

Date: 04/08/10

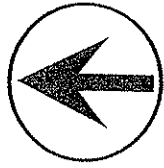
Count Number: TMC1001

Location: CR 60 (Constance Blvd.)

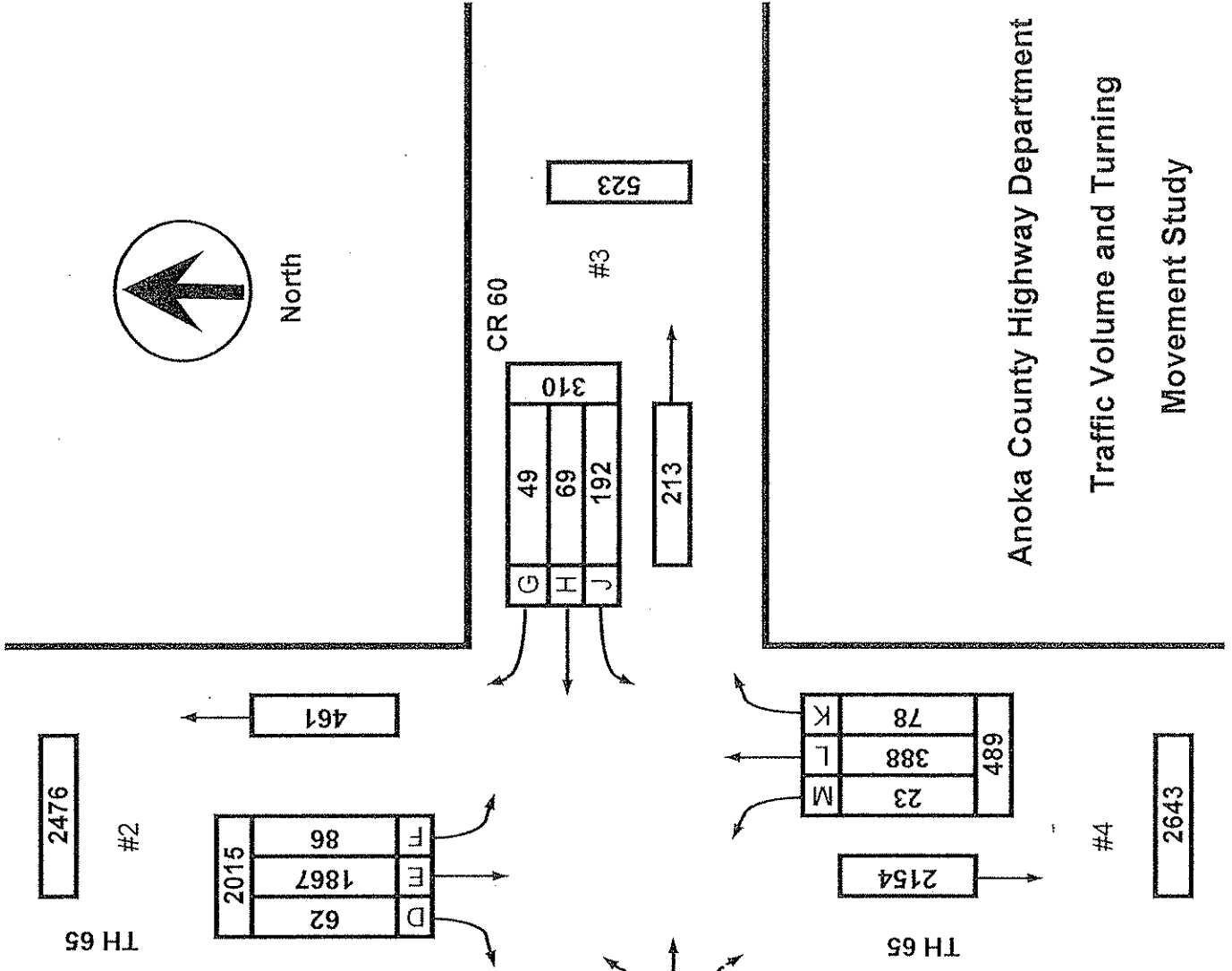
@ TH 65

Collection Period: AM PEAK

Hour: 7:00 AM-8:00 AM



North



2476

#2

TH 65

2015		
62	D	
1867	E	
86	F	
	T	

461

CR 60

#3

523

49	G	
69	H	
192	J	
310		

213

78	K	
388	L	
23	M	
489		

2154

TH 65

#4

2643

154

#1

322

168		
24	C	
49	B	
95	A	

CR 60

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

Anoka County Highway Department  
Traffic Volume and Turning  
Movement Study

Date : 04/08/10

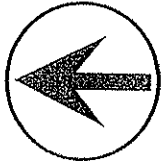
Count Number : TMC1001

Location : CR 60 (Constance Blvd.)

