

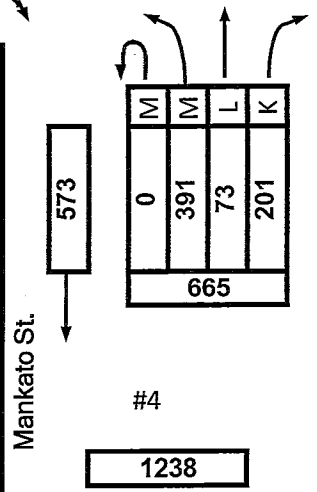
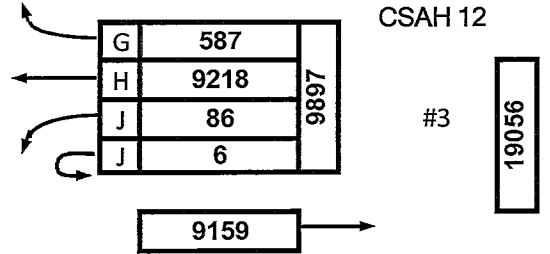
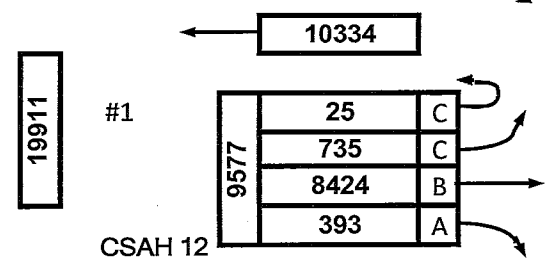
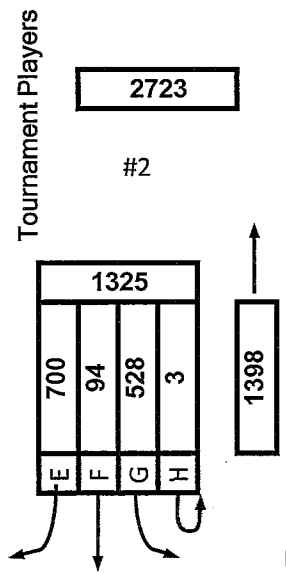
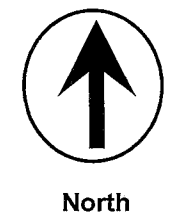
Date : 06/27/19

Count Number : TMC 1904

Location : CSAH 12 (109th Ave.)

@ Mankast St./Tournament Players Pkwy.

Collection Period : 24 Hours



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

Anoka County Highway Department  
 Traffic Volume and Turning  
 Movement Study

Date : 06/27/19

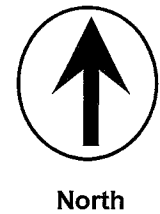
Count Number : TMC 1904

Location : CSAH 12 (109th Ave.)

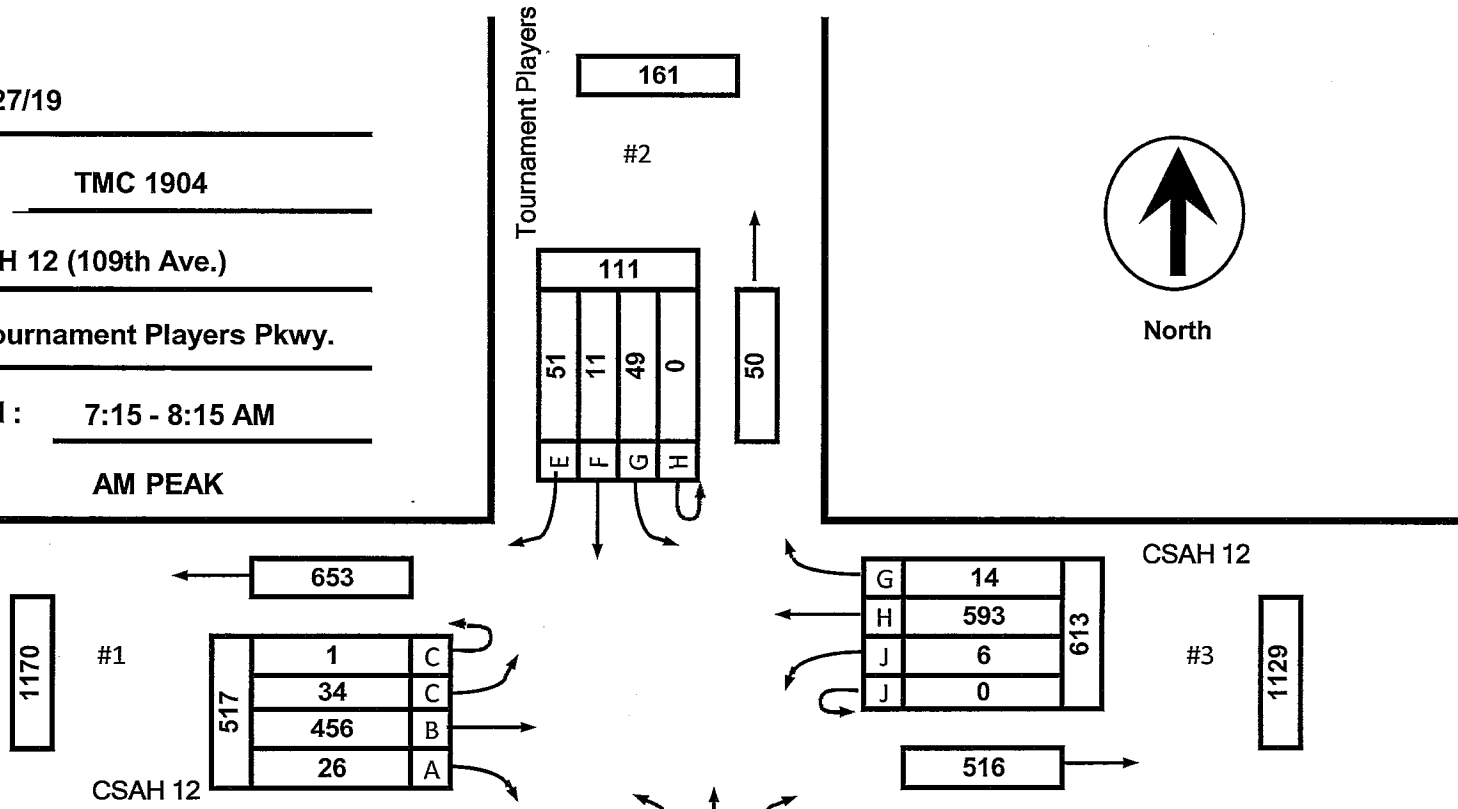
@ Mankast St./Tournament Players Pkwy.

