

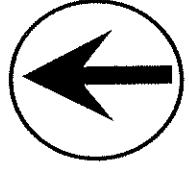
Date : 07/18/11

Count Number : TMC1121

Location : CSAH 17 (Lexington Ave.)

@Pheasant Ridge Dr.

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



North

15617

#2

CSAH 17

7773	D	565
740	TH	6468
7844	L	740

Pheasant Ridge Dr.

11079

#3

1083	G	5411
398	H	3930
5668	J	5668

5668

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

Pheasant Ridge Dr.

2234

#1

4229

1995	C	465
335	B	335
1195	A	1195

1271	M	12160
6296	L	6296
4593	K	4593

11593

#4

23753

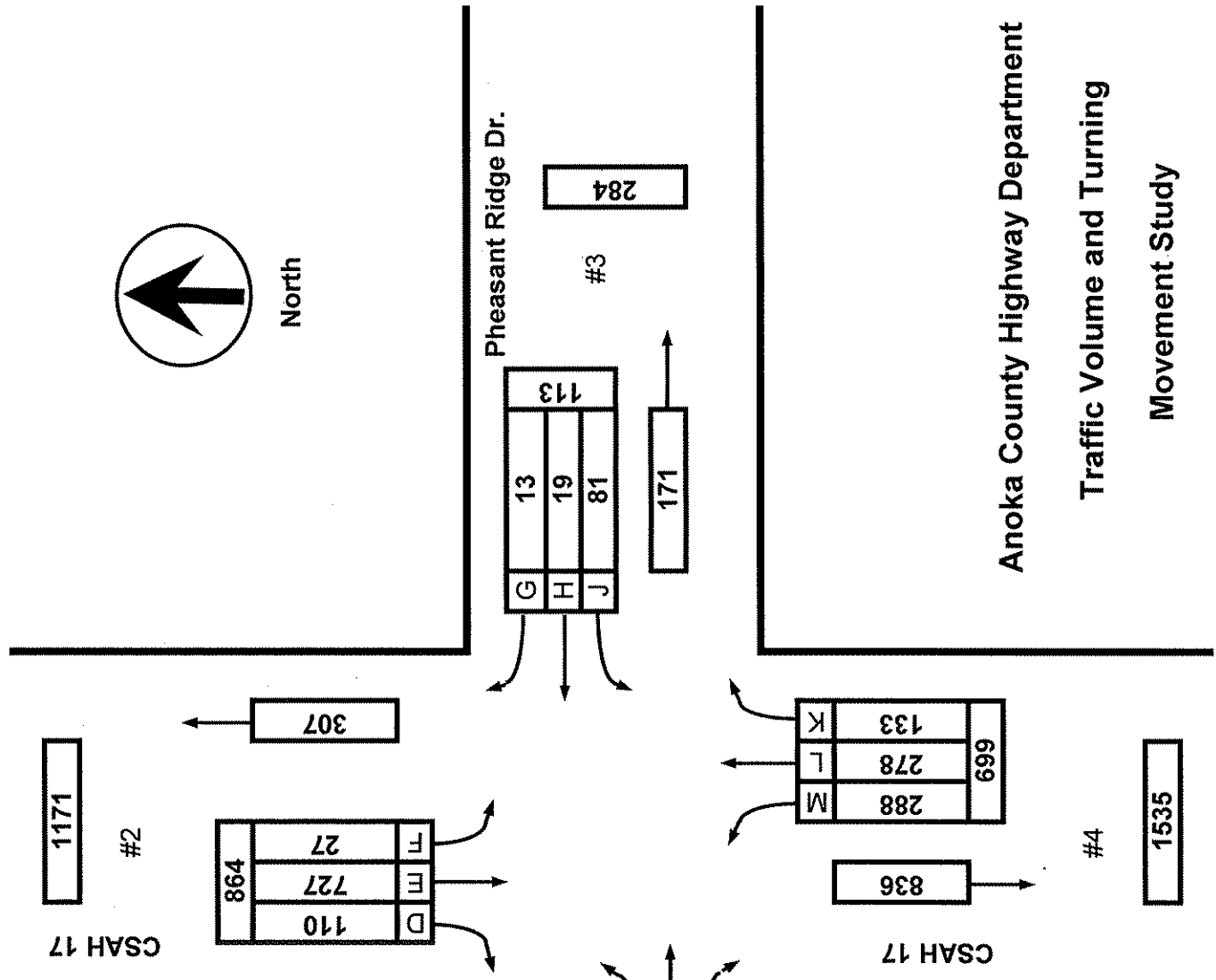
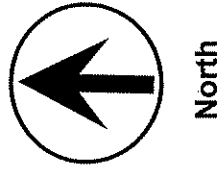
CSAH 17

Anoka County Highway Department

Traffic Volume and Turning

Movement Study

Date : 07/21/11  
 Count Number : TMC1121  
 Location : CSAH 17 (Lexington Ave.)  
 @Pheasant Ridge Dr.  
 Collection Period : AM PEAK  
 Hour : 7:30 AM - 8:30 AM



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

Anoka County Highway Department  
 Traffic Volume and Turning  
 Movement Study

Date : 07/18/11

Count Number : TMC1121

Location : CSAH 17 (Lexington Ave.)

@Pheasant Ridge Dr.