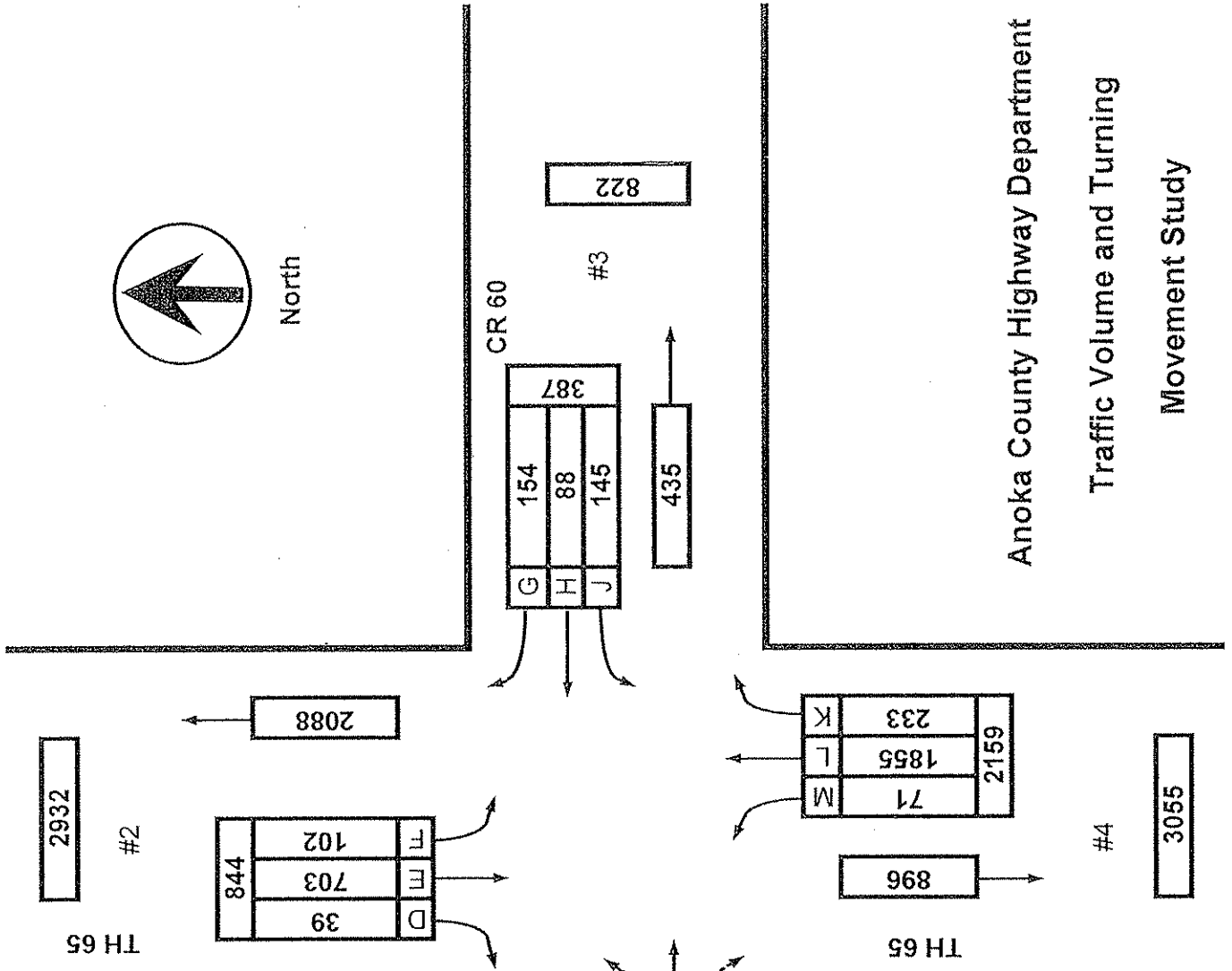
@ TH 65

Collection Period : PM PEAK

Hour : 4:30 PM-5:30 PM



North



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

Anoka County Highway Department

Traffic Volume and Turning

Movement Study



# Anoka County Highway Department

## Traffic Engineering Section

### Traffic Volume and Turning Movement Study

Weather: Cloudy and Mild  
 Counter: DB-400  
 Counted by: Josie/Terri

File Name : TMC1001  
 Site Code : 10010202  
 Start Date : 4/8/2010  
 Page No : 1

Groups Printed- Unshifted

Start Time	TH 65 Southbound					CR 60 Westbound					TH 65 Northbound					CR 60 Eastbound					Excl. Total	Incl. 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	11	434	11	3	456	21	13	1	1	35	2	30	13	4	45	0	9	18	1	27	9	563	572
06:15	18	506	12	6	536	30	7	7	2	44	2	59	8	5	69	3	5	17	1	25	14	674	688
06:30	9	516	12	6	537	28	15	6	0	49	1	74	17	3	92	1	13	12	0	26	9	704	713
06:45	15	443	15	12	473	34	11	6	1	51	1	61	11	1	73	3	6	19	2	28	16	625	641
<b>Total</b>	<b>53</b>	<b>1899</b>	<b>50</b>	<b>27</b>	<b>2002</b>	<b>113</b>	<b>46</b>	<b>20</b>	<b>4</b>	<b>179</b>	<b>6</b>	<b>224</b>	<b>49</b>	<b>13</b>	<b>279</b>	<b>7</b>	<b>33</b>	<b>66</b>	<b>4</b>	<b>106</b>	<b>48</b>	<b>2566</b>	<b>2614</b>
07:00	16	523	13	10	552	43	14	9	3	66	0	68	14	8	82	7	9	20	3	36	24	736	760
07:15	31	542	12	8	585	58	13	9	5	80	7	101	20	12	128	6	17	19	2	42	27	835	862
07:30	14	424	18	10	456	55	25	18	4	98	7	104	20	9	131	6	10	31	1	47	24	732	756
07:45	25	378	19	17	422	36	17	13	3	66	9	115	24	7	148	5	13	25	2	43	29	679	708
<b>Total</b>	<b>86</b>	<b>1867</b>	<b>62</b>	<b>45</b>	<b>2015</b>	<b>192</b>	<b>69</b>	<b>49</b>	<b>15</b>	<b>310</b>	<b>23</b>	<b>388</b>	<b>78</b>	<b>36</b>	<b>489</b>	<b>24</b>	<b>49</b>	<b>95</b>	<b>8</b>	<b>168</b>	<b>104</b>	<b>2982</b>	<b>3086</b>
