

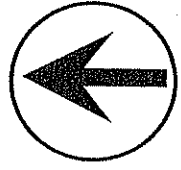
Date : 06/27/13

Count Number : TMC1319

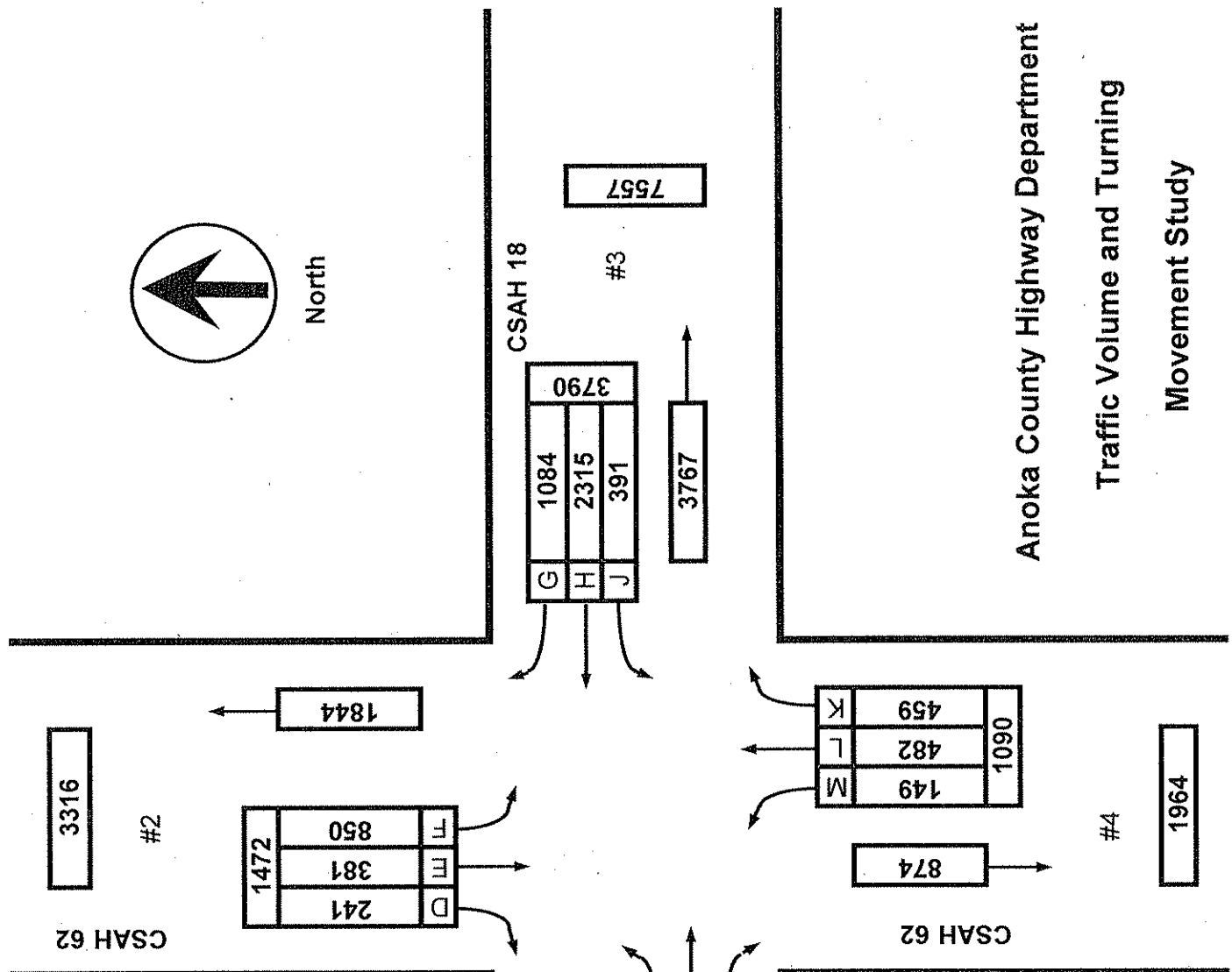
Location : CSAH 62 (Kettle River Blvd.)

@ CSAH 18 (Broadway Ave.)

Collection Period : 6 AM - 10 PM



North



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

Anoka County Highway Department  
 Traffic Volume and Turning  
 Movement Study

Date : 06/27/13

Count Number : TMC1319

Location : CSAH 62 (Kettle River Blvd.)