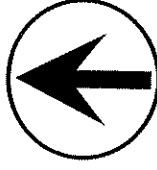
Collection Period : PM PEAK

Hour : 4:30 PM - 5:30 PM

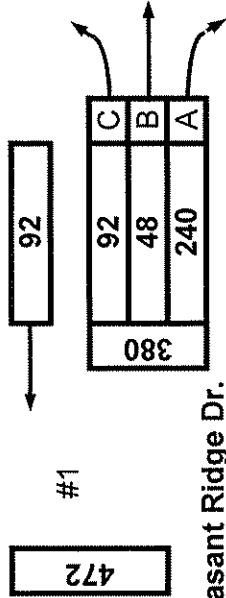
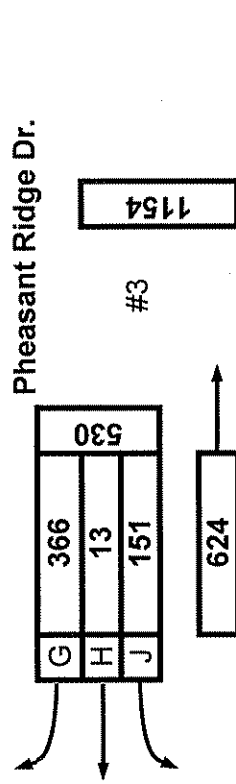
CSAH 17  
#2  
1866

472	48	398	26
D	F	F	F

1394



North



Pheasant Ridge Dr.

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

528	936	53
K	L	M

1517

789

CSAH 17

#4

2306

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 : TMC1121  
 Site Code : 11210202  
 Start Date : 07/18/2011  
 Page No : 1