*** BREAK ***																							
16:00	17	159	10	18	186	38	16	35	7	89	17	382	43	12	442	17	15	8	0	40	37	757	794
16:15	14	180	16	9	210	41	24	43	6	108	19	433	62	10	514	16	23	12	1	51	26	883	909
16:30	24	158	9	8	191	30	24	39	6	93	13	491	63	10	567	31	16	10	0	57	24	908	932
16:45	25	186	13	5	204	38	21	34	5	93	16	409	66	8	491	15	23	14	2	52	20	840	860
<b>Total</b>	<b>80</b>	<b>663</b>	<b>48</b>	<b>40</b>	<b>791</b>	<b>147</b>	<b>85</b>	<b>151</b>	<b>24</b>	<b>383</b>	<b>65</b>	<b>1715</b>	<b>234</b>	<b>40</b>	<b>2014</b>	<b>79</b>	<b>77</b>	<b>44</b>	<b>3</b>	<b>200</b>	<b>107</b>	<b>3388</b>	<b>3495</b>
17:00	29	181	9	6	219	42	17	50	4	109	21	458	45	10	524	19	31	14	0	64	20	916	936
17:15	24	198	8	3	230	35	26	31	1	92	21	497	59	7	577	14	30	10	1	54	12	953	965
17:30	24	185	9	6	218	30	24	40	0	94	18	432	48	9	498	8	20	10	0	38	15	848	863
17:45	20	178	7	6	205	27	24	35	1	86	18	364	66	5	448	10	28	5	0	43	12	782	794
<b>Total</b>	<b>97</b>	<b>742</b>	<b>33</b>	<b>21</b>	<b>872</b>	<b>134</b>	<b>91</b>	<b>156</b>	<b>6</b>	<b>381</b>	<b>78</b>	<b>1751</b>	<b>218</b>	<b>31</b>	<b>2047</b>	<b>51</b>	<b>109</b>	<b>39</b>	<b>1</b>	<b>199</b>	<b>59</b>	<b>3499</b>	<b>3558</b>
<b>Grand Total</b>	<b>316</b>	<b>5171</b>	<b>193</b>	<b>133</b>	<b>5680</b>	<b>586</b>	<b>291</b>	<b>376</b>	<b>49</b>	<b>1253</b>	<b>172</b>	<b>4078</b>	<b>579</b>	<b>120</b>	<b>4829</b>	<b>161</b>	<b>268</b>	<b>244</b>	<b>16</b>	<b>673</b>	<b>318</b>	<b>12435</b>	<b>12753</b>
<b>Grch %</b>	<b>5.6</b>	<b>91</b>	<b>3.4</b>			<b>46.8</b>	<b>23.2</b>	<b>30</b>			<b>3.6</b>	<b>84.4</b>	<b>12</b>			<b>23.9</b>	<b>39.8</b>	<b>36.3</b>					
<b>total %</b>	<b>2.5</b>	<b>41.6</b>	<b>1.6</b>		<b>45.7</b>	<b>4.7</b>	<b>2.3</b>	<b>3</b>		<b>10.1</b>	<b>1.4</b>	<b>32.8</b>	<b>4.7</b>		<b>38.8</b>	<b>1.3</b>	<b>2.2</b>	<b>2</b>		<b>5.4</b>	<b>2.5</b>	<b>97.5</b>	

