

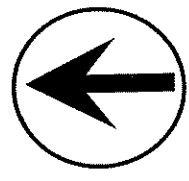
Date: 07/19/11

Count Number: TMC1122

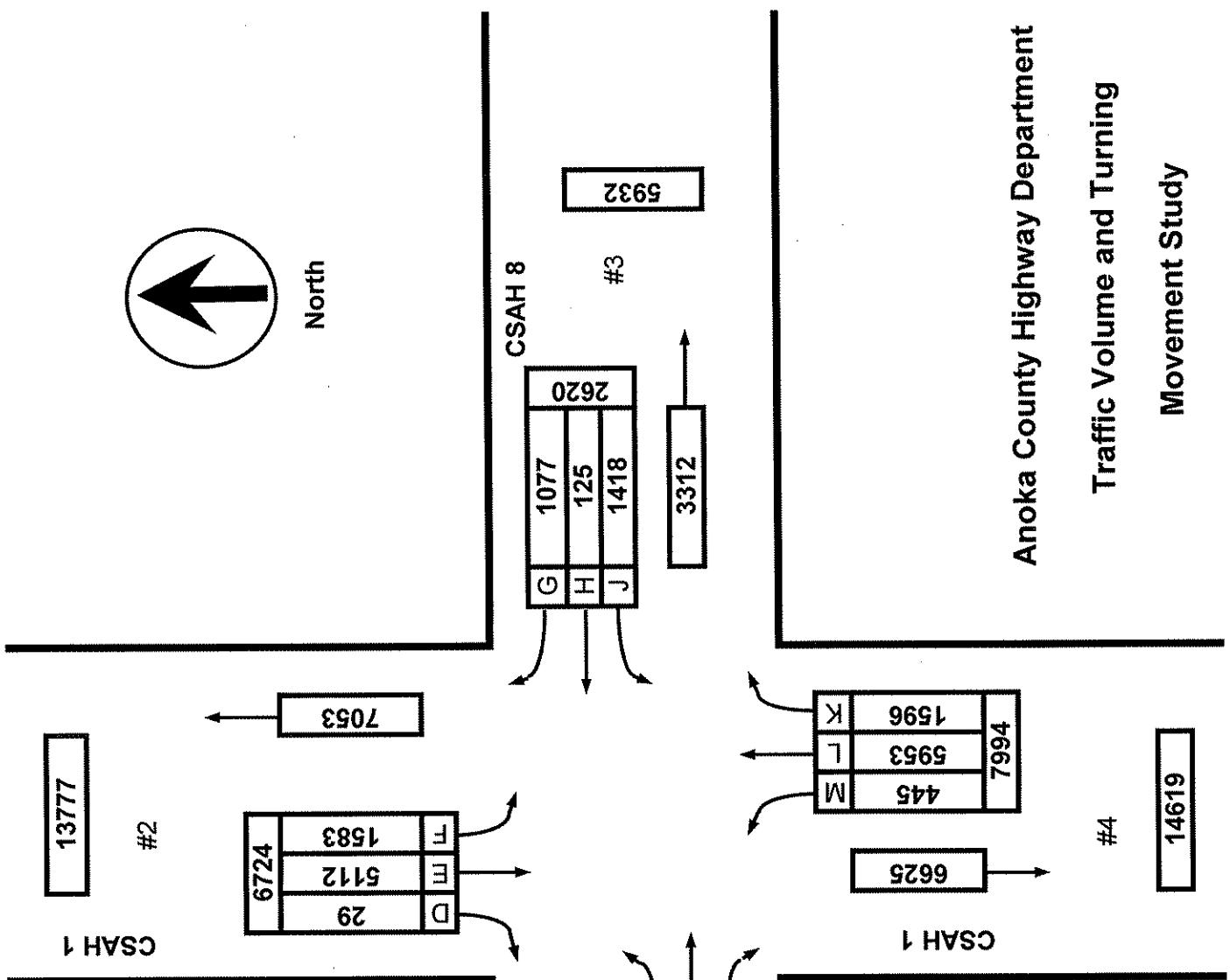
Location: CSAH 1 (East River Rd.)

@ CSAH 8 (Osborne Rd.)

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



North



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

Anoka County Highway Department  
 Traffic Volume and Turning  
 Movement Study

Date : 07/27/11

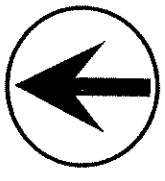
Count Number : TMC1122

Location : CSAH 1 (East River Rd.)