Collection Period : 7:15 - 8:15 AM

**AM PEAK**



North



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

**Anoka County Highway Department**  
**Traffic Volume and Turning**  
**Movement Study**

Date : 06/27/19

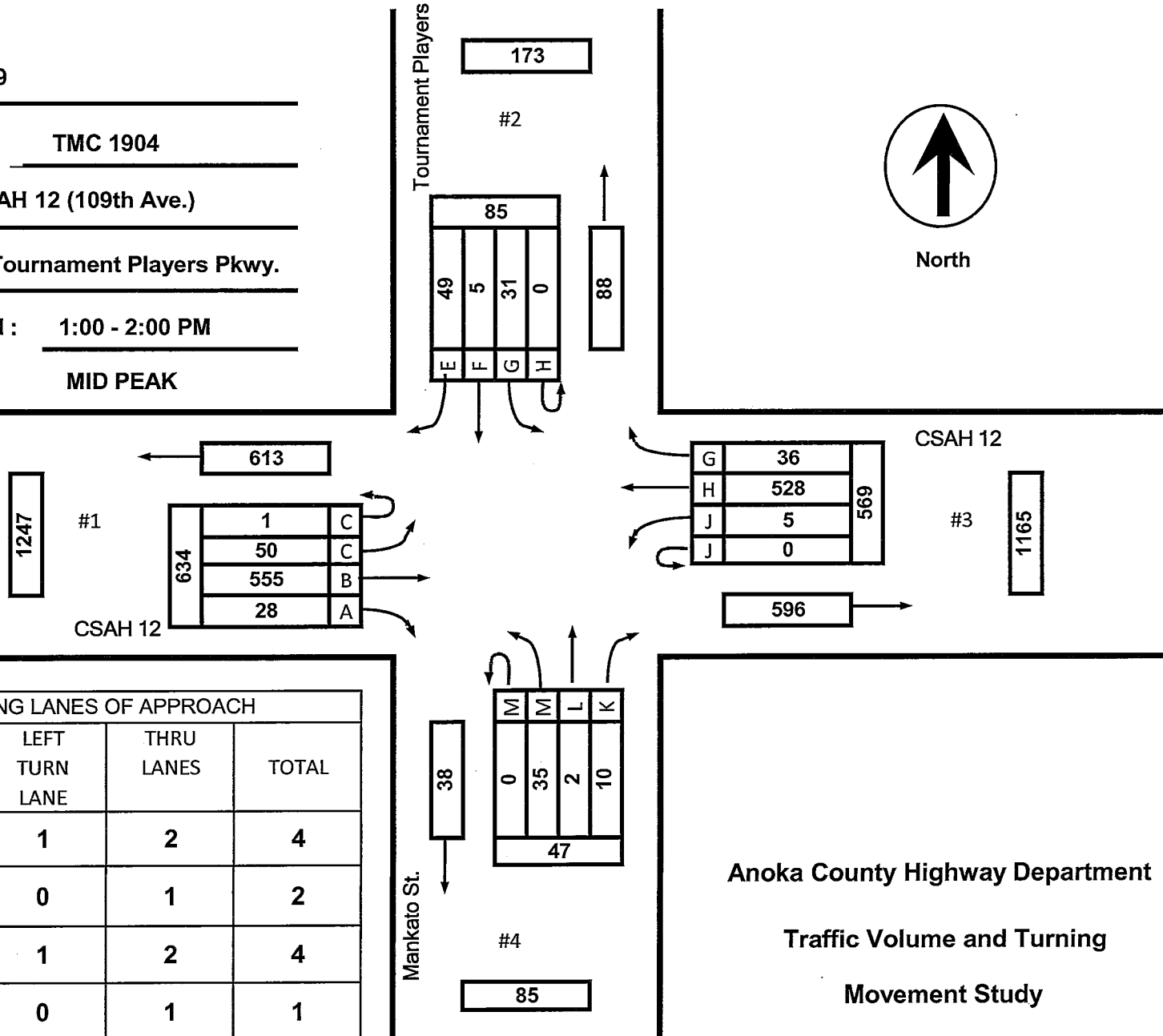
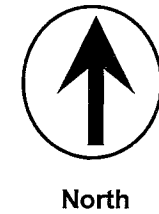
Count Number : TMC 1904

Location : CSAH 12 (109th Ave.)

@ Mankast St./Tournament Players Pkwy.

Collection Period : 1:00 - 2:00 PM

**MID PEAK**



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

**Anoka County Highway Department**  
**Traffic Volume and Turning**  
**Movement Study**

Date : 06/27/19

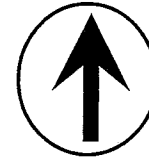
Count Number : TMC 1904

Location : CSAH 12 (109th Ave.)

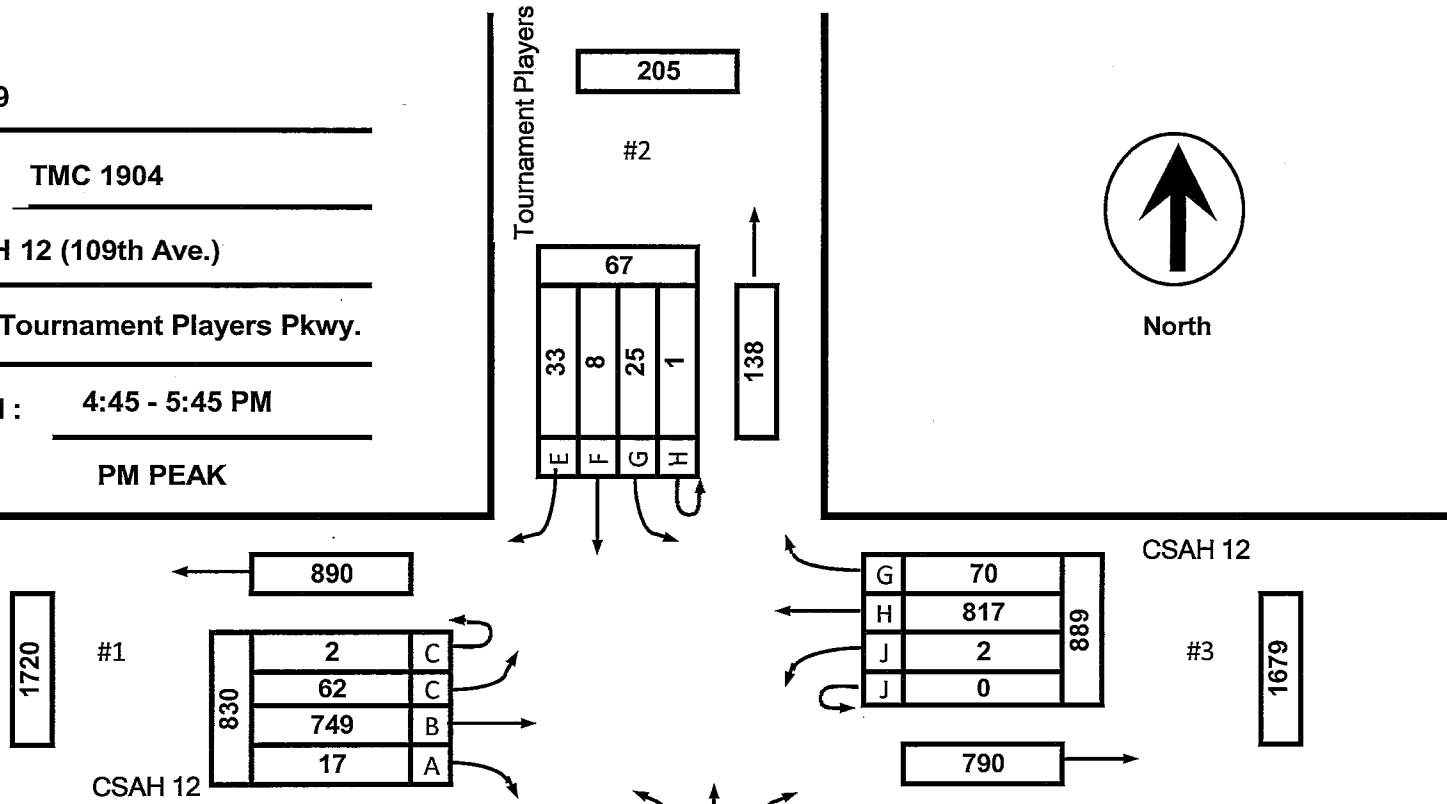
@ Mankast St./Tournament Players Pkwy.