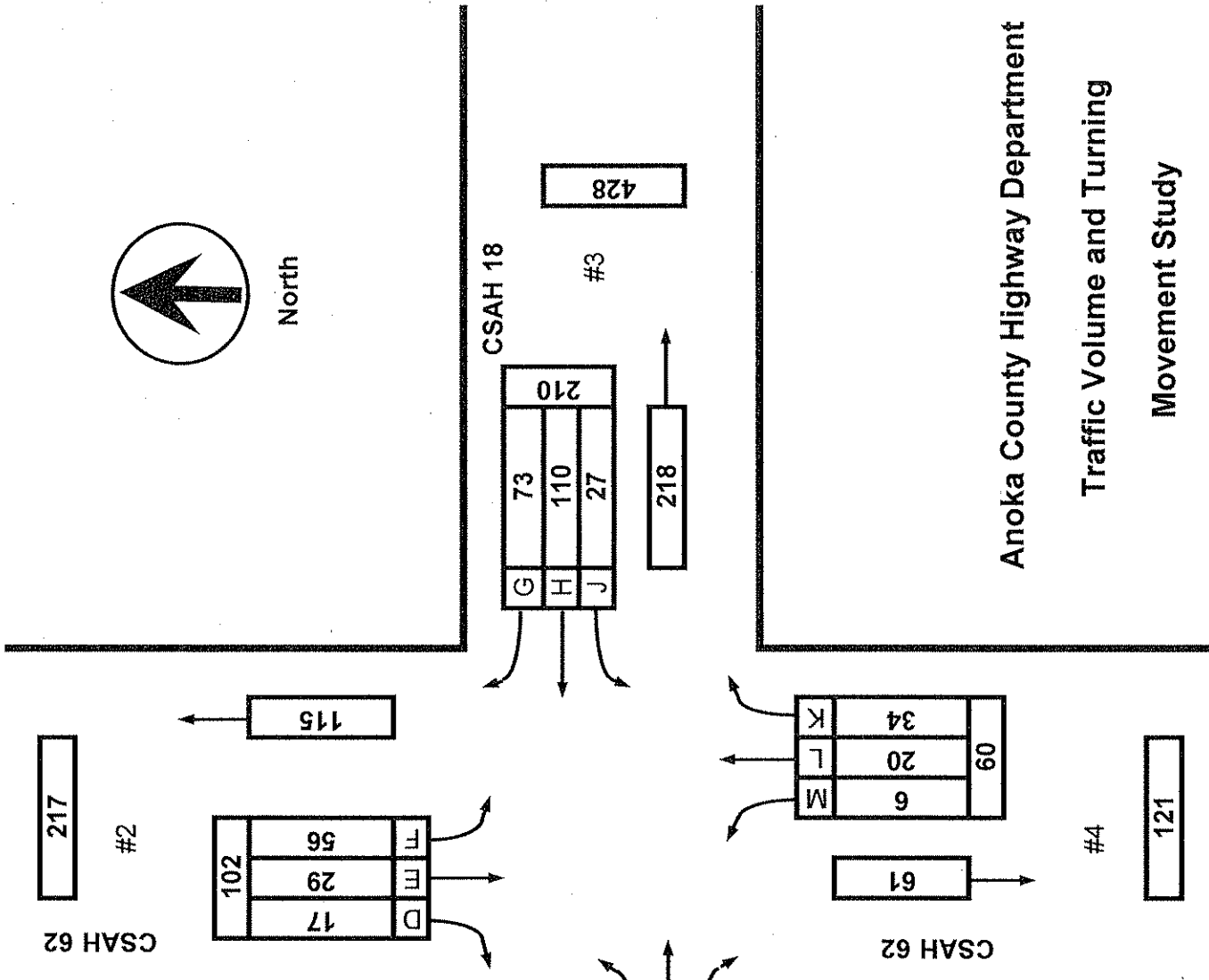
@ CSAH 18 (Broadway Ave.)

Collection Period : AM PEAK

Hour : 10:45 AM - 11:45 AM



North



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

Anoka County Highway Department  
Traffic Volume and Turning  
Movement Study

Date : 06/25/13

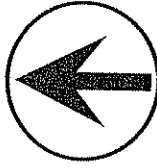
Count Number : TMC1319

Location : CSAH 62 (Kettle River Blvd.)

@ CSAH 18 (Broadway Ave.)

Collection Period : PM PEAK

Hour : 5:00 PM - 6:00 PM



North

339

#2

CSAH 62

125	D	30
67	E	28
67	F	67

214

CSAH 18

#1

582

252	A	17
222	B	222
13	C	13

CSAH 18

330

#3

802

137	G	461
284	H	284
40	J	40

341

CSAH 62

#4

217

132	M	16
64	L	64
52	K	52

85

EXISTING LANES OF APPROACH				TOTAL
RIGHT TURN LANE	LEFT TURN LANE	THRU LANES		
1	0	1		2
0	0	1		1
1	0	1		2
1	0	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 : TMC 1319  
 Site Code : 13190202  
 Start Date : 06/25/2013  
 Page No : 1

Weather: Hot & Partly Cloudy  
 Counter: DB-400  
 Study Conducted By: Kate & Katelyn