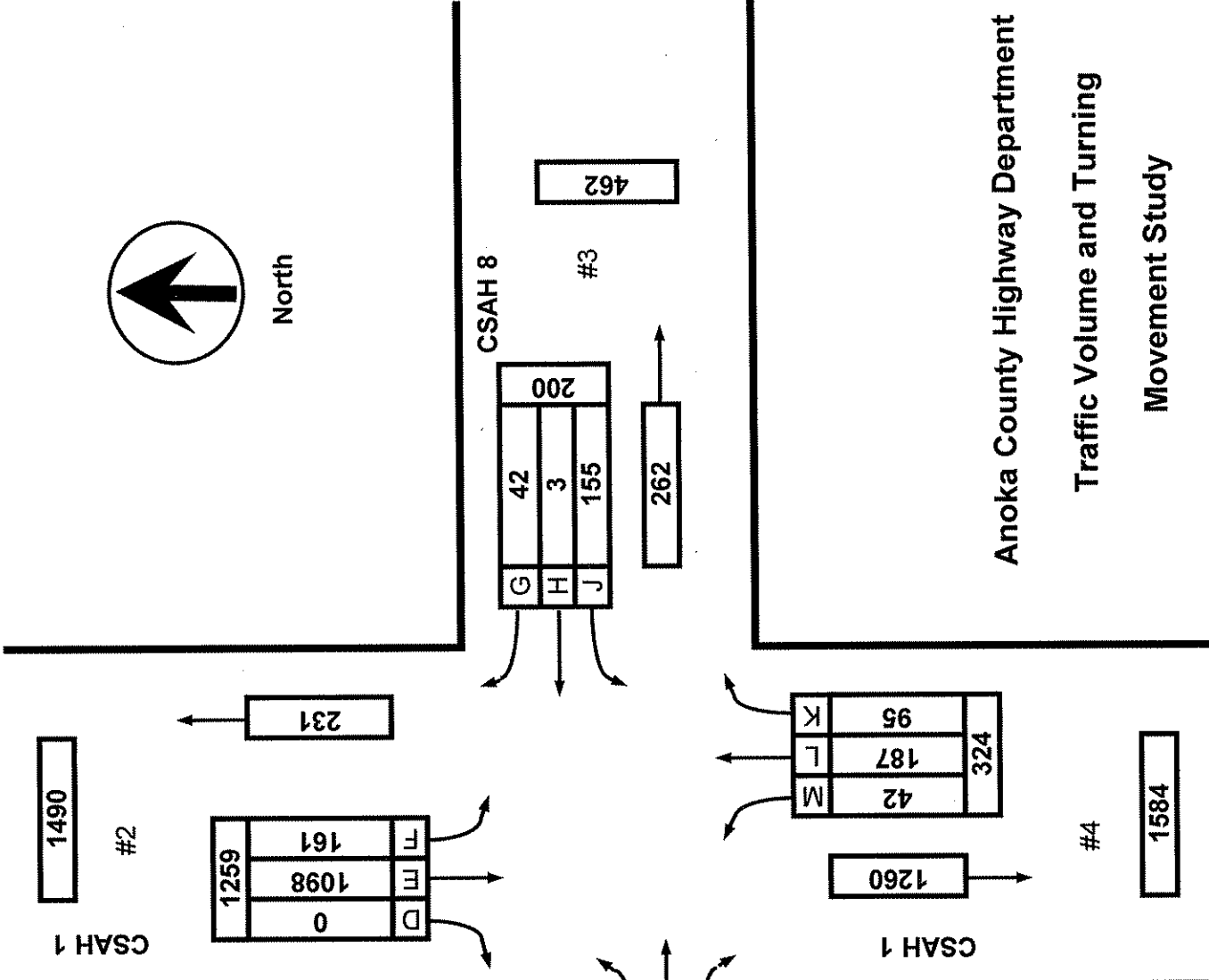
@ CSAH 8 (Osborne Rd.)

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	1	1	2	4
#3	1	1	1	3
#4	1	1	2	4

Anoka County Highway Department  
 Traffic Volume and Turning  
 Movement Study

Date : 07/19/11

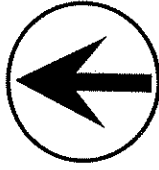
Count Number : TMC1122

Location : CSAH 1 (East River Rd.)

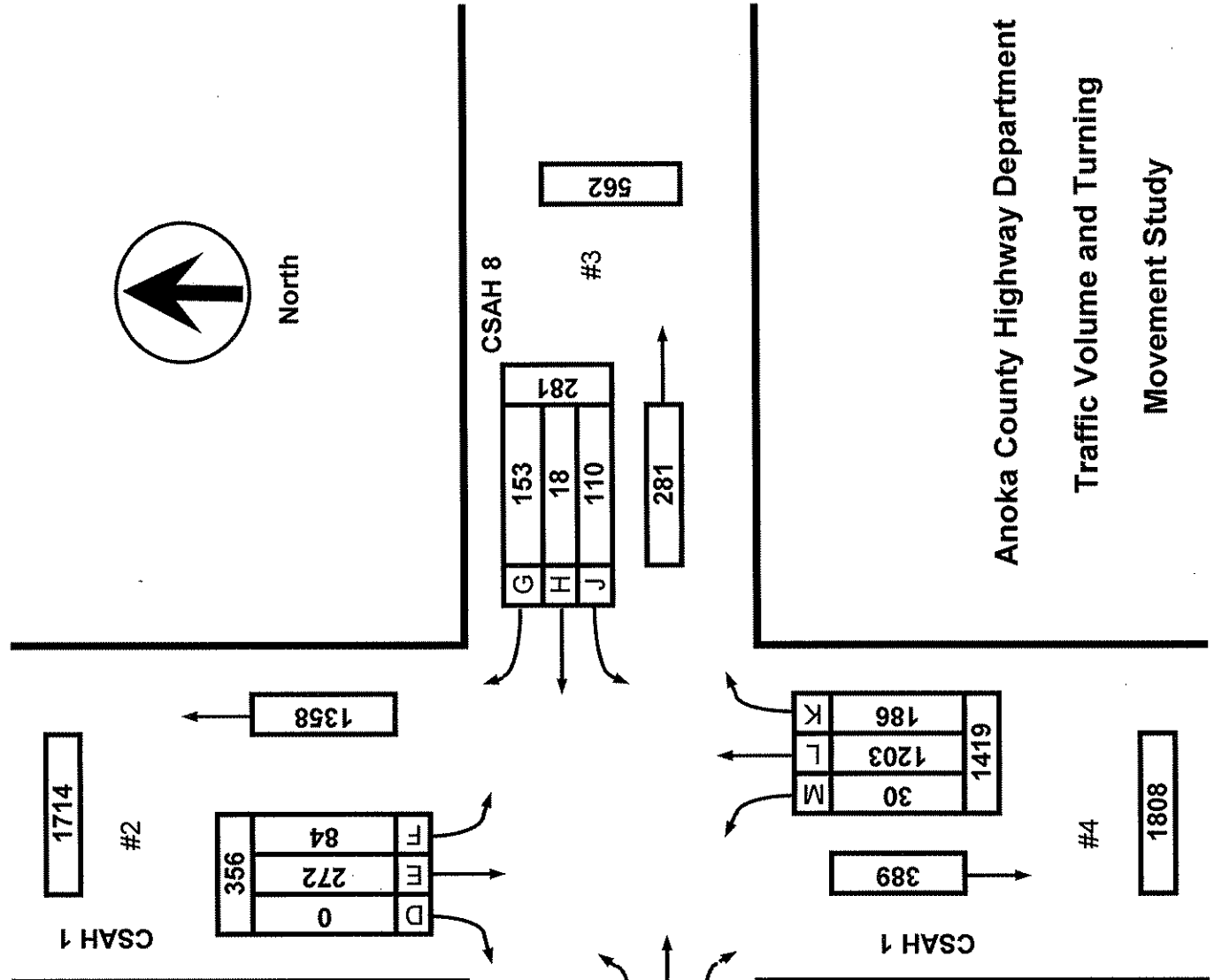
@ CSAH 8 (Osborne Rd.)

