

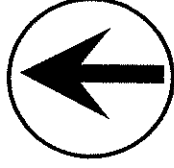
Date : 06/01/11

Count Number : TMC1108

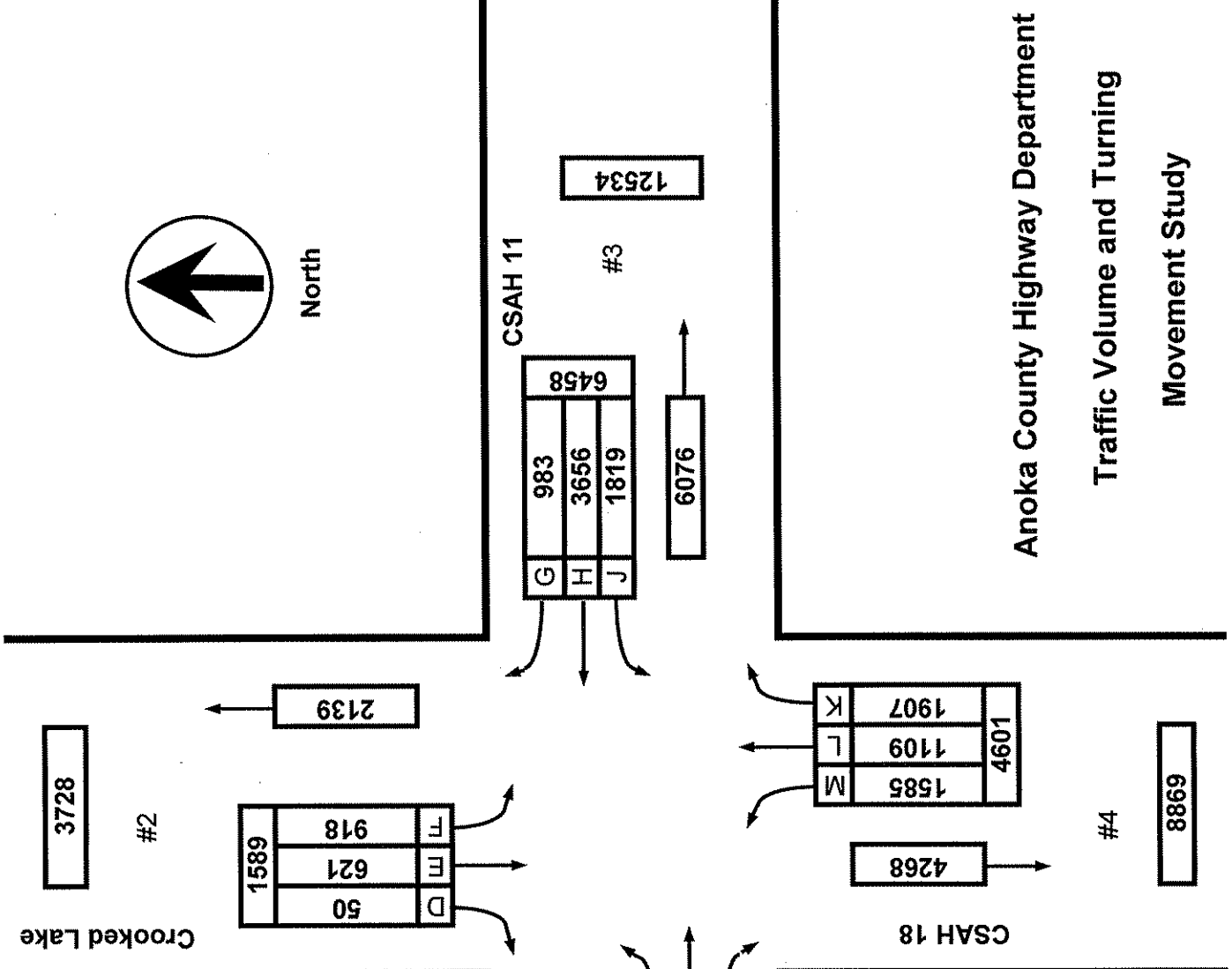
Location : CSAH 11 (Northdale Blvd.)

@ CSAH 18 (Crooked Lake Blvd.)

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



North



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

Anoka County Highway Department  
 Traffic Volume and Turning  
 Movement Study

Date : 06/02/11

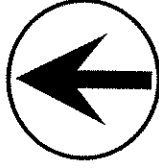
Count Number : TMC1108

Location : CSAH 11 (Northdale Blvd.)