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

#### Groups Printed- Unshifted

Start Time	CSAH 17 Southbound					Pheasant Ridge Dr. Westbound					CSAH 17 Northbound					Pheasant Ridge Dr. 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	3	178	14	8	195	2	0	0	0	2	4	15	4	3	23	4	0	0	0	4	11	224	235
06:15	1	184	10	6	195	10	2	0	0	12	20	42	16	4	78	1	0	1	0	2	10	287	297
06:30	8	204	18	3	230	11	2	1	2	14	38	45	16	6	99	0	1	2	1	3	12	346	358
06:45	6	181	35	4	222	14	5	2	4	21	83	54	27	3	164	1	1	5	1	7	12	414	426
<b>Total</b>	<b>18</b>	<b>747</b>	<b>77</b>	<b>21</b>	<b>842</b>	<b>37</b>	<b>9</b>	<b>3</b>	<b>6</b>	<b>49</b>	<b>145</b>	<b>156</b>	<b>63</b>	<b>16</b>	<b>364</b>	<b>6</b>	<b>2</b>	<b>8</b>	<b>2</b>	<b>16</b>	<b>45</b>	<b>1271</b>	<b>1316</b>
07:00	5	194	15	3	214	21	1	1	1	23	57	69	15	5	141	6	0	4	0	10	9	388	397
07:15	6	215	18	11	239	9	1	1	0	11	49	39	23	1	111	1	0	1	0	2	12	363	375
07:30	4	200	34	4	238	16	1	2	2	19	32	61	25	5	118	7	4	13	2	24	13	399	412
07:45	9	231	28	4	268	22	5	2	0	29	82	83	31	5	196	3	1	3	1	7	10	500	510
<b>Total</b>	<b>24</b>	<b>840</b>	<b>95</b>	<b>22</b>	<b>959</b>	<b>68</b>	<b>8</b>	<b>6</b>	<b>3</b>	<b>82</b>	<b>220</b>	<b>252</b>	<b>94</b>	<b>16</b>	<b>566</b>	<b>17</b>	<b>5</b>	<b>21</b>	<b>3</b>	<b>43</b>	<b>44</b>	<b>1650</b>	<b>1694</b>
08:00	8	138	23	4	169	24	6	4	0	34	69	70	42	7	181	2	6	4	1	12	12	396	408
08:15	6	158	25	5	189	19	7	5	1	31	105	64	35	10	204	4	0	8	2	12	18	436	454
08:30	9	158	18	9	185	25	5	4	1	34	49	71	36	7	156	1	4	4	2	9	19	384	403
08:45	6	130	14	6	150	29	0	7	1	36	62	76	41	5	179	1	1	3	3	5	15	370	385
<b>Total</b>	<b>29</b>	<b>584</b>	<b>80</b>	<b>24</b>	<b>693</b>	<b>97</b>	<b>18</b>	<b>20</b>	<b>3</b>	<b>135</b>	<b>285</b>	<b>281</b>	<b>154</b>	<b>29</b>	<b>720</b>	<b>8</b>	<b>11</b>	<b>19</b>	<b>8</b>	<b>38</b>	<b>64</b>	<b>1586</b>	<b>1650</b>
09:00	10	115	7	9	132	32	3	0	3	35	34	77	36	8	147	2	2	5	1	9	21	323	344
09:15	4	98	5	6	107	27	2	8	1	37	26	81	54	9	161	2	2	15	3	19	19	324	343
09:30	9	116	9	3	134	42	4	8	2	54	19	70	52	4	141	4	1	3	0	8	9	337	346
09:45	5	90	6	5	101	48	3	3	1	54	18	76	72	5	166	0	4	12	5	16	16	337	353
<b>Total</b>	<b>28</b>	<b>419</b>	<b>27</b>	<b>23</b>	<b>474</b>	<b>149</b>	<b>12</b>	<b>19</b>	<b>7</b>	<b>180</b>	<b>97</b>	<b>304</b>	<b>214</b>	<b>26</b>	<b>615</b>	<b>8</b>	<b>9</b>	<b>35</b>	<b>9</b>	<b>52</b>	<b>65</b>	<b>1321</b>	<b>1386</b>
10:00	13	77	4	8	94	53	5	3	3	61	19	59	45	12	123	4	3	5	0	12	23	290	313
10:15	11	94	3	9	108	52	1	3	2	56	11	56	65	4	132	3	3	5	3	11	18	307	325
10:30	6	82	15	7	103	42	4	9	3	55	23	79	52	7	154	5	6	10	0	21	17	333	350
10:45	11	88	4	8	103	46	4	7	4	57	25	67	57	8	149	12	3	17	2	32	22	341	363
<b>Total</b>	<b>41</b>	<b>341</b>	<b>26</b>	<b>32</b>	<b>408</b>	<b>193</b>	<b>14</b>	<b>22</b>	<b>12</b>	<b>229</b>	<b>78</b>	<b>261</b>	<b>219</b>	<b>31</b>	<b>558</b>	<b>24</b>	<b>15</b>	<b>37</b>	<b>5</b>	<b>76</b>	<b>80</b>	<b>1271</b>	<b>1351</b>
11:00	9	81	4	3	94	58	3	12	4	73	11	66	76	7	153	10	9	12	1	31	15	351	366
11:15	15	108	4	5	127	69	7	10	3	86	12	82	86	9	180	4	6	19	5	29	22	422	444
11:30	18	86	7	5	111	58	5	18	2	81	8	78	104	8	190	6	9	21	0	36	15	418	433
11:45	26	82	5	3	113	87	5	17	2	109	12	87	88	13	187	7	9	12	2	28	20	437	457
<b>Total</b>	<b>68</b>	<b>357</b>	<b>20</b>	<b>16</b>	<b>445</b>	<b>272</b>	<b>20</b>	<b>57</b>	<b>11</b>	<b>349</b>	<b>43</b>	<b>313</b>	<b>354</b>	<b>37</b>	<b>710</b>	<b>27</b>	<b>33</b>	<b>64</b>	<b>8</b>	<b>124</b>	<b>72</b>	<b>1628</b>	<b>1700</b>
12:00	17	72	5	4	94	73	11	11	1	95	11	75	117	6	203	10	40	42	5	92	16	484	500
12:15	16	99	2	4	117	92	28	20	2	140	27	72	89	9	188	13	21	20	2	54	17	499	516
12:30	12	116	6	6	134	84	25	24	1	133	15	83	99	4	197	9	14	19	4	42	15	506	521
12:45	15	88	10	1	113	92	15	21	3	128	31	85	84	12	200	13	13	23	0	49	16	490	506
<b>Total</b>	<b>60</b>	<b>375</b>	<b>23</b>	<b>15</b>	<b>458</b>	<b>341</b>	<b>79</b>	<b>76</b>	<b>7</b>	<b>496</b>	<b>84</b>	<b>315</b>	<b>389</b>	<b>31</b>	<b>788</b>	<b>45</b>	<b>88</b>	<b>104</b>	<b>11</b>	<b>237</b>	<b>64</b>	<b>1979</b>	<b>2043</b>
13:00	13	95	15	8	123	87	16	21	2	124	18	77	113	4	208	8	6	15	0	29	14	484	498
13:15	25	103	17	7	145	72	17	15	1	104	22	109	98	8	229	5	8	11	2	24	18	502	520
13:30	12	94	11	4	117	115	7	13	2	135	29	81	84	8	194	10	6	26	1	42	15	488	503
13:45	13	89	8	9	110	93	7	23	2	123	13	109	85	3	207	4	4	15	3	23	17	463	480
<b>Total</b>	<b>63</b>	<b>381</b>	<b>51</b>	<b>28</b>	<b>495</b>	<b>367</b>	<b>47</b>	<b>72</b>	<b>7</b>	<b>486</b>	<b>82</b>	<b>376</b>	<b>380</b>	<b>23</b>	<b>838</b>	<b>27</b>	<b>24</b>	<b>67</b>	<b>6</b>	<b>118</b>	<b>64</b>	<b>1937</b>	<b>2001</b>
14:00	13	78	9	2	100	92	4	23	2	119	19	94	64	9	177	2	5	10	2	17	15	413	428
14:15	24	81	16	6	121	57	37	37	2	131	13	85	81	5	179	5	3	15	2	23	15	454	469
14:30	90	80	38	3	208	24	100	93	3	217	4	7	1	0	12	3	4	25	3	32	9	469	478
14:45	13	73	7	5	93	77	4	20	2	101	19	120	95	2	234	2	2	16	2	20	11	448	459
<b>Total</b>	<b>140</b>	<b>312</b>	<b>70</b>	<b>16</b>	<b>522</b>	<b>250</b>	<b>145</b>	<b>173</b>	<b>9</b>	<b>568</b>	<b>55</b>	<b>306</b>	<b>241</b>	<b>16</b>	<b>602</b>	<b>12</b>	<b>14</b>	<b>66</b>	<b>9</b>	<b>92</b>	<b>50</b>	<b>1784</b>	<b>1834</b>
15:00	5	89	9	4	103	71	3	28	1	102	12	147	95	6	254	6	7	19	0	32	11	491	502
15:15	8	83	7	4	98	97	3	18	0	118	13	142	104	2	259	9	5	17	1	31	7	506	513
15:30	8	97	4	0	109	85	4	18	1	107	14	159	102	5	275	28	8	76	1	112	7	603	610
15:45	9	104	6	2	119	67	3	25	1	95	6	205	105	1	316	14	10	48	2	72	6	602	608
<b>Total</b>	<b>30</b>	<b>373</b>	<b>26</b>	<b>10</b>	<b>429</b>	<b>320</b>	<b>13</b>	<b>89</b>	<b>3</b>	<b>422</b>	<b>45</b>	<b>653</b>	<b>406</b>	<b>14</b>	<b>1104</b>	<b>57</b>	<b>30</b>	<b>160</b>	<b>4</b>	<b>247</b>	<b>31</b>	<b>2202</b>	<b>2233</b>
16:00	17	84	4	2	105	68	2	16	0	86	2	166	108	4	276	44	8	77	0	129	6	596	602
16:15	12	79	4	1	95	71	2	29	1	102	12	214	125	6	351	15	2	45	1	62	9	610	619
16:30	13	112	5	5	130	104	3	29	2	136	9	188	134	3	331	34	9	51	3	94	13	691	704
16:45	17	105	6	1	128	90	1	40	1	131	14	244	157	6	415	19	4	39	0	62	8	736	744
<b>Total</b>	<b>59</b>	<b>380</b>	<b>19</b>	<b>9</b>	<b>458</b>	<b>333</b>	<b>8</b>	<b>114</b>	<b>4</b>	<b>455</b>	<b>37</b>	<b>812</b>	<b>524</b>	<b>19</b>	<b>1373</b>	<b>112</b>	<b>23</b>	<b>212</b>	<b>4</b>	<b>347</b>	<b>36</b>	<b>2633</b>	<b>2669</b>
17:00	8	94	4	1	106	73	4	36	0	113	11	242	115	3	368	26	19	83	5	128	9	715	724
17:15	10	87	11	1	108	99	5	46	0	150	19	262	122	4	403	13	16	67	1	96	6	757	763
17:30	12	87	11	0	110	86	0	25	3	111	18	221	125	2	364	16	6	48	2	70	7		