Collection Period : 4:45 - 5:45 PM

**PM PEAK**



North



EXISTING LANES OF APPROACH

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

Anoka County Highway Department

Traffic Volume and Turning

Movement Study



# Anoka County Highway Department

## Traffic Engineering Section

### Traffic Volume and Turning Movement Study

Weather: Hot & Cloudy  
 CountCam 200  
 Study Conducted By: Ethan

File Name : TMC 1904  
 Site Code :  
 Start Date : 07/01/2019  
 Page No : 1

Groups Printed- Cars + - Trucks

Start Time	Tournament Players Pkwy. Southbound						CSAH 12 Westbound						Mankato St NE. Northbound						CSAH 12 Eastbound						Exclu. Total	Inclu. Total	Int. Total
	UTm	Left	Thru	Right	Peds	App. Total	UTm	Left	Thru	Right	Peds	App. Total	UTm	Left	Thru	Right	Peds	App. Total	UTm	Left	Thru	Right	Peds	App. Total			
00:00	0	1	1	1	0	3	0	1	8	2	0	11	0	0	0	0	0	0	0	0	13	0	0	13	0	27	27
00:15	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	1	13	0	0	14	0	24	24
00:30	0	1	0	0	0	1	0	0	12	0	0	12	0	0	0	0	0	0	0	2	11	0	0	13	0	26	26
00:45	0	1	0	1	0	2	0	0	6	0	0	6	0	0	0	0	0	0	0	0	2	0	0	2	0	10	10
<b>Total</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>1</b>	<b>36</b>	<b>2</b>	<b>0</b>	<b>39</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>39</b>	<b>0</b>	<b>0</b>	<b>42</b>	<b>0</b>	<b>87</b>	<b>87</b>
01:00	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	7	0	0	7	0	13	13
01:15	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	1	3	0	0	4	0	11	11
01:30	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	0	0	4	0	0	4	0	7	7
01:45	0	0	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	0	1	0	4	0	0	5	0	14	14
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>23</b>	<b>2</b>	<b>0</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>45</b>	<b>45</b>
02:00	0	1	1	0	0	2	0	0	9	0	0	9	0	0	0	0	0	0	0	0	4	0	0	4	0	15	15
02:15	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	3	1	0	4	0	8	8
02:30	1	0	1	0	0	2	0	1	6	0	0	7	0	1	1	1	0	3	0	0	5	0	0	5	0	17	17
02:45	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	3	3
<b>Total</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>1</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>1</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>43</b>	<b>43</b>
03:00	0	0	0	0	0	0	1	0	2	0	0	3	0	0	0	0	0	0	0	0	1	0	0	1	0	4	4
03:15	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	2	5	0	0	7	0	10	10
03:30	0	1	0	0	0	1	0	0	4	0	0	4	0	0	0	0	0	0	1	0	11	1	0	13	0	18	18
03:45	0	1	0	1	0	2	0	0	5	0	0	5	0	0	0	0	0	0	0	0	10	2	0	12	0	19	19
<b>Total</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>27</b>	<b>3</b>	<b>0</b>	<b>33</b>	<b>0</b>	<b>51</b>	<b>51</b>
04:00	0	2	0	0	0	2	0	0	3	0	0	3	0	0	0	0	0	0	0	0	5	2	0	7	0	12	12
04:15	0	2	0	0	0	2	0	0	10	0	0	10	0	0	0	0	0	0	0	0	13	2	0	15	0	27	27
04:30	0	1	0	1	0	2	0	4	19	0	0	23	0	2	0	0	0	2	1	0	12	6	0	19	0	46	46
04:45	0	3	2	3	0	8	0	2	26	1	0	29	0	0	0	0	0	0	0	0	24	10	0	34	0	71	71
<b>Total</b>	<b>0</b>	<b>8</b>	<b>2</b>	<b>4</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>6</b>	<b>58</b>	<b>1</b>	<b>0</b>	<b>65</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>54</b>	<b>20</b>	<b>0</b>	<b>75</b>	<b>0</b>	<b>156</b>	<b>156</b>
05:00	0	9	0	2	0	11	0	0	11	2	0	13	0	1	0	2	0	3	0	0	25	3	0	28	0	55	55
05:15	0	9	0	4	0	13	0	3	24	0	0	27	0	1	0	1	0	2	0	0	40	6	0	46	0	88	88
05:30	0	11	1	4	0	16	0	4	31	0	0	35	0	4	1	0	0	5	0	2	51	10	0	63	0	119	119
05:45	0	11	1	5	0	17	0	3	58	0	0	61	0	2	0	1	0	3	1	1	51	8	0	61	0	142	142
<b>Total</b>	<b>0</b>	<b>40</b>	<b>2</b>	<b>15</b>	<b>0</b>	<b>57</b>	<b>0</b>	<b>10</b>	<b>124</b>	<b>2</b>	<b>0</b>	<b>136</b>	<b>0</b>	<b>8</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>13</b>	<b>1</b>	<b>3</b>	<b>167</b>	<b>27</b>	<b>0</b>	<b>198</b>	<b>0</b>	<b>404</b>	<b>404</b>



# Anoka County Highway Department

## Traffic Engineering Section

### Traffic Volume and Turning Movement Study

File Name : TMC 1904  
 Site Code :  
 Start Date : 07/01/2019  
 Page No : 2

Weather: Hot & Cloudy  
 CountCam 200  
 Study Conducted By: Ethan

Groups Printed- Cars + - Trucks

Start Time	Tournament Players Pkwy. Southbound						CSAH 12 Westbound					Mankato St NE. Northbound					CSAH 12 Eastbound						Exclu. Total	Inclu. Total	Int. Total		
	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right				Peds	App. Total
06:00	0	6	4	4	1	14	0	2	101	1	0	104	0	0	0	0	0	0	1	1	42	12	0	56	1	174	175
06:15	0	8	0	4	0	12	1	0	101	2	0	104	0	1	0	0	0	1	0	4	64	9	0	77	0	194	194
06:30	0	8	0	12	0	20	0	2	161	2	0	165	0	1	0	0	0	1	0	3	83	5	0	91	0	277	277
06:45	0	13	3	17	0	33	0	3	151	3	0	157	0	0	0	2	0	2	0	0	101	12	0	113	0	305	305
<b>Total</b>	0	35	7	37	1	79	1	7	514	8	0	530	0	2	0	2	0	4	1	8	290	38	0	337	1	950	951
07:00	0	10	5	11	0	26	0	3	165	4	0	172	0	2	1	1	0	4	1	0	86	4	0	91	0	293	293
07:15	0	10	5	11	0	26	0	0	158	2	0	160	0	3	1	3	0	7	0	11	102	9	0	122	0	315	315
07:30	0	9	0	14	0	23	0	4	151	5	0	160	0	1	1	4	0	6	1	4	104	4	0	113	0	302	302
07:45	0	18	2	14	1	34	0	0	143	5	0	148	0	3	0	1	0	4	0	3	143	8	0	154	1	340	341
<b>Total</b>	0	47	12	50	1	109	0	7	617	16	0	640	0	9	3	9	0	21	2	18	435	25	0	480	1	1250	1251
08:00	0	12	4	12	0	28	0	2	141	2	0	145	0	1	0	3	0	4	0	16	107	5	0	128	0	305	305
08:15	0	12	2	9	0	23	0	2	148	5	0	155	0	3	0	3	0	6	0	8	92	6	0	106	0	290	290
08:30	0	12	1	14	0	27	0	1	141	2	0	144	0	3	3	2	0	8	0	7	94	8	0	109	0	288	288
08:45	0	8	2	16	0	26	0	2	146	2	0	150	0	2	0	6	0	8	0	7	104	7	0	118	0	302	302
<b>Total</b>	0	44	9	51	0	104	0	7	576	11	0	594	0	9	3	14	0	26	0	38	397	26	0	461	0	1185	1185
09:00	0	10	1	7	0	18	0	2	135	8	0	145	0	6	3	3	0	12	0	6	110	7	0	123	0	298	298
09:15	0	7	1	20	0	28	0	2	140	8	0	150	0	3	1	1	0	5	0	8	112	4	0	124	0	307	307
09:30	0	9	3	16	0	28	0	1	136	3	0	140	0	8	0	1	0	9	0	9	83	5	0	97	0	274	274
09:45	0	11	2	8	0	21	0	0	137	9	0	146	0	6	1	5	0	12	1	11	94	12	0	118	0	297	297
<b>Total</b>	0	37	7	51	0	95	0	5	548	28	0	581	0	23	5	10	0	38	1	34	399	28	0	462	0	1176	1176
10:00	0	5	1	17	0	23	0	1	127	6	0	134	0	3	2	2	0	7	0	11	127	11	0	149	0	313	313
10:15	0	8	4	7	0	19	0	1	102	9	0	112	0	5	4	3	1	12	0	5	107	9	0	121	1	264	265
10:30	0	5	0	16	0	21	0	1	103	4	0	108	0	4	0	2	0	6	0	9	102	6	0	117	0	252	252
10:45	0	7	4	11	0	22	0	0	106	7	0	113	0	6	0	2	0	8	0	11	106	7	0	124	0	267	267
<b>Total</b>	0	25	9	51	0	85	0	3	438	26	0	467	0	18	6	9	1	33	0	36	442	33	0	511	1	1096	1097
11:00	0	6	1	11	0	18	0	0	128	10	0	138	0	9	1	1	0	11	0	14	102	7	0	123	0	290	290
11:15	0	5	1	7	0	13	0	1	130	8	0	139	0	5	0	4	0	9	0	7	80	4	0	91	0	252	252
11:30	0	9	2	15	0	26	0	1	140	7	0	148	0	10	2	3	0	15	0	6	103	15	0	124	0	313	313
11:45	0	6	3	13	0	22	0	0	125	6	0	131	0	10	1	5	0	16	1	12	143	13	0	169	0	338	338
<b>Total</b>	0	26	7	46	0	79	0	2	523	31	0	556	0	34	4	13	0	51	1	39	428	39	0	507	0	1193	1193
12:00	0	6	0	11	0	17	0	4	147	7	0	158	0	11	1	8	0	20	0	19	105	10	0	134	0	329	329
12:15	0	6	2	10	0	18	0	1	134	8	0	143	0	6	0	5	0	11	0	8	102	13	0	123	0	295	295
12:30	0	7	1	13	0	21	1	1	135	6	0	143	0	16	1	1	0	18	1	15	121	9	0	146	0	328	328