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	1	1	2	4
#3	1	1	1	3
#4	1	1	2	4

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 : TMC1122  
 Site Code : 11220202  
 Start Date : 07/19/2011  
 Page No : 1

Weather: Warm/Cloudy  
 Counter: DB-400  
 Counted by: Rachel/Kristen

#### Groups Printed- Unshifted

Start Time	CSAH 1 Southbound					CSAH 8 Westbound					CSAH 1 Northbound					Osborne Way 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	31	110	0	3	141	14	1	1	0	16	10	16	5	3	31	0	0	2	0	2	6	190	196
06:15	31	141	0	0	172	32	0	3	4	35	14	43	20	2	77	0	1	0	0	1	6	285	291
06:30	38	245	0	2	283	27	0	5	0	32	14	32	19	3	65	0	0	2	0	2	5	382	387
06:45	38	180	0	2	218	29	0	6	0	35	10	51	32	5	93	0	1	0	0	1	7	347	354
Total	138	676	0	7	814	102	1	15	4	118	48	142	76	13	266	0	2	4	0	6	24	1204	1228
07:00	34	268	0	7	302	37	0	11	0	48	11	50	20	4	81	0	0	1	0	1	11	432	443
07:15	38	318	0	9	356	40	1	6	0	47	13	40	20	1	73	0	4	0	0	4	10	480	490
07:30	44	275	0	4	319	53	1	16	1	70	11	50	27	8	88	1	1	1	0	3	13	480	493
07:45	45	237	0	9	282	25	1	9	2	35	7	47	28	5	82	1	1	5	0	7	16	406	422
Total	161	1098	0	29	1259	155	3	42	3	200	42	187	95	18	324	2	6	7	0	15	50	1798	1848
08:00	36	159	0	6	195	42	2	8	0	52	9	46	25	4	80	1	2	2	0	5	10	332	342
08:15	35	136	0	5	171	23	1	3	2	27	5	52	17	3	74	0	2	3	0	5	10	277	287
08:30	27	104	0	8	131	22	3	12	0	37	14	40	25	9	79	0	2	1	0	3	17	250	267
08:45	37	89	0	2	126	19	5	4	1	28	7	51	24	4	82	1	3	2	0	6	7	242	249
Total	135	488	0	21	623	106	11	27	3	144	35	189	91	20	315	2	9	8	0	19	44	1101	1145
09:00	19	76	0	6	95	13	0	4	0	17	1	50	24	6	75	0	0	2	0	2	12	189	201
09:15	29	54	1	2	84	18	2	13	4	33	7	45	22	7	74	1	3	7	0	11	13	202	215
09:30	24	69	1	6	94	13	1	5	0	19	5	48	21	7	74	1	0	1	0	2	13	189	202
09:45	24	65	1	6	90	22	1	17	6	40	7	35	15	3	57	0	1	2	0	3	15	190	205
Total	96	264	3	20	363	66	4	39	10	109	20	178	82	23	280	2	4	12	0	18	53	770	823
10:00	12	56	0	3	68	15	2	10	2	27	5	41	20	6	66	0	0	0	0	0	11	161	172
10:15	23	54	0	5	77	25	2	13	6	40	3	41	21	8	65	0	1	0	0	1	19	183	202
10:30	29	55	0	5	84	19	5	18	3	42	6	48	19	10	73	0	3	1	0	4	18	203	221
10:45	22	52	2	5	76	13	1	18	4	32	10	46	19	7	75	0	2	0	0	2	16	185	201
Total	86	217	2	18	305	72	10	59	15	141	24	176	79	31	279	0	6	1	0	7	64	732	796
11:00	27	43	0	5	70	16	1	14	3	31	5	69	20	10	94	1	0	2	0	3	18	198	216
11:15	21	52	0	7	73	23	2	11	2	36	6	55	23	4	84	0	0	3	0	3	13	196	209
11:30	29	51	0	3	80	11	1	13	1	25	10	61	29	7	100	1	4	1	0	6	11	211	222
11:45	19	47	0	2	66	29	1	13	3	43	10	64	25	7	99	0	3	1	0	4	12	212	224
Total	96	193	0	17	289	79	5	51	9	135	31	249	97	28	377	2	7	7	0	16	54	817	871
12:00	35	59	2	9	96	25	4	22	2	51	7	62	30	5	99	0	2	2	0	4	16	250	266
12:15	22	57	1	6	80	23	2	22	2	47	5	57	30	4	92	0	1	1	1	2	13	221	234
12:30	25	54	0	5	79	26	1	26	2	53	12	64	30	6	106	0	3	2	0	5	13	243	256
12:45	22	61	0	8	83	18	1	17	1	36	7	57	22	11	86	0	3	0	1	3	21	208	229
Total	104	231	3	28	338	92	8	87	7	187	31	240	112	26	383	0	9	5	2	14	63	922	985
13:00	21	59	0	8	80	33	2	19	4	54	7	56	29	6	92	0	7	1	0	8	18	234	252
13:15	24	57	0	3	81	17	4	11	2	32	10	62	28	9	100	0	7	1	0	8	14	221	235
13:30	23	55	0	6	78	28	1	14	2	43	10	69	23	11	102	1	3	5	0	9	19	232	251
13:45	25	61	1	9	87	19	2	23	2	44	3	81	33	8	117	0	1	0	0	1	19	249	268
Total	93	232	1	26	326	97	9	67	10	173	30	268	113	34	411	1	18	7	0	26	70	936	1006
14:00	28	63	0	3	91	16	1	14	1	31	2	87	28	7	117	1	2	0	0	3	11	242	253
14:15	24	65	2	5	91	12	6	14	0	32	13	104	23	8	140	0	0	3	0	3	13	266	279
14:30	23	77	1	1	101	31	4	43	3	78	7	91	33	6	131	0	2	3	1	5	11	315	326
14:45	24	71	2	6	97	23	1	28	1	52	6	115	41	5	162	1	2	3	0	6	12	317	329
Total	99	276	5	15	380	82	12	99	5	193	28	397	125	26	550	2	6	9	1	17	47	1140	1187
15:00	26	50	1	3	77	21	3	22	0	46	2	124	26	7	152	1	3	1	0	5	10	280	290
15:15	28	52	0	3	80	21	0	16	0	37	8	155	39	3	202	0	2	2	0	4	6	323	329
15:30	27	83	1	1	111	30	3	42	1	75	7	163	28	8	198	0	6	2	0	8	10	392	402
15:45	39	78	1	8	118	22	5	23	1	50	6	197	45	11	248	1	1	2	0	4	20	420	440
Total	120	263	3	15	386	94	11	103	2	208	23	639	138	29	800	2	12	7	0	21	46	1415	1461
16:00	24	74	3	4	101	41	2	31	5	74	5	212	52	5	269	1	5	2	0	8	14	452	466
16:15	33	67	0	1	100	22	4	30	1	56	9	288	55	14	352	1	2	1	1	4	17	512	529
16:30	15	87	0	0	102	36	7	46	0	89	6	289	52	8	347	0	7	3	1	10	9	548	557
16:45	19	55	0	3	74	18	2	35	2	55	12	304	39	7	355	1	2	1	0	4	12	488	500
Total	91	283	3	8	377	117	15	142	8	274	32	1093	198	34	1323	3	16	7	2	26	52	2000	2052
17:00	17	63	0	1	80	34	5	42	2	81	3	322	40	7	365	0	0	2	0	2	10	528	538
17:15	20	78	0	1	98	38	3	37	1	78	6	271	43	3	320	0	1	2	0	3	5	499	504
17:30	26	67	0	1	93	25	3	23	1	51	16	241	44	3	301	1	2	1	0	4	5	449	454
17:45	32	65	2	2	99	28	2	27	1	57	10	189	38	3	237	0	4	2	0	6	6	399	405
Total	95	273	2	5	370	125	13	129	5	267	35	1023	165	16	1223	1	7	7	0	15	26	1875	1901



# Anoka County Highway Department

## Traffic Engineering Section

### Traffic Volume and Turning Movement Study

File Name : TMC1122  
 Site Code : 11220202  
 Start Date : 07/19/2011  
 Page No : 2