Start Time	TH 65 Southbound					CR 60 Westbound					TH 65 Northbound					CR 60 Eastbound					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	
Peak Hour Analysis From 06:00 to 11:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	16	523	13		552	43	14	9		66	0	68	14		82	7	9	20		36	736
07:15	31	542	12		585	58	13	9		80	7	101	20		128	6	17	19		42	835
07:30	14	424	18		456	55	25	18		98	7	104	20		131	6	10	31		47	732
07:45	25	378	19		422	36	17	13		66	9	115	24		148	5	13	25		43	679
<b>Total Volume</b>	<b>86</b>	<b>1867</b>	<b>62</b>		<b>2015</b>	<b>192</b>	<b>69</b>	<b>49</b>		<b>310</b>	<b>23</b>	<b>388</b>	<b>78</b>		<b>489</b>	<b>24</b>	<b>49</b>	<b>95</b>		<b>168</b>	<b>2982</b>
<b>% App. Total</b>	<b>4.3</b>	<b>92.7</b>	<b>3.1</b>			<b>61.9</b>	<b>22.3</b>	<b>15.8</b>			<b>4.7</b>	<b>79.3</b>	<b>16</b>			<b>14.3</b>	<b>29.2</b>	<b>56.5</b>			
<b>PHF</b>	<b>.694</b>	<b>.861</b>	<b>.816</b>		<b>.861</b>	<b>.826</b>	<b>.690</b>	<b>.681</b>		<b>.791</b>	<b>.639</b>	<b>.843</b>	<b>.813</b>		<b>.826</b>	<b>.857</b>	<b>.721</b>	<b>.766</b>		<b>.894</b>	<b>.893</b>
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	24	158	9		191	30	24	39		93	13	491	63		567	31	16	10		57	908
16:45	25	166	13		204	38	21	34		93	16	409	66		491	15	23	14		52	840
17:00	29	181	9		219	42	17	50		109	21	458	45		524	19	31	14		64	916
17:15	24	198	8		230	35	26	31		92	21	497	59		577	14	30	10		54	953
<b>Total Volume</b>	<b>102</b>	<b>703</b>	<b>39</b>		<b>844</b>	<b>145</b>	<b>88</b>	<b>154</b>		<b>387</b>	<b>71</b>	<b>1855</b>	<b>233</b>		<b>2159</b>	<b>79</b>	<b>100</b>	<b>48</b>		<b>227</b>	<b>3617</b>
<b>% App. Total</b>	<b>12.1</b>	<b>83.3</b>	<b>4.6</b>			<b>37.5</b>	<b>22.7</b>	<b>39.8</b>			<b>3.3</b>	<b>85.9</b>	<b>10.8</b>			<b>34.8</b>	<b>44.1</b>	<b>21.1</b>			
<b>PHF</b>	<b>.879</b>	<b>.888</b>	<b>.750</b>		<b>.917</b>	<b>.863</b>	<b>.846</b>	<b>.770</b>		<b>.888</b>	<b>.845</b>	<b>.933</b>	<b>.883</b>		<b>.935</b>	<b>.637</b>	<b>.806</b>	<b>.857</b>		<b>.887</b>	<b>.949</b>