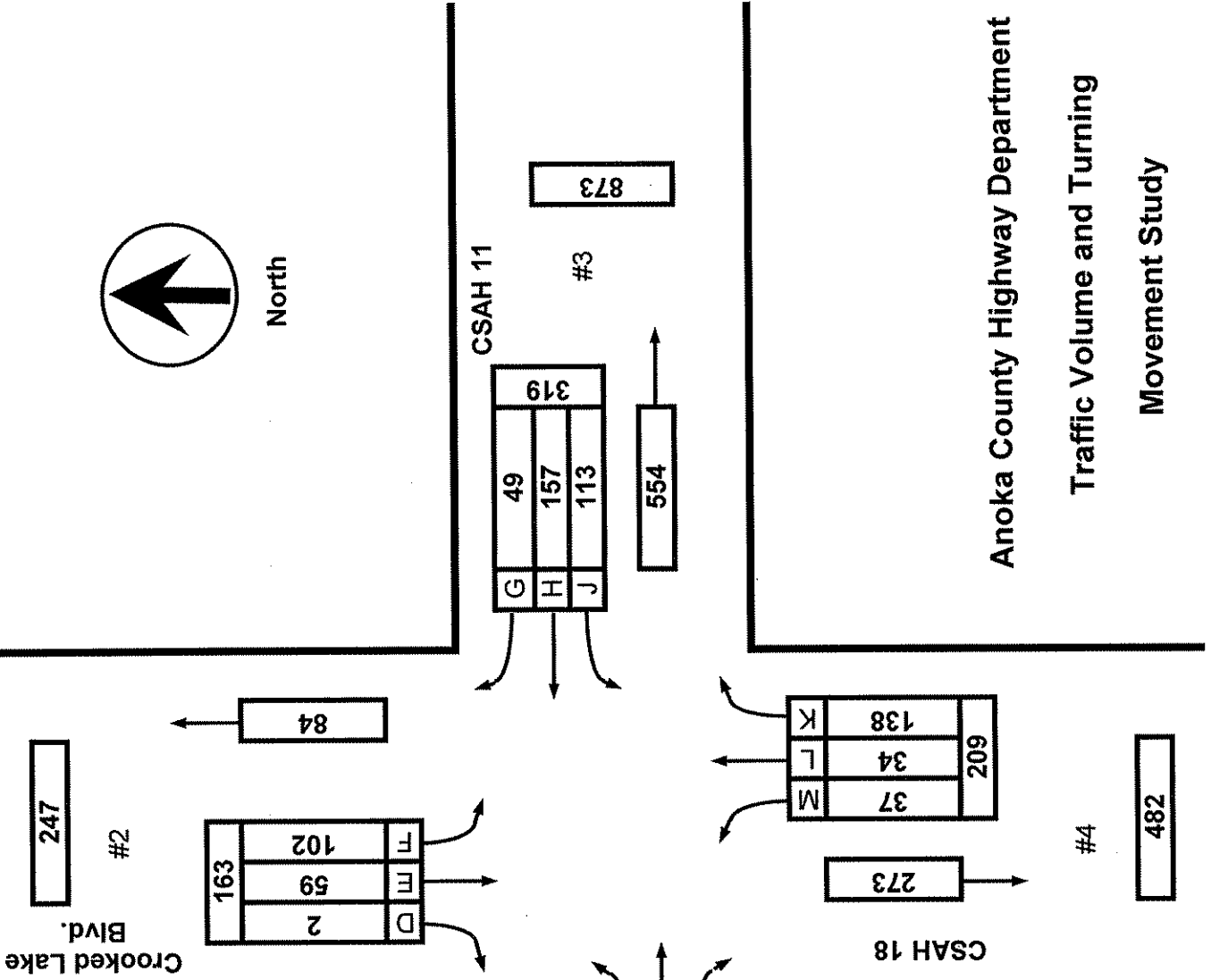
@ CSAH 18 (Crooked Lake Blvd.)

Collection Period : AM PEAK

Hour : 7:00 AM - 8:00 AM



North



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

Anoka County Highway Department  
 Traffic Volume and Turning  
 Movement Study

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Date : 06/01/11

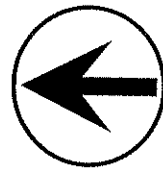
Count Number : TMC1108

Location : CSAH 11 (Northdale Blvd.)

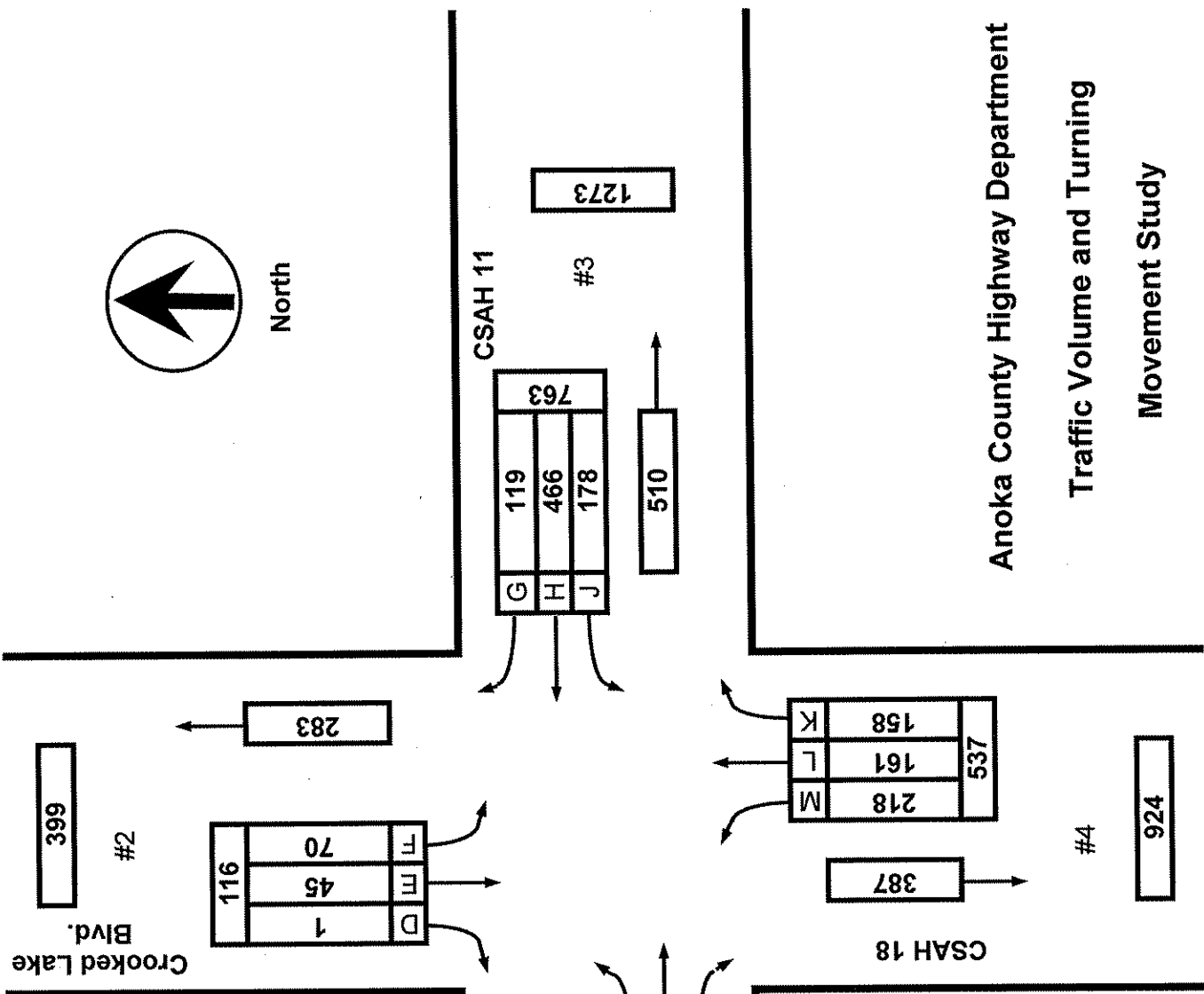
@ CSAH 18 (Crooked Lake Blvd.)