#### Groups Printed- Unshifted

Start Time	CSAH 62 Southbound					CSAH 18 Westbound					CSAH 62 Northbound					CSAH 18 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			
06:00 AM	23	14	2	1	39	3	15	1	0	19	2	3	1	0	6	2	24	0	2	26	3	90	93
06:15 AM	21	11	8	0	40	0	18	2	3	20	3	3	2	1	8	4	28	0	4	32	8	100	108
06:30 AM	26	13	7	0	46	1	18	4	2	23	1	6	6	0	13	1	33	0	1	34	3	116	119
06:45 AM	13	13	4	0	30	2	21	1	2	24	1	0	5	0	6	7	43	1	2	51	4	111	115
<b>Total</b>	<b>83</b>	<b>51</b>	<b>21</b>	<b>1</b>	<b>155</b>	<b>6</b>	<b>72</b>	<b>8</b>	<b>7</b>	<b>86</b>	<b>7</b>	<b>12</b>	<b>14</b>	<b>1</b>	<b>33</b>	<b>14</b>	<b>128</b>	<b>1</b>	<b>9</b>	<b>143</b>	<b>18</b>	<b>417</b>	<b>435</b>
07:00 AM	14	12	2	0	28	5	25	3	2	33	0	3	4	0	7	6	39	1	2	46	4	114	118
07:15 AM	7	5	6	1	18	3	23	4	1	30	4	3	3	0	10	6	47	3	3	56	5	114	119
07:30 AM	16	10	4	2	30	4	17	7	5	28	6	5	10	0	21	4	60	3	1	67	8	146	154
07:45 AM	17	8	6	0	31	3	22	8	2	33	0	6	8	0	14	6	54	3	2	63	4	141	145
<b>Total</b>	<b>54</b>	<b>35</b>	<b>18</b>	<b>3</b>	<b>107</b>	<b>15</b>	<b>87</b>	<b>22</b>	<b>10</b>	<b>124</b>	<b>10</b>	<b>17</b>	<b>25</b>	<b>0</b>	<b>52</b>	<b>22</b>	<b>200</b>	<b>10</b>	<b>8</b>	<b>232</b>	<b>21</b>	<b>515</b>	<b>536</b>
08:00 AM	21	6	4	0	31	5	20	7	4	32	1	4	6	0	11	5	35	2	3	42	7	116	123
08:15 AM	6	2	6	0	14	2	16	5	1	23	0	3	6	0	9	4	44	2	2	50	3	96	99
08:30 AM	4	2	3	0	9	1	4	2	1	7	3	3	5	2	11	3	56	2	1	61	4	88	92
08:45 AM	13	7	2	3	22	3	14	7	1	24	3	3	8	0	14	2	36	1	1	39	5	99	104
<b>Total</b>	<b>44</b>	<b>17</b>	<b>15</b>	<b>3</b>	<b>76</b>	<b>11</b>	<b>54</b>	<b>21</b>	<b>7</b>	<b>86</b>	<b>7</b>	<b>13</b>	<b>25</b>	<b>2</b>	<b>45</b>	<b>14</b>	<b>171</b>	<b>7</b>	<b>7</b>	<b>192</b>	<b>19</b>	<b>399</b>	<b>418</b>
09:00 AM	15	9	5	1	29	4	19	15	1	38	1	4	5	0	10	4	43	2	4	49	6	126	132
09:15 AM	17	3	0	0	20	5	29	7	1	41	2	2	5	1	9	4	29	0	1	33	3	103	106
09:30 AM	19	6	1	0	26	3	23	7	2	33	1	7	7	0	15	6	35	2	0	43	2	117	119
09:45 AM	21	4	1	0	26	5	24	16	2	45	1	4	12	0	17	2	45	3	5	50	7	138	145
<b>Total</b>	<b>72</b>	<b>22</b>	<b>7</b>	<b>1</b>	<b>101</b>	<b>17</b>	<b>95</b>	<b>45</b>	<b>6</b>	<b>157</b>	<b>5</b>	<b>17</b>	<b>29</b>	<b>1</b>	<b>51</b>	<b>16</b>	<b>152</b>	<b>7</b>	<b>10</b>	<b>175</b>	<b>18</b>	<b>484</b>	<b>502</b>
10:00 AM	16	2	2	0	20	4	17	10	2	31	1	3	7	0	11	2	24	1	1	27	3	89	92
10:15 AM	18	3	1	1	22	5	23	7	0	35	2	3	5	0	10	4	35	1	2	40	3	107	110
10:30 AM	12	4	3	0	19	3	31	12	3	46	2	4	9	1	15	6	36	1	1	43	5	123	128
10:45 AM	15	9	4	2	28	7	18	19	0	44	0	3	10	1	13	7	27	2	1	36	4	121	125
<b>Total</b>	<b>61</b>	<b>18</b>	<b>10</b>	<b>3</b>	<b>89</b>	<b>19</b>	<b>89</b>	<b>48</b>	<b>5</b>	<b>156</b>	<b>5</b>	<b>13</b>	<b>31</b>	<b>2</b>	<b>49</b>	<b>19</b>	<b>122</b>	<b>5</b>	<b>5</b>	<b>146</b>	<b>15</b>	<b>440</b>	<b>455</b>
11:00 AM	13	11	8	2	32	2	36	19	3	57	1	5	3	0	9	6	41	0	0	47	5	145	150
11:15 AM	12	6	2	0	20	10	23	16	0	49	5	6	8	2	19	5	32	0	0	37	2	125	127
11:30 AM	16	3	3	0	22	8	33	19	4	60	0	6	13	0	19	4	28	3	1	35	5	136	141
11:45 AM	11	2	3	0	16	11	37	11	1	59	1	4	4	0	9	6	27	0	1	33	2	117	119