# Anoka County Highway Department

## Traffic Engineering Section

### Traffic Volume and Turning Movement Study

File Name : TMC1121  
 Site Code : 11210202  
 Start Date : 07/18/2011  
 Page No : 2

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

#### Groups Printed- Unshifted

Start Time	CSAH 17 Southbound					Pheasant Ridge Dr. Westbound					CSAH 17 Northbound					Pheasant Ridge Dr. 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	111	1	3	128	86	0	35	0	121	8	165	88	5	261	4	5	37	1	46	9	556	565
18:15	13	80	0	1	93	110	1	24	1	135	3	148	108	1	259	9	2	16	1	27	4	514	518
18:30	6	93	0	0	99	84	1	20	1	105	0	103	101	3	204	2	5	10	0	17	4	425	429
18:45	17	72	1	1	90	77	0	23	1	100	2	89	78	2	169	3	1	8	0	12	4	371	375
<b>Total</b>	<b>52</b>	<b>356</b>	<b>2</b>	<b>5</b>	<b>410</b>	<b>357</b>	<b>2</b>	<b>102</b>	<b>3</b>	<b>461</b>	<b>13</b>	<b>505</b>	<b>375</b>	<b>11</b>	<b>893</b>	<b>18</b>	<b>13</b>	<b>71</b>	<b>2</b>	<b>102</b>	<b>21</b>	<b>1866</b>	<b>1887</b>
19:00	7	58	0	0	65	92	0	23	1	115	0	107	77	3	184	6	3	12	0	21	4	385	389
19:15	8	64	0	0	72	84	0	25	2	109	1	73	89	1	163	2	0	5	0	7	3	351	354
19:30	4	85	0	1	89	74	4	23	0	101	2	83	59	1	144	0	8	2	1	10	3	344	347
19:45	9	66	1	0	76	80	2	13	1	95	2	79	82	0	163	1	1	6	0	8	1	342	343
<b>Total</b>	<b>28</b>	<b>273</b>	<b>1</b>	<b>1</b>	<b>302</b>	<b>330</b>	<b>6</b>	<b>84</b>	<b>4</b>	<b>420</b>	<b>5</b>	<b>342</b>	<b>307</b>	<b>5</b>	<b>654</b>	<b>9</b>	<b>12</b>	<b>25</b>	<b>1</b>	<b>46</b>	<b>11</b>	<b>1422</b>	<b>1433</b>
20:00	12	54	1	0	67	86	1	13	0	100	0	84	63	1	147	5	2	9	0	16	1	330	331
20:15	7	58	0	1	65	80	1	17	0	98	1	73	61	0	135	2	2	7	0	11	1	309	310
20:30	10	47	1	0	58	65	2	15	1	82	2	76	59	0	137	2	2	18	0	22	1	299	300
20:45	10	56	1	1	67	59	2	13	0	74	2	59	45	1	106	0	1	4	0	5	2	252	254
<b>Total</b>	<b>39</b>	<b>215</b>	<b>3</b>	<b>2</b>	<b>257</b>	<b>290</b>	<b>6</b>	<b>58</b>	<b>1</b>	<b>354</b>	<b>5</b>	<b>292</b>	<b>228</b>	<b>2</b>	<b>525</b>	<b>9</b>	<b>7</b>	<b>38</b>	<b>0</b>	<b>54</b>	<b>5</b>	<b>1190</b>	<b>1195</b>
21:00	4	34	0	0	38	56	0	8	0	64	0	65	41	0	106	6	2	2	0	10	0	218	218
21:15	10	29	1	0	40	48	1	17	0	66	1	57	47	0	105	12	0	11	0	23	0	234	234
21:30	2	41	0	1	43	52	0	9	0	61	0	47	37	0	84	2	0	6	0	8	1	196	197
21:45	5	40	0	0	45	39	0	15	0	54	1	33	38	0	72	4	1	8	0	13	0	184	184
<b>Total</b>	<b>21</b>	<b>144</b>	<b>1</b>	<b>1</b>	<b>166</b>	<b>195</b>	<b>1</b>	<b>49</b>	<b>0</b>	<b>245</b>	<b>2</b>	<b>202</b>	<b>163</b>	<b>0</b>	<b>367</b>	<b>24</b>	<b>3</b>	<b>27</b>	<b>0</b>	<b>54</b>	<b>1</b>	<b>832</b>	<b>833</b>
<b>Grand Total</b>	<b>740</b>	<b>6468</b>	<b>565</b>	<b>229</b>	<b>7773</b>	<b>3930</b>	<b>398</b>	<b>1083</b>	<b>85</b>	<b>5411</b>	<b>1271</b>	<b>6296</b>	<b>4593</b>	<b>289</b>	<b>12160</b>	<b>465</b>	<b>335</b>	<b>1195</b>	<b>80</b>	<b>1995</b>	<b>683</b>	<b>27339</b>	<b>28022</b>
Apprch %	9.5	83.2	7.3			72.6	7.4	20			10.5	51.8	37.8			23.3	16.8	59.9					
Total %	2.7	23.7	2.1		28.4	14.4	1.5	4		19.8	4.6	23	16.8		44.5	1.7	1.2	4.4		7.3	2.4	97.6	