Weather: Warm/Cloudy  
 Counter: DB-400  
 Counted by: Rachel/Kristen

#### Groups Printed- Unshifted

Start Time	CSAH 1 Southbound					CSAH 8 Westbound					CSAH 1 Northbound					Osborne Way 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	17	63	0	2	80	25	4	20	1	49	11	137	26	7	174	0	2	1	0	3	10	306	316
18:15	18	45	1	1	64	12	2	16	0	30	8	141	19	5	168	2	3	2	0	7	6	269	275
18:30	20	47	0	0	67	16	1	16	0	33	1	111	23	6	135	0	0	2	0	2	6	237	243
18:45	28	47	1	4	76	21	2	10	1	33	1	87	20	4	108	0	2	0	0	2	9	219	228
<b>Total</b>	<b>83</b>	<b>202</b>	<b>2</b>	<b>7</b>	<b>287</b>	<b>74</b>	<b>9</b>	<b>62</b>	<b>2</b>	<b>145</b>	<b>21</b>	<b>476</b>	<b>88</b>	<b>22</b>	<b>585</b>	<b>2</b>	<b>7</b>	<b>5</b>	<b>0</b>	<b>14</b>	<b>31</b>	<b>1031</b>	<b>1062</b>
19:00	30	44	1	1	75	15	2	12	3	29	2	70	21	2	93	0	6	1	0	7	6	204	210
19:15	13	35	1	1	49	15	0	10	0	25	6	83	15	0	104	0	3	1	0	4	1	182	183
19:30	17	34	0	2	51	14	1	12	0	27	3	77	18	4	98	1	6	1	0	8	6	184	190
19:45	21	35	2	1	58	17	1	14	0	32	5	73	17	2	95	0	1	1	1	2	4	187	191
<b>Total</b>	<b>81</b>	<b>148</b>	<b>4</b>	<b>5</b>	<b>233</b>	<b>61</b>	<b>4</b>	<b>48</b>	<b>3</b>	<b>113</b>	<b>16</b>	<b>303</b>	<b>71</b>	<b>8</b>	<b>390</b>	<b>1</b>	<b>16</b>	<b>4</b>	<b>1</b>	<b>21</b>	<b>17</b>	<b>757</b>	<b>774</b>
20:00	15	45	0	1	60	13	3	15	0	31	3	60	11	2	74	0	2	0	0	2	3	167	170
20:15	18	42	0	0	60	11	1	20	0	32	3	69	9	1	81	1	0	0	0	1	1	174	175
20:30	10	34	1	1	45	10	3	17	0	30	4	44	11	0	59	0	0	1	0	1	1	135	136
20:45	8	30	0	4	38	15	0	8	0	23	2	41	8	0	51	0	0	0	0	0	4	112	116
<b>Total</b>	<b>51</b>	<b>151</b>	<b>1</b>	<b>6</b>	<b>203</b>	<b>49</b>	<b>7</b>	<b>60</b>	<b>0</b>	<b>116</b>	<b>12</b>	<b>214</b>	<b>39</b>	<b>3</b>	<b>265</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>9</b>	<b>588</b>	<b>597</b>
21:00	12	31	0	0	43	13	0	16	0	29	3	38	9	1	50	0	1	2	0	3	1	125	126
21:15	17	27	0	1	44	15	3	15	0	33	5	55	7	1	67	0	2	2	0	4	2	148	150
21:30	16	36	0	2	52	13	0	5	0	18	6	43	9	0	58	0	2	0	0	2	2	130	132
21:45	9	23	0	0	32	6	0	11	0	17	3	43	2	0	48	2	1	0	0	3	0	100	100
<b>Total</b>	<b>54</b>	<b>117</b>	<b>0</b>	<b>3</b>	<b>171</b>	<b>47</b>	<b>3</b>	<b>47</b>	<b>0</b>	<b>97</b>	<b>17</b>	<b>179</b>	<b>27</b>	<b>2</b>	<b>223</b>	<b>2</b>	<b>6</b>	<b>4</b>	<b>0</b>	<b>12</b>	<b>5</b>	<b>503</b>	<b>508</b>
<b>Grand Total</b>	<b>1583</b>	<b>5112</b>	<b>29</b>	<b>230</b>	<b>6724</b>	<b>1418</b>	<b>125</b>	<b>1077</b>	<b>86</b>	<b>2620</b>	<b>445</b>	<b>5953</b>	<b>1596</b>	<b>333</b>	<b>7994</b>	<b>23</b>	<b>133</b>	<b>95</b>	<b>6</b>	<b>251</b>	<b>655</b>	<b>17589</b>	<b>18244</b>
<b>Apprch %</b>	<b>23.5</b>	<b>76</b>	<b>0.4</b>			<b>54.1</b>	<b>4.8</b>	<b>41.1</b>			<b>5.6</b>	<b>74.5</b>	<b>20</b>			<b>9.2</b>	<b>53</b>	<b>37.8</b>					
<b>Total %</b>	<b>9</b>	<b>29.1</b>	<b>0.2</b>		<b>38.2</b>	<b>8.1</b>	<b>0.7</b>	<b>6.1</b>		<b>14.9</b>	<b>2.5</b>	<b>33.8</b>	<b>9.1</b>		<b>45.4</b>	<b>0.1</b>	<b>0.8</b>	<b>0.5</b>		<b>1.4</b>	<b>3.6</b>	<b>96.4</b>	

Start Time	CSAH 1 Southbound				CSAH 8 Westbound				CSAH 1 Northbound				Osborne Way 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	34	268	0	302	37	0	11	48	11	50	20	81	0	0	1	1	432
07:15	38	318	0	356	40	1	6	47	13	40	20	73	0	4	0	4	480
07:30	44	275	0	319	53	1	16	70	11	50	27	88	1	1	1	3	480
07:45	45	237	0	282	25	1	9	35	7	47	28	82	1	1	5	7	406
<b>Total Volume</b>	<b>161</b>	<b>1098</b>	<b>0</b>	<b>1259</b>	<b>155</b>	<b>3</b>	<b>42</b>	<b>200</b>	<b>42</b>	<b>187</b>	<b>95</b>	<b>324</b>	<b>2</b>	<b>6</b>	<b>7</b>	<b>15</b>	<b>1798</b>
<b>% App. Total</b>	<b>12.8</b>	<b>87.2</b>	<b>0</b>		<b>77.5</b>	<b>1.5</b>	<b>21</b>		<b>13</b>	<b>57.7</b>	<b>29.3</b>		<b>13.3</b>	<b>40</b>	<b>46.7</b>		
<b>PHF</b>	<b>.694</b>	<b>.863</b>	<b>.000</b>	<b>.884</b>	<b>.731</b>	<b>.750</b>	<b>.656</b>	<b>.714</b>	<b>.808</b>	<b>.935</b>	<b>.848</b>	<b>.920</b>	<b>.500</b>	<b>.375</b>	<b>.350</b>	<b>.536</b>	<b>.936</b>

