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
04:00	0	0	NB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
05:00	0	0	NB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
06:00	611	50	NB	600-Yes	200-No	Major	900-No	100-No	---	720-No	160-No	---
07:00	1,288	119	NB	600-Yes	200-No	Major	900-Yes	100-Yes	Both	720-Yes	160-No	Major
08:00	488	113	NB	600-No	200-No	---	900-No	100-Yes	Minor	720-No	160-No	---
09:00	457	65	NB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
10:00	469	77	NB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
11:00	447	93	NB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
12:00	526	81	NB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
13:00	616	85	NB	600-Yes	200-No	Major	900-No	100-No	---	720-No	160-No	---
14:00	1,017	302	NB	600-Yes	200-Yes	Both	900-Yes	100-Yes	Both	720-Yes	160-Yes	Both
15:00	923	262	NB	600-Yes	200-Yes	Both	900-Yes	100-Yes	Both	720-Yes	160-Yes	Both
16:00	1,094	178	NB	600-Yes	200-No	Major	900-Yes	100-Yes	Both	720-Yes	160-Yes	Both
17:00	1,019	177	NB	600-Yes	200-No	Major	900-Yes	100-Yes	Both	720-Yes	160-Yes	Both
18:00	1,017	141	NB	600-Yes	200-No	Major	900-Yes	100-Yes	Both	720-Yes	160-No	Major
19:00	775	96	NB	600-Yes	200-No	Major	900-No	100-No	---	720-Yes	160-No	Major
20:00	504	82	NB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
21:00	412	155	NB	600-No	200-No	---	900-No	100-Yes	Minor	720-No	160-No	---
22:00	0	0	NB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
23:00	0	0	NB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---

**Peak Hour Volume** [X]

**Description**

Intended for sites where the volume of intersecting traffic during 1 hour is the principal reason for consideration of a signal installation.

**Site Data Required by Warrant**

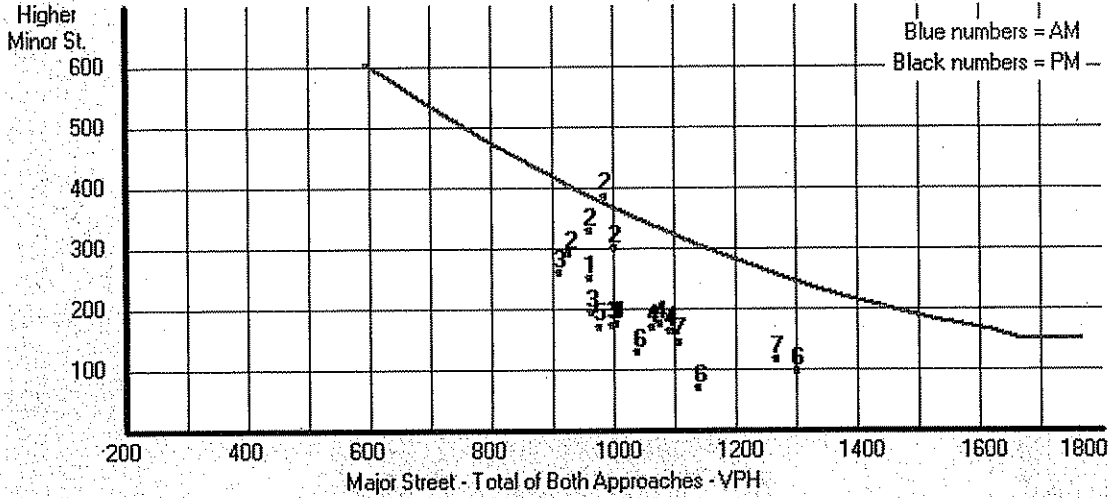
- 85% Speed > 40 MPH
- Built-up community < 10,000
- Number of Major Lanes =  1  2 or more
- Number of Minor Lanes =  1  2 or more

**Summary**

**No hourly volumes meet minimums.**  
**1 peak hour volumes meet minimums.**  
**Warrant is met!**

**Display Options**

- Show Hourly Volumes
- Show Hourly Data Graph
- Show Peak Hour Volumes
- Show Peak Hour Data Graph



Ok Cancel Help



**Peak Hour Volume** X

**Description**

Intended for sites where the volume of intersecting traffic during 1 hour is the principal reason for consideration of a signal installation.