# Anoka County Highway Department

## Traffic Engineering Section

### Traffic Volume and Turning Movement Study

Weather: Hot & Cloudy  
 CountCam 200  
 Study Conducted By: Ethan

File Name : TMC 1904  
 Site Code :  
 Start Date : 07/01/2019  
 Page No : 3

Groups Printed- Cars + - Trucks

Start Time	Tournament Players Pkwy. Southbound						CSAH 12 Westbound						Mankato St NE. Northbound						CSAH 12 Eastbound						Exclu. Total	Inclu. Total	Int. Total
	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total			
12:45	0	10	0	11	0	21	0	3	130	4	0	137	0	7	2	3	0	12	0	18	128	7	0	153	0	323	323
Total	0	29	3	45	0	77	1	9	546	25	0	581	0	40	4	17	0	61	1	60	456	39	0	556	0	1275	1275
13:00	0	7	1	9	0	17	0	2	144	9	0	155	0	14	0	2	0	16	0	12	148	4	0	164	0	352	352
13:15	0	6	2	14	0	22	0	1	125	8	0	134	0	4	1	2	0	7	1	16	115	12	0	144	0	307	307
13:30	0	7	2	8	1	17	0	0	126	12	0	138	0	10	1	2	0	13	0	13	143	10	0	166	1	334	335
13:45	0	11	0	18	0	29	0	2	133	7	0	142	0	7	0	4	0	11	0	9	149	2	0	160	0	342	342
Total	0	31	5	49	1	85	0	5	528	36	0	569	0	35	2	10	0	47	1	50	555	28	0	634	1	1335	1336
14:00	0	6	0	14	0	20	0	1	139	8	0	148	0	10	2	3	0	15	0	14	121	4	0	139	0	322	322
14:15	0	10	0	7	1	17	0	0	130	8	0	138	0	9	0	3	0	12	0	18	136	6	0	160	1	327	328
14:30	0	5	0	13	1	18	0	1	131	11	0	143	0	8	2	6	0	16	0	17	149	6	0	172	1	349	350
14:45	0	7	0	9	1	16	0	0	123	7	0	130	0	3	0	6	0	9	1	16	149	4	0	170	1	325	326
Total	0	28	0	43	3	71	0	2	523	34	0	559	0	30	4	18	0	52	1	65	555	20	0	641	3	1323	1326
15:00	0	11	0	11	1	22	0	2	144	9	0	155	0	7	2	7	0	16	0	7	131	6	0	144	1	337	338
15:15	0	6	0	15	0	21	0	2	151	10	0	163	0	4	0	4	0	8	1	12	125	7	0	145	0	337	337
15:30	0	6	1	8	1	15	0	1	149	17	0	167	0	23	0	11	1	34	0	13	151	2	0	166	2	382	384
15:45	0	7	2	5	1	14	0	3	187	20	0	210	0	12	3	5	0	20	1	19	144	4	0	168	1	412	413
Total	0	30	3	39	3	72	0	8	631	56	0	695	0	46	5	27	1	78	2	51	551	19	0	623	4	1468	1472
16:00	0	5	2	19	1	26	0	2	191	12	0	205	0	19	3	9	0	31	1	22	153	4	0	180	1	442	443
16:15	0	7	0	9	0	16	0	0	180	17	0	197	0	16	0	4	0	20	0	11	164	7	0	182	0	415	415
16:30	0	5	1	13	0	19	0	2	195	15	0	212	0	16	3	15	0	34	0	17	171	3	0	191	0	456	456
16:45	0	2	3	8	0	13	0	1	197	17	0	215	0	14	1	4	0	19	0	20	196	8	0	224	0	471	471
Total	0	19	6	49	1	74	0	5	763	61	0	829	0	65	7	32	0	104	1	70	684	22	0	777	1	1784	1785
17:00	0	7	4	10	0	21	0	0	198	18	0	216	0	14	1	7	0	22	0	8	193	5	0	206	0	465	465
17:15	0	9	0	5	0	14	0	1	194	20	0	215	0	4	2	3	0	9	1	21	180	1	0	203	0	441	441
17:30	1	7	1	10	0	19	0	0	228	15	0	243	0	6	1	2	2	9	1	13	180	3	0	197	2	468	470
17:45	0	8	1	11	0	20	0	0	221	12	0	233	0	2	2	4	0	8	0	12	149	2	0	163	0	424	424
Total	1	31	6	36	0	74	0	1	841	65	0	907	0	26	6	16	2	48	2	54	702	11	0	769	2	1798	1800
18:00	1	14	0	14	1	29	0	1	168	22	0	191	0	2	0	5	0	7	1	20	146	2	0	169	1	396	397
18:15	0	10	1	6	0	17	0	2	176	15	0	193	0	8	1	1	0	10	0	15	138	1	0	154	0	374	374
18:30	0	8	1	4	0	13	0	1	143	5	0	149	0	5	0	1	0	6	0	14	160	0	1	174	1	342	343
18:45	0	3	1	9	0	13	0	0	125	6	0	131	0	3	2	1	0	6	1	13	132	2	0	148	0	298	298
Total	1	35	3	33	1	72	0	4	612	48	0	664	0	18	3	8	0	29	2	62	576	5	1	645	2	1410	1412