Peak Hour Analysis From 12:00 to 21:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:15																	
16:15	33	67	0	100	22	4	30	56	9	288	55	352	1	2	1	4	512
16:30	15	87	0	102	36	7	46	89	6	289	52	347	0	7	3	10	548
16:45	19	55	0	74	18	2	35	55	12	304	39	355	1	2	1	4	488
17:00	17	63	0	80	34	5	42	81	3	322	40	365	0	0	2	2	528
<b>Total Volume</b>	<b>84</b>	<b>272</b>	<b>0</b>	<b>356</b>	<b>110</b>	<b>18</b>	<b>153</b>	<b>281</b>	<b>30</b>	<b>1203</b>	<b>186</b>	<b>1419</b>	<b>2</b>	<b>11</b>	<b>7</b>	<b>20</b>	<b>2076</b>
<b>% App. Total</b>	<b>23.6</b>	<b>76.4</b>	<b>0</b>		<b>39.1</b>	<b>6.4</b>	<b>54.4</b>		<b>2.1</b>	<b>84.8</b>	<b>13.1</b>		<b>10</b>	<b>55</b>	<b>35</b>		
<b>PHF</b>	<b>.636</b>	<b>.782</b>	<b>.000</b>	<b>.873</b>	<b>.764</b>	<b>.643</b>	<b>.832</b>	<b>.789</b>	<b>.625</b>	<b>.934</b>	<b>.845</b>	<b>.972</b>	<b>.500</b>	<b>.393</b>	<b>.583</b>	<b>.500</b>	<b>.947</b>



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

Study Name : TMC1122  
 Study Date : 08/09/11  
 Page No. : 1

**Signal Warrants - Summary**

**Major Street Approaches**

**Northbound: CSAH 1**

Number of Lanes: 2  
 Approach Speed: 40  
 Total Approach Volume: 7,994

**Southbound: CSAH 1**

Number of Lanes: 2  
 Approach Speed: 40  
 Total Approach Volume: 6,724

**Minor Street Approaches**

**Eastbound: Osborne Way**

Number of Lanes: 2  
 Total Approach Volume: 251

**Westbound: CSAH 8**

Number of Lanes: 2  
 Total Approach Volume: 2,620

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

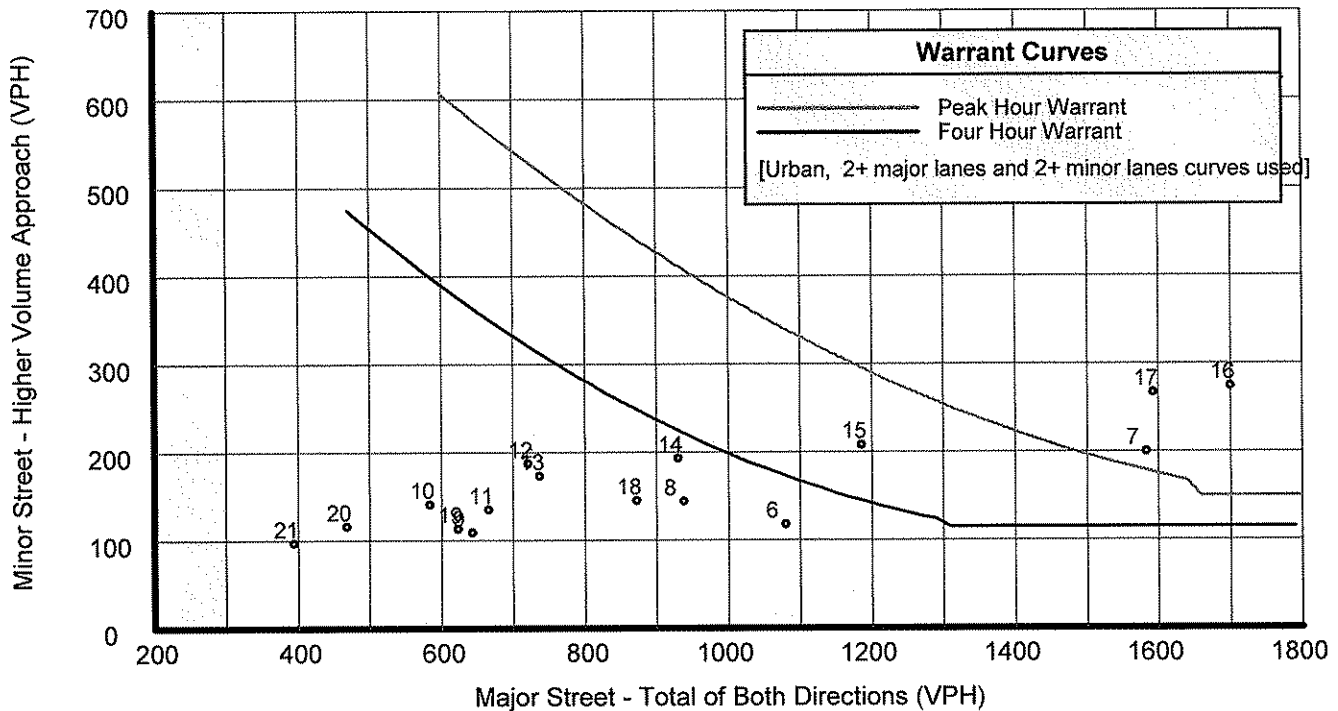
<b>Warrant 1 - Eight Hour Vehicular Volumes</b> .....	<b>Not Satisfied</b>
<b>Warrant 1A - Minimum Vehicular Volume</b> .....	<b>Not Satisfied</b>
Required volumes reached for 4 hours, 8 are needed	
<b>Warrant 1B - Interruption of Continuous Traffic</b> .....	<b>Not Satisfied</b>
Required volumes reached for 7 hours, 8 are needed	
<b>Warrant 1 A&amp;B - Combination of Warrants</b> .....	<b>Not Satisfied</b>