<b>Total</b>	<b>52</b>	<b>22</b>	<b>16</b>	<b>2</b>	<b>90</b>	<b>31</b>	<b>129</b>	<b>65</b>	<b>8</b>	<b>225</b>	<b>7</b>	<b>21</b>	<b>28</b>	<b>2</b>	<b>56</b>	<b>21</b>	<b>128</b>	<b>3</b>	<b>2</b>	<b>152</b>	<b>14</b>	<b>523</b>	<b>537</b>
12:00 PM	16	2	5	1	23	7	27	14	1	48	4	4	2	0	10	3	33	1	1	37	3	118	121
12:15 PM	19	5	1	0	25	6	32	19	1	57	1	1	6	0	8	5	30	2	0	37	1	127	128
12:30 PM	15	7	6	2	28	6	42	19	2	67	2	6	6	0	14	4	37	1	2	42	6	151	157
12:45 PM	17	3	6	0	26	2	18	14	2	34	3	7	7	1	17	4	43	3	1	50	4	127	131
<b>Total</b>	<b>67</b>	<b>17</b>	<b>18</b>	<b>3</b>	<b>102</b>	<b>21</b>	<b>119</b>	<b>66</b>	<b>6</b>	<b>206</b>	<b>10</b>	<b>18</b>	<b>21</b>	<b>1</b>	<b>49</b>	<b>16</b>	<b>143</b>	<b>7</b>	<b>4</b>	<b>166</b>	<b>14</b>	<b>523</b>	<b>537</b>
01:00 PM	19	4	3	0	26	5	26	11	2	42	4	7	10	0	21	6	24	4	0	34	2	123	125
01:15 PM	12	6	6	1	24	4	37	20	3	61	6	3	6	3	15	3	35	1	2	39	9	139	148
01:30 PM	18	4	2	1	24	6	43	16	2	65	3	6	7	1	16	4	34	1	1	39	5	144	149
01:45 PM	11	6	5	0	22	5	34	17	2	56	4	8	4	0	16	6	36	3	6	45	8	139	147
<b>Total</b>	<b>60</b>	<b>20</b>	<b>16</b>	<b>2</b>	<b>96</b>	<b>20</b>	<b>140</b>	<b>64</b>	<b>9</b>	<b>224</b>	<b>17</b>	<b>24</b>	<b>27</b>	<b>4</b>	<b>68</b>	<b>19</b>	<b>129</b>	<b>9</b>	<b>9</b>	<b>157</b>	<b>24</b>	<b>545</b>	<b>569</b>
02:00 PM	12	7	1	0	20	12	30	20	2	62	2	9	4	2	15	3	27	0	1	30	5	127	132
02:15 PM	8	12	4	2	24	4	40	19	1	63	6	12	5	0	23	0	55	1	1	56	4	166	170
02:30 PM	17	3	5	1	25	8	44	21	1	73	2	9	6	0	17	3	35	1	0	39	2	154	156
02:45 PM	15	11	4	1	30	12	44	28	1	84	2	11	10	0	23	3	29	0	1	32	3	169	172
<b>Total</b>	<b>52</b>	<b>33</b>	<b>14</b>	<b>4</b>	<b>99</b>	<b>36</b>	<b>158</b>	<b>88</b>	<b>5</b>	<b>282</b>	<b>12</b>	<b>41</b>	<b>25</b>	<b>2</b>	<b>78</b>	<b>9</b>	<b>146</b>	<b>2</b>	<b>3</b>	<b>157</b>	<b>14</b>	<b>616</b>	<b>630</b>
03:00 PM	9	4	5	0	18	6	46	16	0	68	2	16	5	0	23	2	38	0	3	40	3	149	152
03:15 PM	9	9	3	0	21	4	47	20	1	71	0	6	9	0	15	3	34	0	0	37	1	144	145
03:30 PM	17	6	3	0	26	6	51	26	6	83	4	15	14	1	33	3	53	0	1	56	8	198	206
03:45 PM	12	3	4	0	19	7	59	28	5	94	0	18	11	1	29	4	43	0	2	47	8	189	197
<b>Total</b>	<b>47</b>	<b>22</b>	<b>15</b>	<b>0</b>	<b>84</b>	<b>23</b>	<b>203</b>	<b>90</b>	<b>12</b>	<b>316</b>	<b>6</b>	<b>55</b>	<b>39</b>	<b>2</b>	<b>100</b>	<b>12</b>	<b>168</b>	<b>0</b>	<b>6</b>	<b>180</b>	<b>20</b>	<b>680</b>	<b>700</b>
04:00 PM	13	3	5	0	21	9	42	27	2	78	3	18	11	1	32	8	50	0	1	58	4	189	193
04:15 PM	17	7	4	0	28	7	51	28	3	86	3	16	7	0	26	5	38	4	1	47	4	187	191
04:30 PM	6	8	7	0	21	11	59	29	2	99	2	19	11	0	32	3	43	2	2	48	4	200	204
04:45 PM	16	10	5	0	31	13	73	23	2	109	3	17	7	1	27	8	45	2	4	55	7	222	229
<b>Total</b>	<b>52</b>	<b>28</b>	<b>21</b>	<b>0</b>	<b>101</b>	<b>40</b>	<b>225</b>	<b>107</b>	<b>9</b>	<b>372</b>	<b>11</b>	<b>70</b>	<b>36</b>	<b>2</b>	<b>117</b>	<b>24</b>	<b>176</b>	<b>8</b>	<b>8</b>	<b>208</b>	<b>19</b>	<b>798</b>	<b>817</b>
05:00 PM	16	5	7	0	28	5	72	40	3	117	5	18	16	0	39	5	56	5	1	66	4	250	254
05:15 PM	16	6	4	0	26	11	61	31	4	103	5	20	12	0	37	3	57	5	1	65	5	231	236
05:30 PM	19	8	5	0	32	11	73	33	2	117	2	15	9	0	26	3	58	6	0	67	2	242	244