Collection Period : PM PEAK

Hour : 4:15 PM - 5:15 PM



North



EXISTING LANES OF APPROACH				TOTAL
RIGHT TURN LANE	LEFT TURN LANE	THRU LANES		
#1	0	1	1	2
#2	0	1	1	2
#3	0	1	1	2
#4	0	1	1	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 : tmc1108  
 Site Code : 11080202  
 Start Date : 06/01/2011  
 Page No : 1

Weather: Warm/PCLDY  
 Counter: DB-400  
 Counted by: Paige/Rachel

#### Groups Printed- Unshifted

Start Time	Crooked Lake Blvd. Southbound					CSAH 11 Westbound					CSAH 18 Northbound					Northdale Blvd. 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	8	0	1	19	4	9	1	0	14	5	3	18	1	26	0	18	7	1	25	3	84	87
06:15	3	8	0	1	11	7	8	2	3	17	1	3	22	0	26	0	21	3	1	24	5	78	83
06:30	22	12	0	1	34	8	21	9	1	38	9	5	25	1	39	0	34	11	4	45	7	156	163
06:45	16	8	2	2	26	19	33	11	6	63	5	4	32	0	41	2	42	14	4	58	12	188	200
<b>Total</b>	<b>52</b>	<b>36</b>	<b>2</b>	<b>5</b>	<b>90</b>	<b>38</b>	<b>71</b>	<b>23</b>	<b>10</b>	<b>132</b>	<b>20</b>	<b>15</b>	<b>97</b>	<b>2</b>	<b>132</b>	<b>2</b>	<b>115</b>	<b>35</b>	<b>10</b>	<b>152</b>	<b>27</b>	<b>506</b>	<b>533</b>
07:00	22	12	0	2	34	13	32	11	4	56	9	8	28	2	45	1	63	25	1	89	9	224	233
07:15	28	17	1	3	46	35	31	9	10	75	6	10	30	2	46	0	100	32	8	132	23	299	322
07:30	34	19	1	1	54	35	50	14	4	99	11	7	36	0	54	0	82	21	4	103	9	310	319
07:45	18	11	0	2	29	30	44	15	3	89	11	9	44	2	64	0	69	23	3	92	10	274	284
<b>Total</b>	<b>102</b>	<b>59</b>	<b>2</b>	<b>8</b>	<b>163</b>	<b>113</b>	<b>157</b>	<b>49</b>	<b>21</b>	<b>319</b>	<b>37</b>	<b>34</b>	<b>138</b>	<b>6</b>	<b>209</b>	<b>1</b>	<b>314</b>	<b>101</b>	<b>16</b>	<b>416</b>	<b>51</b>	<b>1107</b>	<b>1158</b>
08:00	12	1	0	1	13	24	41	11	7	76	4	6	33	5	43	0	42	25	4	67	17	199	216
08:15	10	8	1	0	19	20	30	7	2	57	10	12	19	2	41	1	23	15	3	39	7	156	163
08:30	8	8	2	1	18	21	27	11	4	59	6	6	20	4	32	1	25	18	2	44	11	153	164
08:45	8	11	1	1	20	19	38	15	2	72	19	20	20	3	59	2	27	12	1	41	7	192	199
<b>Total</b>	<b>38</b>	<b>28</b>	<b>4</b>	<b>3</b>	<b>70</b>	<b>84</b>	<b>136</b>	<b>44</b>	<b>15</b>	<b>264</b>	<b>39</b>	<b>44</b>	<b>92</b>	<b>14</b>	<b>175</b>	<b>4</b>	<b>117</b>	<b>70</b>	<b>10</b>	<b>191</b>	<b>42</b>	<b>700</b>	<b>742</b>
09:00	25	18	3	1	46	17	27	34	7	78	14	12	20	3	46	4	28	19	5	51	16	221	237
09:15	33	11	0	4	44	22	36	29	8	87	18	19	27	1	64	1	31	30	2	62	15	257	272
09:30	14	7	1	1	22	16	40	8	2	64	22	8	35	2	65	0	38	15	1	53	6	204	210
09:45	12	13	0	3	25	34	42	15	7	91	24	13	30	4	67	0	32	21	2	53	16	236	252
<b>Total</b>	<b>84</b>	<b>49</b>	<b>4</b>	<b>9</b>	<b>137</b>	<b>89</b>	<b>145</b>	<b>86</b>	<b>24</b>	<b>320</b>	<b>78</b>	<b>52</b>	<b>112</b>	<b>10</b>	<b>242</b>	<b>5</b>	<b>129</b>	<b>85</b>	<b>10</b>	<b>219</b>	<b>53</b>	<b>918</b>	<b>971</b>
10:00	9	6	0	0	15	23	37	5	0	65	25	16	24	1	65	3	32	20	0	55	1	200	201
10:15	12	7	0	2	19	34	28	9	4	71	20	12	37	2	69	1	36	22	2	59	10	218	228
10:30	9	7	0	0	16	25	55	11	3	91	32	15	38	3	85	0	41	23	4	64	10	256	266
10:45	6	8	0	0	14	24	52	9	1	85	24	10	26	1	60	0	45	32	0	77	2	236	238
<b>Total</b>	<b>36</b>	<b>28</b>	<b>0</b>	<b>2</b>	<b>64</b>	<b>106</b>	<b>172</b>	<b>34</b>	<b>8</b>	<b>312</b>	<b>101</b>	<b>53</b>	<b>125</b>	<b>7</b>	<b>279</b>	<b>4</b>	<b>154</b>	<b>97</b>	<b>6</b>	<b>255</b>	<b>23</b>	<b>910</b>	<b>933</b>
11:00	5	13	3	1	21	28	61	12	3	101	26	17	33	2	76	0	35	19	1	54	7	252	259
11:15	9	6	1	0	16	27	53	13	0	93	12	12	10	4	34	1	75	25	4	101	8	244	252
11:30	13	9	3	2	25	22	70	16	8	108	35	18	35	4	88	1	46	26	4	73	18	294	312
11:45	11	15	0	0	26	31	70	13	3	114	24	16	31	0	71	0	48	39	4	87	7	298	305