Required volumes reached for 7 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 (34) 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 : TMC1122  
Study Date : 08/09/11  
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	EB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
01:00	0	0	EB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
02:00	0	0	EB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
03:00	0	0	EB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
04:00	0	0	EB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
05:00	0	0	EB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
06:00	1,080	118	WB	600-Yes	200-No	Major	900-Yes	100-Yes	Both	720-Yes	160-No	Major
07:00	1,583	200	WB	600-Yes	200-Yes	Both	900-Yes	100-Yes	Both	720-Yes	160-Yes	Both
08:00	938	144	WB	600-Yes	200-No	Major	900-Yes	100-Yes	Both	720-Yes	160-No	Major
09:00	643	109	WB	600-Yes	200-No	Major	900-No	100-Yes	Minor	720-No	160-No	---
10:00	584	141	WB	600-No	200-No	---	900-No	100-Yes	Minor	720-No	160-No	---
11:00	666	135	WB	600-Yes	200-No	Major	900-No	100-Yes	Minor	720-No	160-No	---
12:00	721	187	WB	600-Yes	200-No	Major	900-No	100-Yes	Minor	720-Yes	160-Yes	Both
13:00	737	173	WB	600-Yes	200-No	Major	900-No	100-Yes	Minor	720-Yes	160-Yes	Both
14:00	930	193	WB	600-Yes	200-No	Major	900-Yes	100-Yes	Both	720-Yes	160-Yes	Both
15:00	1,186	208	WB	600-Yes	200-Yes	Both	900-Yes	100-Yes	Both	720-Yes	160-Yes	Both
16:00	1,700	274	WB	600-Yes	200-Yes	Both	900-Yes	100-Yes	Both	720-Yes	160-Yes	Both
17:00	1,593	267	WB	600-Yes	200-Yes	Both	900-Yes	100-Yes	Both	720-Yes	160-Yes	Both
18:00	872	145	WB	600-Yes	200-No	Major	900-No	100-Yes	Minor	720-Yes	160-No	Major
19:00	623	113	WB	600-Yes	200-No	Major	900-No	100-Yes	Minor	720-No	160-No	---
20:00	468	116	WB	600-No	200-No	---	900-No	100-Yes	Minor	720-No	160-No	---
21:00	394	97	WB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
22:00	0	0	EB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---
23:00	0	0	EB	600-No	200-No	---	900-No	100-No	---	720-No	160-No	---