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

Study Name : TMC1001  
Study Date : 04/15/10  
Page No. : 1

**Signal Warrants - Summary**

**Major Street Approaches**

**Northbound: TH 65**  
Number of Lanes: 2  
Approach Speed: 41  
Total Approach Volume: 4,829

**Southbound: TH 65**  
Number of Lanes: 2  
Approach Speed: 65  
Total Approach Volume: 5,680

**Minor Street Approaches**

**Eastbound: CR 60**  
Number of Lanes: 2  
  
Total Approach Volume: 673

**Westbound: CR 60**  
Number of Lanes: 2  
  
Total Approach Volume: 1,253

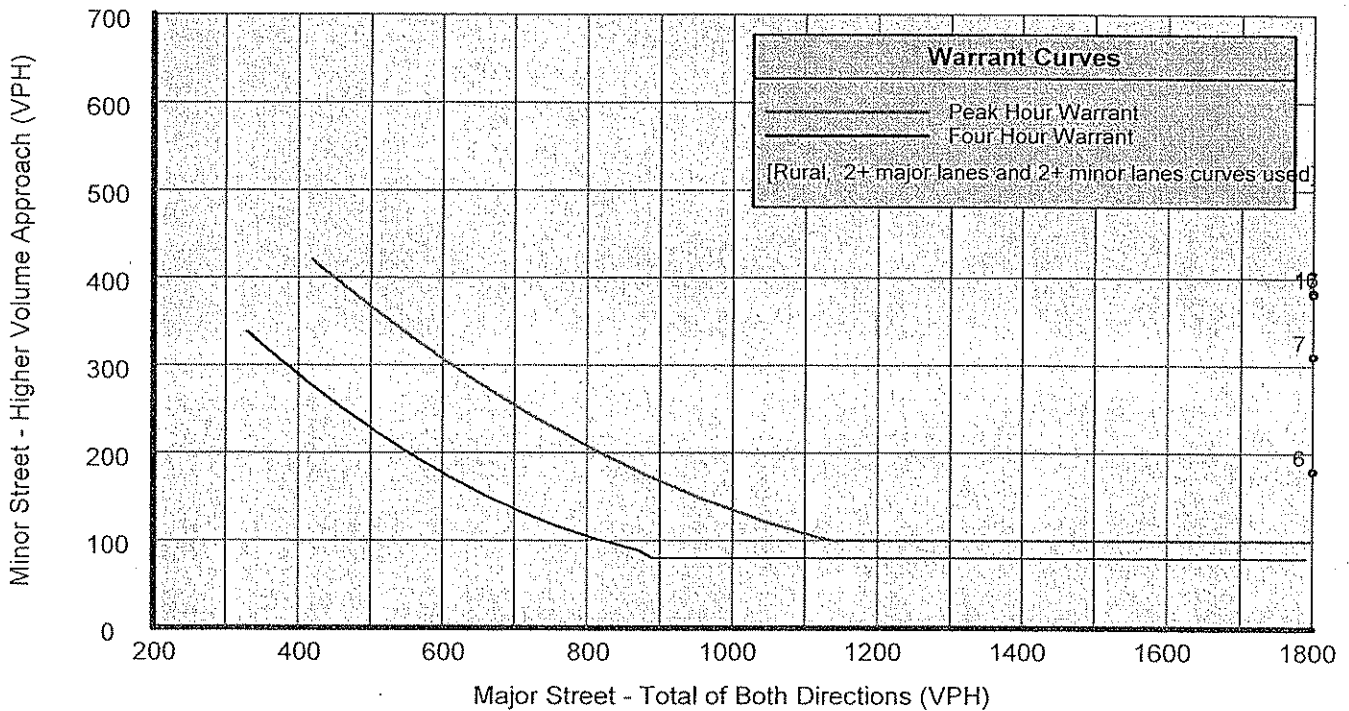
**Warrant Summary (Rural values apply.)**