<b>Total</b>	<b>38</b>	<b>43</b>	<b>7</b>	<b>3</b>	<b>88</b>	<b>108</b>	<b>254</b>	<b>54</b>	<b>14</b>	<b>416</b>	<b>97</b>	<b>63</b>	<b>109</b>	<b>10</b>	<b>269</b>	<b>2</b>	<b>204</b>	<b>109</b>	<b>13</b>	<b>315</b>	<b>40</b>	<b>1088</b>	<b>1128</b>
12:00	10	10	0	1	20	32	53	13	1	98	27	16	29	0	72	0	39	39	1	78	3	268	271
12:15	14	14	2	0	30	28	54	12	0	94	32	14	33	0	79	0	39	30	0	69	0	272	272
12:30	16	8	2	1	26	20	61	9	3	90	26	7	32	0	65	0	56	30	2	86	6	267	273
12:45	13	5	2	1	20	25	53	7	2	85	21	12	31	1	64	0	55	32	0	87	4	256	260
<b>Total</b>	<b>53</b>	<b>37</b>	<b>6</b>	<b>3</b>	<b>96</b>	<b>105</b>	<b>221</b>	<b>41</b>	<b>6</b>	<b>367</b>	<b>106</b>	<b>49</b>	<b>125</b>	<b>1</b>	<b>280</b>	<b>0</b>	<b>189</b>	<b>131</b>	<b>3</b>	<b>320</b>	<b>13</b>	<b>1063</b>	<b>1076</b>
13:00	13	10	1	2	24	39	52	16	1	107	26	18	27	2	71	0	51	33	3	84	8	286	294
13:15	12	7	1	0	20	24	56	11	1	91	31	17	20	2	68	0	54	28	1	82	4	261	265
13:30	8	9	0	0	17	31	39	10	2	80	30	12	33	2	75	0	55	29	2	84	6	256	262
13:45	10	10	1	1	21	29	54	14	3	97	34	20	32	3	86	1	46	31	1	78	8	282	290
<b>Total</b>	<b>43</b>	<b>36</b>	<b>3</b>	<b>3</b>	<b>82</b>	<b>123</b>	<b>201</b>	<b>51</b>	<b>7</b>	<b>375</b>	<b>121</b>	<b>67</b>	<b>112</b>	<b>9</b>	<b>300</b>	<b>1</b>	<b>206</b>	<b>121</b>	<b>7</b>	<b>328</b>	<b>26</b>	<b>1085</b>	<b>1111</b>
14:00	12	19	0	1	31	22	59	15	4	96	32	12	16	2	60	0	58	32	2	90	9	277	286
14:15	15	11	1	1	27	20	53	10	5	83	36	14	29	1	79	0	60	34	8	94	15	283	298
14:30	12	4	0	0	16	47	110	21	9	178	24	19	31	0	74	1	60	24	4	85	13	353	366
14:45	12	7	0	2	19	36	64	14	2	114	20	26	33	4	79	0	58	37	3	95	11	307	318
<b>Total</b>	<b>51</b>	<b>41</b>	<b>1</b>	<b>4</b>	<b>93</b>	<b>125</b>	<b>286</b>	<b>60</b>	<b>20</b>	<b>471</b>	<b>112</b>	<b>71</b>	<b>109</b>	<b>7</b>	<b>292</b>	<b>1</b>	<b>236</b>	<b>127</b>	<b>17</b>	<b>364</b>	<b>48</b>	<b>1220</b>	<b>1268</b>
15:00	15	10	1	0	26	41	77	18	9	136	31	15	32	1	78	0	71	36	1	107	11	347	358
15:15	12	7	2	1	21	38	75	13	1	126	35	22	43	0	100	2	57	34	1	93	3	340	343
15:30	6	10	1	0	17	27	86	24	4	137	24	13	21	1	58	2	51	35	1	88	6	300	306
15:45	32	12	4	6	48	52	109	40	2	201	57	53	36	3	146	2	52	40	1	94	12	489	501
<b>Total</b>	<b>65</b>	<b>39</b>	<b>8</b>	<b>7</b>	<b>112</b>	<b>158</b>	<b>347</b>	<b>95</b>	<b>16</b>	<b>600</b>	<b>147</b>	<b>103</b>	<b>132</b>	<b>5</b>	<b>382</b>	<b>6</b>	<b>231</b>	<b>145</b>	<b>4</b>	<b>382</b>	<b>32</b>	<b>1476</b>	<b>1508</b>
16:00	25	17	0	3	42	23	109	25	3	157	49	33	36	2	118	1	58	42	1	101	9	418	427
16:15	21	8	0	1	29	44	121	33	3	198	34	33	35	1	102	0	75	39	0	114	5	443	448
16:30	12	15	1	0	28	48	105	23	4	176	64	41	31	1	136	1	65	39	2	105	7	445	452
16:45	13	11	0	0	24	52	108	36	3	196	58	38	41	0	137	2	78	44	1	124	4	481	485
<b>Total</b>	<b>71</b>	<b>51</b>	<b>1</b>	<b>4</b>	<b>123</b>	<b>167</b>	<b>443</b>	<b>117</b>	<b>13</b>	<b>727</b>	<b>205</b>	<b>145</b>	<b>143</b>	<b>4</b>	<b>493</b>	<b>4</b>	<b>276</b>	<b>164</b>	<b>4</b>	<b>444</b>	<b>25</b>	<b>1787</b>	<b>1812</b>
17:00	24	11	0	1	35	34	132	27	3	193	62	49	51	3	162	0	64	42	0	106	7	496	503
17:15	22	6	0	1	28	24	96	25	3	145	46	37	36	2	119	0	74	48	0	122	6	414	420
17:30	22	12	0	0	34	54	101	18	2	173	44	32	31	0	107	1	76	37	1	114	3	428	431
17:45	24	15	2	0	41	41	115	31	2	187	35	31	43	0	109	0	89	38	0	127	2	464	466
<b>Total</b>	<b>92</b>	<b>44</b>	<b>2</b>	<b>2</b>	<b>138</b>	<b>153</b>	<b>444</b>	<b>101</b>	<b>10</b>	<b>698</b>	<b>187</b>	<b>149</b>	<b>161</b>	<b>5</b>	<b>497</b>	<b>1</b>	<b>303</b>	<b>165</b>	<b>1</b>	<b>469</b>	<b>18</b>	<b>1802</b>	<b>1820</b>