Start Time	CSAH 17 Southbound				Pheasant Ridge Dr. Westbound				CSAH 17 Northbound				Pheasant Ridge Dr. 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 07:30																	
07:30	4	200	34	238	16	1	2	19	32	61	25	118	7	4	13	24	399
07:45	9	231	28	268	22	5	2	29	82	83	31	196	3	1	3	7	500
08:00	8	138	23	169	24	6	4	34	69	70	42	181	2	6	4	12	396
08:15	6	158	25	189	19	7	5	31	105	64	35	204	4	0	8	12	436
<b>Total Volume</b>	<b>27</b>	<b>727</b>	<b>110</b>	<b>864</b>	<b>81</b>	<b>19</b>	<b>13</b>	<b>113</b>	<b>288</b>	<b>278</b>	<b>133</b>	<b>699</b>	<b>16</b>	<b>11</b>	<b>28</b>	<b>55</b>	<b>1731</b>
<b>% App. Total</b>	<b>3.1</b>	<b>84.1</b>	<b>12.7</b>		<b>71.7</b>	<b>16.8</b>	<b>11.5</b>		<b>41.2</b>	<b>39.8</b>	<b>19</b>		<b>29.1</b>	<b>20</b>	<b>50.9</b>		
PHF	.750	.787	.809	.806	.844	.679	.650	.831	.686	.837	.792	.857	.571	.458	.538	.573	.866

Peak Hour Analysis From 12:00 to 21:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	13	112	5	130	104	3	29	136	9	188	134	331	34	9	51	94	691
16:45	17	105	6	128	90	1	40	131	14	244	157	415	19	4	39	62	736
17:00	8	94	4	106	73	4	36	113	11	242	115	368	26	19	83	128	715
17:15	10	87	11	108	99	5	46	150	19	262	122	403	13	16	67	96	757
<b>Total Volume</b>	<b>48</b>	<b>398</b>	<b>26</b>	<b>472</b>	<b>366</b>	<b>13</b>	<b>151</b>	<b>530</b>	<b>53</b>	<b>936</b>	<b>528</b>	<b>1517</b>	<b>92</b>	<b>48</b>	<b>240</b>	<b>380</b>	<b>2899</b>
<b>% App. Total</b>	<b>10.2</b>	<b>84.3</b>	<b>5.5</b>		<b>69.1</b>	<b>2.5</b>	<b>28.5</b>		<b>3.5</b>	<b>61.7</b>	<b>34.8</b>		<b>24.2</b>	<b>12.6</b>	<b>63.2</b>		
PHF	.706	.888	.591	.908	.880	.650	.821	.883	.697	.893	.841	.914	.676	.632	.723	.742	.957