# Anoka County Highway Department

## Traffic Engineering Section

### Traffic Volume and Turning Movement Study

File Name : TMC 1904  
 Site Code :  
 Start Date : 07/01/2019  
 Page No : 4

Weather: Hot & Cloudy  
 CountCam 200  
 Study Conducted By: Ethan

Groups Printed- Cars + - Trucks

Start Time	Tournament Players Pkwy. Southbound						CSAH 12 Westbound					Mankato St NE. Northbound					CSAH 12 Eastbound					Exclu. Total	Inclu. Total	Int. Total						
	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru				Right	Peds	App. Total			
19:00	0	6	3	10	2	19	0	1	118	6	0	125	0	4	0	3	0	7	1	8	141	2	0	152	2	303	305			
19:15	0	4	0	16	1	20	0	0	119	3	0	122	0	4	0	1	0	5	0	13	147	0	0	160	1	307	308			
19:30	0	8	1	8	0	17	0	0	114	7	0	121	0	4	3	0	0	7	0	6	119	1	0	126	0	271	271			
19:45	0	4	1	9	0	14	0	0	89	3	0	92	0	0	1	1	1	2	1	10	111	1	1	123	2	231	233			
<b>Total</b>	0	22	5	43	3	70	0	1	440	19	0	460	0	12	4	5	1	21	2	37	518	4	1	561	5	1112	1117			
20:00	0	3	0	6	1	9	0	1	91	9	0	101	0	4	1	1	0	6	0	12	135	1	0	148	1	264	265			
20:15	0	0	0	8	0	8	0	0	94	9	1	103	0	3	2	0	1	5	0	8	139	1	0	148	2	264	266			
20:30	0	3	1	0	0	4	0	0	88	17	0	105	0	1	1	0	2	2	0	11	108	0	0	119	2	230	232			
20:45	0	3	0	4	0	7	0	1	74	10	1	85	0	3	1	0	0	4	0	7	103	0	2	110	3	206	209			
<b>Total</b>	0	9	1	18	1	28	0	2	347	45	2	394	0	11	5	1	3	17	0	38	485	2	2	525	8	964	972			
21:00	0	1	1	9	0	11	1	0	84	12	1	97	0	1	1	1	0	3	0	12	96	2	0	110	1	221	222			
21:15	0	0	0	2	0	2	0	0	63	3	0	66	0	1	1	1	0	3	0	16	99	0	0	115	0	186	186			
21:30	0	2	0	5	0	7	1	0	60	8	0	69	0	0	0	1	0	1	0	8	65	0	0	73	0	150	150			
21:45	0	3	2	2	0	7	0	0	53	7	0	60	0	0	2	1	0	3	0	6	68	0	0	74	0	144	144			
<b>Total</b>	0	6	3	18	0	27	2	0	260	30	1	292	0	2	4	4	0	10	0	42	328	2	0	372	1	701	702			
22:00	0	1	0	6	0	7	0	0	38	6	0	44	0	0	1	0	0	1	0	4	58	0	0	62	0	114	114			
22:15	0	6	0	3	0	9	0	0	48	7	0	55	0	0	1	0	0	1	1	5	71	0	0	77	0	142	142			
22:30	0	6	0	1	0	7	0	0	35	6	0	41	0	0	1	0	0	1	0	6	56	0	0	62	0	111	111			
22:45	0	4	0	4	0	8	1	0	25	8	0	34	0	0	1	0	0	1	1	3	38	0	0	42	0	85	85			
<b>Total</b>	0	17	0	14	0	31	1	0	146	27	0	174	0	0	4	0	0	4	2	18	223	0	0	243	0	452	452			
23:00	0	2	0	3	0	5	0	0	36	4	0	40	0	0	2	0	0	2	1	2	28	0	0	31	0	78	78			
23:15	0	0	0	2	0	2	0	0	24	2	0	26	0	0	0	0	0	0	1	3	28	1	0	33	0	61	61			
23:30	0	1	0	0	0	1	0	0	23	1	0	24	0	0	0	1	0	1	0	0	13	0	0	13	0	39	39			
23:45	0	0	0	0	0	0	0	0	7	7	0	14	0	0	0	0	0	0	0	1	13	0	0	14	0	28	28			
<b>Total</b>	0	3	0	5	0	8	0	0	90	14	0	104	0	0	2	1	0	3	2	6	82	1	0	91	0	206	206			
<b>Grand Total</b>	3	528	94	700	15	1325	6	86	9218	587	3	9897	0	391	73	201	8	665	25	735	8424	393	4	9577	30	21464	21494			
<b>Apprch %</b>	0.2	39.8	7.1	52.8			0.1	0.9	93.1	5.9			0	58.8	11	30.2			0.3	7.7	88	4.1								
<b>Total %</b>	0	2.5	0.4	3.3		6.2	0	0.4	42.9	2.7		46.1	0	1.8	0.3	0.9		3.1	0.1	3.4	39.2	1.8		44.6	0.1	99.9				
<b>Cars +</b>	3	522	93	680		1313	6	80	9083	569		9741	0	359	72	190		629	25	721	8302	372		9424	0	0	21107			
<b>% Cars +</b>	100	98.9	98.9	97.1	100	98	100	93	98.5	96.9	100	98.4	0	91.8	98.6	94.5	100	93.5	100	98.1	98.6	94.7	100	98.4	0	0	98.2			
<b>Trucks</b>	0	6	1	20		27	0	6	135	18		159	0	32	1	11		44	0	14	122	21		157	0	0	387			
<b>% Trucks</b>	0	1.1	1.1	2.9	0	2	0	7	1.5	3.1	0	1.6	0	8.2	1.4	5.5	0	6.5	0	1.9	1.4	5.3	0	1.6	0	0	1.8			





# Anoka County Highway Department

## Traffic Engineering Section

### Traffic Volume and Turning Movement Study

Weather: Hot & Cloudy  
 CountCam 200  
 Study Conducted By: Ethan

File Name : TMC 1904  
 Site Code :  
 Start Date : 07/01/2019  
 Page No : 5

Start-Time	Tournament Players Pkwy. Southbound					CSAH 12 Westbound					Mankato St NE. Northbound					CSAH 12 Eastbound					Int. Total
	UTrn	Left	Thru	Right	App. Total	UTrn	Left	Thru	Right	App. Total	UTrn	Left	Thru	Right	App. Total	UTrn	Left	Thru	Right	App. Total	
Peak Hour Analysis From 00:00 to 09:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	10	5	11	26	0	0	158	2	160	0	3	1	3	7	0	11	102	9	122	315
07:30	0	9	0	14	23	0	4	151	5	160	0	1	1	4	6	1	4	104	4	113	302
07:45	0	18	2	14	34	0	0	143	5	148	0	3	0	1	4	0	3	143	8	154	340
08:00	0	12	4	12	28	0	2	141	2	145	0	1	0	3	4	0	16	107	5	128	305
Total Volume	0	49	11	51	111	0	6	593	14	613	0	8	2	11	21	1	34	456	26	517	1262
% App. Total	0	44.1	9.9	45.9		0	1	96.7	2.3		0	38.1	9.5	52.4		0.2	6.6	88.2	5		
PHF	.000	.681	.550	.911	.816	.000	.375	.938	.700	.958	.000	.667	.500	.688	.750	.250	.531	.797	.722	.839	.928

Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 13:00																					
13:00	0	7	1	9	17	0	2	144	9	155	0	14	0	2	16	0	12	148	4	164	352
13:15	0	6	2	14	22	0	1	125	8	134	0	4	1	2	7	1	16	115	12	144	307
13:30	0	7	2	8	17	0	0	126	12	138	0	10	1	2	13	0	13	143	10	166	334
13:45	0	11	0	18	29	0	2	133	7	142	0	7	0	4	11	0	9	149	2	160	342
Total Volume	0	31	5	49	85	0	5	528	36	569	0	35	2	10	47	1	50	555	28	634	1335
% App. Total	0	36.5	5.9	57.6		0	0.9	92.8	6.3		0	74.5	4.3	21.3		0.2	7.9	87.5	4.4		
PHF	.000	.705	.625	.681	.733	.000	.625	.917	.750	.918	.000	.625	.500	.625	.734	.250	.781	.931	.583	.955	.948