# Anoka County Highway Department

## Traffic Engineering Section

### Traffic Volume and Turning Movement Study

Weather: Warm/PCLDY  
 Counter: DB-400  
 Counted by: Paige/Rachel

File Name : tmc1108  
 Site Code : 11080202  
 Start Date : 06/01/2011  
 Page No : 2

#### Groups Printed- Unshifted

Start Time	Crooked Lake Blvd. Southbound					CSAH 11 Westbound					CSAH 18 Northbound					Northdale Blvd. Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Heavys	App. Total	Left	Thru	Right	Heavys	App. Total	Left	Thru	Right	Heavys	App. Total	Left	Thru	Right	Heavys	App. Total			
18:00	16	15	0	1	31	35	88	23	1	146	38	29	35	0	102	2	47	28	0	77	2	356	358
18:15	17	14	3	0	34	31	90	25	3	146	28	27	40	1	95	1	49	38	1	88	5	363	368
18:30	25	7	1	1	33	40	52	19	2	111	35	27	52	0	114	1	80	46	2	127	5	385	390
18:45	17	10	1	0	28	42	50	23	2	115	28	16	38	0	82	1	65	41	1	107	3	332	335
<b>Total</b>	<b>75</b>	<b>46</b>	<b>5</b>	<b>2</b>	<b>126</b>	<b>148</b>	<b>280</b>	<b>90</b>	<b>8</b>	<b>518</b>	<b>129</b>	<b>99</b>	<b>165</b>	<b>1</b>	<b>393</b>	<b>5</b>	<b>241</b>	<b>153</b>	<b>4</b>	<b>399</b>	<b>15</b>	<b>1436</b>	<b>1451</b>
19:00	13	7	0	0	20	30	62	10	1	102	29	14	34	0	77	1	53	37	1	91	2	290	292
19:15	7	6	0	0	13	37	50	13	0	100	16	10	20	0	46	1	56	28	0	85	0	244	244
19:30	14	14	1	0	29	20	55	17	3	92	37	20	38	3	95	2	65	26	0	93	6	309	315
19:45	14	13	1	0	28	27	40	10	0	77	28	16	26	0	70	0	56	36	0	92	0	267	267
<b>Total</b>	<b>48</b>	<b>40</b>	<b>2</b>	<b>0</b>	<b>90</b>	<b>114</b>	<b>207</b>	<b>50</b>	<b>4</b>	<b>371</b>	<b>110</b>	<b>60</b>	<b>118</b>	<b>3</b>	<b>288</b>	<b>4</b>	<b>230</b>	<b>127</b>	<b>1</b>	<b>361</b>	<b>8</b>	<b>1110</b>	<b>1118</b>
20:00	14	7	1	0	22	25	55	16	0	96	27	20	27	0	74	1	44	43	0	88	0	280	280
20:15	5	9	0	0	14	35	40	14	0	89	13	18	27	0	58	0	57	27	0	84	0	245	245
20:30	13	3	0	0	16	23	37	10	0	70	18	11	20	0	49	0	50	26	0	76	0	211	211
20:45	11	6	0	0	17	26	48	13	0	87	10	14	22	0	46	1	30	21	0	52	0	202	202
<b>Total</b>	<b>43</b>	<b>25</b>	<b>1</b>	<b>0</b>	<b>69</b>	<b>109</b>	<b>180</b>	<b>53</b>	<b>0</b>	<b>342</b>	<b>68</b>	<b>63</b>	<b>96</b>	<b>0</b>	<b>227</b>	<b>2</b>	<b>181</b>	<b>117</b>	<b>0</b>	<b>300</b>	<b>0</b>	<b>938</b>	<b>938</b>
21:00	14	9	1	0	24	32	46	13	0	91	6	15	15	0	36	3	34	31	0	68	0	219	219
21:15	4	7	0	0	11	17	23	13	0	53	11	13	23	0	47	1	43	17	0	61	0	172	172
21:30	9	3	1	0	13	30	43	9	0	82	5	7	20	0	32	0	21	15	0	36	0	163	163
21:45	0	0	0	0	0	0	0	0	0	0	6	7	15	0	28	1	27	18	0	46	0	74	74
<b>Total</b>	<b>27</b>	<b>19</b>	<b>2</b>	<b>0</b>	<b>48</b>	<b>79</b>	<b>112</b>	<b>35</b>	<b>0</b>	<b>226</b>	<b>28</b>	<b>42</b>	<b>73</b>	<b>0</b>	<b>143</b>	<b>5</b>	<b>125</b>	<b>81</b>	<b>0</b>	<b>211</b>	<b>0</b>	<b>628</b>	<b>628</b>
<b>Grand Total</b>	<b>918</b>	<b>621</b>	<b>50</b>	<b>55</b>	<b>1589</b>	<b>1819</b>	<b>3656</b>	<b>983</b>	<b>176</b>	<b>6458</b>	<b>1585</b>	<b>1109</b>	<b>1907</b>	<b>84</b>	<b>4601</b>	<b>47</b>	<b>3251</b>	<b>1828</b>	<b>106</b>	<b>5126</b>	<b>421</b>	<b>17774</b>	<b>18195</b>
Apprch %	57.8	39.1	3.1			28.2	56.6	15.2			34.4	24.1	41.4			0.9	63.4	35.7					
Total %	5.2	3.5	0.3		8.9	10.2	20.6	5.5		36.3	8.9	6.2	10.7		25.9	0.3	18.3	10.3		28.8	2.3	97.7	