# Anoka County Highway Department

## Traffic Engineering Section

### Traffic Volume and Turning Movement Study

File Name : TMC 1319  
 Site Code : 13190202  
 Start Date : 06/25/2013  
 Page No : 2

Weather: Hot & Partly Cloudy  
 Counter: DB-400  
 Study Conducted By: Kate & Katelyn

**Groups Printed- Unshifted**

Start Time	CSAH 62 Southbound					CSAH 18 Westbound					CSAH 62 Northbound					CSAH 18 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			
05:45 PM	16	9	14	0	39	13	78	33	1	124	4	11	15	0	30	2	51	1	2	54	3	247	250
<b>Total</b>	67	28	30	0	125	40	284	137	10	461	16	64	52	0	132	13	222	17	4	252	14	970	984
06:00 PM	18	11	4	0	33	13	58	32	0	103	4	11	13	0	28	6	49	1	0	56	0	220	220
06:15 PM	9	11	2	0	22	11	54	24	2	89	4	14	5	1	23	1	56	2	1	59	4	193	197
06:30 PM	6	5	6	3	17	6	57	25	0	88	5	7	14	0	26	8	45	0	1	53	4	184	188
06:45 PM	17	7	3	0	27	9	41	28	2	78	4	4	6	0	14	6	45	3	2	54	4	173	177
<b>Total</b>	50	34	15	3	99	39	210	109	4	358	17	36	38	1	91	21	195	6	4	222	12	770	782
07:00 PM	18	4	5	0	27	8	38	26	1	72	2	5	5	0	12	4	28	1	0	33	1	144	145
07:15 PM	9	2	3	0	14	11	43	17	1	71	1	8	5	0	14	2	28	0	0	30	1	129	130
07:30 PM	8	2	1	1	11	2	36	17	0	55	1	8	4	0	13	7	43	3	0	53	1	132	133
07:45 PM	13	1	1	0	15	7	36	17	0	60	3	5	4	1	12	11	63	0	0	74	1	161	162
<b>Total</b>	48	9	10	1	67	28	153	77	2	258	7	26	18	1	51	24	162	4	0	190	4	566	570
08:00 PM	9	3	3	0	15	8	47	29	1	84	2	18	19	0	39	7	41	3	0	51	1	189	190
08:15 PM	6	3	6	1	15	11	51	14	0	76	2	5	8	0	15	2	27	4	0	33	1	139	140
08:30 PM	5	3	2	0	10	4	41	33	0	78	2	10	5	0	17	8	40	3	0	51	0	156	156
08:45 PM	5	6	2	0	13	7	39	13	1	59	1	6	7	1	14	7	16	0	1	23	3	109	112
<b>Total</b>	25	15	13	1	53	30	178	89	2	297	7	39	39	1	85	24	124	10	1	158	5	593	598
09:00 PM	5	2	1	0	8	1	39	21	0	61	0	4	2	0	6	1	19	3	0	23	0	98	98
09:15 PM	2	3	0	0	5	6	33	13	1	52	1	9	5	0	15	5	21	0	0	26	1	98	99
09:30 PM	6	5	0	1	11	3	28	7	0	38	2	2	5	0	9	4	38	3	1	45	2	103	105
09:45 PM	3	0	1	0	4	5	19	7	0	31	2	1	0	0	3	0	14	0	1	14	1	52	53
<b>Total</b>	16	10	2	1	28	15	119	48	1	182	5	16	12	0	33	10	92	6	2	108	4	351	355
<b>Grand Total</b>	850	381	241	28	1472	391	2315	1084	103	3790	149	482	459	22	1090	278	2458	102	82	2838	235	9190	9425
Apprch %	57.7	25.9	16.4			10.3	61.1	28.6			13.7	44.2	42.1			9.8	86.6	3.6					
Total %	9.2	4.1	2.6		16	4.3	25.2	11.8		41.2	1.6	5.2	5		11.9	3	26.7	1.1		30.9	2.5	97.5	

Start Time	CSAH 62 Southbound				CSAH 18 Westbound				CSAH 62 Northbound				CSAH 18 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 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 10:45 AM																	
10:45 AM	15	9	4	28	7	18	19	44	0	3	10	13	7	27	2	36	121
11:00 AM	13	11	8	32	2	36	19	57	1	5	3	9	6	41	0	47	145
11:15 AM	12	6	2	20	10	23	16	49	5	6	8	19	5	32	0	37	125
11:30 AM	16	3	3	22	8	33	19	60	0	6	13	19	4	28	3	35	136
<b>Total Volume</b>	56	29	17	102	27	110	73	210	6	20	34	60	22	128	5	155	527
<b>% App. Total</b>	54.9	28.4	16.7		12.9	52.4	34.8		10	33.3	56.7		14.2	82.6	3.2		
PHF	.875	.659	.531	.797	.675	.764	.961	.875	.300	.833	.654	.789	.786	.780	.417	.824	.909