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

Study Name : TMC1121  
 Study Date : 07/25/11  
 Page No. : 1

**Signal Warrants - Summary**

**Major Street Approaches**

**Northbound: CSAH 17**  
 Number of Lanes: 2  
 Approach Speed: 45  
 Total Approach Volume: 12,160

**Southbound: CSAH 17**  
 Number of Lanes: 2  
 Approach Speed: 45  
 Total Approach Volume: 7,773

**Minor Street Approaches**

**Eastbound: Pheasant Ridge Dr.**  
 Number of Lanes: 2  
 Total Approach Volume: 1,995

**Westbound: Pheasant Ridge Dr.**  
 Number of Lanes: 2  
 Total Approach Volume: 5,411

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

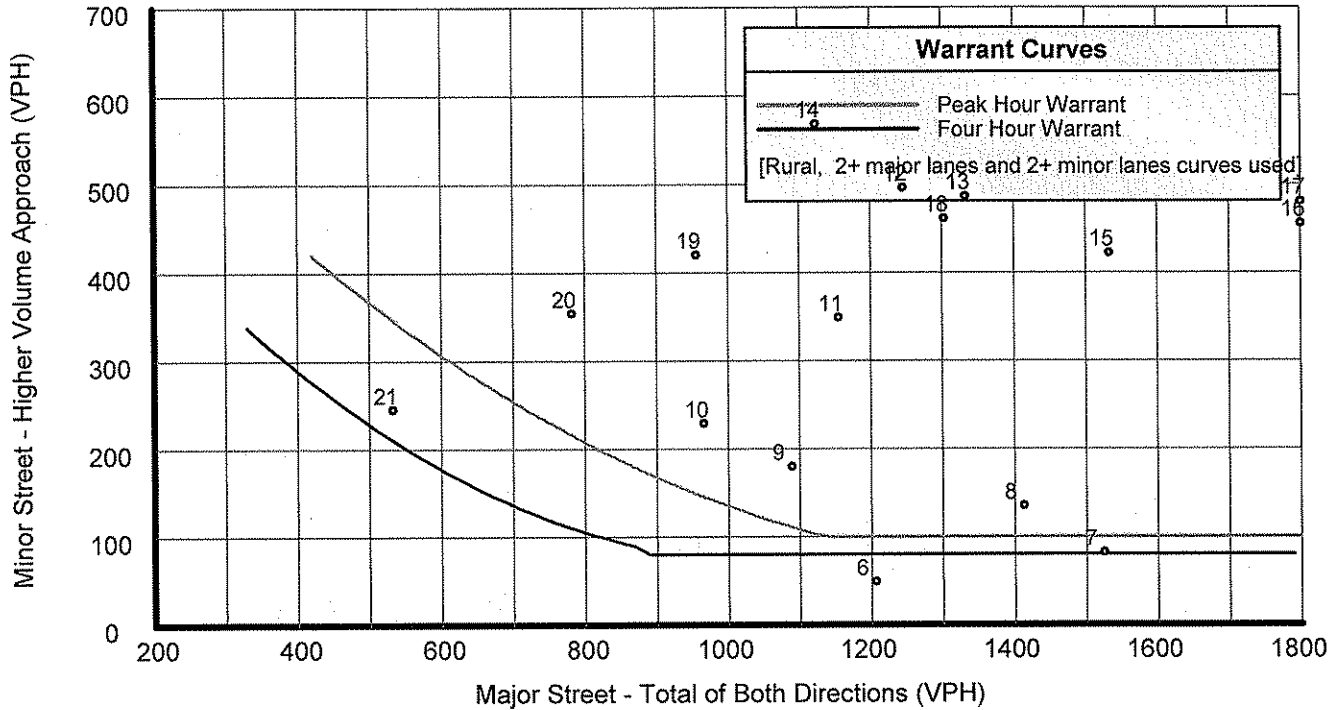
<b>Warrant 1 - Eight Hour Vehicular Volumes</b> .....	<b>Satisfied</b>
<b>Warrant 1A - Minimum Vehicular Volume</b> .....	<b>Satisfied</b>
Required volumes reached for 13 hours, 8 are needed	
<b>Warrant 1B - Interruption of Continuous Traffic</b> .....	<b>Satisfied</b>
Required volumes reached for 14 hours, 8 are needed	
<b>Warrant 1 A&amp;B - Combination of Warrants</b> .....	<b>Satisfied</b>
Required volumes reached for 14 hours, 8 are needed	
<b>Warrant 2 - Four Hour Volumes</b> .....	<b>Satisfied</b>
Number of hours (15) volumes exceed minimum $\geq$ 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 (50) volumes exceed minimum $\geq$ 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 : TMC1121  
Study Date : 07/25/11  
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	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	1,206	49	WB	420-Yes	140-No	Major	630-Yes	70-No	Major	504-Yes	112-No	Major
07:00	1,525	82	WB	420-Yes	140-No	Major	630-Yes	70-Yes	Both	504-Yes	112-No	Major
08:00	1,413	135	WB	420-Yes	140-No	Major	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
09:00	1,089	180	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
10:00	966	229	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
11:00	1,155	349	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
12:00	1,246	496	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
13:00	1,333	486	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
14:00	1,124	568	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
15:00	1,533	422	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
16:00	1,831	455	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
17:00	1,938	480	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
18:00	1,303	461	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
19:00	956	420	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
20:00	782	354	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
21:00	533	245	WB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-Yes	112-Yes	Both
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	---



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

Study Name :  
 Study Date : 07/25/11  
 Page No. : 1

**Signal Warrants - Summary**

**Major Street Approaches**

**Northbound: CSAH 17**  
 Number of Lanes: 2  
 Approach Speed: 45  
 Total Approach Volume: 12,160

**Southbound: CSAH 17**  
 Number of Lanes: 2  
 Approach Speed: 45  
 Total Approach Volume: 7,773

**Minor Street Approaches**

**Eastbound: Pheasant Ridge Dr.**  
 Number of Lanes: 2  
 Total Approach Volume: 1,995

**Westbound: Pheasant Ridge Dr.**  
 Number of Lanes: 2  
 Total Approach Volume: 5,411

**Warrant Summary (Rural 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 13 hours, 8 are needed	
<b>Warrant 1B - Interruption of Continuous Traffic</b> .....	<b>Satisfied</b>
Required volumes reached for 14 hours, 8 are needed	
<b>Warrant 1 A&amp;B - Combination of Warrants</b> .....	<b>Satisfied</b>
Required volumes reached for 14 hours, 8 are needed	
<b>Warrant 2 - Four Hour Volumes</b> .....	<b>Satisfied</b>
Number of hours (15) 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 (50) 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>