Start Time	Crooked Lake Blvd. Southbound				App. Total	CSAH 11 Westbound				App. Total	CSAH 18 Northbound				App. Total	Northdale 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 07:00																				
07:00	22	12	0	34	13	32	11	56	9	8	28	45	1	63	25	89	224			
07:15	28	17	1	46	35	31	9	75	6	10	30	46	0	100	32	132	299			
07:30	34	19	1	54	35	50	14	99	11	7	36	54	0	82	21	103	310			
07:45	18	11	0	29	30	44	15	89	11	9	44	64	0	69	23	92	274			
Total Volume	102	59	2	163	113	157	49	319	37	34	138	209	1	314	101	416	1107			
% App. Total	62.6	36.2	1.2		35.4	49.2	15.4		17.7	16.3	66		0.2	75.5	24.3					
PHF	.750	.776	.500	.755	.807	.785	.817	.806	.841	.850	.784	.816	.250	.785	.789	.788	.893			

Peak Hour Analysis From 12:00 to 21:45 - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 16:15																				
16:15	21	8	0	29	44	121	33	198	34	33	35	102	0	75	39	114	443			
16:30	12	15	1	28	48	105	23	176	64	41	31	136	1	65	39	105	445			
16:45	13	11	0	24	52	108	36	196	58	38	41	137	2	78	44	124	481			
17:00	24	11	0	35	34	132	27	193	62	49	51	162	0	64	42	106	496			
Total Volume	70	45	1	116	178	466	119	763	218	161	158	537	3	282	164	449	1865			
% App. Total	60.3	38.8	0.9		23.3	61.1	15.6		40.6	30	29.4		0.7	62.8	36.5					
PHF	.729	.750	.250	.829	.856	.883	.826	.963	.862	.821	.775	.829	.375	.904	.932	.905	.940			