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

Study Name : TMC1122  
 Study Date : 08/09/11  
 Page No. : 1

**Multi-Way Stop Warrant Report**

**Major Street Approaches**

**Northbound: CSAH 1**  
 Total Approach Volume: 7,994  
 Approach Speed: 40

**Southbound: CSAH 1**  
 Total Approach Volume: 6,724  
 Approach Speed: 40

**Minor Street Approaches**

**Eastbound: Osborne Way**  
 Total Approach Volume: 251

**Westbound: CSAH 8**  
 Total Approach Volume: 2,620

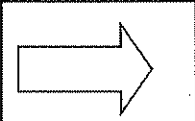
**Warrant Summary**

- 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 6 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?
06:45 - 07:45	1,530	209	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
11:45 - 12:45	717	209	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
14:00 - 15:00	930	210	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
15:00 - 16:00	1,186	229	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
16:00 - 17:00	1,700	300	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
17:00 - 18:00	1,593	282	300-Yes	200-Yes	Both	240-Yes	160-Yes	Both
05:30 - 06:30	421	54	300-Yes	200-No	Major	240-Yes	160-No	Major
05:45 - 06:45	769	88	300-Yes	200-No	Major	240-Yes	160-No	Major
06:00 - 07:00	1,080	124	300-Yes	200-No	Major	240-Yes	160-No	Major
06:15 - 07:15	1,291	155	300-Yes	200-No	Major	240-Yes	160-No	Major
06:30 - 07:30	1,471	170	300-Yes	200-No	Major	240-Yes	160-Yes	Both
07:45 - 08:45	1,094	171	300-Yes	200-No	Major	240-Yes	160-Yes	Both
08:00 - 09:00	938	163	300-Yes	200-No	Major	240-Yes	160-Yes	Both
08:15 - 09:15	833	125	300-Yes	200-No	Major	240-Yes	160-No	Major
08:30 - 09:30	746	137	300-Yes	200-No	Major	240-Yes	160-No	Major
08:45 - 09:45	704	118	300-Yes	200-No	Major	240-Yes	160-No	Major
09:00 - 10:00	643	127	300-Yes	200-No	Major	240-Yes	160-No	Major
09:15 - 10:15	607	135	300-Yes	200-No	Major	240-Yes	160-No	Major
09:30 - 10:30	591	132	300-Yes	200-No	Major	240-Yes	160-No	Major
09:45 - 10:45	580	157	300-Yes	200-No	Major	240-Yes	160-No	Major
10:00 - 11:00	584	148	300-Yes	200-No	Major	240-Yes	160-No	Major
10:15 - 11:15	614	155	300-Yes	200-No	Major	240-Yes	160-No	Major
10:30 - 11:30	629	153	300-Yes	200-No	Major	240-Yes	160-No	Major
10:45 - 11:45	652	138	300-Yes	200-No	Major	240-Yes	160-No	Major





COUNT LOCATION:

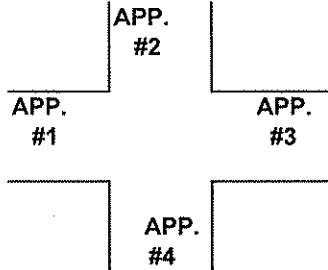
CSAH 1 (East River Road) @

DATE:

07/27/2011

CSAH 8 (Osborne Rd.)