**Site Data Required by Warrant**

- 85% Speed > 40 MPH
- Built-up community < 10,000
- Number of Major Lanes =  1  2 or more
- Number of Minor Lanes =  1  2 or more

**Summary**

**No hourly volumes meet minimums.**  
**1 peak hour volumes meet minimums.**  
**Warrant is met!**

**Display Options**

- Show Hourly Volumes
- Show Hourly Data Graph
- Show Peak Hour Volumes
- Show Peak Hour Data Graph

**Hourly Volumes Sorted by Approach Total**

Time	EB	WB	Total	NB	SB	Approach Total	Met?
06:45-07:15	675	648	1323	99	0	1422	No
07:00-08:00	714	574	1288	119	0	1407	No
14:15-15:15	471	529	1000	389	0	1389	Yes
14:00-15:00	465	552	1017	302	0	1319	No
14:30-15:30	508	468	976	331	0	1307	No
16:15-17:15	502	611	1113	167	0	1280	No
07:15-08:15	651	475	1126	148	0	1274	No
16:45-17:45	535	573	1108	166	0	1274	No
16:00-17:00	501	593	1094	178	0	1272	No
16:30-17:30	521	559	1080	171	0	1251	No
14:45-15:45	494	447	941	294	0	1235	No
06:30-07:30	569	589	1158	72	0	1230	No
13:45-14:45	438	536	974	252	0	1226	No
17:00-18:00	490	529	1019	177	0	1196	No
16:45-17:45	470	540	1010	177	0	1196	No

Ok

Cancel

Help

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

Study Name :  
Study Date : 05/23/08  
Page No. : 1

**Multi-Way Stop Warrant Report**

**Major Street Approaches**

**Eastbound: CSAH 11**  
Total Approach Volume: 6,096  
Approach Speed: 35

**Westbound: CSAH 11**  
Total Approach Volume: 5,567  
Approach Speed: 35

**Minor Street Approaches**

**Northbound: Raven**  
Total Approach Volume: 2,076

**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 4 hours, 8 are needed

**Analysis of 8 Hour Volume Warrants:**

Time	Major Total	Minor Total	Crit C			Crit D		
			Major	Minor	Meets?	Major	Minor	Meets?
00:00 - 01:00	0	0	300-No	200-No	No	240-No	160-No	No
01:00 - 02:00	0	0	300-No	200-No	No	240-No	160-No	No
02:00 - 03:00	0	0	300-No	200-No	No	240-No	160-No	No
03:00 - 04:00	0	0	300-No	200-No	No	240-No	160-No	No
04:00 - 05:00	0	0	300-No	200-No	No	240-No	160-No	No
05:00 - 06:00	0	0	300-No	200-No	No	240-No	160-No	No
06:00 - 07:00	611	50	300-Yes	200-No	Major	240-Yes	160-No	Major
07:00 - 08:00	1,288	119	300-Yes	200-No	Major	240-Yes	160-No	Major
08:00 - 09:00	488	113	300-Yes	200-No	Major	240-Yes	160-No	Major
09:00 - 10:00	457	65	300-Yes	200-No	Major	240-Yes	160-No	Major
10:00 - 11:00	469	77	300-Yes	200-No	Major	240-Yes	160-No	Major
11:00 - 12:00	447	93	300-Yes	200-No	Major	240-Yes	160-No	Major
12:00 - 13:00	526	81	300-Yes	200-No	Major	240-Yes	160-No	Major
13:00 - 14:00	616	85	300-Yes	200-No	Major	240-Yes	160-No	Major
14:00 - 15:00	1,017	302	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
15:00 - 16:00	923	262	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
16:00 - 17:00	1,094	178	300-Yes	200-No	Major	240-Yes	160-Yes	Both
17:00 - 18:00	1,019	177	300-Yes	200-No	Major	240-Yes	160-Yes	Both
18:00 - 19:00	1,017	141	300-Yes	200-No	Major	240-Yes	160-No	Major
19:00 - 20:00	775	96	300-Yes	200-No	Major	240-Yes	160-No	Major
20:00 - 21:00	504	82	300-Yes	200-No	Major	240-Yes	160-No	Major
21:00 - 22:00	412	155	300-Yes	200-No	Major	240-Yes	160-No	Major
22:00 - 23:00	0	0	300-No	200-No	No	240-No	160-No	No
23:00 - 00:00	0	0	300-No	200-No	No	240-No	160-No	No



**NORTH**

APP.#1= CSAH 11
APP.#2= None
APP.#3= CSAH 11
APP.#4= Raven

**COUNT LOCATION:**

CSAH 11 (Northdale Blvd.)

**DATE:**

05/22/2008

@ Raven St

APP. #1	APP. #2	APP. #3	APP. #4
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HEAVY VEHICLE- ANY VEHICLE HAVING MORE THAN FOUR TIRES TOUCHING THE PAVEMENT

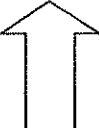
A. TRUCKS- A HEAVY VEHICLE INVOLVED PRIMARILY IN THE TRANSPORT OF GOODS OR IN THE DELIVERY OF A SERVICE.