**Anoka County Highway**  
**PC-WARRANTS**  
 Traffic Signal Warrant Analysis

Study Name : TMC1108  
 Study Date : 06/10/11  
 Page No. : 1

**Signal Warrants - Summary**

**Major Street Approaches**

**Eastbound: Northdale Blvd.**  
 Number of Lanes: 2  
 Approach Speed: 35  
 Total Approach Volume: 5,126

**Westbound: CSAH 11**  
 Number of Lanes: 2  
 Approach Speed: 35  
 Total Approach Volume: 6,458

**Minor Street Approaches**

**Northbound: CSAH 18**  
 Number of Lanes: 2  
 Total Approach Volume: 4,601

**Southbound: Crooked Lake Blvd.**  
 Number of Lanes: 2  
 Total Approach Volume: 1,589

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

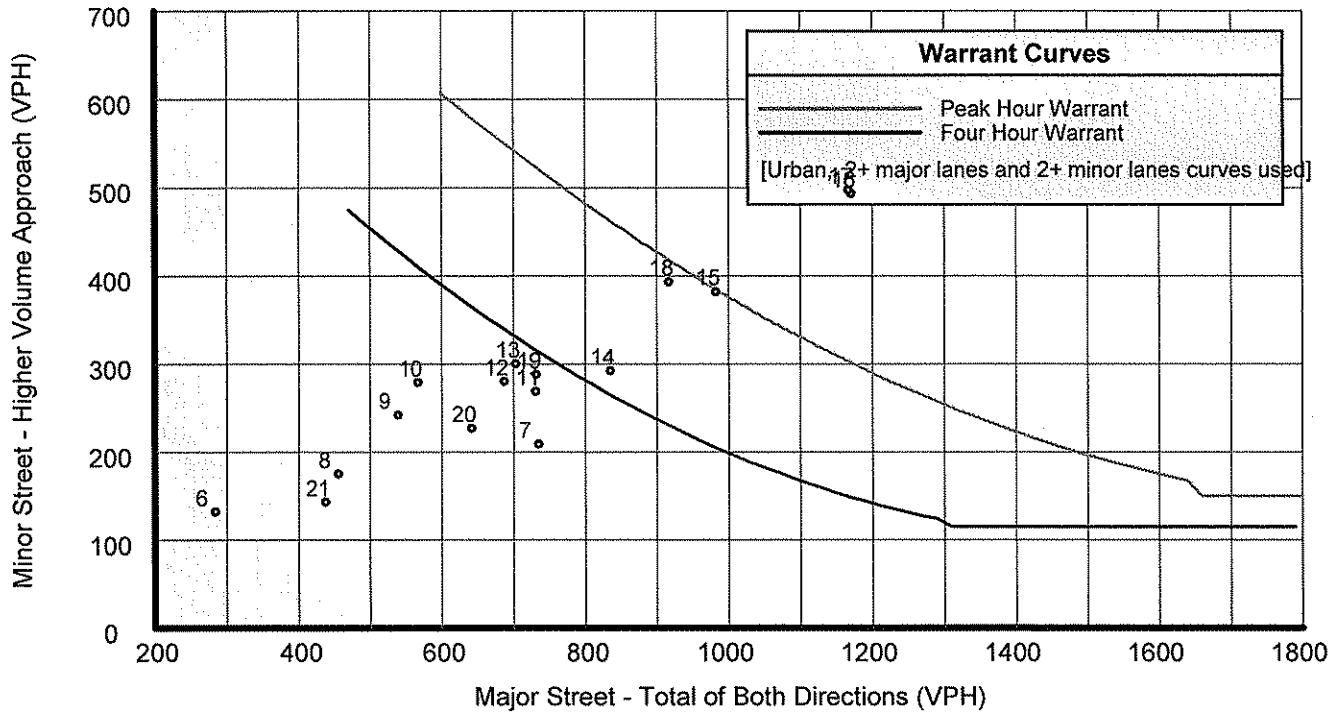
<b>Warrant 1 - Eight Hour Vehicular Volumes</b> .....	<b>Satisfied</b>
<b>Warrant 1A - Minimum Vehicular Volume</b> .....	<b>Satisfied</b>
Required volumes reached for 11 hours, 8 are needed	
<b>Warrant 1B - Interruption of Continuous Traffic</b> .....	<b>Not Satisfied</b>
Required volumes reached for 4 hours, 8 are needed	
<b>Warrant 1 A&amp;B - Combination of Warrants</b> .....	<b>Satisfied</b>
Required volumes reached for 8 hours, 8 are needed	
<b>Warrant 2 - Four Hour Volumes</b> .....	<b>Satisfied</b>
Number of hours (5) 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 (54) 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 : TMC1108  
Study Date : 06/10/11  
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	284	132	NB	600-No	200-No	---	900-No	100-Yes	Minor	720-No	160-No	---
07:00	735	209	NB	600-Yes	200-Yes	Both	900-No	100-Yes	Minor	720-Yes	160-Yes	Both
08:00	455	175	NB	600-No	200-No	---	900-No	100-Yes	Minor	720-No	160-Yes	Minor
09:00	539	242	NB	600-No	200-Yes	Minor	900-No	100-Yes	Minor	720-No	160-Yes	Minor
10:00	567	279	NB	600-No	200-Yes	Minor	900-No	100-Yes	Minor	720-No	160-Yes	Minor
11:00	731	269	NB	600-Yes	200-Yes	Both	900-No	100-Yes	Minor	720-Yes	160-Yes	Both
12:00	687	280	NB	600-Yes	200-Yes	Both	900-No	100-Yes	Minor	720-No	160-Yes	Minor
13:00	703	300	NB	600-Yes	200-Yes	Both	900-No	100-Yes	Minor	720-No	160-Yes	Minor
14:00	835	292	NB	600-Yes	200-Yes	Both	900-No	100-Yes	Minor	720-Yes	160-Yes	Both
15:00	982	382	NB	600-Yes	200-Yes	Both	900-Yes	100-Yes	Both	720-Yes	160-Yes	Both
16:00	1,171	493	NB	600-Yes	200-Yes	Both	900-Yes	100-Yes	Both	720-Yes	160-Yes	Both
17:00	1,167	497	NB	600-Yes	200-Yes	Both	900-Yes	100-Yes	Both	720-Yes	160-Yes	Both
18:00	917	393	NB	600-Yes	200-Yes	Both	900-Yes	100-Yes	Both	720-Yes	160-Yes	Both
19:00	732	288	NB	600-Yes	200-Yes	Both	900-No	100-Yes	Minor	720-Yes	160-Yes	Both
20:00	642	227	NB	600-Yes	200-Yes	Both	900-No	100-Yes	Minor	720-No	160-Yes	Minor
21:00	437	143	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	---



**Anoka County Highway  
PC-WARRANTS  
Traffic Signal Warrant Analysis**

Study Name : TMC1108  
Study Date : 06/10/11  
Page No. : 1

**Multi-Way Stop Warrant Report**

**Major Street Approaches**

**Eastbound: Northdale Blvd.**  
Total Approach Volume: 5,126  
Approach Speed: 35

**Westbound: CSAH 11**  
Total Approach Volume: 6,458  
Approach Speed: 35

**Minor Street Approaches**

**Northbound: CSAH 18**  
Total Approach Volume: 4,601

**Southbound: Crooked Lake Blvd.**  
Total Approach Volume: 1,589

**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

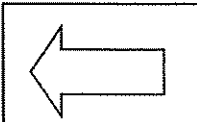
**Criteria C - Minimum Volumes and Delays** ..... Satisfied  
Delay data not evaluated  
Required volumes reached for 15 hours, 8 are needed

**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?
06:15 - 07:15	390	256	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
07:15 - 08:15	733	349	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
08:15 - 09:15	441	281	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
09:15 - 10:15	530	367	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
10:15 - 11:15	602	360	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
11:15 - 12:15	752	352	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
12:15 - 13:15	702	379	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
13:15 - 14:15	698	378	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
14:15 - 15:15	892	398	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
15:15 - 16:15	997	550	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
16:15 - 17:15	1,212	653	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
17:15 - 18:15	1,091	571	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
18:15 - 19:15	887	483	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
19:15 - 20:15	723	377	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
20:15 - 21:15	617	260	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
00:00 - 01:00	0	0	300-No	200-No	No	240-No	160-No	No
00:15 - 01:15	0	0	300-No	200-No	No	240-No	160-No	No
00:30 - 01:30	0	0	300-No	200-No	No	240-No	160-No	No
00:45 - 01:45	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
01:15 - 02:15	0	0	300-No	200-No	No	240-No	160-No	No
01:30 - 02:30	0	0	300-No	200-No	No	240-No	160-No	No
01:45 - 02:45	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





COUNT LOCATION:

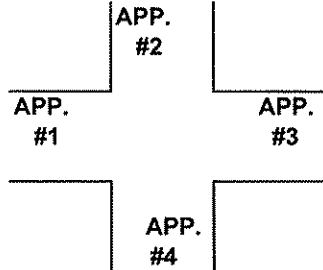
CSAH 11 (Northdale Blvd.) @

DATE:

06/02/2011

CSAH 18 (Crooked Lake Blvd.)