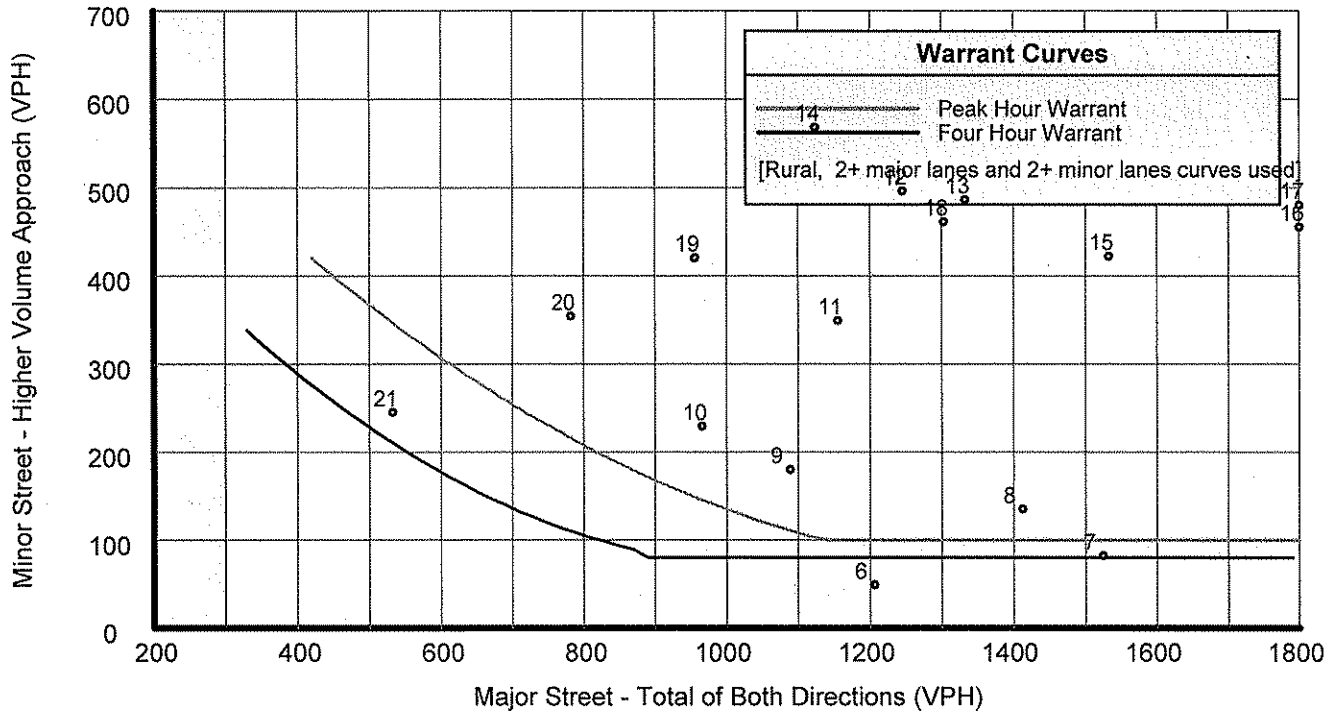




# Anoka County Highway PC-WARRANTS Traffic Signal Warrant Analysis

Study Name :  
Study Date : 07/25/11  
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	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	1,206	49	WB	420-Yes	140-No	Major	630-Yes	70-No	Major	504-Yes	112-No	Major
07:00	1,525	82	WB	420-Yes	140-No	Major	630-Yes	70-Yes	Both	504-Yes	112-No	Major
08:00	1,413	135	WB	420-Yes	140-No	Major	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
09:00	1,089	180	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
10:00	966	229	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
11:00	1,155	349	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
12:00	1,246	496	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
13:00	1,333	486	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
14:00	1,124	568	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
15:00	1,533	422	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
16:00	1,831	455	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
17:00	1,938	480	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
18:00	1,303	461	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
19:00	956	420	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
20:00	782	354	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
21:00	533	245	WB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-Yes	112-Yes	Both
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	---



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

Study Name : TMC1121  
 Study Date : 07/25/11  
 Page No. : 1

**Multi-Way Stop Warrant Report**

**Major Street Approaches**

**Northbound: CSAH 17**  
 Total Approach Volume: 12,160  
 Approach Speed: 45

**Southbound: CSAH 17**  
 Total Approach Volume: 7,773  
 Approach Speed: 45

**Minor Street Approaches**

**Eastbound: Pheasant Ridge Dr.**  
 Total Approach Volume: 1,995

**Westbound: Pheasant Ridge Dr.**  
 Total Approach Volume: 5,411

**Warrant Summary**

**Criteria A - Interim Measure** ..... Not Evaluated  
 If traffic signals are justified, stop signs can be installed as an interim measure.

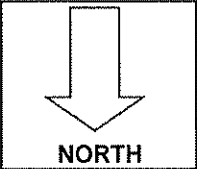
**Criteria B - Crash Experience** ..... Not Evaluated

**Criteria C - Minimum Volumes and Delays** ..... Satisfied  
 Delay data not evaluated  
 Required volumes reached for 14 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?
07:30 - 08:30	1,563	168	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
08:30 - 09:30	1,217	184	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
09:30 - 10:30	999	272	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
10:30 - 11:30	1,063	384	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
11:30 - 12:30	1,203	635	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
12:30 - 13:30	1,349	633	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
13:30 - 14:30	1,205	613	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
14:30 - 15:30	1,261	653	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
15:30 - 16:30	1,646	765	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
16:30 - 17:30	1,989	910	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
17:30 - 18:30	1,694	671	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
18:30 - 19:30	1,046	486	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
19:30 - 20:30	886	439	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
20:30 - 21:30	657	346	210-Yes	140-Yes	Both	240-Yes	160-Yes	Both
05:15 - 06:15	218	6	210-Yes	140-No	Major	240-No	160-No	No
05:30 - 06:30	491	20	210-Yes	140-No	Major	240-Yes	160-No	Major
05:45 - 06:45	820	37	210-Yes	140-No	Major	240-Yes	160-No	Major
06:00 - 07:00	1,206	65	210-Yes	140-No	Major	240-Yes	160-No	Major
06:15 - 07:15	1,343	92	210-Yes	140-No	Major	240-Yes	160-No	Major
06:30 - 07:30	1,420	91	210-Yes	140-No	Major	240-Yes	160-No	Major
06:45 - 07:45	1,447	117	210-Yes	140-No	Major	240-Yes	160-No	Major
07:00 - 08:00	1,525	125	210-Yes	140-No	Major	240-Yes	160-No	Major
07:15 - 08:15	1,520	138	210-Yes	140-No	Major	240-Yes	160-No	Major
21:30 - 22:30	244	136	210-Yes	140-No	Major	240-Yes	160-No	Major



COUNT LOCATION:

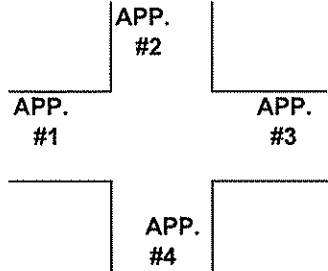
CSAH 17 (Lexington Ave.)