Peak Hour Analysis From 12:00 PM to 09:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	16	5	7	28	5	72	40	117	5	18	16	39	5	56	5	66	250
05:15 PM	16	6	4	26	11	61	31	103	5	20	12	37	3	57	5	65	231
05:30 PM	19	8	5	32	11	73	33	117	2	15	9	26	3	58	6	67	242
05:45 PM	16	9	14	39	13	78	33	124	4	11	15	30	2	51	1	54	247
<b>Total Volume</b>	67	28	30	125	40	284	137	461	16	64	52	132	13	222	17	252	970
<b>% App. Total</b>	53.6	22.4	24		8.7	61.6	29.7		12.1	48.5	39.4		5.2	88.1	6.7		
PHF	.882	.778	.536	.801	.769	.910	.856	.929	.800	.800	.813	.846	.650	.957	.708	.940	.970



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

Study Name : TMC 1319  
Study Date : 06/28/13  
Page No. : 1

**Signal Warrants - Summary**

**Major Street Approaches**

**Eastbound: CSAH 18**  
Number of Lanes: 2  
85% Speed > 40 MPH.  
Total Approach Volume: 2,838

**Westbound: CSAH 18**  
Number of Lanes: 2  
85% Speed > 40 MPH.  
Total Approach Volume: 3,790

**Minor Street Approaches**

**Northbound: CSAH 62**  
Number of Lanes: 2  
  
Total Approach Volume: 1,090

**Southbound: CSAH 62**  
Number of Lanes: 1  
  
Total Approach Volume: 1,472

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

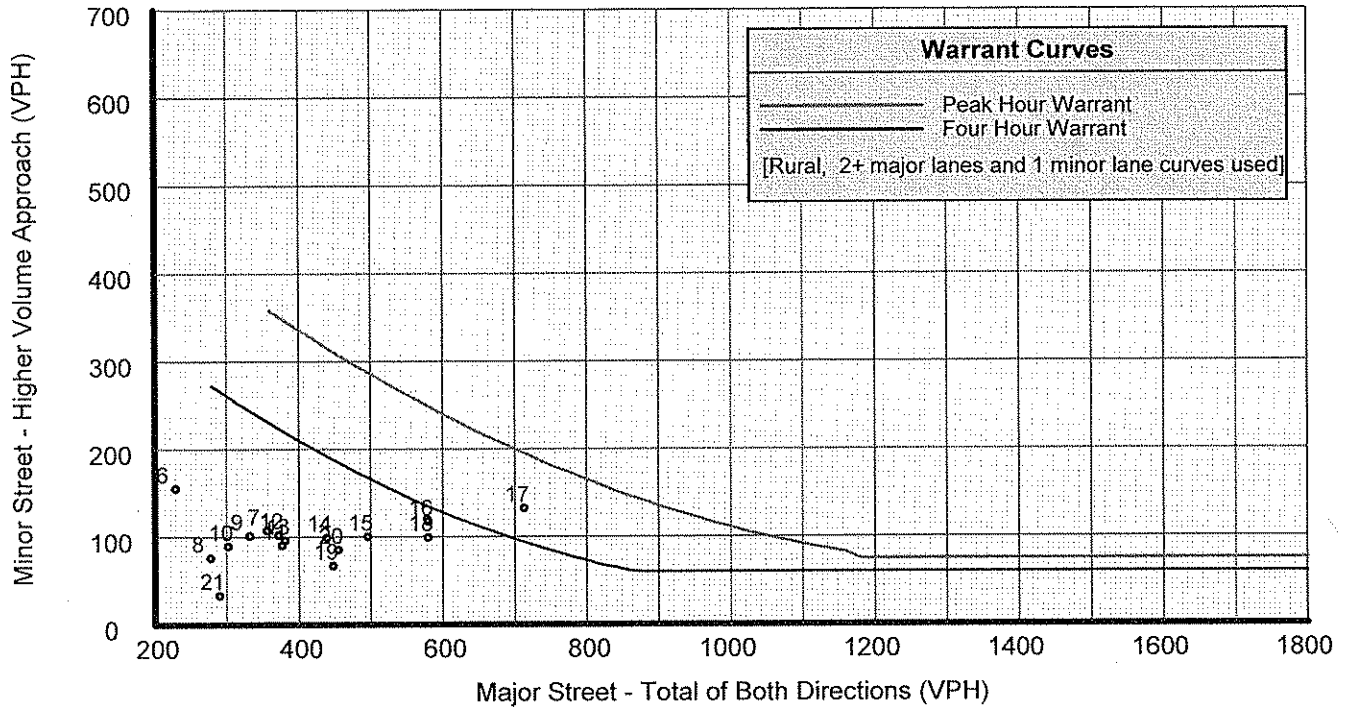
<b>Warrant 1 - Eight Hour Vehicular Volumes</b> .....	<b>Not Satisfied</b>
<b>Warrant 1A - Minimum Vehicular Volume</b> .....	<b>Not Satisfied</b>
Required volumes reached for 0 hours, 8 are needed	
<b>Warrant 1B - Interruption of Continuous Traffic</b> .....	<b>Not Satisfied</b>
Required volumes reached for 1 hours, 8 are needed	
<b>Warrant 1 A&amp;B - Combination of Warrants</b> .....	<b>Not Satisfied</b>
Required volumes reached for 3 hours, 8 are needed	
<b>Warrant 2 - Four Hour Volumes</b> .....	<b>Not Satisfied</b>
Number of hours (1) 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 (7) volumes exceed minimum >= required (1). Delay data not evaluated.	
<b>Warrant 3B - Peak Hour Volumes</b> .....	<b>Not Satisfied</b>
Volumes do not exceed minimums for any 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>
<b>Warrant 9 - Intersection Near a Grade Crossing</b> .....	<b>Not Evaluated</b>