Peak Hour Analysis From 14:00 to 23:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	0	2	3	8	13	0	1	197	17	215	0	14	1	4	19	0	20	196	8	224	471
17:00	0	7	4	10	21	0	0	198	18	216	0	14	1	7	22	0	8	193	5	206	465
17:15	0	9	0	5	14	0	1	194	20	215	0	4	2	3	9	1	21	180	1	203	441
17:30	1	7	1	10	19	0	0	228	15	243	0	6	1	2	9	1	13	180	3	197	468
Total Volume	1	25	8	33	67	0	2	817	70	889	0	38	5	16	59	2	62	749	17	830	1845
% App. Total	1.5	37.3	11.9	49.3		0	0.2	91.9	7.9		0	64.4	8.5	27.1		0.2	7.5	90.2	2		
PHF	.250	.694	.500	.825	.798	.000	.500	.896	.875	.915	.000	.679	.625	.571	.670	.500	.738	.955	.531	.926	.979



# Anoka County Highway Department

## Traffic Engineering Section

### Traffic Volume and Turning Movement Study

File Name : TMC 1904  
 Site Code :  
 Start Date : 07/01/2019  
 Page No : 1

Weather: Hot & Cloudy  
 CountCam 200  
 Study Conducted By: Ethan

Groups Printed- Trucks

Start Time	Tournament Players Pkwy. Southbound					CSAH 12 Westbound					Mankato St NE. Northbound					CSAH 12 Eastbound					Int. Total	
	UTrn	Left	Thru	Right	App. Total	UTrn	Left	Thru	Right	App. Total	UTrn	Left	Thru	Right	App. Total	UTrn	Left	Thru	Right	App. Total		
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:45	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:15	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:30	0	0	0	0	0	0	0	3	0	3	0	2	0	0	2	0	0	0	1	0	1	6
04:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	4	0	4	0	2	0	0	2	0	0	1	1	0	2	8
05:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
05:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
05:30	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4
05:45	0	0	0	0	0	0	0	0	0	0	0	2	0	1	3	0	0	1	0	0	1	4
Total	0	0	0	0	0	0	0	0	0	0	0	7	0	1	8	0	0	2	0	0	2	10
06:00	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
06:30	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	2	1	0	0	3	5
06:45	0	0	0	1	1	0	0	1	1	2	0	0	0	0	0	0	0	2	0	0	2	5
Total	0	0	0	1	1	0	0	4	1	5	0	1	0	0	1	0	2	3	0	0	5	12
07:00	0	0	0	2	2	0	0	9	2	11	0	0	0	0	0	0	0	2	0	0	2	15
07:15	0	0	0	0	0	0	0	2	1	3	0	0	0	1	1	0	1	1	1	0	3	7
07:30	0	0	0	0	0	0	0	4	0	4	0	1	0	1	2	0	1	1	0	0	2	8
07:45	0	0	0	0	0	0	0	3	1	4	0	1	0	0	1	0	0	2	0	0	2	7
Total	0	0	0	2	2	0	0	18	4	22	0	2	0	2	4	0	2	6	1	0	9	37
08:00	0	0	0	1	1	0	0	2	0	2	0	0	0	0	0	0	2	2	1	0	5	8
08:15	0	0	0	0	0	0	0	5	0	5	0	1	0	0	1	0	0	2	1	0	3	9
08:30	0	0	0	0	0	0	0	5	1	6	0	1	0	0	1	0	1	1	1	0	3	10
08:45	0	0	0	0	0	0	0	4	0	4	0	0	0	1	1	0	0	7	0	0	7	12
Total	0	0	0	1	1	0	0	16	1	17	0	2	0	1	3	0	3	12	3	0	18	39
09:00	0	0	0	0	0	0	0	5	0	5	0	0	0	0	0	0	1	5	2	0	8	13



# Anoka County Highway Department

## Traffic Engineering Section

### Traffic Volume and Turning Movement Study

File Name : TMC 1904  
 Site Code :  
 Start Date : 07/01/2019  
 Page No : 2

Weather: Hot & Cloudy  
 CountCam 200  
 Study Conducted By: Ethan

Groups Printed- Trucks

Start Time	Tournament Players Pkwy. Southbound					CSAH 12 Westbound					Mankato St NE. Northbound					CSAH 12 Eastbound					Int. Total
	UTrn	Left	Thru	Right	App. Total	UTrn	Left	Thru	Right	App. Total	UTrn	Left	Thru	Right	App. Total	UTrn	Left	Thru	Right	App. Total	
09:15	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	2	2	0	4	6
09:30	0	0	0	2	2	0	0	1	0	1	0	0	0	1	1	0	0	3	0	3	7
09:45	0	2	0	0	2	0	0	2	1	3	0	1	1	0	2	0	0	3	0	3	10
<b>Total</b>	0	2	0	2	4	0	1	9	1	11	0	1	1	1	3	0	3	13	2	18	36
10:00	0	1	0	1	2	0	0	2	0	2	0	1	0	0	1	0	0	4	0	4	9
10:15	0	0	1	0	1	0	0	2	0	2	0	0	0	0	0	0	0	4	2	6	9
10:30	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	5
10:45	0	0	0	0	0	0	0	3	0	3	0	1	0	0	1	0	0	2	1	3	7
<b>Total</b>	0	1	1	3	5	0	0	7	0	7	0	2	0	0	2	0	0	13	3	16	30
11:00	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	4	1	5	7
11:15	0	0	0	0	0	0	0	6	1	7	0	2	0	1	3	0	0	0	1	1	11
11:30	0	0	0	0	0	0	1	10	0	11	0	1	0	0	1	0	0	5	0	5	17
11:45	0	0	0	0	0	0	0	3	0	3	0	2	0	0	2	0	1	0	1	2	7
<b>Total</b>	0	0	0	0	0	0	1	21	1	23	0	5	0	1	6	0	1	9	3	13	42
12:00	0	0	0	0	0	0	0	2	0	2	0	1	0	0	1	0	0	2	0	2	5
12:15	0	0	0	1	1	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	4
12:30	0	0	0	1	1	0	0	1	1	2	0	0	0	0	0	0	0	1	0	1	4
12:45	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	4	1	5	6
<b>Total</b>	0	0	0	2	2	0	0	5	3	8	0	1	0	0	1	0	0	7	1	8	19
13:00	0	0	0	1	1	0	1	4	0	5	0	2	0	0	2	0	0	3	0	3	11
13:15	0	0	0	1	1	0	0	3	1	4	0	1	0	0	1	0	0	7	0	7	13
13:30	0	0	0	1	1	0	0	4	1	5	0	0	0	0	0	0	0	4	0	4	10
13:45	0	0	0	0	0	0	0	2	0	2	0	1	0	0	1	0	0	5	0	5	8
<b>Total</b>	0	0	0	3	3	0	1	13	2	16	0	4	0	0	4	0	0	19	0	19	42
14:00	0	0	0	0	0	0	0	5	1	6	0	0	0	1	1	0	0	3	0	3	10
14:15	0	1	0	0	1	0	0	3	0	3	0	0	0	1	1	0	1	2	0	3	8
14:30	0	0	0	1	1	0	0	2	0	2	0	0	0	0	0	0	0	4	1	5	8
14:45	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	3	0	5	6
<b>Total</b>	0	1	0	1	2	0	0	11	1	12	0	0	0	2	2	0	3	12	1	16	32
15:00	0	1	0	0	1	0	0	2	0	2	0	1	0	1	2	0	0	3	1	4	9
15:15	0	0	0	0	0	0	0	2	0	2	0	0	0	1	1	0	0	1	2	3	6
15:30	0	0	0	0	0	0	0	2	1	3	0	2	0	1	3	0	0	2	1	3	9
15:45	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	2	0	2	4
<b>Total</b>	0	1	0	0	1	0	0	7	2	9	0	3	0	3	6	0	0	8	4	12	28
16:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	5
16:15	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2
16:30	0	0	0	1	1	0	0	1	1	2	0	0	0	0	0	0	0	1	0	1	4
16:45	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	2	1	3	6
<b>Total</b>	0	0	0	2	2	0	0	6	1	7	0	0	0	0	0	0	0	7	1	8	17
17:00	0	0	0	1	1	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	3
17:15	0	0	0	1	1	0	0	1	1	2	0	0	0	0	0	0	0	1	0	1	4
17:30	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	2	0	2	4
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	0	0	0	2	2	0	0	3	1	4	0	2	0	0	2	0	0	3	0	3	11
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
18:15	0	1	0	0	1	0	0	2	0	2	0	0	0	0	0	0	0	1	0	1	4
18:30	0	0	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
18:45	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	1	0	1	3
<b>Total</b>	0	1	0	1	2	0	1	4	0	5	0	0	0	0	0	0	0	3	0	3	10