<b>Warrant 1 - Eight Hour Vehicular Volumes</b> .....	<b>Not Satisfied</b>
<b>Warrant 1A - Minimum Vehicular Volume</b> .....	<b>Not Satisfied</b>
Required volumes reached for 4 hours, 8 are needed	
<b>Warrant 1B - Interruption of Continuous Traffic</b> .....	<b>Not Satisfied</b>
Required volumes reached for 4 hours, 8 are needed	
<b>Warrant 1 A&amp;B - Combination of Warrants</b> .....	<b>Not Satisfied</b>
Required volumes reached for 4 hours, 8 are needed	
<b>Warrant 2 - Four Hour Volumes</b> .....	<b>Satisfied</b>
Number of hours (4) volumes exceed minimum >= minimum required (4).	
<b>Warrant 3 - Peak Hour</b> .....	<b>Satisfied</b>
<b>Warrant 3A - Peak Hour Delay</b> .....	<b>Satisfied</b>
Number of hours (16) volumes exceed minimum >= required (1). Delay data not evaluated.	
<b>Warrant 3B - Peak Hour Volumes</b> .....	<b>Satisfied</b>
Volumes exceed minimums for at least one hour.	
<b>Warrant 4 - Pedestrian Volumes</b> .....	<b>Not Evaluated</b>
<b>Warrant 5 - School Crossing</b> .....	<b>Not Evaluated</b>
<b>Warrant 6 - Coordinated Signal System</b> .....	<b>Not Evaluated</b>
<b>Warrant 7 - Crash Experience</b> .....	<b>Not Evaluated</b>
<b>Warrant 8 - Roadway Network</b> .....	<b>Not Evaluated</b>

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

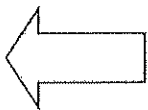
Study Name : TMC1001  
Study Date : 04/15/10  
Page No. : 2

**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	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	2,281	179	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
07:00	2,504	310	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
08:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
09:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
10:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
11:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
12:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
13:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
14:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
15:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
16:00	2,805	383	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
17:00	2,919	381	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
18:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
19:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
20:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
21:00	0	0	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	---



COUNT LOCATION:

CR 60 (Constance Blvd.)

DATE:

4/8/2010

@ TH 65

NORTH

APP. #1 = TH 65

APP. #2 = CR 60

APP. #3 = TH 65

APP. #4 = CR 60

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
6:00-6:15AM						8		1
6:15-6:30						12		2
6:30-6:45						7		2
6:45-7:00						11		5
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>48</b>
7:00-7:15AM						14		9
7:15-7:30						20		7
7:30-7:45						22		2
7:45-8:00						22		6
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>102</b>
					<b>TOTAL</b>		<b>TOTAL</b>	<b>150</b>

TIME	PEDESTRIANS					HEAVY VEHICLES		
	APP. #1	APP. #2	APP. #3	APP. #4	15 MIN TOT	TRUCKS	RV	BUS
4:00-4:15PM						29		8
4:15-4:30	2			2	4	16	1	8
4:30-4:45						15		8
4:45-5:00						17	1	1
<b>HOURLY TOTAL</b>					<b>4</b>	<b>HOURLY TOTAL</b>		<b>104</b>
5:00-5:15PM						16		4
5:15-5:30						10		1
5:30-5:45						13		2
5:45-6:00						9		3
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>58</b>
					<b>TOTAL</b>	<b>4</b>	<b>TOTAL</b>	<b>162</b>