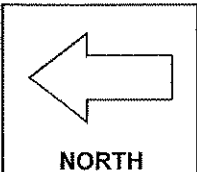
<b>NORTH</b>
APP. #1 = Crooked Lake Blvd
APP. #2 = CSAH 11
APP. #3 = CSAH 18
APP. #4 = Northdale Blvd.



- 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	1	1		4			3
6:15-6:30			1		1	2		3
6:30-6:45		2	3		5	1		6
6:45-7:00						6		6
<b>HOURLY TOTAL</b>					<b>10</b>	<b>HOURLY TOTAL</b>		<b>27</b>
7:00-7:15		1	1		2	3		8
7:15-7:30			2		2	5		19
7:30-7:45			9		9	3		6
7:45-8:00		1	1		2	2		25
<b>HOURLY TOTAL</b>					<b>15</b>	<b>HOURLY TOTAL</b>		<b>71</b>
8:00-8:15								
8:15-8:30			2	3	5	6		11
8:30-8:45						1		3
8:45-9:00	1	2	2		5			2
<b>HOURLY TOTAL</b>					<b>10</b>	<b>HOURLY TOTAL</b>		<b>23</b>
9:00-9:15	1			1	2	2		15
9:15-9:30						7		9
9:30-9:45	3	2	1	4	10	3		7
9:45-10:00						10		1
<b>HOURLY TOTAL</b>					<b>12</b>	<b>HOURLY TOTAL</b>		<b>54</b>
10:00-10:15		1	2		3	1		
10:15-10:30			1		1	9		1
10:30-10:45	1			1	2	8		2
10:45-11:00		1			1	5		
<b>HOURLY TOTAL</b>					<b>7</b>	<b>HOURLY TOTAL</b>		<b>26</b>
11:00-11:15		1	1		2	6		
11:15-11:30		1	1		2	6		1
11:30-11:45			5		5	10	1	5
11:45-12:00	1		2		3	6		1
<b>HOURLY TOTAL</b>					<b>12</b>	<b>HOURLY TOTAL</b>		<b>36</b>
12:00-12:15						3		
12:15-12:30						1		
12:30-12:45	1		2		3	4		2
12:45-1:00								4
<b>HOURLY TOTAL</b>					<b>3</b>	<b>HOURLY TOTAL</b>		<b>14</b>
1:00-1:15			1		1	6		2
1:15-1:30	2		1		3	4		
1:30-1:45		3	1		4	5		2
1:45-2:00			1		1	4		2
<b>HOURLY TOTAL</b>					<b>9</b>	<b>HOURLY TOTAL</b>		<b>25</b>
<b>TOTAL</b>					<b>78</b>	<b>TOTAL</b>		<b>276</b>

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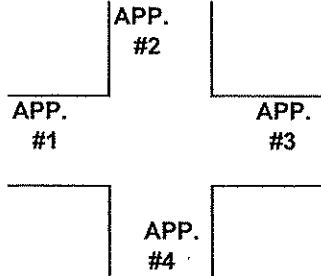
CSAH 11 (Northdale Blvd.) @

DATE:

06/01/2011

CSAH 18 (Crooked Lake Blvd.)

- APP. #1 = Crooked Lake Blvd
- APP. #2 = CSAH 11
- APP. #3 = CSAH 18
- APP. #4 = Northdale Blvd.



- 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.
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  - 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						3		2
2:15-2:30			1		1	4	1	8
2:30-2:45	4	1	6		11	4		8
2:45-3:00	1	1	3	1	6	2		13
<b>HOURLY TOTAL</b>					<b>18</b>	<b>HOURLY TOTAL</b>		<b>45</b>
3:00-3:15		1			1	3		4
3:15-3:30		5	7		12			9
3:30-3:45	3	1	5	3	12	1		2
3:45-4:00	1	5	6	2	14			7
<b>HOURLY TOTAL</b>					<b>39</b>	<b>HOURLY TOTAL</b>		<b>26</b>
4:00-4:15	2	3	3	2	10			15
4:15-4:30		4		4	8	1		5
4:30-4:45	2	3	2	2	9	2		5
4:45-5:00			1		1	2		4
<b>HOURLY TOTAL</b>					<b>28</b>	<b>HOURLY TOTAL</b>		<b>34</b>
5:00-5:15			1		1	1		5
5:15-5:30			2		2	3		2
5:30-5:45						2		3
5:45-6:00		2	1		3			2
<b>HOURLY TOTAL</b>					<b>6</b>	<b>HOURLY TOTAL</b>		<b>18</b>
6:00-6:15	3		4		7			2
6:15-6:30	6		7	1	14			3
6:30-6:45		2	1	2	5			3
6:45-7:00		1	1		2	2		1
<b>HOURLY TOTAL</b>					<b>28</b>	<b>HOURLY TOTAL</b>		<b>11</b>
7:00-7:15						2	1	
7:15-7:30		1	1		2			
7:30-7:45								
7:45-8:00	7	2	6		15	1		1
<b>HOURLY TOTAL</b>					<b>17</b>	<b>HOURLY TOTAL</b>		<b>5</b>
8:00-8:15								
8:15-8:30	1	2	1	1	5			
8:30-8:45		1	2		3			
8:45-9:00	4	1	5		10			
<b>HOURLY TOTAL</b>					<b>18</b>	<b>HOURLY TOTAL</b>		
9:00-9:15	1		2		3			
9:15-9:30	1	1			2			
9:30-9:45		1			1			
9:45-10:00								
<b>HOURLY TOTAL</b>					<b>6</b>	<b>HOURLY TOTAL</b>		
<b>TOTAL</b>					<b>238</b>	<b>TOTAL</b>		<b>415</b>

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