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
6:00-6:15AM						4		2
6:15-6:30						2		3
6:30-6:45				4	4	1		4
6:45-7:00				1	1	1		3
<b>HOURLY TOTAL</b>					<b>5</b>	<b>HOURLY TOTAL</b>		<b>20</b>
7:00-7:15	1			12	13	2		30
7:15-7:30	4		3	18	25	1		24
7:30-7:45	1			14	15	2		8
7:45-8:00						5		19
<b>HOURLY TOTAL</b>					<b>53</b>	<b>HOURLY TOTAL</b>		<b>91</b>
8:00-8:15						3		18
8:15-8:30						2		2
8:30-8:45	9			1	10	1		6
8:45-9:00				2	2	3		11
<b>HOURLY TOTAL</b>					<b>12</b>	<b>HOURLY TOTAL</b>		<b>46</b>
9:00-9:15				1	1	5		6
9:15-9:30				1	1	2		5
9:30-9:45								4
9:45-10:00				1	1	5		1
<b>HOURLY TOTAL</b>					<b>3</b>	<b>HOURLY TOTAL</b>		<b>28</b>
10:00-10:15				2	2	3		
10:15-10:30						3		6
10:30-10:45				2	2	6		5
10:45-11:00						2		1
<b>HOURLY TOTAL</b>					<b>4</b>	<b>HOURLY TOTAL</b>		<b>26</b>
11:00-11:15	3			1	4	3		3
11:15-11:30				5	5			2
11:30-11:45						1		7
11:45-12:00				2	2	3		3
<b>HOURLY TOTAL</b>					<b>11</b>	<b>HOURLY TOTAL</b>		<b>22</b>
12:00-12:15	8			4	12	2		6
12:15-12:30				3	3	5		4
12:30-12:45				2	2			5
12:45-1:00				2	2	3		
<b>HOURLY TOTAL</b>					<b>19</b>	<b>HOURLY TOTAL</b>		<b>25</b>
1:00-1:15			1	3	4	1		3
1:15-1:30						5		6
1:30-1:45				1	1	1		5
1:45-2:00				1	1	6		26
<b>HOURLY TOTAL</b>					<b>6</b>	<b>HOURLY TOTAL</b>		<b>53</b>
<b>TOTAL</b>					<b>113</b>	<b>TOTAL</b>		<b>311</b>

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**NORTH**  
 APP.#1= CSAH 11  
 APP.#2= None  
 APP.#3= CSAH 11  
 APP.#4= Raven

**COUNT LOCATION:** CSAH 11 (Northdale Blvd.) **DATE:** 05/21/2007

@ Raven St

APP. #2  
 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
2:00-2:15PM			1	5	6	1		27
2:15-2:30	3			15	18	4		33
2:30-2:45	4			14	18	3		9
2:45-3:00	6			1	7	3		14
<b>HOURLY TOTAL</b>					<b>49</b>	<b>HOURLY TOTAL</b>		<b>94</b>
3:00-3:15	1			8	9	4		25
3:15-3:30				5	5	2		8
3:30-3:45				6	6	2	1	13
3:45-4:00						1		5
<b>HOURLY TOTAL</b>					<b>20</b>	<b>HOURLY TOTAL</b>		<b>61</b>
4:00-4:15				4	4	2		7
4:15-4:30	1				1	3	1	4
4:30-4:45				2	2	5		5
4:45-5:00				8	8			6
<b>HOURLY TOTAL</b>					<b>15</b>	<b>HOURLY TOTAL</b>		<b>33</b>
5:00-5:15								5
5:15-5:30				3	3	1		4
5:30-5:45				5	5			3
5:45-6:00				1	1	3		5
<b>HOURLY TOTAL</b>					<b>9</b>	<b>HOURLY TOTAL</b>		<b>21</b>
6:00-6:15			1	5	6			3
6:15-6:30						2		6
6:30-6:45				1	1	1		1
6:45-7:00	3			4	7	1		4
<b>HOURLY TOTAL</b>					<b>14</b>	<b>HOURLY TOTAL</b>		<b>18</b>
7:00-7:15				1	1			
7:15-7:30				1	1	1		1
7:30-7:45				1	1			1
7:45-8:00				1	1			
<b>HOURLY TOTAL</b>					<b>4</b>	<b>HOURLY TOTAL</b>		<b>3</b>
8:00-8:15	2			8	10			
8:15-8:30						1		
8:30-8:45				2	2			
8:45-9:00				8	8	2		
<b>HOURLY TOTAL</b>					<b>20</b>	<b>HOURLY TOTAL</b>		<b>3</b>
9:00-9:15				3	3			
9:15-9:30								
9:30-9:45	10				10		1	
9:45-10:00								
<b>HOURLY TOTAL</b>					<b>13</b>	<b>HOURLY TOTAL</b>		<b>1</b>
<b>TOTAL</b>					<b>225</b>	<b>TOTAL</b>		<b>545</b>

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