# Anoka County Highway Department

## Traffic Engineering Section

### Traffic Volume and Turning Movement Study

File Name : TMC 1904  
 Site Code :  
 Start Date : 07/01/2019  
 Page No : 3

Weather: Hot & Cloudy  
 CountCam 200  
 Study Conducted By: Ethan

Groups Printed- Trucks

Start Time	Tournament Players Pkwy. Southbound					CSAH 12 Westbound					Mankato St NE. Northbound					CSAH 12 Eastbound					Int. Total	
	UTrn	Left	Thru	Right	App. Total	UTrn	Left	Thru	Right	App. Total	UTrn	Left	Thru	Right	App. Total	UTrn	Left	Thru	Right	App. Total		
19:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
19:15	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2
19:30	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	0	0	2	3
19:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	0	0	0	0	0	0	1	3	0	4	0	0	0	0	0	0	0	2	0	2	6	
20:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
20:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
20:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	2	
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:15	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
21:30	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	1	2
21:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	1	0	1	3	
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	
<b>Grand Total</b>	0	6	1	20	27	0	6	135	18	159	0	32	1	11	44	0	14	122	21	157	387	
<b>Approch %</b>	0	22.2	3.7	74.1		0	3.8	84.9	11.3		0	72.7	2.3	25		0	8.9	77.7	13.4			
<b>Total %</b>	0	1.6	0.3	5.2	7	0	1.6	34.9	4.7	41.1	0	8.3	0.3	2.8	11.4	0	3.6	31.5	5.4	40.6		

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: TMC 1904

Study Date: 07/12/2019

Page No: 1

## Signal Warrants - Summary

### Major Street Approaches

Eastbound: CSAH 12

Number of Lanes : 2

Total Approach Volume: 9,577

Westbound: CSAH 12

Number of Lanes : 2

Total Approach Volume: 9,897

### Minor Street Approaches

Northbound: Mankato St NE.

Number of Lanes : 1

Total Approach Volume: 665

Southbound: Tournament Players Pkwy.

Number of Lanes : 1

Total Approach Volume: 1,325

### Warrant Summary (Rural Values Apply)

Warrant 1 - Eight Hour Vehicular Volumes.....Satisfied

Warrant 1A - Minimum Vehicular Volume.....Not Satisfied

Required volumes reached for 3 hours, 8 are needed

Warrant 1B - Interruption of Continuous Traffic.....Satisfied

Required volumes reached for 14 hours, 8 are needed

Warrant 1C - Combination of Warrants.....Satisfied

Required 1A volumes reached for 8 hours, 8 are needed

Required 1B volumes reached for 15 hours, 8 are needed

Warrant 2 - Four Hour Volumes.....Satisfied

Number of hours (14) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour.....Satisfied

Warrant 3A - Peak Hour Delay.....Not Satisfied

Approach volumes on minor street don't exceed minimums for any hour. Delay data not evaluated.

Warrant 3B - Peak Hour Volumes.....Satisfied

Volumes exceed minimums for at least one hour.

Warrant 4 - Pedestrian Volumes.....Not Evaluated

Warrant 5 - School Crossing.....Not Evaluated

Warrant 6 - Coordinated Signal System.....Not Evaluated

Warrant 7 - Crash Experience.....Not Evaluated

Warrant 8 - Roadway Network.....Not Evaluated

Warrant 9 - Intersection Near a Grade Crossing.....Not Evaluated

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: **TMC 1904**

Study Date: **07/12/2019**

Page No: **2**

## Warrant 1A - Minimum Volumes

### Description

Intended for sites where the volume of intersecting traffic is the principal reason for consideration of a signal installation.

### Summary

Only 3 hours meet minimums.  
Warrant is NOT met.

### Site Data Required

Rural Settings Apply = **True**  
 Number of Major Lanes = **2 or more**  
 Number of Minor Lanes = **1**

### Volume Requirements

Rural Factor of 70 % applied  
 Veh/Hr Major = **420**

Veh/Hr Minor = **105**

Time	Major Road		=	Total	Minor Road		Met?
	Major EB	Major WB			Minor NB	Minor SB	
15:30 - 16:30	696	779	=	1475	105	71	Yes
07:30 - 08:30	501	608	=	1109	20	108	Yes
06:30 - 07:30	417	654	=	1071	14	105	Yes
16:45 - 17:45	830	889	=	1719	59	67	No
16:30 - 17:30	824	858	=	1682	84	67	No
17:00 - 18:00	769	907	=	1676	48	74	No
17:15 - 18:15	732	882	=	1614	33	82	No
17:30 - 18:30	683	860	=	1543	34	85	No
17:45 - 18:45	660	766	=	1426	31	79	No
15:15 - 16:15	659	745	=	1404	93	76	No
15:00 - 16:00	623	695	=	1318	78	72	No
18:00 - 19:00	645	664	=	1309	29	72	No
14:45 - 15:45	625	615	=	1240	67	74	No
18:15 - 19:15	628	598	=	1226	29	62	No
14:30 - 15:30	631	591	=	1222	49	77	No
14:15 - 15:15	646	566	=	1212	53	73	No
13:00 - 14:00	634	569	=	1203	47	85	No
13:45 - 14:45	631	571	=	1202	54	84	No
14:00 - 15:00	641	559	=	1200	52	71	No
12:45 - 13:45	627	564	=	1191	48	77	No
13:30 - 14:30	625	566	=	1191	51	83	No
12:30 - 13:30	607	569	=	1176	53	81	No
13:15 - 14:15	609	562	=	1171	46	88	No
12:15 - 13:15	586	578	=	1164	57	77	No
18:30 - 19:30	634	527	=	1161	24	65	No



# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: **TMC 1904**  
 Study Date: **07/12/2019**  
 Page No: **3**

## Warrant 1B - Interruption of Continuous Traffic

### Description

Intended for sites where the volume of the major street is so heavy that traffic on the minor street suffers excessive delay or hazard.

### Summary

14 hours meet minimums.  
 Warrant IS met.

### Site Data Required

Rural Settings Apply = **True**  
 Number of Major Lanes = **2 or more**  
 Number of Minor Lanes = **1**

### Volume Requirements

Rural Factor of 70 % applied  
 Veh/Hr Major = **630**  
 Veh/Hr Minor = **53**

Time	Major Road CSAH 12				Total	Minor Road Mankato St NE.		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
16:45 - 17:45	830	+	889	=	1719	59	67	Yes
15:45 - 16:45	721	+	824	=	1545	105	75	Yes
17:45 - 18:45	660	+	766	=	1426	31	79	Yes
14:45 - 15:45	625	+	615	=	1240	67	74	Yes
13:45 - 14:45	631	+	571	=	1202	54	84	Yes
12:45 - 13:45	627	+	564	=	1191	48	77	Yes
11:45 - 12:45	572	+	575	=	1147	65	78	Yes
07:45 - 08:45	497	+	592	=	1089	22	112	Yes
06:45 - 07:45	439	+	649	=	1088	19	108	Yes
18:45 - 19:45	586	+	499	=	1085	25	69	Yes
08:45 - 09:45	462	+	585	=	1047	34	100	Yes
09:45 - 10:45	505	+	500	=	1005	37	84	Yes
10:45 - 11:45	462	+	538	=	1000	43	79	Yes
05:45 - 06:45	285	+	434	=	719	5	63	Yes
19:45 - 20:45	538	+	401	=	939	15	35	No
20:00 - 21:00	525	+	394	=	919	17	28	No
20:15 - 21:15	487	+	390	=	877	14	30	No
20:30 - 21:30	454	+	353	=	807	12	24	No
20:45 - 21:45	408	+	317	=	725	11	27	No
21:00 - 22:00	372	+	292	=	664	10	27	No
21:15 - 22:15	324	+	239	=	563	8	23	No
05:30 - 06:30	257	+	304	=	561	9	59	No
21:30 - 22:30	286	+	228	=	514	6	30	No
21:45 - 22:45	275	+	200	=	475	6	30	No
05:15 - 06:15	226		227		453	10	60	No

# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: **TMC 1904**

Study Date: **07/12/2019**

Page No: **4**

## Warrant 1C Combination of Warrants

### Description

Intended for sites where the traffic volumes don't meet individual warrants but where Warrants 1A and 1B are both met to 80% of their stated values.