# ANOKA COUNTY HIGHWAY PC-WARRANTS TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name : TMC 1319  
Study Date : 06/28/13  
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	52-No	---	504-No	84-No	---
01:00	0	0	NB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
02:00	0	0	NB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
03:00	0	0	NB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
04:00	0	0	NB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
05:00	0	0	NB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
06:00	229	155	SB	420-No	105-Yes	Minor	630-No	52-Yes	Minor	504-No	84-Yes	Minor
07:00	356	107	SB	420-No	105-Yes	Minor	630-No	52-Yes	Minor	504-No	84-Yes	Minor
08:00	278	76	SB	420-No	105-No	---	630-No	52-Yes	Minor	504-No	84-No	---
09:00	332	101	SB	420-No	105-No	---	630-No	52-Yes	Minor	504-No	84-Yes	Minor
10:00	302	89	SB	420-No	105-No	---	630-No	52-Yes	Minor	504-No	84-Yes	Minor
11:00	377	90	SB	420-No	105-No	---	630-No	52-Yes	Minor	504-No	84-Yes	Minor
12:00	372	102	SB	420-No	105-No	---	630-No	52-Yes	Minor	504-No	84-Yes	Minor
13:00	381	96	SB	420-No	105-No	---	630-No	52-Yes	Minor	504-No	84-Yes	Minor
14:00	439	99	SB	420-Yes	105-No	Major	630-No	52-Yes	Minor	504-No	84-Yes	Minor
15:00	496	100	NB	420-Yes	140-No	Major	630-No	70-Yes	Minor	504-No	112-No	---
16:00	580	117	NB	420-Yes	140-No	Major	630-No	70-Yes	Minor	504-Yes	112-Yes	Both
17:00	713	132	NB	420-Yes	140-No	Major	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
18:00	580	99	SB	420-Yes	105-No	Major	630-No	52-Yes	Minor	504-Yes	84-Yes	Both
19:00	448	67	SB	420-Yes	105-No	Major	630-No	52-Yes	Minor	504-No	84-No	---
20:00	455	85	NB	420-Yes	140-No	Major	630-No	70-Yes	Minor	504-No	112-No	---
21:00	290	33	NB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
22:00	0	0	NB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
23:00	0	0	NB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---



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

Study Name : TMC 1319 MW  
Study Date : 06/28/13  
Page No. : 1

**Multi-Way Stop Warrant Report**

**Major Street Approaches**

**Eastbound: CSAH 18**

Total Approach Volume: 2,838  
85% Speed > 40 MPH.

**Westbound: CSAH 18**

Total Approach Volume: 3,790  
85% Speed > 40 MPH.

**Minor Street Approaches**

**Northbound: CSAH 62**

Total Approach Volume: 1,090

**Southbound: CSAH 62**

Total Approach Volume: 1,472

**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

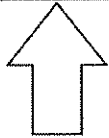
**Criteria C - Minimum Volumes and Delays** ..... Satisfied  
Delay data not evaluated  
Required volumes reached for 12 hours, 8 are needed

**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?
06:00 - 07:00	229	188	210-Yes	140-Yes	Both	240-No	160-Yes	Minor
07:00 - 08:00	356	159	210-Yes	140-Yes	Both	240-Yes	160-No	Major
08:45 - 09:45	300	145	210-Yes	140-Yes	Both	240-Yes	160-No	Major
09:45 - 10:45	317	140	210-Yes	140-Yes	Both	240-Yes	160-No	Major
10:45 - 11:45	365	162	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
12:00 - 13:00	372	151	210-Yes	140-Yes	Both	240-Yes	160-No	Major
13:00 - 14:00	381	164	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
14:00 - 15:00	439	177	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
15:00 - 16:00	496	184	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
16:00 - 17:00	580	218	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
17:00 - 18:00	713	257	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
18:00 - 19:00	580	190	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
08:00 - 09:00	278	121	210-Yes	140-No	Major	240-Yes	160-No	Major
08:15 - 09:15	291	118	210-Yes	140-No	Major	240-Yes	160-No	Major
08:30 - 09:30	292	124	210-Yes	140-No	Major	240-Yes	160-No	Major
11:45 - 12:45	380	133	210-Yes	140-No	Major	240-Yes	160-No	Major
19:00 - 20:00	448	118	210-Yes	140-No	Major	240-Yes	160-No	Major
19:15 - 20:15	478	133	210-Yes	140-No	Major	240-Yes	160-No	Major
19:30 - 20:30	486	135	210-Yes	140-No	Major	240-Yes	160-No	Major
19:45 - 20:45	507	138	210-Yes	140-No	Major	240-Yes	160-No	Major
20:00 - 21:00	455	138	210-Yes	140-No	Major	240-Yes	160-No	Major
20:15 - 21:15	404	98	210-Yes	140-No	Major	240-Yes	160-No	Major
20:30 - 21:30	373	88	210-Yes	140-No	Major	240-Yes	160-No	Major
20:45 - 21:45	327	81	210-Yes	140-No	Major	240-Yes	160-No	Major





**NORTH**

**COUNT LOCATION:**

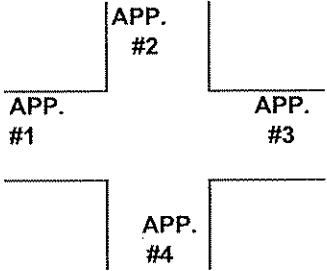
CSAH 62 (Kettle River Blvd.)