DATE:

07/21/2011

Pheasant Ridge Dr.

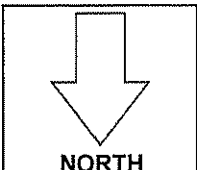
APP. #1 = Pheasant Ridge Dr
APP. #2 = CSAH 17
APP. #3 = Pheasant Ridge Dr
APP. #4 = CSAH 17



- 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			1		1	9		2
6:15-6:30			1		1	9		
6:30-6:45			1		1	8		4
6:45-7:00						12		
<b>HOURLY TOTAL</b>					<b>3</b>	<b>HOURLY TOTAL</b>		<b>44</b>
7:00-7:15						7		2
7:15-7:30						12		
7:30-7:45						10		1
7:45-8:00						10		
<b>HOURLY TOTAL</b>						<b>HOURLY TOTAL</b>		<b>42</b>
8:00-8:15						11		
8:15-8:30		1			1	13		3
8:30-8:45						20		
8:45-9:00		1			1	15		
<b>HOURLY TOTAL</b>					<b>2</b>	<b>HOURLY TOTAL</b>		<b>62</b>
9:00-9:15						20		2
9:15-9:30						17		2
9:30-9:45						7		1
9:45-10:00	12		1	1	14	15		1
<b>HOURLY TOTAL</b>					<b>14</b>	<b>HOURLY TOTAL</b>		<b>65</b>
10:00-10:15	4				4	22		
10:15-10:30			1		1	17		1
10:30-10:45			1	1	2	17		2
10:45-11:00						16	1	3
<b>HOURLY TOTAL</b>					<b>7</b>	<b>HOURLY TOTAL</b>		<b>79</b>
11:00-11:15			1		1	14		2
11:15-11:30						20		
11:30-11:45		1			1	15		
11:45-12:00			3	1	4	17		1
<b>HOURLY TOTAL</b>					<b>6</b>	<b>HOURLY TOTAL</b>		<b>69</b>
12:00-12:15	1	1	4	3	9	15		1
12:15-12:30		1	2	2	5	16		1
12:30-12:45		3		2	5	11		1
12:45-1:00		3	2	4	9	14		
<b>HOURLY TOTAL</b>					<b>28</b>	<b>HOURLY TOTAL</b>		<b>59</b>
1:00-1:15				4	4	13		1
1:15-1:30			2	2	4	15		
1:30-1:45				1	1	15		
1:45-2:00			4	3	7	15		2
<b>HOURLY TOTAL</b>					<b>16</b>	<b>HOURLY TOTAL</b>		<b>61</b>
<b>TOTAL</b>					<b>76</b>	<b>TOTAL</b>		<b>481</b>

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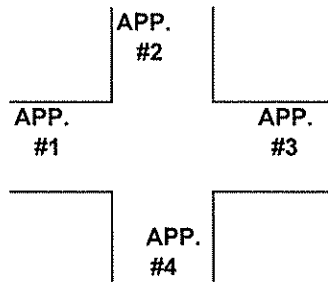
CSAH 17 (Lexington Ave.)

DATE:

07/18/2011

Pheasant Ridge Dr.

<b>NORTH</b>
APP. #1 = Pheasant Ridge Dr
APP. #2 = CSAH 17
APP. #3 = Pheasant Ridge Dr
APP. #4 = CSAH 17



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						12	1	
2:15-2:30						15		
2:30-2:45						7		
2:45-3:00		2			2	10		1
<b>HOURLY TOTAL</b>					<b>2</b>	<b>HOURLY TOTAL</b>		<b>46</b>
3:00-3:15						12		
3:15-3:30						6		1
3:30-3:45			2	2	4	6		1
3:45-4:00						6		
<b>HOURLY TOTAL</b>					<b>4</b>	<b>HOURLY TOTAL</b>		<b>32</b>
4:00-4:15						6		
4:15-4:30						10		
4:30-4:45			1		1	10		2
4:45-5:00						9		
<b>HOURLY TOTAL</b>					<b>1</b>	<b>HOURLY TOTAL</b>		<b>37</b>
5:00-5:15						8		
5:15-5:30						4		2
5:30-5:45						3	1	2
5:45-6:00		5			5	4		3
<b>HOURLY TOTAL</b>					<b>5</b>	<b>HOURLY TOTAL</b>		<b>27</b>
6:00-6:15						7		2
6:15-6:30						4		
6:30-6:45				1	1	2		4
6:45-7:00			2	3	5	1		1
<b>HOURLY TOTAL</b>					<b>6</b>	<b>HOURLY TOTAL</b>		<b>21</b>
7:00-7:15						1	1	2
7:15-7:30			1		1	2		1
7:30-7:45			1		1	2		1
7:45-8:00						1		
<b>HOURLY TOTAL</b>					<b>2</b>	<b>HOURLY TOTAL</b>		<b>11</b>
8:00-8:15			3	2	5	1		
8:15-8:30						1		
8:30-8:45				1	1	1		
8:45-9:00						2		
<b>HOURLY TOTAL</b>					<b>6</b>	<b>HOURLY TOTAL</b>		<b>5</b>
9:00-9:15			2	2	4			
9:15-9:30								
9:30-9:45			2	2	4	1		
9:45-10:00								
<b>HOURLY TOTAL</b>					<b>8</b>	<b>HOURLY TOTAL</b>		<b>1</b>
<b>TOTAL</b>					<b>110</b>	<b>TOTAL</b>		<b>661</b>

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