### Summary

8 hours meet 1A minimums.  
15 hours meet 1B minimums.  
Warrant IS met.

### Site Data Required

Rural Settings Apply = **True**  
Number of Major Lanes = **2 or more**  
Number of Minor Lanes = **1**

### Volume Requirements

Rural Factor of 70% applied  
Warrant 1A 1B  
Veh/Hr Major = **336 504**

Veh/Hr Minor = **84 42**

#### Major Road

**CSAH 12**

#### Minor Road

**Mankato St NE.**

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1A?
16:15 - 17:15	803	+	840	=	1643	95	69	Yes
17:30 - 18:30	683	+	860	=	1543	34	85	Yes
15:15 - 16:15	659	+	745	=	1404	93	76	Yes
13:00 - 14:00	634	+	569	=	1203	47	85	Yes
07:15 - 08:15	517	+	613	=	1130	21	111	Yes
09:15 - 10:15	488	+	570	=	1058	33	100	Yes
08:15 - 09:15	456	+	594	=	1050	34	94	Yes
06:15 - 07:15	372	+	598	=	970	8	91	Yes
17:15 - 18:15	732	+	882	=	1614	33	82	No
15:00 - 16:00	623	+	695	=	1318	78	72	No
14:45 - 15:45	625	+	615	=	1240	67	74	No
14:30 - 15:30	631	+	591	=	1222	49	77	No

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1B?
16:30 - 17:30	824	+	858	=	1682	84	67	Yes
17:30 - 18:30	683	+	860	=	1543	34	85	Yes
15:30 - 16:30	696	+	779	=	1475	105	71	Yes
14:30 - 15:30	631	+	591	=	1222	49	77	Yes
13:30 - 14:30	625	+	566	=	1191	51	83	Yes
12:30 - 13:30	607	+	569	=	1176	53	81	Yes
18:30 - 19:30	634	+	527	=	1161	24	65	Yes
11:30 - 12:30	550	+	580	=	1130	62	83	Yes
07:30 - 08:30	501	+	608	=	1109	20	108	Yes
06:30 - 07:30	417	+	654	=	1071	14	105	Yes
08:30 - 09:30	474	+	589	=	1063	33	99	Yes
09:30 - 10:30	485	+	532	=	1017	40	91	Yes



# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: **TMC 1904**

Study Date: **07/12/2019**

Page No: **5**

## Warrant 2 - Four Hour Volumes

### Description

Intended for sites where the volume of intersecting traffic during any four hours of the day is the principal reason for consideration of a signal installation.

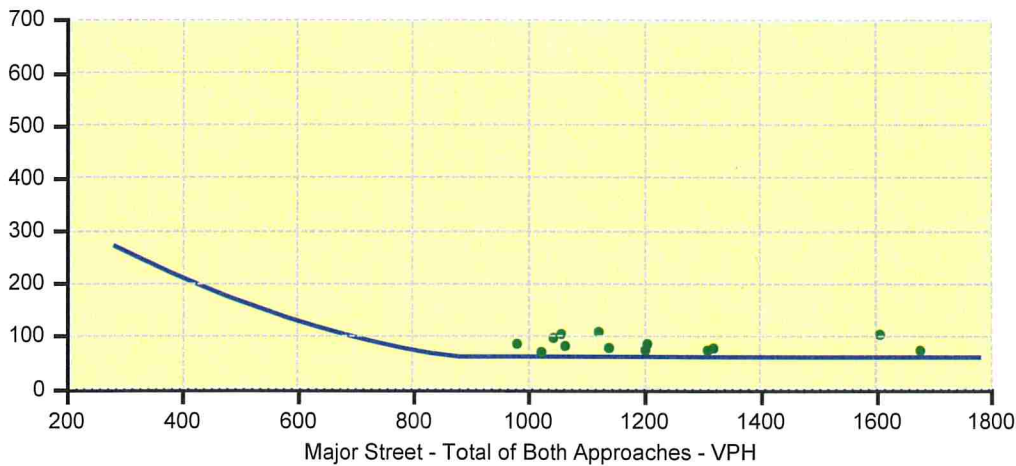
### Summary

14 hours meet minimums.  
Warrant IS met.

### Site Data Required

Rural Settings Apply = **True**  
 Number of Major Lanes = **2 or more**  
 Number of Minor Lanes = **1**

Time	Major Road CSAH 12				Total	Minor Road Mankato St NE.		Met?
	Major EB	+	Major WB	=		Minor NB	Minor SB	
17:00 - 18:00	769	+	907	=	1676	48	74	Yes
16:00 - 17:00	777	+	829	=	1606	104	74	Yes
15:00 - 16:00	623	+	695	=	1318	78	72	Yes
18:00 - 19:00	645	+	664	=	1309	29	72	Yes
13:00 - 14:00	634	+	569	=	1203	47	85	Yes
14:00 - 15:00	641	+	559	=	1200	52	71	Yes
12:00 - 13:00	556	+	581	=	1137	61	77	Yes
07:00 - 08:00	480	+	640	=	1120	21	109	Yes
11:00 - 12:00	507	+	556	=	1063	51	79	Yes
08:00 - 09:00	461	+	594	=	1055	26	104	Yes
09:00 - 10:00	462	+	581	=	1043	38	95	Yes
							70	Yes



# ANOKA COUNTY HIGHWAY

## PC-WARRANTS

### TRAFFIC SIGNAL WARRANT ANALYSIS

Study Name: **TMC 1904**

Study Date: **07/12/2019**

Page No: **6**

## Warrant 3B - Peak Hour Volumes

### Description

Intended for sites where the volume of intersecting traffic during one hour of the day is the principal reason for consideration of a signal installation.

### Summary

26 hours meet minimums.  
Warrant IS met.

### Site Data Required

Rural Settings Apply = **True**  
 Number of Major Lanes = **2 or more**  
 Number of Minor Lanes = **1**

Time	Major Road CSAH 12				=	Total	Minor Road Mankato St NE.		Met?
	Major EB	+	Major WB				Minor NB	Minor SB	
16:30 - 17:30	824	+	858	=	1682	84	67	Yes	
16:15 - 17:15	803	+	840	=	1643	95	69	Yes	
17:15 - 18:15	732	+	882	=	1614	33	82	Yes	
16:00 - 17:00	777	+	829	=	1606	104	74	Yes	
15:45 - 16:45	721	+	824	=	1545	105	75	Yes	
17:30 - 18:30	683	+	860	=	1543	34	85	Yes	
15:30 - 16:30	696	+	779	=	1475	105	71	Yes	
17:45 - 18:45	660	+	766	=	1426	31	79	Yes	
15:15 - 16:15	659	+	745	=	1404	93	76	Yes	
15:00 - 16:00	623	+	695	=	1318	78	72	Yes	
14:30 - 15:30	631	+	591	=	1222	49	77	Yes	
						85	85	Yes	