**DATE:**

06/27/2013

@ CSAH 18 (Broadway Ave.)

APP. #1 = CSAH 18
APP. #2 = CSAH 62
APP. #3 = CSAH 18
APP. #4 = CSAH 62

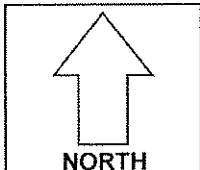


HEAVY VEHICLE- ANY VEHICLE HAVING MORE THAN FOUR TIRES TOUCHING THE PAVEMENT

- 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						8		1
6:30-6:45						1	1	
6:45-7:00						2		2
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>17</b>
7:00-7:15				1	1	4		
7:15-7:30						3		2
7:30-7:45		1			1	7		1
7:45-8:00	2				2	4		
<b>HOURLY TOTAL</b>					<b>4</b>	<b>HOURLY TOTAL</b>		<b>21</b>
8:00-8:15		2	1		3	7		
8:15-8:30						2		1
8:30-8:45						3		
8:45-9:00		2		2	4	4		1
<b>HOURLY TOTAL</b>					<b>7</b>	<b>HOURLY TOTAL</b>		<b>18</b>
9:00-9:15		1			1	6		
9:15-9:30						3		
9:30-9:45						2		
9:45-10:00						7		
<b>HOURLY TOTAL</b>					<b>1</b>	<b>HOURLY TOTAL</b>		<b>18</b>
10:00-10:15						3		
10:15-10:30						3		
10:30-10:45						4		1
10:45-11:00						4		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>15</b>
11:00-11:15						4		1
11:15-11:30						2		
11:30-11:45						4		1
11:45-12:00						2		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>14</b>
12:00-12:15						2		1
12:15-12:30						1		
12:30-12:45						6		
12:45-1:00						3	1	
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>14</b>
1:00-1:15						2		1
1:15-1:30						6		2
1:30-1:45				1	1	4		
1:45-2:00	2				2	6		2
<b>HOURLY TOTAL</b>					<b>3</b>	<b>HOURLY TOTAL</b>		<b>23</b>
<b>TOTAL</b>					<b>15</b>	<b>TOTAL</b>		<b>140</b>

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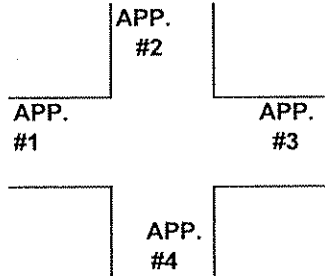
CSAH 62 (Kettle River Blvd.)

DATE:

06/25/2013

@ CSAH 18 (Broadway Ave.)

APP. #1 = CSAH 18
APP. #2 = CSAH 62
APP. #3 = CSAH 18
APP. #4 = CSAH 62



- 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						3	1	1
2:15-2:30						5		
2:30-2:45						2		
2:45-3:00		1			1	3		
<b>HOURLY TOTAL</b>					<b>1</b>	<b>HOURLY TOTAL</b>		<b>15</b>
3:00-3:15						2	1	
3:15-3:30				2	2	1		
3:30-3:45		1		1	2	8		
3:45-4:00						8		
<b>HOURLY TOTAL</b>					<b>4</b>	<b>HOURLY TOTAL</b>		<b>20</b>
4:00-4:15			1	2	3	4		
4:15-4:30		1		1	2	4		
4:30-4:45						4		
4:45-5:00			2		2	7		
<b>HOURLY TOTAL</b>					<b>7</b>	<b>HOURLY TOTAL</b>		<b>19</b>
5:00-5:15	1				1	4		
5:15-5:30				1	1	5		
5:30-5:45		1			1	2		
5:45-6:00						3		
<b>HOURLY TOTAL</b>					<b>3</b>	<b>HOURLY TOTAL</b>		<b>14</b>
6:00-6:15				2	2			
6:15-6:30						2		1
6:30-6:45				1	1	4		
6:45-7:00						4		
<b>HOURLY TOTAL</b>					<b>3</b>	<b>HOURLY TOTAL</b>		<b>11</b>
7:00-7:15				1	1	1		
7:15-7:30		1			1	1		
7:30-7:45						1		
7:45-8:00								
<b>HOURLY TOTAL</b>					<b>2</b>	<b>HOURLY TOTAL</b>		<b>3</b>
8:00-8:15						1		
8:15-8:30						1		
8:30-8:45								
8:45-9:00						3		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>5</b>
9:00-9:15								
9:15-9:30						1		
9:30-9:45						1		1
9:45-10:00								
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>3</b>
<b>TOTAL</b>					<b>35</b>	<b>TOTAL</b>		<b>230</b>

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