<b>NORTH</b>
APP. #1 = CSAH 1
APP. #2 = Osborne Way
APP. #3 = CSAH 1
APP. #4 = CSAH 8



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

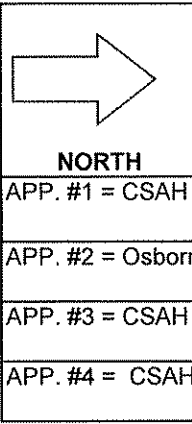
A. TRUCKS- A HEAVY VEHICLE INVOLVED PRIMARILY IN THE TRANSPORT OF GOODS OR IN THE DELIVERY OF A SERVICE.

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						5		
6:15-6:30						6		
6:30-6:45	1				1	5		
6:45-7:00						5		2
<b>HOURLY TOTAL</b>					<b>1</b>	<b>HOURLY TOTAL</b>		<b>23</b>
7:00-7:15						9		1
7:15-7:30						8		2
7:30-7:45						14		
7:45-8:00						15		2
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>51</b>
8:00-8:15						10		
8:15-8:30						10		
8:30-8:45						15	1	
8:45-9:00						5		3
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>44</b>
9:00-9:15			1	3	4	10		3
9:15-9:30	1				1	13		1
9:30-9:45						10		1
9:45-10:00				1	1	11		2
<b>HOURLY TOTAL</b>					<b>6</b>	<b>HOURLY TOTAL</b>		<b>51</b>
10:00-10:15				1	1	10		1
10:15-10:30				2	2	19		
10:30-10:45						14		1
10:45-11:00			2		2	18		3
<b>HOURLY TOTAL</b>					<b>5</b>	<b>HOURLY TOTAL</b>		<b>66</b>
11:00-11:15						15		1
11:15-11:30	2				2	15		
11:30-11:45						9		
11:45-12:00			1		1	7	1	4
<b>HOURLY TOTAL</b>					<b>3</b>	<b>HOURLY TOTAL</b>		<b>52</b>
12:00-12:15				1	1	16		1
12:15-12:30				2	2	9		4
12:30-12:45						12		2
12:45-1:00				1	1	16		3
<b>HOURLY TOTAL</b>					<b>4</b>	<b>HOURLY TOTAL</b>		<b>63</b>
1:00-1:15			2	1	3	18		1
1:15-1:30	2	1		1	4	14		
1:30-1:45	4	3		1	8	17		2
1:45-2:00				1	1	17		2
<b>HOURLY TOTAL</b>					<b>16</b>	<b>HOURLY TOTAL</b>		<b>71</b>
<b>TOTAL</b>					<b>35</b>	<b>TOTAL</b>		<b>421</b>

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32



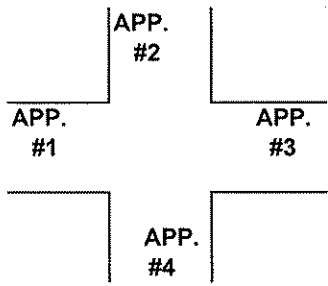
COUNT LOCATION:

CSAH 1 (East River Road) @

DATE:

07/19/2011

CSAH 8 (Osborne Rd.)



- 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				2	2	9		1
2:15-2:30						12		
2:30-2:45						13		
2:45-3:00						10		2
<b>HOURLY TOTAL</b>				2	2	<b>HOURLY TOTAL</b>		<b>47</b>
3:00-3:15				2	2	9		1
3:15-3:30						6		
3:30-3:45						9		1
3:45-4:00		1	1		2	16		4
<b>HOURLY TOTAL</b>					4	<b>HOURLY TOTAL</b>		<b>46</b>
4:00-4:15						11		3
4:15-4:30	1	1			2	17		
4:30-4:45				2	2	7		1
4:45-5:00	1	2		1	4	13		
<b>HOURLY TOTAL</b>					8	<b>HOURLY TOTAL</b>		<b>52</b>
5:00-5:15				1	1	8		2
5:15-5:30	2	2			4	5		
5:30-5:45			1		1	3	1	1
5:45-6:00			1	1	2	7		
<b>HOURLY TOTAL</b>					8	<b>HOURLY TOTAL</b>		<b>27</b>
6:00-6:15						8		2
6:15-6:30				1	1	6		
6:30-6:45			1		1	6		
6:45-7:00						8		
<b>HOURLY TOTAL</b>					2	<b>HOURLY TOTAL</b>		<b>30</b>
7:00-7:15	1		1	1	3	4		2
7:15-7:30						1		
7:30-7:45	2			1	3	5		
7:45-8:00			1	1	2	2		1
<b>HOURLY TOTAL</b>					8	<b>HOURLY TOTAL</b>		<b>15</b>
8:00-8:15						1		1
8:15-8:30			1	2	3	1		
8:30-8:45						1		
8:45-9:00	1	1			2	3		1
<b>HOURLY TOTAL</b>					5	<b>HOURLY TOTAL</b>		<b>8</b>
9:00-9:15	3		1	1	5	1		
9:15-9:30						2		
9:30-9:45						2		
9:45-10:00								
<b>HOURLY TOTAL</b>					5	<b>HOURLY TOTAL</b>		<b>5</b>
<b>TOTAL</b>					<b>77</b>	<b>TOTAL</b>		<b>651</b>

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32